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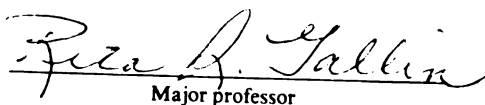
Family and Internal Migration in Taiwan

presented by

Chun-Hao Li

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FAMILY AND INTERNAL MIGRATION IN TAIWAN

By

Chun-Hao Li

. AN ABSTRACT OF A DISSERTATION

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Co-chairs: Dr. Brendan P. Mullan and Dr. Rita S. Gallin

ABSTRACT

FAMILY AND INTERNAL MIGRATION IN TAIWAN

By

Chun-Hao Li

Three theoretical frameworks have dominated migration research -- the individual, the structural, and the family/household perspectives. In Taiwan the individual and the structural perspectives most frequently have been adopted. The family perspective has never been used to examine migration in Taiwan. This research uses this perspective to examine the rural-to-urban migration of one group of villagers at two points in time -- the mid-1960s and the late 1970s -- using data collected by Professors B. Gallin and R. S. Gallin.

I argue in the dissertation that migration is a family sustenance and/or mobility strategy that deploys individuals on a selective basis to overcome the structural constraints of a changing economic structure. First, I examine migration at the family and structural levels. This analysis explores the associations between labor migration and influential factors such as family type, family landholding, and participation in the local labor market at the family level to illustrate the relationships among family structure, local and national economic structures, and labor migration. Second, I move beyond the traditional "cost-benefit " argument of the individual perspective and consider how the migration process is affected by family power dynamics, as they are shaped by the intersection of

gender and age. Here I discuss male-female power relations and power relations among female villagers. My analysis encourages an expansion of the individual perspective of migration, showing how personal characteristics are implicated in the decision-making process of migration. In the conclusion, I discuss the theoretical and empirical contributions of the research.

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TABLE OF CONTENTS

LIST OF TABLES	ix
LIST OF FIGURES	xi
CHAPTER I INTRODUCTION.....	1
1.1 Introduction 1	
1.1.1 Causes of Migration	3
1.1.2 Consequences of Migration	5
1.2 Review of Migration Theories	7
1.2.1 The Individual Perspective	7
1.2.2 The Structural Perspective	9
1.2.3 Family/Household Perspective	10
1.3 About Taiwan	12
1.3.1 Industrial and Economic Development	12
1.3.2 Family	14
1.3.3 Overview of Internal Migration Research in Taiwan	16
1.3.3.1 The Individual Perspective	16
1.3.3.2 The Structural Perspective	18
1.3.3.3 Family/Household Perspective	18
1.4 Purposes and Significance of the Dissertation	20
1.4.1 Purpose of the Dissertation	20
1.4.2 Significance of the Dissertation	21
1.5 Organization of the Dissertation	21
CHAPTER II EARLY SETTLEMENT, ECONOMIC DEVELOPMENT, AND MIGRATION.....	24
2.1 The Early Settlement Patterns in Taiwan -- Before 1895	24
2.2 Early Taiwanese Economy	26
2.2.1 The Taiwanese Economy during Japanese Occupation (1895-1945)	26
2.2.2 The Political Economy of Contemporary Taiwan (After 1945)	30
2.2.2.1 Land Reform and Land Ownership	31
2.2.2.2 Agricultural Development	33
2.2.3 Industrial Development and Policy in Taiwan	38
2.2.3.1 Rural Industrial Development	41
2.3 Population Distribution and Migration in Taiwan	43
2.4 Taiwanese Families and Migration	48
2.4.1 Family Dynamics in Taiwan	48
2.4.2 Migration Decision and Power Dynamics within Family	52
2.4.3 Consequences of Migration	54
2.5 Summary	56

CHAPTER III	THEORIES, RESEARCH FRAMEWORKS, HYPOTHESES, DATA, AND METHODS	59
3.1	Introduction	59
3.2	A Review of Migration Theories	61
3.2.1	Individual Perspectives of Migration Theories	61
3.2.2	Structural Perspectives of Migration Theories	68
3.2.2.1	Intervening Opportunities	70
3.2.2.2	Uneven Economic Development	71
3.2.2.3	Regional Restructuring	72
3.2.3	Family Perspectives of Migration	75
3.2.3.1	Accessibility to Land and Participation in Local Wage Labor Markets	76
3.3	Research Framework and Hypotheses for Migration in Taiwan	78
3.3.1	Family Type	80
3.3.2	Accessibility to Land	82
3.3.3	Participation in Local Wage Labor Markets	84
3.3.4	The Integrated Research Model	85
3.3.5	Research Frameworks and Hypotheses on Family Power Dynamics	86
3.4	Data Sources	90
3.4.1	Surveys	91
3.4.2	Household Registration Records	93
3.4.3	Database and Variables	94
3.4.4	Operationalization of Variables	96
3.4.4.1	Landholding	96
3.4.4.2	Local Wage Labor Market Participation	100
3.4.4.3	Migration	102
3.4.4.4	Other Variables	102
3.5	Methods	103
3.5.1	Descriptive Methods	103
3.5.2	Inferential Statistics--Multivariate Analysis	105
3.6	Summary	105
CHAPTER IV	THE PROFILE OF THE RESEARCH AREA -- HSIN-HSING VILLAGE.....	107
4.1	Introduction	108
4.2	Climate and Spatial Layout of the Village	111
4.3	Family Structure	116
4.4	Economic Infrastructure	121
4.4.1	Agriculture Sector	121
4.4.2	Industry and Service Sectors	127
4.5	Demographic Infrastructure	135
4.5.1	Gender	136
4.5.2	Age	140
4.5.3	Demographic Process -- Fertility	148
4.6	Socio-economic Infrastructure	153
4.6.1	Education	153

4.6.2	Occupation	158
4.6.2.1	Non-Migrant Villagers (1965)	159
4.6.2.2	Migrant Villagers (1965)	163
4.6.2.3	Non-Migrant Villagers (1979)	165
4.6.2.4	Migrant Villagers (1979)	169
4.7	Summary	172
CHAPTER V THE DETERMINANTS OF RURAL-URBAN MIGRATION FROM HSIN-HSING VILLAGE		175
5.1	Family Type and Migration	177
5.1.1	Theoretical Position and Hypothesis	177
5.1.2	Measurement	178
5.1.3	Analysis and Discussion	179
5.2	Accessibility to Land and Migration	190
5.2.1	Theoretical Position and Hypothesis	190
5.2.2	Measurement	191
5.2.3	Analysis and Discussion	193
5.3	Local Labor Market Participation and Migration	198
5.3.1	Theoretical Position and Hypothesis	198
5.3.2	Measurement	199
5.3.3	Analysis and Discussion	200
5.4	The Best Predictor of Labor Migration	206
5.5	Summary	210
CHAPTER VI MIGRATION AND FAMILY POWER DYNAMICS IN HSIN-HSING VILLAGE		214
6.1	Overview of the Individual Perspective of Migration Theory	214
6.1.1	Characteristics of Villagers in Urban Cities	216
6.2	Theoretical Position and Hypotheses	223
6.3	Measurement	229
6.4	Analysis and Discussion	231
6.4.1	Age and Migration among Female Villagers	231
6.4.1.1	Migration among Women	234
6.4.1.2	Employment Status among Married Female Migrants	238
6.4.1.3	Employment Status of Migrant and Non-Migrant Women	240
6.4.2	Age Differentials between Male and Female Villagers in the Urban Wage Labor Market	249
6.5	Summary	255
CHAPTER VII CONCLUSIONS AND DISCUSSION		259
7.1	Summary of Dissertation	261
7.1.1	Research Intentions	261
7.1.2	Research Findings	262
7.2	Significance of Dissertation	267
7.3	Limitations of Dissertation	273
7.4	Some Additional Thoughts	279

APPENDIX A	288
BIBLIOGRAPHY	290

LIST OF TABLES

2.1	Sources of Gross Domestic Product in Taiwan, 1952-1993	37
2.2	Population in Localities of 100,000 and more and between 20,000 and 100,000 Residents in Taiwan : 1962-1991	45
4.1	The Population and Number of Families by Family Types, 1957-1958, 1965, and 1979.....	117
4.2	Landholdings by Family Types, 1949, 1951, 1957, 1965, and 1979.....	122
4.3	Descriptions of Land-holding: Hsin-Hsing, 1965 and 1979.....	124
4.4	Descriptions of Local Labor Market Participation: Hsin-Hsing, 1965 and 1979 ...	129
4.5	The Population of Hsin-Hsing Village by Gender and Age Group, and the Mean Ages and Dependency Ratio, 1965 and 1979	138
4.6	A Comparisons of Crude Birth Rate, General Fertility Rate, and Child-Woman Ratio of Hsin-Hsing Village, Taiwan Area, Chang-Hua County, and Pu-Yan Rural-Township : 1965 and 1979 *	149
4.7	Average Years of Educational Attainment of Hsin-Hsing Villagers, 1965 and 1979	155
4.8	Hsin-Hsing Villagers' Occupations by Migration Status and Labor Force: 1965 and 1979.....	161
4.9	Average Age and Educated Years of Hsin-Hsing Villagers by Selected Occupations, and Migration Status: 1965 and 1979	168
4.10	Entrepreneurship among resident villagers, Hsin-Hsing: 1965 and 1979	169
5.1	Analysis of Variance for Labor Migration by Family Types, Hsin-Hsing: 1965 and 1979.....	179
5.2	Comparison of the number of labor migrants between conjugal, stem, and joint families in Hsin-Hsing, 1979	181
5.3	Characteristics of Hsin-Hsing villagers working on family land within conjugal, stem, and joint families with labor migrants, 1979.....	186
5.4	Correlation between Accessibility to Land and Labor Migration in Hsin-Hsing: 1965 and 1979.....	194
5.5	Correlation between Local Wage Labor Markets and Labor Migration in Hsin- Hsing: 1965 and 1979	201
5.6	Labor Force and Local Labor Market Participation in Hsin-Hsing by Family Types: 1965 and 1979.....	203

5.7	Multiple regression for labor migration, family type, family's local labor-force participation rate, proportion of family members working locally for paid wages, landholding per working family member, and landholding per family member for Hsin-Hsing Village: 1965 and 1979.....	208
6.1	Villagers' Migration Status by Gender, Marital Status, Hsin-Hsing Village: 1965 and 1979.....	219
6.2	Mean Ages of Villagers by Gender, Marital and Migration Status, Hsin-Hsing Village: 1965 and 1979.....	220
6.3	Logistic Regression of Labor Migration, Hsin-Hsing: 1965 and 1979	232
6.4	Hsin-Hsing's Migrants in Conjugal Units and Migrant Conjugal Units, 1965 and 1979.....	241
6.5	Women Classified by Occupation, Migration Status, and Presence or Absence of Preschool Children, Hsin-Hsing Village, 1979	243
6.6	Support received by married women in the labor force, who had preschoolers, Hsin-Hsing: 1979.....	244
6.7	Occupational Matrix of Mothers-in-law and Daughters-in-law, Hsin-Hsing: 1979	245
6.8	Analysis of Variance for the Ages of Villagers in the Urban Wage Labor Market by Gender, Hsin-Hsing: 1965 and 1979.....	250
6.9	Students and Non-students by Gender, Hsin-Hsing: 1965 and 1979	252

LIST OF FIGURES

3.1	The Theoretical Integrative Model of Migration Analysis, Derived from the Family/Household and Structural Perspectives	80
3.2	The Theoretical Model of Migration Analysis, Derived from Individual Perspectives	87
3.3	How Research Hypotheses Correspond to Research Questions	90
4.1	Population Pyramids of Hsin-Hsing Village, 1965 and 1979	147
6.1A	Estimated Probabilities of Migration Hsin-Hsing Villagers Age 15-64, 1965	233
6.1B	Estimated Probabilities of Migration Hsin-Hsing Villagers Age 15-64, 1979	233

CHAPTER I

INTRODUCTION

1.1 Introduction

Urbanization and migration have been regarded as pressing population problems in most developing countries, even more pressing than high fertility and natural population growth rates (United Nations, 1985). It is generally believed that an excess growth of population in major cities in developing countries is more related to urbanization and migration than to other factors (Findley, 1987). Although rural-to-urban migration can stimulate economic growth and development in urban cities, it creates even more problems for the receiving areas as well as for the sending centers. The excess growth of population is accompanied by unbalanced regional development, deteriorating of urban habitats, and destruction of natural resources, and it imposes serious drains on governmental resources by heavy demands for infrastructure and housing (Findley, 1987). Rural areas can be adversely affected by this process because migration remains, by and large, selective, and it therefore draws away the more dynamic members of rural society (Oberai, Prasad, and Sardana, 1989). To solve the problems of excess growth of population in large urban cities and the continuing brain drain from rural areas in developing countries, understanding migration is crucial. Migration is one of the few mechanisms available for altering existing population distribution patterns. To this end, the concern with population re-distribution has been transformed into an interest in migration.

The history of internal migration research can be traced back to 1885 and 1889 when Ravenstein published two papers on the “Laws of Migration” in the *Journal of the Statistical Society*. In these papers, Ravenstein listed a number of the “laws” which have remained key elements in theoretical explanations of migration that focus on the establishment of flows conditioned by a series of variables such as distance, stages, transportation, and motives. Lee (1966), following Ravenstein, proposed the “Push-Pull Obstacles Model” to describe the causes of migration. Lee believed the decision to migrate is determined by the interaction of four dimensions: factors associated with the area of origin, those associated with the area of destination, intervening obstacles, and personal factors. Between Ravenstein and Lee, Stouffer (1944, 1960) introduced the “intervening opportunities” hypothesis proposing that “the number of persons going a given distance is directly proportional to the number of opportunities at that distance and inversely proportional to the number intervening opportunities” (Stouffer, 1940:846). Stouffer (1940) believed the number of people out-migrating a given distance from an area is not a function of distance but rather a function of the spatial distribution of opportunities.

From the first internal migration research done by Ravenstein at the end of the 19th century to the most current studies (e.g. Greenwood, Chalmers, and Graves, 1989; Greenwood and Hunt, 1984a, 1984b; Kitching, 1990; Sell, 1990), individual and structural perspectives have dominated migration research. Only in the past decades has the family/household perspective been applied to migration research. This dissertation is based on an integrated model which proposes that human migration is an important

component of a family/household's sustenance, survivability, and social mobility strategies to overcome societal structural constraints in rural areas. Community economic opportunities determine the extent to which the family can realize its subsistence or mobility needs locally, without migration (Guest, 1989). Therefore, community economic opportunities including accessibility to land and participation in local wage labor markets are considered to be the mechanisms through which a family/household determines and deploys its strategic responses to ensure the survivability of the kin unit and its members.

This chapter begins with a brief review of migration in terms of causes, consequences, and theories. This review is followed by a brief introduction to Taiwan, in terms of industrial and economic development, family structure, and internal migration research. Then, the purpose and sociological significance of this dissertation is discussed. The final section of this chapter describes the organization of this dissertation.

1.1.1 Causes of Migration

Economic determinism has dominated the study of internal migration. The overwhelming conclusion of most migration studies is that people in the Third World migrate primarily for economic reasons (Parnwell, 1993). Based upon the macro-economic perspective, spatial inequalities in expected earnings have been the dominant approach to the study of migration. The gap between rural and urban wages leads to migration from rural areas. High wage rates in the urban modern sector create high expected income returns from rural-urban migration (Harris and Todaro, 1970). The rural-urban wage differential, however, is institutionalized or politically determined, rather than market determined (Harris and Todaro, 1970; Montgomery, 1981). For example, Montgomery (1981)

emphasized the rural-push side and argued that, in certain areas, agricultural markets were highly distorted by government policies. Rural incomes became artificially low, thereby stimulating rural-urban migration.

A micro-economic perspective, in contrast, presumes that migration is a rational behavior; potential migrants decide to move or to stay according to the general rules of minimizing their costs and maximizing their returns (Lee, 1966; Sjaastad, 1962; Todaro, 1969, 1976, 1980). Two factors determine the potential net benefits of migration: rural-urban wage differentials, and the probability of obtaining an urban job. Potential migrants base their decision to migrate on personal human capital and accessibility to occupations in a potential destination. The net positive results of potential benefits from migration minus the potential costs would make people decide to migrate. Since rural-urban wage differentials exist, the probability of obtaining urban jobs plays a crucial role in the process of migration decision-making. In general, internal migration reflects the geographical allocation of occupation opportunities. The concentration of occupation opportunities that leads to a high demand for labor and high wages in certain areas attracts migrants.

Economic structures and systems in almost all societies, however, are changing on a daily basis. Human migration, therefore, might reflect a spatial shift in the organization of production (Frey, 1987, 1990). On the other hand, human migration could be related to a spatial shift in the function that the affected areas perform within the organization of production (Frey, 1987, 1990). Furthermore, the restructuring of an economy is related to

how newly developed urban sectors provide more occupational opportunities than places with declining economies. Following this particular point of view, internal migration is considered a demographic response to changes in the demand for labor in different economic sectors and geographic areas in a country.

Migration can also be a result of non-economic factors. Gugler (1986) considers the aspect of social relations, and Massey and his associates (1987, and 1987) propose that migration is a social process. Social relations influence the decision to migrate because it is not reached in isolation (Gugler, 1986). They encourage direct moves, even over large distances (Gugler, 1986). Migration can also be influenced by environmental reasons. According to Gugler (1986), factors that bring immediate dangers, such as droughts, floods, earthquakes, cyclones, or volcanoes, as well as threatening hunger and disease, frequently make rural dwellers abandon their homes and seek relief in urban regions. In addition, psychological reasons have to be considered. Stark (1984) and his associates (1985 and 1988) and Rhoades (1978) emphasized social mobility in their migration studies. Aspiration for higher social status are thwarted by a lack of opportunities for advancement, particularly educational and occupational advancement, in rural areas. As a result, the decision to move, usually to an urban city, is made with the goal of enhancing opportunities for social mobility.

1.1.2 Consequences of Migration

In the developing world, rural-to-urban migration dominates the migration flow.

Nevertheless, migration influences both the sending and receiving centers. The receiving centers experience social and economic effects. The social effects of migration on the

destination areas include housing problems, urban restructuring that is derived from the increasing need for public facilities and infrastructure, and other problems such as crime (Deshpande and Arunachalam, 1981; Ayeni, 1981). Economically, the effects of migration in the receiving areas can be both positive and negative. On the positive side, migration directly causes an increase in population that provides a large enough labor force for economic development. The increase in population can increase the demand for goods and services, thereby stimulating economic growth and development in the receiving societies. Nevertheless, over-population, which has occurred in several large cities in under-developed Asian countries, has lead to high unemployment rates.

In the sending centers, migration inevitably results in the periodic or permanent absence of people from their home areas. Unless the absentee is not economically active, migration also draws a potentially productive labor away from the sending area (Massey et al., 1987; Massey, 1988; Massey et al, 1993; Mines and Janvry, 1982; Parnwell, 1993). Migration may therefore lead to a reduction in a family's ability to make the fullest use of productive resources such as land.

Demographically, in most of the sending societies in developing countries, young people dominate out-migration flows, inevitably changing the age structure of the communities they leave. With their departure, old people make up a large proportion of the rural population. In addition, rural populations with high educational attainment are more likely than those with less education to migrate to urban cities in which more occupational opportunities are available for highly educated people. Therefore, migration

leaves rural areas with inadequate human resources, in terms of education, for economic development.

In short, rural-to-urban migration provides urban cities with an adequate labor force for economic development. Rural-to-urban migrants also increase consumption needs for industrial products in urban cities, further stimulating economic growth and development (Borts and Stein, 1964; Muth, 1968; Todaro, 1976). The increased population in urban areas also drains governmental resources to solve problems such as inadequate infrastructure and crimes, attributed to increasing migrants. In contrast, rural areas without an adequate labor force or human capital face barriers to economic development. As spatial inequalities increase, the unevenness of development between urban cities (receiving sectors) and rural areas (sending areas) becomes more disparate (Massey, et al., 1993).

1.2 Review of Migration Theories

1.2.1 The Individual Perspective

The cost-benefit model of microeconomics has played a crucial role in migration research. Migration flows are the cumulative results of individual decisions based on the rational evaluation of the benefits to be gained and the costs entailed in moving (Wood, 1981). Migration is viewed as the outcome of a rational evaluation of the costs and benefits of movement (Massey, 1990a; Sjaastad, 1962; Todaro, 1976, 1980). The expected net return to migration has methodologically been used as an indicator to predict a potential migrant's choice to move or to stay.

In addition, the individual perspective of migration theory suggests that the decision to migrate is an investment decision which involves an individual's expectation to increase the productivity of human resources in terms of costs and returns over time (Massey, 1990a; Sjaastad, 1962; Todaro, 1976, 1980). People choose to move to where they can be more productive, given their skills. The individual cost-benefit model, therefore, is related to the computation of the expected costs and benefits of migration (see Speare, 1971).

Todaro (1969, 1976) proposes that a migrant's expected net return is a function of urban-rural expected income differentials and the likelihood of obtaining an urban job. The possibility of potentially obtaining a job in the modern urban sector is a crucial element in the decision-making process of a potential migrant; it is more important than the wage differential. Because of its emphasis on the importance of obtaining an urban job, the individual perspective turns the study of migration into a categorization of individual characteristics of migrants. This response to neoclassical microeconomic theory links human capital to the probability of obtaining a job and to the rate of remuneration. Early migration studies, therefore, focused on differences in human capital characteristics between migrants and non-migrants (Browning, 1969; Ladinsky, 1967; Long, 1973; Zachariah, 1966).

In summary, this type of research is useful to demonstrate the characteristics of migrants. Nevertheless, it hardly provides a comprehensive picture of migration because people with similar human capital characteristics behave differently. To support the individual

perspective, persons with similar characteristics should exhibit parallel migratory behavior. In contrast, persons who might be expected to migrate remain with their families in rural areas and people expected to remain non-mobile resort to internal migration.

1.2.2 The Structural Perspective

The structural perspective of migration theory supports the individual perspective view that migration decisions are made by actors who weigh the costs and benefits of movement. Nevertheless, these theories diverge in their explanations of how decisions are made. The structural perspective suggests migration decisions are made within a specific social and economic environment that is determined by the larger structural relations in the political economy (Amin, 1974; Goldscheider, 1987, Massey, 1990a). The immediate socioeconomic context not only helps to determine parameters, such as the probability of employment and the costs of migration, but it also affects the way cost-benefit calculations are framed and conceptualized. In other words, while it may be that rational migration decisions are made to maximize expected returns, these decisions are always constrained by specific local structural conditions.

Migration originates in structural change that affects the relations of production in the sending and receiving sectors. Population movement is a human behavior in response to the changing structure of the economy, and urbanization or population redistribution is a by-product of human migration. Economic development produces a pool of dislocated workers who respond to the rewards of increased productivity in developing urban economies. Cyclical economic growth in urban sectors, combined with inter-regional

differences in wage and cost reduction in transportation and communication, encourage emigration into the structure of economic development. Emigration assumes greater or lesser importance depending on the degree of economic connection between the sending and receiving areas. As economic integration grows, an inverse association between business cycles develops, networks of transportation and communication interlink, and labor recruitment becomes more frequent, producing large-scale movements of labor between areas (Frey, 1987, 1990).

Even if migration is stimulated by structural constraints and a changing economy, it is not likely that the structural perspective can comprehensively explain human migration. This is so because migrants do not all move toward the same destination. Most migrants do move to destinations with large numbers of employment opportunities and growing industrial and economic development. But, many migrants move elsewhere while knowing this fact. Therefore, the structural perspective does not completely explain why different receiving centers are chosen by migrants. Thus, while the structural perspective is useful in providing a broad framework for understanding the incidence of migration in relation to the development process, there is clearly also a need to show how these general macro-level processes translate into real-life situations (Parnwell, 1993).

1.2.3 Family/Household Perspective

As seen, the individual and structural perspectives explain, an understanding of population movement must encompass both the broad structural societal parameters which affect behavior and the factors that motivate individual actors. In the context of rural areas, however, the unit of production and consumption is the household or the

family, not the individual. Consequently, an integration of individual and structural approaches can be accomplished through the analysis of household behavior as the unit interacts with its environment (Chant, 1992; Schmink, 1984; Wood, 1981).

The dynamic character of household behavior can be conceptualized as a series of “sustenance strategies” by which a family actively strives to achieve a fit between its consumption necessities, the labor power at its disposal (both of which are determined by the number, age, gender, and skills of its members), and the alternatives for generating monetary and non-monetary income (Boyd, 1989; Grigg, 1980; Guest, 1989; Wood, 1981). Under conditions of structural change, the household must devise flexible and innovative strategies compatible with shifting productive opportunities. These strategies are a response to other factors that affect the sustenance of the unit. In other words, an agrarian family must provide its members opportunities for investing their labor power. The outcome of labor invested must also meet the consumption necessities of the family. Once the balance between labor input and consumption necessities is achieved, the family does not need further sustenance strategies. Under conditions of structural change, an imbalance between these two key components are likely to occur and a family will have to seek an alternative sustenance strategy to achieve a new balance.

The sustenance strategy for achieving a new balance between labor force available and consumption necessities in a family include seeking occupation opportunities in the local area as well as in other places away from the home. The family perspective on migration provides a theoretical framework to explain human migration as one strategy for family

sustenance. This strategy is linked to migration along four dimensions: accessibility to land and off-farm work (Grigg, 1980; Guest, 1989; Wood, 1981), risk diversification (Massey, et al., 1993; Stark, 1983, 1991; Stark and Bloom, 1985; Wood, 1981), relative deprivation and social stratification (Stark, 1984; Stark and Bloom, 1985; Stark and Taylor, 1989), and social networks (Dinerman, 1978; MacDonald and MacDonald, 1974; Massey et al., 1987; Massey and Espana, 1987; Massey, 1988, 1990a, 1990b; Massey et al., 1993; Mines and de Janvry, 1982; Mines, 1984; Mullan, 1989; Taylor, 1986; Tilly and Brown, 1967). The major limitation of this perspective, however, is that it assumes migration decisions are made collectively. This perspective does not take into account the power hierarchy within which decision making occurs the family. For Chinese families, the authority for decision making usually is held by one or a few family members. The decision of migration, therefore, is hardly made by family members collectively.

1.3 About Taiwan

1.3.1 Industrial and Economic Development

When Japan began its fifty-year rule of Taiwan in 1895, the island was a rural society with few settlements large enough to be considered a city. During the first three decades of colonial rule, Japan saw Taiwan mainly as a source of agricultural products. Most of its investments, therefore, went into agricultural development and construction of transportation facilities necessary to get farm products to ports so they could be shipped to Japan (Speare, Liu, and Tsay, 1988).

With the end of World War II in 1945, the government of Republic of China replaced the Japanese government in Taiwan. There the government found a predominantly

agricultural society in which most people worked on farms and lived on the products from the land (Amsden, 1979; Ho, 1979; Lu, 1981). In one of its first moves to develop the island, the government, in 1953 enacted a land reform policy that began with the “Land-to-the-Tiller” Program. In addition, the government started to carry out the first of a series of four-year-economic development plans (Lu, 1981; Tsai, 1978). From 1953 to 1960, the government also adopted a policy of import substitution and concentrated on the domestic market (Ferdinand, 1996). The result was an average annual growth rate of 7.6 percent, that between 1961 and 1972, rose to 10.3 percent and, between 1973 and 1983, economic growth increased at an average of 12.8 percent per year (Ferdinand, 1996).

To coordinate sequential economic programs, the government decided that industrial development and foreign trade expansion would be the two major directions of its efforts, and it provided many incentives to encourage industrial and trading investment, such as low interest rates and long term loans, tax reductions, transportation improvements, and the construction of infrastructure and power plants (Lu, 1981; Tsai, 1978, 1981). To support this industrial development, most of the time between the 1950s and 1990s, agriculture was squeezed. The government invested far less in agricultural development in comparison to its total expenditures for industrial development (Tsai, 1978). As a consequence agricultural development was relatively slow in comparison to growth in the industrial and service sectors. Agriculture’s contribution to total gross domestic production by agriculture dramatically decreased from 32.3% in 1952 to 3.5% in 1993

(see *Taiwan Statistical Data Book*, 1994). The per capita income of agriculturists dropped much lower than that of the non-agriculturalists (Tsai, 1978).

In response, the agricultural labor force increasingly migrated from rural areas to seek jobs in urban sectors between the 1950s and the early 1970s (Tsai, 1978). This rural-to-urban migration was caused by the geographical disparity of economic development; the booming industrial factories and commercial offices were geographically concentrated in cities (Tsai, 1978). The population flowing from rural villages and small towns to large urban cities, therefore, became the major stream of internal migration in Taiwan in the early stage of economic development (Speare, 1974; Tsai, 1978). Since the early 1970s, industrial decentralization has contributed to population redistribution and decentralization (Liu and Tsai, 1990; Tsai, 1981; Tsai, 1990). The establishment of rural industrial zones has led to the increase in the number of employment opportunities in industries and factories for the agricultural labor force. As a result, the proportion of the labor force working in agricultural sectors dropped dramatically, decreasing from 56.1 percent of the labor force in 1952 to 11.5 percent in 1993 (see *Taiwan Statistical Data Book*, 1994).

1.3.2 Family

The family has been described as the basic unit in Taiwanese society.¹ The term “family” in Taiwanese or Chinese society usually refers to a unit consisting of members related to

¹ The family often coincides with the household, but the two terms are not identical. The family is an enduring kinship unit. By contrast, the household is a less permanent residential unit made up of any family members who happen to live together at a given time (Greenhalgh, 1990).

each other by blood, marriage, or adoption (Cohen, 1976; Lang, 1946). In general, families in Taiwan can be clustered into three types: conjugal, stem, and joint.² The life span of a family is cyclical; a family can grow and become large and/or it can die. During the process of family growth, a large family can be divided into several small new families by family partition.

Family, in Taiwanese society, is also a basic economic unit, in which members share a common estate and budget. Family division is thus an elaborate legal process in which many types of family obligations are terminated or re-defined, and family property is either equally or unequally divided (Cohen, 1976). Family land (including owned and tenanted), businesses (if any), livestock, tools, buildings and residence are all divided among the male heirs. Family partition thus inevitably leads to new divisions of labor. Economic obligations and responsibilities among family members have to be re-defined with changes in family composition.

The economic behavior of a family can be conceptualized as a series of "sustenance strategies" by which its members collectively strive to achieve a fit between its consumption necessities and available labor power. Structural constraints and changes condition human behaviors. In postwar Taiwan, agricultural land was the major means of production. But as the Taiwanese government moved from an agricultural-based to an

² The conjugal family consists of a husband, a wife, and their unmarried children; the joint family adds two or more married sons and their wives and children to this core group. The stem family - a form that lies somewhere between the conjugal and joint family types - includes parents, their unmarried offspring, and one married son with his wife and children (see Lang, 1946).

industrial-based policy, agricultural land became less valuable than it had been in two ways. First, the value of outcomes/products of agricultural land became less than that of industrial products. Second, the average size of land per person became smaller while the rural population increased. These phenomena had two consequences: agricultural land could not support sufficient consumption needs, and family land became too small to accommodate all of the family members involved in the labor force. Because the value of agricultural products became less than that of industrial products and the average size of land per person decreased, family income from farming became insufficient to meet the needs of family consumption. Seeking additional financial resources became increasingly more important as the economic structure changed.

Family members found occupational opportunities in their local areas or migrated to urban areas to find additional resources for family income. Allocating the human capital of family members is a family sustenance strategy to maximize familial collective interests, although family members could be made to migrate by a single member with disproportionate power or authority within a family. Deploying family members to seek job opportunities in major urban cities was the most popular strategy adopted for increasing financial resources. As rural-to-urban migration led to the over-urbanization of certain cities, the attention of migration researchers was attracted.

1.3.3 Overview of Internal Migration Research in Taiwan

1.3.3.1 The Individual Perspective

Internal migration research in Taiwan has focused on the demographic characteristics of migrants, such as gender, age, education, and the like (Chang, 1979; Chiang, 1978; Li,

1974; Liao, 1977; Liu, 1993; Speare, 1974; Tsai, 1978; Yin, 1978). Most Taiwanese migration studies indicate that migration rates are highest for young adults (Chang, 1979; Chiang, 1978; Tsai, 1978; Yin, 1978). Further, Chang (1979) suggested that men and women had different migration patterns in terms of age in the early 1970s. Besides gender and age differentials, researchers also compared the educational attainment between migrants and non-migrants. These various migration studies yielded inconsistent results. Studies which focused on the relationship between migration and education did not clearly identify which level of education were held by persons more likely to migrate (see Chang, 1978; Chiang, 1978; Speare, 1974; Tsai, 1978; Yin, 1978). Occupation was another migrant characteristic examined in Taiwanese research (see Chang, 1978; Chiang, 1978; Yin, 1978). Nevertheless, research that focused on migrant's occupation produced inconsistent results.

In summary, migration research in Taiwan that was based only on the individual perspective demonstrated the characteristics of migrants, on the one hand. On the other hand, this type of migration research had three shortcomings. First, researchers generated diverse conclusions based upon their different samples. Second, their research only demonstrated the types of migrants who dominated the migration flows, not the reasons why people migrated. Third, they ignored the importance of the broader structural environment that is related to the individual behavior of migration. This individual perspective of migration research thus does not provide a comprehensive view of the process of migration.

1.3.3.2 The Structural Perspective

Another major approach adopted to understand migration in Taiwan has been the structural perspective. This approach suggests that internal migration in Taiwan is a response to the geographical unevenness of industrial and commercial development. Between the late 1950s and the early 1970s, the most popular destinations were two major cities: Taipei and Kaohsiung (Tsai, 1978). Since the early 1970s, industrial decentralization contributed to population redistribution and decentralization (Liu and Tsai, 1990; Tsai, 1981; Tsai, 1990). The establishment of rural industrial zones led to the increase in the number of employment opportunities in industries and factories for the agricultural labor force however (Tsai, 1981).

Migration studies using the structural perspective have demonstrated that urban centers with more employment opportunities attract more labor migrants than those areas with a lack of job opportunities. Research using this framework has identified new migratory destinations (see Liu and Tsai, 1990; Tsai, 1981; Tsai, 1990). This approach, however, has over-emphasized the importance of economic factors. While it is useful in providing a broad framework for understanding the incidence of migration in relation to industrial and economic development processes, it ignores the social dimensions that contribute to migration.

1.3.3.3 Family/Household Perspective

Both the individual and structural perspectives of migration studies fail to provide a comprehensive framework for understanding internal migration in Taiwan. This dissertation proposes an integrative model that is derived from the family perspective.

The family perspective never played a major role in migration studies in Taiwan.

Nevertheless, the family perspective of migration is more appropriate than the individual and structural approaches for research on Taiwanese migration. First, the family is the fundamental and most important social unit in Taiwanese society. Second, the family in Taiwanese society is also a basic economic unit. Family members usually share a common estate and a common budget (Cohen, 1976) and act “collectively” to cope with the problems the unit faces. The family perspective thus maintains that human migration is a response adopted to ensure the survivability of a kin unit and its members. Migration of family members occurs because of an imbalance between family consumption needs and the labor force available.

In general, the family/household perspective maintains that families deploy members into migratory streams as a strategic response to structural constraints. Essentially, families face life with a fixed short-term set of resources and a set of basic consumption and reproduction needs. The former include land, labor, and capital, and the latter include the family’s age-gender composition and its social and economic aspirations. Household resources are combined productively to meet the requirements of family maintenance and mobility, and migration can be a very effective way of capitalizing on the labor power a family has available. A family’s behavior in allocating workers to different productive pursuits may be viewed as a series of dynamic and flexible strategies that shift as needs and economic conditions change.

1.4 Purposes and Significance of the Dissertation

1.4.1 Purpose of the Dissertation

Three theoretical frameworks have dominated migration research -- the individual, the structural, and the family/household perspectives. In Taiwan those most frequently adopted have been the individual and the structural perspectives to the study. The family perspective has never been used for migration research in Taiwan. The research results of studies adopting the individual and structural perspectives have produced either inconsistent conclusions or an incomplete picture of migration. Studies based on the individual perspective yielded inconsistent results.

Studies based on the structural perspective did not consider individual behavior as a mitigating factor in migration decisions. In addition, they also completely ignored the importance of the social dimensions of migration. In this dissertation, migration will be approached as a family sustenance strategy that deploys individuals on a selective basis to overcome the structural constraints of a changing economic system. The first basic analytic unit will be family. The contributing factors to migration behavior will include family accessibility to local labor markets, including land and local wage labor markets. In addition, I will move beyond the traditional "cost-benefit" argument of the individual perspective and consider how the migration process is affected by family power dynamics, as they are shaped by the intersection of gender and age. I will discuss male-female power relations and power relations among female villagers. My analysis encourages an expansion of the individual perspective of migration, showing how personal characteristics are implicated in the decision-making process of migration.

1.4.2 Significance of the Dissertation

This dissertation will expand the body of knowledge on internal migration in the theoretical way. Its theoretical approach is different from other Taiwanese migration studies. Internal migration was not a major issue in Taiwan until the over-urbanization of a few major cities was recognized in the 1970s. Research on internal migration in Taiwan has been overly focused on the individual and the structural. Specifically, previous research can be classified into two groups: (1) migration selectivity and the characteristics of migrants (see Chang, 1979; Chiang, 1978; Li, 1974; Liao, 1977; Liu, 1993; Speare, 1974; Tsai, 1978; Yin, 1978), and (2) interrelationships between internal migration, economic development, and the process of urbanization (see Chang, 1984; Liu, 1982, 1983; Liu and Tsai, 1990; Sun and Tsai, 1981; Speare, 1974; Tsai, 1978, 1979, 1981; Tsai, 1990). Internal migration in Taiwan, in short, was attributed to specific geographical patterns of industrial and economic development. Urbanization and population concentration were strongly related to industrial and economic development.

These studies do not explain how family power dynamics, which were shaped by certain personal characteristics such as gender and age, affected the decision-making of migration. This research moves beyond the neo-economical approach of “cost-benefit” to discuss how family power dynamics affected the migration process of rural villagers, and different employment status between men and women, and among female villagers.

1.5 Organization of the Dissertation

This dissertation consists of seven chapters. Chapter II includes two major sections: a contextual introduction to Taiwan and a review of migration research in Taiwan. In the

first section a brief history of economic development in Taiwan is provided and family is discussed. This is followed, in the second section, by a review of internal migration research on Taiwan over the past few decades.

Chapter III describes the research framework. The theoretical framework includes the conceptual framework and the specific hypotheses that were developed from the research diagram. In addition, this chapter introduces the data and research methods. The data section describes the data sources, how data are organized into the database for analyses, and the studied variables. Finally, statistical methods applied to this research are discussed.

The main purpose of Chapter IV is to provide a profile for the research area -- Hsin-Hsing Village, Taiwan. This chapter describes the geographical location of the research area and discusses its demographic change and economic development. Specifically, in this chapter there are five topics introduced, including the village's climate and spatial layout, family structure, and economic, demographic and socio-economic infrastructure.

Chapter V focuses on how contributing factors relate to family decisions to migrate. Statistical techniques are applied in this chapter to examine the associations among labor migration, accessibility to land and accessibility to local labor market to answer the questions such as (1) whether labor migration was related to family type, (2) whether labor migration was related to a family's accessibility to land, and (3) whether labor

migration was related to villagers' local labor market participation. The analyses will be at the family level.

In Chapter VI, I will examine the associations between labor migration and family power dynamics. The analyses will be at the individual level. These family power dynamics are analyzed in terms of (1) male-female relations and in terms of (2) relations among women

In the final chapter, I summarize the analysis and discuss the theoretical and substantive contributions of the dissertation. In addition, I discuss the limitations of this dissertation, and the next logical research and policy steps.

CHAPTER II

EARLY SETTLEMENT, ECONOMIC DEVELOPMENT, AND MIGRATION

The main purpose of this chapter is to provide an introduction to Taiwan to lead to an understanding of its internal migration. Therefore, this chapter focuses on early settlement patterns, the economy, population distribution, and how family relates to internal migration. I briefly review Taiwanese immigration history prior to the end of 19th century. Second, the history of Taiwanese economy is discussed, separately during the period of the Japanese occupation and during the postwar Taiwan. This chapter especially focuses on the postwar Taiwanese economy with special emphasis on the twin processes of agricultural and industrial development. Third, this chapter presents a brief review of the interaction of economic development and migration in Taiwan. In addition, an assessment of the interaction of migration decisions and power dynamics within families will be demonstrated. Finally, the chapter reviews what consequences of migration are in Taiwan.

2.1 The Early Settlement Patterns in Taiwan -- Before 1895

The original indigenous peoples inhabiting Taiwan were the Proto-Malay³ (Common Wealth Magazine, 1991; The Government of Formosa, 1926; Shih, 1980). The Hakka and Hokkienese have been the major ethnic groups since the large waves of Chinese

³ Officially, there are nine indigenous groups: 1. Atayal; 2. Saisiyat; 3. Bunun; 4. Tsou; 5. Rukai; 6. Paiwan; 7. Puyuma; 8. Ami; and 9. Yami.

immigration towards the end of the 17th century. Although the Hakkas migrated to Taiwan earlier than the Hokkienese, since the end of the 17th century the Hokkien - speaking immigrants have outnumbered previous Hakka settlers.

Hakka immigration to Taiwan can be seen on the island as early as the 7th century (Kiang, 1991). The Hakka continued settling on the island in small communities up through the 13th century. The number of Hakka immigrants increased dramatically after the 13th century and reached a climax in the 17th century (Common Wealth Magazine, 1991; Shih, 1980). The Hokkien speaking immigrants who had lived in the Southern Fukienese began to settle in Southwestern Taiwan as early as the 1590s. The Hokkienese were the majority among Chinese immigrants toward Taiwan in the 17th century. Especially during the period 1662-1683, when Koxinga ruled Southern Taiwan, thousands of depressed peasants in Fukien flocked to Taiwan to find a new life. These new Hokkien immigrants soon outnumbered the Hakkas. These Hokkien newcomers displaced the earlier inhabitants - the indigenous, Proto-Malay and the earlier Hakka migrants.

Soon after the surrender of the Koxinga Kingdom, the Manchu Ching dynasty promulgated a ban on out-migration to Taiwan from mainland China, specifically prohibiting the Hakka from crossing the sea to Taiwan (see Appendix 1). After approximately two hundred years of migration prohibition, all migration restrictions were eliminated in 1875. The Chinese were allowed to migrate to Taiwan freely. As a

consequence of banning Hakka immigration, the Hokkienese dominated the migration flows, and became the majority in today's Taiwan.

It is worth noting that early Hakka and Hokkienese immigrants landed on the southwestern Taiwan and settled on the western Taiwanese Plain. Early settlement penetrated by the geography has led to east-west uneven development; western Taiwan has dominated the economic and industrial development and received more attention than the eastern part. In terms of population, most people reside in the western Taiwan.

2.2 Early Taiwanese Economy

2.2.1 The Taiwanese Economy during Japanese Occupation (1895-1945)

Before the arrival of Chinese immigrants, the Taiwanese aborigines lived as hunter-gatherers. Hakka and Hokkien immigrants created rice and sugarcane fields, encroaching on the aborigines' traditional hunting grounds (Ka, 1995:1). By the eve of Japanese colonial rule in 1895, Chinese settlers had occupied the plains and established a booming agrarian economy centered on rice and sugarcane (Ka, 1995:1). In the course of half a century of colonial rule, Taiwan and Japan developed an unequal relationship in terms of division of labor (Ho, 1978:29; Ka, 1995:1). Taiwan was developed to satisfy Japan's economic needs. In Ho's words, Taiwan became "an agricultural appendage of Japan, to help it feed its growing industrial population" (Ho, 1978:29). Taiwan, in particular, was transformed into a food and raw material supplier in a new division of labor with Japan. On the one hand, the Taiwanese non-agricultural sector accepted/received Japanese manufactured goods (Ho, 1978:29). On the other hand, Taiwan exported sugar and rice to

Japan, which were the primary products exported from the Taiwanese agricultural sector (Ho, 1978:29; Ka, 1995:1).

The combination of rice and sugar accounted for 50-70 percent of Taiwan's total exports between 1900 and 1939 (Ho, 1978:30-1). According to Ho (1978:31),

In every year, over 90 percent of Taiwan's sugar output was exported, and in the 1930s about half of Taiwan's rice output was also exported. Nearly all Taiwan's rice and sugar exports went to Japan. Before World War II, rice and sugar comprised approximately 15 percent of Japan's total imports, and Taiwan's contribution to this was substantial. It was Japan's major supplier of sugar; in the 1930s it provided nearly 75 percent of the sugar consumed in Japan. ... Before the sharp rise in agricultural productivity in the 1920s, approximately 20 percent of Taiwan's rice harvest was exported each year to Japan. Thereafter, as rice production per capita increased in Taiwan, more and more rice was exported. By the 1930s, approximately, 45 percent of Taiwan's annual rice harvest was exported to Japan, accounting for over 30 percent of Japan's import requirements.

During the Japanese occupation, the colonial government endeavored to apply scientific knowledge and modern techniques to the agricultural development of Taiwan (Ho, 1978:58). For example, the Japanese government on Taiwan successfully introduced "seeds with higher yields, greater resistance to disease and high wind, and more receptivity to fertilizer and intensive care" (Ho, 1978:58). However, "it is impossible for technology to transform agriculture by itself without extensive restructuring of agricultural institutions" (Ho, 1978:65). Among the agricultural institutions, the Farmers' Association, which was first organized in Taiwan around 1900, played a significant role in the introduction of new agricultural techniques and scientific farming to Taiwan (Ho,

1978:63). In addition, Japanese agricultural personnel provided the support to the agricultural transformation in Taiwan (Ho, 1978:65).

In the Japanese colonial period, a large proportion of Taiwanese population was living in agriculture. Land was the major means of production. The average size of land per farm household was relatively large and stable during the first forty years in the 20th century. Statistics show that between 1910 and 1940, the average size of land per farm household remained at around 1.97 hectares (JCRR, 1956:7-9). Nevertheless, the distribution of ownership of land was unequal (Ho, 1978:42). Survey data from 1920 and 1939 demonstrated out that about one-half of agricultural households had less than 1 *chia* of land.⁴ A large proportion of poor farmers held a very small amount of land. Specifically, in 1920, only 5.7 percent of land was held by the lower 42.7 percent of landowners (Ho, 1978:42 and 349-50). By contrast, 62.1 percent of land was held by the upper 11.5 percent of owners (Ho, 1978:42). The 1939 survey revealed that the uneven distribution of land ownership was more serious; “64 percent of the landowners held less than 1 *chia* of land, and only 655 landowners possessed more than 50 *chia* (120 acres)” (Ho, 1978:43).

⁴ In Ho's (1978:42) words, approximately 25 percent of the farms had less than 0.5 *chia* (1.2 acres) of land; 20 percent between 0.5 and 1 *chia* of land; 39 percent between 1 and 3 *chia* of land, and 16 percent more than 3 *chia* of land.

Note that: 1 *chia* of land equals 0.9699 hectare.

Those who owned a great amount of land did not necessarily farm all of their land. Those who held small pieces of land or no land might have rented some land in. In the case that most farmers held small pieces of land, during the period of 1920 and 1939, most agricultural population were tenants than other types of farmers (Ho, 1978:43). Ho (1978) pointed out that "in 1910, 33.7 percent of the agricultural population were owner-cultivators, 42.8 percent were tenants, and 23.5 percent were part-owners and part-tenants" (Ho, 1978:43). By 1941, the proportion of tenants among the agricultural population was reduced to 37.4 percent (Ho, 1978:43). The proportions of landowners and those who were part-owners and part-tenants changed to 30.4 percent and 32.2 percent of the total agricultural population, respectively (Ho, 1978:43). Based on several surveys between 1920 and 1940, Ho showed that "land cultivated by tenants as a percentage of total cultivated area remained fairly stable at around 57 percent" (Ho, 1978; 43).

Unequal distribution of land ownership had caused an unfair land tax system. To establish new land tax policy that attempted to properly tax legal landowners, the Japanese government changed the traditional tenure arrangement from the three-level tenancy (composed of *ta-tsu-hu*, *hsiao-tsu-hu*, and subtenants) system to a two-level tenancy (composed of *hsiao-tsu-hu* and subtenants) system.⁵ The Japanese government

⁵ According to Ho (1978:12-3),

continue to the next page...

started the reform in 1904. In 1905, it “brought out the *ta-tsu-hu* and made the *hsiao-tsu-hu* the legal owners of the land and directly responsible for the land tax” (Ho, 1978:44). The elimination of the *ta-tsu-hu* transferred income streams from those who were neither involved nor interested in agriculture to those who had a direct stake in agriculture and were therefore more likely to use the resources productively (Ho, 1978:44). But the change of the land tenancy system in the early 20th century by the Japanese government did not prevent the development of inequality between tenants and landlords.

2.2.2 The Political Economy of Contemporary Taiwan (After 1945)

The Nationalist government arrived in Taiwan in 1949 as an “outsider” with no ties or commitments to the established local elites. Therefore, to establish political stability and prevent the reoccurrence of defeat by communists, the Nationalist government felt a strong need to establish a solid political base among the Taiwanese peasants. Under these circumstances, a redistribution of land ownership was adopted, which made most tenants become landowners. The first land reform in the late 1940s and early 1950s was aimed at

Land was settled during the *Ching* dynasty under several arrangements, which in later years determined the tenure system. Some plots of land were cleared by individual farmers who held the land in private ownership and some were rented from pacified aborigines and cleared by individual settlers who then became the tenants. However, most were settled under the sponsorship of wealthy Chinese or that of the government. Land settlement required labor, capital, and protection from the unfriendly aborigines. The immigrants were able to provide labor, but for capital and protection they had to turn to the wealthy Chinese and the government for help and sponsorship. In return for the sponsors' capital (such as tools, draft animals, weapons) and protection (which sometimes meant costly punitive expeditions against the aborigines), the reclaimed land became the property of the sponsor, but the settlers had the perpetual right to work the land at a fixed rent. Regardless of the details of the initial arrangement, the sponsor of land settlement was called *ta-tsu-hu* and the settlers who cleared the land were called *hsiao-tsu-hu*. As more immigrants arrived from the mainland, the *hsiao-tsu-hu* leased a part or all of their holdings to the newcomers and also became landlords. In this fashion a three-level tenancy system evolved: the cultivators (the subtenants), the *hsiao-tsu-hu* (the tenant-landlords), and the *ta-tsu-hu* (the great landlords). This complex system remained until it was revised by the Japanese in 1904.

guaranteeing political stability through the achievement of the social and economic security of tenant families (Greenhalgh, 1990).

2.2.2.1 Land Reform and Land Ownership

Land reform policies began in 1949. Based on the first land reform regulation, rents were limited to 37.5 percent of the annual production of main crops (Chen, 1961; Chen, 1994; Greenhalgh, 1990; Ho, 1978:160; Ho, 1987:234; Lu, 1981). Two years later in 1951 the Taiwanese government took the first step to transfer ownership of farmland taken over from the Japanese to families which had actually tenanted it. More than 50 percent of the farmland owned by the “government was eventually affected by this policy” (Ho, 1978:161). This policy legislated that “the price of the public land was 2.5 times the annual yield of principal crops and was to be paid in 20 installments over a period of 10 years” (Ho, 1978:161; Ho, 1987:234). Finally, the most important land reform policy in Taiwan was carried out in 1953, which was the land-to-the-tiller program (Ho, 1978; Ho, 1987:234; Lu, 1981; Tsai, 1978). This policy destroyed the power of the landlords, which the government compulsorily purchased all land in excess of 3 *chia* of medium quality at a low cost (Chen, 1961; Greenhalgh, 1990; Ho, 1978:162). The land later was redistributed to tenants who paid at the price of 2.5 times of the annual yield (Ho, 1978:162-163). As a consequence of the land reform policies, the ownership of land in Taiwan was significantly redistributed. A great number of tenants became landowners and most of farmland became cultivated by owners. As Ho (1978:164) indicates,

In 1948 tenants farmed 44 percent of the total cultivated area; by 1953 the percentage of tenant cultivated land had decreased to 17 percent. Almost 50% of Taiwan’s farm households, or about 75 percent of tenant and part-

tenant farm households, were able to purchase some land. The percentage of tenant farm households among total farm households was 41 percent in 1947, 21 percent in 1953, and 10 percent in 1970. Owner-cultivators households as a percentage of total farm households significantly increased from 32 percent in 1947, 55 percent in 1953, and 78 percent in 1970.

The Nationalist land reform policies reduced the size of the landless peasant class and created a more equalized income distribution in Taiwanese agricultural sector.

Nevertheless, the operational sizes of farms could not increased by the adoption of land reform policies. First, it was almost impossible to increase any amount of arable land on the island. As Ho (1978) states, “[b]y the 1940s, nearly all the available land economically suitable for farming was being cultivated” (p. 147). From 1952 to 1973, cultivated land area increased by less than 3 percent. Second, the decline in the average farm size per household was reinforced by the steady growth of farm population in the postwar period (Ho, 1978:147). More specifically, from 1946 to 1950, more than 1 million mainland refugees (including military and civilian) arrived in Taiwan. In the 1950s, the rate of natural population increase was also high; about 3.4 percent per year (Ho, 1978:156). During the 1960s, although the rate of natural increase in rural areas fell, the continuous rise in population put a significant pressure on the un-growing and limited land resources (Ho, 1978:156). The average size of farm decreased. In fact,

[s]ince the colonial period the size of the average farm has more than halved, decreasing from about 2 hectares to less than 1 hectare of land. In 1939 about 25 percent of the Taiwanese farms had less than 0.5 hectare of land but by 1960 the farms in this category had climbed to 37 percent (Ho, 1978:156).

In sum, the series of land reform policies significantly contributed to the redistribution of the land ownership. Nevertheless, the stable size of farming land and increased population and caused to the reduction of the average size of farm.

2.2.2.2 Agricultural Development

With the sudden increase of the population in the late 1940s, the need for food was obvious and urgent. In the early postwar period, the importance of agriculture was apparent. Its functions were twofold. It could not only produce food for an increasing population, but also provide opportunities for labor input. The redistribution of land ownership after the land reform did provide labor input opportunities for more people. Nevertheless, how to increase agricultural production on the constant cultivated areas, in terms of size, to face the increased population pressure became an important issue.

Farmers responded to the increased population pressure and the decreasing farm size by adopting labor-intensive production techniques, which allowed more crops to be grown in a single year. Farmers adopted new cropping patterns and inter-cropping (planting a second crop between rows of the first crop before the latter is harvested). The new cropping patterns made “the total crop area increase about 40% from 1.2 million hectares in 1940 to 1.7 million hectares in the late 1960s” (Ho, 1978:150)

In addition, the government applied new technology to agricultural production to respond to the crisis of rapid increased agricultural consumption. For example, the Taiwanese

government encouraged farmers replacing animal with mechanical power; applying power tillers.⁶ Nevertheless, the utilization of power tillers diminished the importance of animal manure as a source of fertilizer. It led to the dependence of agricultural production on chemical fertilizers. In the 1970s, the government kept prompting farm mechanization with a view to solving the labor shortage problem in rural areas (Lu, 1981:8).⁷

Although new agricultural technology and cropping methods instantly increased agricultural production, over time, agricultural development was extremely slow. In the early stage of the postwar period, the Taiwanese government totally controlled the distribution of chemical fertilizer; it was “the sole source of chemical fertilizer in Taiwan” (Ho, 1978:180). However, Taiwan did not produce chemical fertilizers, which were exclusively imported by the government, and then distributed by two governmental organizations (Ho, 1978:181). These two organizations -- Taiwan Sugar Corporation and Farmers’ Association -- distributed chemical fertilizers according to crops (Ho, 1978:181). Most chemical fertilizer was distributed to rice farmers. Ho (1978) reported

⁶ Since the implementation of land reform, most farmers owned land, but land holdings was fragmented. Lands of a same owner were scattered at several places. Each piece of land was small in size. Furthermore, irrigation was not easy accessible. To solve these problems, the Taiwanese government launched the rural land consolidation project in the early 1960s. In the 1970s, the rural land consolidation project became a part of the plan for rural reconstruction. As a consequence, “[f]ragmental plots have been transformed into rectangular shapes, offering an easy access to farming facilities, such as irrigation...” (unknown, 1977:50). Also, “this new farming structure provided a chance for the use of agricultural machines and the application of new techniques” (unknown, 1977:52), which enhance the likelihood of migration.

⁷ As Ho (1978:159) mentions, by the late 1960s, migration and part-time off-farm jobs had pretty much depleted the pool of surplus labor in rural Taiwan. The need for labor-saving equipment became obvious, and in 1970 the government drafted a program to promote the adoption of farm machinery (garden tractors, rice transplanters, and harvesters).

that “about 70-80 percent of the fertilizer is allocated to rice and is distributed to rice farmers through a rice-fertilizer barter system” (p. 181).

Nevertheless, the rice-fertilizer barter program had serious disincentive effects on agricultural development. In addition, agriculture was squeezed to support industrial development. To promote the industry of chemical fertilizer, the government artificially kept the price of fertilizer high. In the early years of the postwar period, fertilizers utilized in Taiwan were imported. Taiwanese government began in the mid-1950s to produce “sizable quantities of fertilizers at costs substantially higher than imported fertilizers” (Ho, 1978:181). The higher price made the domestically produced fertilizer undesirable.⁸ The high costs of fertilizers reduced the stimulation to farmers to expand production through the application of more fertilizer. In fact, farmers also hesitated to apply high yield seeds which required intensive fertilization, because of the high fertilizer costs (Ho, 1978:183). Obviously, agricultural development slowed.

Besides the uneven development policies between industry and agriculture, there were other policies squeezing and slowing down the agricultural development and leading to increasing income differentials between the nonagricultural and agricultural sectors. For example, the government operated certain programs to control a sizable share of the rice crop produced each year. As Ho (1978:180) argues:

⁸ According to the government policies, farmers were often required to purchase fertilizers they did not need (Ho, 1978).

Because peasants were not fully compensated for the rice collected by the government, these programs were in effect extractive instruments. The main methods used by the government to collect rice ... [were] taxation, compulsory purchase of rice at prices substantially below the market price, and the bartering of fertilizers for rice at ratios stipulated by the government... Although the official purchase price increased steadily in the 1950s and 1960s, it nevertheless remained consistently 25-30% below the wholesale market price of paddy. The difference between the two prices ... [was] of course essentially a tax on the cultivators... [In terms of land tax,] in 1946 landowners paid 11.5 kg of paddy rice for every yen (dollar) of land tax owed to the government; the rate significantly increased to 27 kg per yen by the late 1960s.

In general, agriculture received less attention from the Taiwanese government, compared to industry and services. The government investment in agricultural development was small in comparison to its total expenditures for industrial development (Tsai, 1978). Consequently, agricultural growth was relatively slower than industry and services. Based on the governmental records, Table 2.1 shows the growth of agricultural, industrial, and service sectors from the early 1950s. Gross domestic production of agriculture increased from NT\$ 55,558 million in 1952 to NT\$ 114,556 million in 1980, and to NT\$ 197,794 million in 1993. Nevertheless, the contribution of agriculture to the total gross domestic production dramatically decreased from 32.3 percent in 1952 to 7.7 percent in 1980, and to only 3.5 percent in 1993 (see Table 2.1). On the other hand, the foreign trade of agricultural production dramatically “changed from a yearly average surplus of \$54 million [in 1960-64] ... to a deficit of \$1.6 billion in [1985-89]” (Huang, 1993:44).⁹

⁹ According to Huang (1993), agricultural trade in 1975-79 was a deficit of \$609 million and decreased to \$1478 million in 1980-84.

Table 2.1 Sources of Gross Domestic Product in Taiwan, 1952-1993

Year	Agriculture		Industry		Services		Total
	GDP	%	GDP	%	GDP	%	GDP
1952	5,558	32.2	3,396	19.7	8,297	48.1	17,251
1955	8,720	29.1	6,966	23.2	14,295	47.7	29,981
1960	17,838	28.5	16,796	26.9	27,873	44.6	62,507
1965	26,611	23.6	34,025	30.2	51,991	46.2	112,627
1966	28,379	22.5	38,494	30.5	59,149	46.9	126,022
1967	30,057	20.6	48,053	33.0	67,707	46.4	145,817
1968	32,308	19.0	58,524	34.4	79,072	46.5	169,904
1969	31,276	15.9	72,565	36.9	93,004	47.2	196,845
1970	35,076	15.5	83,530	36.8	108,199	47.7	226,805
1971	34,455	13.1	102,680	38.9	126,541	48.0	263,676
1972	38,619	12.2	131,670	41.6	145,883	46.1	316,172
1973	49,678	12.1	179,893	43.8	180,834	44.1	410,405
1974	68,279	12.4	223,609	40.7	257,689	46.9	549,577
1975	74,875	12.7	235,419	39.9	279,357	47.4	589,651
1976	80,504	11.4	305,443	43.2	321,763	45.5	707,710
1977	87,875	10.6	364,393	44.0	376,727	45.4	828,995
1978	93,033	9.4	448,007	45.2	450,562	45.4	991,602
1979	102,248	8.6	542,210	45.3	551,380	46.1	1,195,838
1980	114,556	7.7	682,114	45.7	694,389	46.6	1,491,059
1981	129,487	7.3	807,242	45.5	837,202	47.2	1,773,931
1982	147,016	7.7	843,022	44.4	909,933	47.9	1,899,971
1983	153,289	7.3	944,691	45.0	1,002,025	47.7	2,100,005
1984	148,351	6.3	1,081,913	46.2	1,112,814	47.5	2,343,078
1985	142,999	5.8	1,144,824	46.3	1,185,963	47.9	2,473,786
1986	158,224	5.5	1,360,196	47.6	1,336,760	46.8	2,855,180
1987	171,234	5.3	1,528,714	47.4	1,523,045	47.3	3,222,993
1988	175,624	5.0	1,597,457	45.7	1,723,870	49.3	3,496,951
1989	189,567	4.9	1,690,913	43.6	1,998,067	51.5	3,878,547
1990	174,242	4.1	1,795,742	42.5	2,252,020	53.3	4,222,004
1991	173,927	3.7	1,997,973	42.5	2,532,237	53.8	4,704,137
1992	183,162	3.5	2,153,799	41.4	2,861,544	55.0	5,198,505
1993	197,794	3.5	2,320,874	40.6	3,193,851	55.9	5,712,519

Source: Council for Economic Planning and Development, Republic of China, *Taiwan Statistical Data Book* (1994).

Unit: NT\$ million

In sum, the Japanese government could not improve the uneven distribution of land ownership through the change of tenancy in 1904. To establish its regime and political stability, the Nationalist government adopted a series of land reform policies in the late

1940s and early 1950s after immigrating to Taiwan. Although these land reform policies redistributed land ownership, they could not increase the area of arable land. To solve the food problems caused by the rapid increase of population, the Nationalist government introduced new labor-intensive production techniques, new agricultural equipment, and chemical fertilization. Nevertheless, economic policy favored industrial development and squeezed agricultural development. Farmers paid a high price for fertilizers. Also, land taxes paid on paddy rice significantly increased from 1946 to the late 1960s, which led to the great gap of income differentials between agricultural and nonagricultural sectors.

2.2.3 Industrial Development and Policy in Taiwan

The rapid Taiwanese economic development in the postwar period has been described as an economic miracle. In fact, while the importance of agriculture in the economic development was declining, industrial development was growing in importance and received more and more attention from the government. The industrial development started in the early 1950s. From the early 1950s to the late 1970s, the industry was developed along with the economic development that can be divided into three major stages: import substitution (1952-1960), export substitution (1961-1973), and technology-intensive (after 1974) (Lu, 1981).

Starting in the early 1950s, the Taiwanese government “followed an inward-looking development strategy based on import substitution in manufacturing” (Ho, 1978:186). In 1952, the government launched its first four-year economic plan and started the second one in 1956 (Lu, 1981). During this period, the strategies for economic development could be summarized by a government slogan: “Developing agriculture by virtue of

industry and fostering industry by virtue of agriculture” (see Ho, 1978:105). Agriculture was the base of the Taiwanese economy and industrial development depended on agricultural production. The primary economic policy was, therefore, to process agricultural commodities and export agricultural products (Lin, 1995:184). Meanwhile, the government allowed imported manufactured commodities (e.g., cotton yarn, cotton fabric) for industrial production and industrial products (e.g., bicycles, electric bulbs). By importing commodities from foreign countries, Taiwan learned and developed new industrial technology.

In the 1960s, economic development strategies changed to “Developing agriculture by virtue of industry, and fostering industry by virtue of foreign trade” (see Ho, 1978:106). The government’s economic development policies were shifted to export substitution in which the production of industry was not only for domestic consumption, but also for exporting. Nevertheless, agricultural products still played a major role in the foreign trade in the early stage of this period. As Ho (1978) notes, “in 1964, at the beginning of the outward-looking phase of Taiwan’s industrialization, agricultural and processed agricultural products comprised nearly 60 percent of Taiwan’s exports” (p. 210). Later “Taiwan shifted from producing and exporting commodities with high natural resource content to producing and exporting commodities with high labor and skill content” (Ho, 1978:211). Two export-processing zones were established in rural areas, which were outside of two major cities in the central and south Taiwan in the same period. With the development of labor-intensive industries, the manufacturing sector was able to absorb a great number of workers including both males and females. Meanwhile, a large

proportion (about 83 percent) of female workers concentrated in four industries: food, chemicals and chemical products, textiles, and electrical equipment (Ho, 1978:211).

Taiwanese economy was not growing constantly. In 1973 -- the year of the first oil crisis in the world -- oil price increased dramatically in Taiwan. In the following two years, Taiwan experienced the economic recession and the foreign trade including both exports and imports significantly shrank (Lu, 1981:6-7). Up to this time, most of exported items were labor-intensive products such as textiles and plastic commodities. In 1976 the government launched a new strategy for economic development. It decided to "replace the nation's labor-intensive products with high-technology goods so as to better fight protectionism in the overseas markets" (Lu, 1981:7). Meanwhile, the pressure of inadequate infrastructure was recognized. In the 1970s, the government, therefore, launched ten major national constructional projects for improving transportation and communication, and necessary infrastructure (e.g., nuclear power plant, steel mill, petrochemical complex, and shipbuilding yard) for industrialization and economic development. Besides the construction of infrastructure and power plants for industrial development, the government provided many other incentives to encourage industrial and trading investment, such as low interest rates and long term loans, tax reductions (Lu, 1981; Tsai, 1978; 1981). Compared to agricultural development, industrial development received much more attention. The growth of agriculture was far behind and much slower than the industrial development. The uneven development between industry and agriculture led to income differentials and inequality between agricultural and nonagricultural activities. As noted by Ho (1978),

[i]n the early 1950s the per capita real income originating in Taiwan's nonagricultural sector was twice that in agriculture. Despite a steady rise in agricultural productivity, rapid industrialization after the mid-1950s widened this differential considerably so that in 1966-70 the average per capita real income in the nonagricultural sector, at NT\$ 11,791 in 1966 prices was more than three times that in agriculture (p. 140).

Along with the agricultural-nonagricultural income differentials, the geographical location of new industry, the pressure of population on land, and surplus labor in the agricultural sector, combined to become a powerful economic incentive for people to move off farms and into the cities. In the 1950s and 1960s, as rural population increased and the size of farms diminished, an increasing number of farmers were seeking off-farm occupation opportunities. During this period, "surplus labor ... was ... a seasonal phenomenon, ... [but] by the mid-1960s, ... an increasing number of farm workers had moved to other occupations or were finding it profitable to take short-term jobs in cities or in factories" (Ho, 1978:158-9).

2.2.3.1 Rural Industrial Development

In the early postwar Taiwan, major cities were usually primary destinations of migrants. Industrial decentralization which contributed to population redistribution and de-concentration (Liu and Tsai, 1990; Tsai, 1981; Tsai, 1990) did not occur until the mid-1960s. Rural industrial development changed human migration patterns and directions (Tsai, 1990).

In the early postwar period, significantly smaller shares of the labor force in manufacturing, commerce and transportation and communication were employed in the

rural areas. The cities were centers for modern industries (Ho, 1979:81; Tsai, 1981:20). Industries began to move to rural areas in the mid-1960s in search of low cost labor and land. As of the 1971 industrial and commercial census, manufacturing establishments located outside Taiwan's 5 provincial and 11 other cities accounted for 50 percent of the manufacturing employment (Ho, 1979:83).¹⁰ By 1979, about 43 percent of the total number of factories in Taiwan were located in 12 rural counties (Tsai, 1981:21).

The development of rural industry was a crucial influence on the rural population migration. The growth of industries in a spatially decentralized manner has enabled an increasing number of farm households to combine farming with part-time or full-time employment in nonfarm activities. Thus, it has helped to ease both the pressure of population on land and the corresponding pressure on farm household members to migrate to cities for jobs (Ho, 1979:88). Meanwhile, Taiwan's decentralized pattern of industrialization in combination with its relatively well-developed transportation system has made it possible for many of the country's rural household members to shift to nonagricultural employment without changing their residence -- they commute to work from rural areas.

¹⁰ According to Tsai (1981), "the spatial structure of industries in rural areas of Taiwan has been greatly affected by government policies relating to regional planning, land use, agricultural development, etc." (p. 20). For the rural industrialization, the government established industrial zones near rural areas. From 1953 to 1979, the government planned to establish 42 locations covering 7,145 hectares for the establishment of industrial zones in rural areas. By 1979, only 18 rural industrial zones were set up in 12 rural counties. The total amount of land used for rural industrial zones were 2,032 hectares of land, which comprised 28.4% of the total land within the planned rural industrial zones (Tsai, 1981). In addition, another 11 rural industrial zones were developing in 1979 (Tsai, 1981).

In sum, the introduction of new techniques (e.g., power tillers and herbicides)¹¹ to agriculture has made it possible to substitute new inputs for labor, so members of farm households have been free to participate in nonfarm activities (Ho, 1978:94). Income differentials and geographical locations of urban industries caused rural-to-urban migration. Because of the industrial decentralization, rural industries emerged. Increasing employment opportunity in nonagricultural activities for rural households enabled some farmers to change occupation or work in industry in the off-season without moving from the rural areas (Ho, 1978:158-9). It helped to raise average rural income, diversified family income sources, and also had the laudable effect of moving the distribution of income among farm households in the direction of greater equality (Ho, 1979:92-3; Lin, 1985; Park and Johnston, 1995:184).

2.3 Population Distribution and Migration in Taiwan

The uneven economic development policies not only increased income disparities between agricultural and nonagricultural sectors, but also acted as the impetus for rural-to-urban migration. The agricultural labor force migrating from rural areas to seek non-agricultural jobs in urban sectors between the 1950s and the early 1970s responded to the unbalanced development of economy (Tsai, 1978). Because the booming industrial factories and commercial offices were geographically polarized (Tsai, 1978), the population flowing from rural villages and small towns to large urban cities became the major streams of internal migration in Taiwan following World War II (Speare, 1974; Tsai, 1978).

¹¹ See Footnote 6.

The population redistribution accompanied both the economic development and rapid urbanization (Tsai, 1978). After World War II, Taiwan was transformed from a largely rural country to one in which the majority of the population worked in industrial production and commercial services. This change resulted in most Taiwanese living in metropolitan areas or cities with populations over 100,000 people. The proportion of population living in cities of over 100,000 inhabitants increased from 29.2% in 1961 to 55.5% in 1991 (see Table 2.2). In contrast, the proportion of population living in small rural and urban townships of less than 20,000 residents dropped from 34.0% in 1962 to 5.9% in 1991. The number of urban cities containing 100,000 and more inhabitants increased from 10 in 1962 to 30 in 1991.¹²

¹² See Table 13. Population of Cities of 100,000 and More Inhabitants in *Statistical Yearbook of the Republic of China, 1992*, Directorate-General of Budget, Accounting and Statistics, Executive Yuan, Republic of China.

Table 2.2 Population in Localities of 100,000 and more and between 20,000 and 100,000 Residents in Taiwan : 1962-1991

Year	Localities of 100,000+ residents		Localities of 20,000 - 100,000 residents		Localities of 20,000- residents*		Total pop. in Taiwan
	N	%	N	%	N	%	N
1962	3404003	29.6	4192849	36.4	3914876	34.0	11511728
1963	3532766	29.7	4394217	37.0	3956540	33.3	11883523
1964	3695619	30.2	4588900	37.4	3972163	32.4	12256682
1965	3835165	30.4	4755378	37.7	4037805	32.0	12628348
1966	4027974	31.0	4978013	38.3	3986776	30.7	12992763
1967	4468528	33.6	5442875	40.9	3385168	25.5	13296571
1968	5002220	36.6	6015567	44.1	2632583	19.3	13650370
1969	5348876	37.3	6379303	44.5	2606683	18.2	14334862
1970	5565674	37.9	6634032	45.2	2476258	16.9	14675964
1971	5788164	38.6	6936802	46.3	2269857	15.1	14994823
1972	6005021	39.3	7141451	46.7	2142576	14.0	15289048
1973	6441356	41.4	8177887	52.5	945587	6.1	15564830
1974	6778464	42.8	8204503	51.8	869257	5.5	15852224
1975	7094900	43.9	8211307	50.8	843495	5.2	16149702
1976	7322262	44.4	8096064	49.0	1089864	6.6	16508190
1977	7536872	44.8	8212631	48.8	1063624	6.3	16813127
1978	7774450	45.4	8308216	48.5	1053048	6.1	17135714
1979	8187655	46.8	8248843	47.2	1042816	6.0	17479314
1980	8395674	47.2	8356380	46.9	1053013	5.9	17805067
1981	8709894	48.0	8354624	46.1	1070990	5.9	18135508
1982	9076507	49.2	8298942	45.0	1082474	5.9	18457923
1983	9281463	49.5	8376843	44.7	1074632	5.7	18732938
1984	9483960	49.9	8403338	44.2	1125214	5.9	19012512
1985	9771617	50.7	8356626	43.4	1129810	5.9	19258053
1986	10176497	52.3	8184215	42.1	1093898	5.6	19454610
1987	10510749	53.4	7986523	40.6	1175340	6.0	19672612
1988	10833999	54.4	7844509	39.4	1225304	6.2	19903812
1989	11004061	54.7	7957024	39.6	1146355	5.7	20107440
1990	11280802	55.4	7872408	38.7	1199756	5.9	20352966
1991	11403827	55.5	7934197	38.6	1218818	5.9	20556842

Source: Directorate-General of Budget, Accounting and Statistics, Republic of China, *Statistical Yearbook of the Republic of China* (1992).

* These two columns are calculated by the author.

There were specific trends for migrants in terms of sex, age, and education between late 1950s and early 1970s. Migration rates were highest for young adults (Chang, 1979; Chiang, 1978; Tsai, 1978; Yin, 1978), although males and females had different migration patterns in terms of age in the early 1970s (Chang, 1979). Males in the age

cohorts of 25-34, and 40-44 had the highest migration rate, while females were most likely to migrate at the age 20-29. Most employed female migrants were in the age group 15-29, with the peak at ages 20-24 (Chiang, 1978). In contrast, employed male migrants were generally older than the female, with the largest concentration at ages 20-34.

Besides sex and age differentials, there were certain unique patterns of educational attainment among migrants. In the early 1970s a large proportion of migrants were primary school graduates or illiterate, and migrants with a college education were few (Tsai, 1978). The better educated, however, were more likely to migrate (Chang, 1978; Chiang, 1978; Speare, 1974). Migrants who went to the cities had the most education; and those who went to rural towns had the least education (Speare, 1974). In addition, migrants tended to be better educated than residents at the place of origin, however, they were not necessarily better educated than the residents of the place of destination (Speare, 1974).

Structurally, internal migration in Taiwan responded to geographical patterns of industrial and commercial development (Liu, 1982a and 1983b; Liu and Tsai, 1990; Speare et al., 1988; Sun and Tsai, 1981; Tsai, 1978; Tsai, 1981; Tsai, 1990). Between the late 1950s and the early 1970s only major cities and a few counties around Taipei and Kaohsiung metropolitan areas had positive migration rates (Tsai, 1978). The population concentration was based on push and pull factors. Pulling migrants was the large increase in number of industrial factories and commercial offices. This was due to industrial development and trade expansion being geographically concentrated to those major cities

and areas around two municipalities, Taipei and Kaohsiung (Tsai, 1978; Tsai, 1990). In addition, rural migrants were pushed out by the relatively small government investment in agricultural development (Tsai, 1978). This led to the decrease in agricultural income and farmers' lives becoming increasingly difficult (Tsai, 1978). Rural-to-urban migration was a response to the geographical unevenness of economic development. A great deal of agricultural population migrated to major cities and areas around two municipalities where better-pay jobs were expected (Tsai, 1978). As a consequence, these areas experienced more rapid urbanization in the early 1970s.

Economic development continuously influenced population redistribution in Taiwan during the 1970s and later. The industrial decentralization contributed to the population redistribution (Liu and Tsai, 1990; Tsai, 1981; Tsai, 1990). Rural industrial development changed human migration patterns and directions (Tsai, 1990). Incorporating with the rural industrialization, the Taiwanese government in 1973 launched an agricultural reconstruction program which was designed to accelerate rural development, including the improvement of rural transportation, agricultural development, and rural community services (Ho, 1978; Yu, 1977).¹³ The agricultural reconstruction program further improved the living standards of rural population. In sum, the establishment of rural industrial zones led to an increase in the number of employment opportunities in industries and factories for agricultural labor forces in rural areas (Tsai, 1981).

¹³ See "The Accelerated Rural Development Program in Taiwan" by Terry Y. H. Yu. In this publication, Yu describe the governmental rural development policies in the mid-1970s in Taiwan.

The accessibility to the labor market of industrial production reduced the out-migration likelihood of potential movers from the rural farming sectors. In the early stage of the postwar years, a great number of rural migrants moved toward major cities, the two largest municipalities, and their satellite urban townships. Since the 1970s, more and more potential migrants might have chosen to stay in rural villages and commuted to workplaces, while the other would have migrated to nearby loci where the rural industrial zones were established. Migration was not the only means to compensate for poverty. In addition, small-size urban areas where industrial zones were usually located had experienced a consistently higher rate of population growth since the early 1970s (Liu and Tsai, 1990; Tsai, 1990). In sum, internal migration patterns in Taiwan reveal that human migration is a behavior responding to economic development.

2.4 Taiwanese Families and Migration

Traditionally, migration has been considered as an individual matter. If the individual perceives the personal benefits of migration to exceed the costs incurred in the act of migration, the individual is expected to migrate (Sjaastad, 1962; Bowles, 1970; DaVanzo, 1981). However, in the Taiwan context, it is important to ask what is the role of family in human migration?

2.4.1 Family Dynamics in Taiwan

As a subsistence unit, a family carries two major functions. One is to assign jobs in the family labor force (Harbison, 1981), and the other is to meet consumption needs for its members. As the family resources are defined as the means for providing labor force input and meeting consumption needs of family members, it seems that the more limited

the resources of the family, the stronger the motive and incentive to migration. However, within the family framework, whether a family can provide adequate opportunities for labor input and meet needs for consumption for its members is determined by the interaction of three factors: the individual, family, and structural levels (Harbison, 1981). The individual level factor is “the relative status of the individual within the family, governing differential access to the total production of the family” (Harbison, 1981:238-9). The family level factor is “the size and quality of the resources held by the family (that is, the direct link between the family and the environment)” (Harbison, 1981:238). The structural level factor is “the available technology and other aspects of the socio-cultural system that determine productivity” (Harbison, 1981:238).

Access to land is of prime importance in agricultural communities. Focusing on the family level factor, the size and quality of farming land play a significant role in the decision making of sending family members away for maintaining the family or maximizing the familial welfare. B. Gallin and R. S. Gallin (1974:338) based on their studies on Hsin-Hsing Village to indicate that the families of migrants moving to large cities are holding less land than those families without migrants. Speare (1974) demonstrated that “a higher proportion of migrants than nonmigrants came from nonfarm families” in his study on the central Taiwan (p. 322). However, it is doubtful that the size of family landholdings has an absolute power in determining migration decisions. It is extremely likely that migration decisions are a function of family landholdings and other familial and structural factors, and probably some factors related to individual characteristics.

Holding a small amount of farming land could not lead to a migration decision until at least one of two possible factors emerge. The family, first, perhaps has to be unable to provide its members adequate opportunities for inputting their labor force. Second, the production from the small piece of land could not meet the consumption needs of its members. These two factors are associated with the family composition. A family with more family members in the labor force needs more land than a family with less members participating in labor force. Furthermore, larger families need more land than smaller families to produce agricultural production for consumption. Inadequate agricultural production or inadequate land for labor input could cause in the migration of family members.

Nevertheless, long-distance migration is not necessary until resources which provide job opportunities and generate production for family consumption are extremely limited not only within families, but also in migrants' hometowns. B. Gallin and R. S. Gallin (1974:337) pointed out that having no local industries and insufficient job opportunities caused Hsin-Hsing villagers to migrate to large cities. Speare (1974) argued, in a similar vein, that "men were not forced to migrate to one of the large cities if the family landholdings were insufficient to support them, but could choose to move to a nearby urban center or even remain in their traditional home and commute to work" (p. 305).

In Taiwan before the 1970s, a great number of rural people migrated to large cities, which were far away from their hometowns. B. Gallin and R. S. Gallin (1974) argued that

it was because of that “the largest cities are most attractive to migrants with little capital and few skills, for only there can they find relatively high-paying employment” (p. 337). By contrast, they pointed out that “those who migrate only a short distance tend to come from families of comparatively high socio-economic status,” and “have ample landholdings, surplus capital, or both, and family members are not tied to land” (p. 335). Speare (1974) suggested that “for most [short-distance migrant] men the decision to move to the city was based more on the comparison of job opportunities in the city with those in the rural area than on an absolute need to find employment” (p. 305). Based upon these observations, it is clear that structural constraints could push rural poor people to migrate large cities to seek occupation opportunities.

Nevertheless, it is not necessary that everyone responds to same structural difficulties in the same way. In addition, migration decision is not necessarily based upon same considerations/rationales. Poor people adopt migration as a family sustenance strategy. People with a higher socio-economic status choose migration to diversify family income sources and to supplement family incomes. Another motivation for rural people to migrate could be the relative deprivation and risk diversification (which will be discussed in Chapter III). However, what roles did Taiwanese families play in response to the urban-rural uneven development? Although migration is considered an individual behavior, migration decision is a family strategy. Further, we should ask how migration decision is made within the Taiwanese family.

2.4.2 Migration Decision and Power Dynamics within Family

Viewing the family as the decision-making unit whose corporate welfare is being maximized, family strategies are developed for coping with the constraints imposed by the larger labor markets (Fernandez-Kelly, 1982). Family strategies are also developed with the collective good in mind, family members must accept those decisions and carry them out (Wolf, 1991). By contrast, individuals must sublimate their own wishes for larger goals (Wolf, 1991).

Although it is often asserted that the family makes decisions or makes very precise calculations about allocating labor (Pahl and Wallace, 1985; Guest, 1989), the family can neither decide nor think (Davidson, 1991; Wolf, 1991). For Taiwanese families, the authority for decision making usually is held by one or a few family members. Certain people within the household make decisions. One or more persons with enough power to implement them makes decisions and other, less empowered family members follow them. Wolf (1991) argues that “household[/family] strategies necessarily embody relationships of power, domination, and subordination if a strategy is formulated by the decision maker(s) and successfully executed by those for whom decisions are made” (p. 32).

Under the assumption that families adopt migration as a part of a survival or mobility strategy, money transfers are likely to be involved (Findley, 1987). It is suggested that the persons who make decisions about money matter in the family are likely to be the ones who make migration decisions (Findley, 1987). In Taiwanese society, this person would usually be the family head. The migration decision may be made solely by the family

head, but as a part of family survival and mobility strategy the decision of migration is a family matter, responsive to the needs of the entire family (Findley, 1987). No matter who is the decision maker, the migration decision is inevitably made based on the individual, family, and structural characteristics.

Focusing on the individual and family characteristics, family power dynamics of migration decision should be discussed. In Taiwan, the authority for migration decision making could be traditionally held in the hands of family heads. Their decisions on migration, however, concern not only the motivation of potential migrants, but also their capabilities. In general, migration in terms of labor allocation inevitably influences the division of labor within a family, which is related to the status of the life cycle of a family. The duty of a migrant must be taken care by other family members staying at home. Those family members with un-transferable duties, therefore, are not allowed to move. Those people without proper capabilities for the labor market in the destination are not allowed to move either.

In sum, although family heads in Taiwan usually hold the authority to decide who can migrate and where to go, their decisions are determined by the interactions of the characteristics of individual members and families, and structural factors. A family at the later state of life cycle might have more family members. The increase of family members could lead to the needs for more land for labor input and for agricultural production for family consumption. Further, migration could be a more-acceptable family strategy, because more family members would be available for dealing with the change of

division of labor, which is caused by the migration of certain family members. On the other hand, migration decision makers would give migration permissions to those who are likely to fit in the labor markets in the destination.

2.4.3 Consequences of Migration

A large proportion of this chapter has dealt with the history of Taiwanese economic development and causes of migration. The consequences of migration and how they reinforce migration also deserve attention.

The first change in migrant families is the division labor within family, which is caused by the change of family composition and the reduction of available labor force. Bernard Gallin and Rita Gallin pointed out that a large proportion of migrants still owned and rented some land in their hometowns (B. Gallin, 1966; B. Gallin and R. S. Gallin, 1974). Usually, migrants retained their land more for security than as an economic investment (B. Gallin, 1966:38; B. Gallin and R. S. Gallin, 1974:345). However, it is inevitable that married migrant males left their work to their wives at homes. It increased women's responsibility of taking care of family land. B. Gallin (1966) pointed out that "[v]illage women whose husbands spend a good deal of time working in Taipei are especially active on their own land" (p. 65). Since migration moves a part of family labor force away from farming family land, labor shortage for agricultural production frequently happens. Especially, during harvest seasons, migrant families have to hire necessary labor to overcome the problem of labor shortage.

Family partition could be another consequence of migration. Speare (1974) argued that migration leads to the breakup of the extended families. He pointed out that “[m]ost married migrants moved with their wives and children” (p. 319). Only is a very small proportion of married male migrants lived apart from their wives (Speare, 1974). Therefore, Speare (1974) suggested that the movement of the entire conjugal units to cities resulted in the division of existing extended families.¹⁴

However, Chuang (1972) argued that migration did not necessarily result in family partition, but the emergence of a new type of family in rural areas, which was the federated family. Traditionally, a family in the Taiwanese or Chinese society refers to a unit consisting of members related to each other by blood, marriage, or adoption (Cohen, 1976; Lang, 1946). Family members live under the same roof. As an economic unit, family members usually share a common estate and common budget (Cohen, 1976; Lang, 1946). By contrast, a federated family is a group of conjugal units surrounding parents (Chuang, 1972). People in different conjugal units live under different roofs and cook separately. Although people in different conjugal units live separately, they have a very close relationship. Also, each conjugal unit is economically independent from other units; they manage budgets separately. They don’t share a common budget, but the group of conjugal units does not go through the process of family division. Migrant conjugal units leave family land to those conjugal units, which remain in hometowns, if they do have

¹⁴ Nevertheless, Speare did not address the definition of “family division.” Of course, migration causes in that certain family members could not live with their parents and married and unmarried siblings. However, it is not necessary to mean the occurrence of family division, which is defined as the division of family property and the termination of obligations of family members.

land. The father who usually is the federated family head represents the entire federated family to participate ritual and other activities in villages. Finally, parents and those conjugal units remaining in rural areas usually are security resources for migrant units in financial and psychological matters.

2.5 Summary

Taiwanese immigration started as early as the 7th century. In 1895, Japanese occupied Taiwan. In the course of Japanese colonial rule, Taiwan was transformed into a supplier of food and raw materials, and a receiver of manufactured and commercial goods. Rice and sugar accounted for a great proportion of Taiwan's total exports. In order to use the cultivated land more efficiently and change the land tax system, the Japanese government changed the three-level tenancy system to the two-level system. However, the Japanese land reform policy did not prevent the occurrence of unequal distribution of cultivated land.

After World War II, the Nationalist government migrated to Taiwan in 1949. The new government adopted a series of land reform policies to redistribute the ownership of land to establish its political base with the peasants. After the land reform, a great number of tenants became landowners. Furthermore, since holding their own land, the new landowners worked hard and farm households increased their agricultural production.

However, for farm households, availability of cultivated land straightly relates to labor opportunity. Inadequate cultivated land could cause either inadequate opportunity for labor force input or inadequate production for consumption, or both. Under these

circumstances, family members might develop strategies to cope with the problems (Grigg, 1980; Guest, 1989; Wood, 1981). Migration usually is one of the strategies. The first question this research will deal with is how the amount of cultivated land available relates to migration. The amount of cultivated land is assumed to be responsive to family consumption needs and the opportunity for labor force input. Once either one is unbalanced, family migration could occur to cope with the substance problem. This research, therefore, will examine whether households with smaller sizes of cultivated land are more likely to have migrant family members.

The second question this research will discuss is how the development of rural industries influences the migration of the rural population. It is assumed that inadequate land could not produce enough products to meet family consumption needs or provide enough opportunities for labor force input of family members. The emergence of rural industries is assumed to provide nonagricultural occupation opportunities for rural population and reduce the income inequality. Therefore, this research is interested in understanding how rural industry influences the rural migration patterns, for example, if industrial decentralization stopped the rural-to-urban migration.

Since a family is the basic social unit for Taiwanese, this research will further study migration under the family perspective. Under the assumption that families adopt migration as part of a survival or mobility strategy, no matter who is the decision maker, the migration decision should be made based on not only the motivation of potential migrants, but also the individual and familial capabilities. Considering that migration is a

process of family labor allocation, which would influence the division of labor within a family, the third research question, therefore, assesses how the status of the life span of a family influence the migration decisions and patterns. For example, the research will examine if members of extended families are more likely to migrate and if more migrants are from extended families than other types of families, which typically have less members than extended families.

Furthermore, another research question related to family should be raised, which is how family power dynamics influence migration decisions. Although data on family dynamics are unavailable, this research will explore the role such a process takes in decisions about migration, based on the following assumptions. First, it is assumed that individual characteristics such as age and gender reflect the position of family member within the authoritarian hierarchy of the family. Second, it is assumed that decisions within the household are shaped by considerations such as family continuity over time (the idea here is that daughters leave the family to become members of their husbands' households while sons remain to provide old age security - theoretically at least). Give these assumptions, who migrates and to pursue what type of employment may suggest the dynamics embedded in seeming neutral family strategies.

CHAPTER III

THEORIES, RESEARCH FRAMEWORKS, HYPOTHESES, DATA, AND METHODS

3.1 Introduction

This chapter will describe and explain the theoretical research frameworks, hypotheses, data and methods to examine the research questions raised in Chapter II. In the second chapter, in addition to providing an introduction to early immigration in Taiwan, economic development including both agricultural and industrial development, changes of the economic structure, and its families following the historical perspectives, four research questions regarding human migration, which form the core of this dissertation, were raised.

These four research questions cover three dimensions: family, structural, and individual perspectives. At the family level domestic units are seen as being responsible for providing adequate cultivated land for family consumption needs and the opportunity for labor for input. Family migration strategies could be developed to cope with inadequate land for family consumption and labor input. The first research question deals with how the amount of cultivation land available relates to the decision of migration. The demands on land for family consumption and labor input are determined by family composition. Families, primarily living on farm, with more people consuming or participating in labor force need more family land than those with fewer family members. Thus, this dissertation will examine how family type influences the migration decisions of family members.

At the structural level, the emergence of rural industry provides more occupation opportunities for surplus labor in rural villages than agriculture. This research, therefore, will examine how the development of rural industries influences the migration of the rural population. In addition, this research will rely on the individual theoretical perspectives of migration to examine family power dynamics within the family, how they relate to migration decisions, who in the family participates in human migration, and why.

While these four questions generally focus on the causes of human migration, the first two questions deal directly with economic issues. They assess if a family's land ownership influences the decision to migrate, and how structural economic factors determine migration behaviors. Questions three and four are related to family issues. Specifically, question three deals with the relationship between family structure and human migration, while question four deals with power dynamics within Taiwanese families. The research question on power dynamics examines how factors, which contribute to an authoritarian family hierarchy, influence migration. All of these four questions are intended to explore what caused migration from a rural village in Taiwan.

This chapter opens with a literature review of migration. With such an understanding of migration theories, reasonable and rational research frameworks to address my four research questions can be constructed. Following the literature review, two research

frameworks are constructed and series of research hypotheses are derived based on the research frameworks.

Finally, this chapter discusses the data and the appropriate statistical methods from univariate descriptive statistics to complicated statistical modeling. The data section discusses what data are used, how they were collected, and the operationalization of variables. The methods section accesses the statistical methods to be applied throughout the dissertation.

3.2 A Review of Migration Theories

In the past, migration research has dealt mainly with the following questions: Who dominates migration flows? Where do people migrate? Where did they come from? Why do people migrate? What are the causes and consequences of migration for the areas of origin and destination? These questions have been addressed largely within three major theoretical frameworks commonly labeled the individual (cost-benefit analysis, monetary and psychic benefits, and human capital characteristics), the structural (intervening opportunities, uneven economic development, and regional restructuring), and the family/household perspectives (accessibility to land, and participation in local wage labor markets). These three different theoretical approaches have been applied to different analytic levels of data.

3.2.1 Individual Perspectives of Migration Theories

Conventionally, population movement has been conceptualized as the geographic mobility of workers who are responding to imbalances in the spatial distribution of

factors of production (Guest, 1989; Harris and Todaro, 1970; Sjaastad, 1962; Todaro, 1969, 1976, 1980; Wood, 1981).¹⁵ The individual perspective of migration theories presupposes that workers seek out employment opportunities where their returns will be greatest. Therefore, Shaw (1975) argues that human migration, in a formal sense, could be considered as a case of the microeconomic theory of consumer choice. Human migration is an aggregate process. Migration flows are the cumulative results of individual decisions based on a rational evaluation of the benefits to be gained from and the costs entailed in moving (Wood, 1981).

The cost-benefit model of microeconomics has played a crucial role in migration research. Since researchers view migration as the outcome of a rational evaluation of the costs and benefits of movement (see Massey, 1990a; Sjaastad, 1962; Todaro, 1976, 1980), the expected net return to migration has methodologically been used as an indicator to predict if a potential migrant would choose to move or to stay. If the expected net return is positive, potential migrants would choose to move; if it is negative, potential migrants would choose to stay; and if it is zero, potential migrants are indifferent about

¹⁵ The assumptions underlying this approach are based upon a concept of dual economy consisting of areas characterized by zero or very low productivity because of surplus labor, and areas characterized by high labor wages because of the scarcity of labor. The resulting differential in wages stimulates workers from the low-wage areas to migrate to the high-wage areas. Furthermore, the labor movement changes the supply of, and demand for, labor in both sending and receiving areas. The redistribution of labor force theoretically adjusts wage rates of workers in both the origin and the destination. The increased supply of the loss of workers from the sending area where provides low-wage creates upward wage pressure there. Neoclassical economists, therefore, believe that migration is an equilibrating mechanism that brings about wage equality in the two sectors by way of shifting human resources from areas where their social marginal products are often assumed to be zero toward areas where these marginal products are not only positive, but also rapidly growing as a result of capital accumulation and technological progress (Lewis, 1954; Massey et al., 1993; Rains and Fei, 1961).

either migrating or staying (Bowles, 1970; DaVanzo, 1981; Guest, 1989; Harris and Todaro, 1970; Sjaastad, 1962; Todaro, 1969, 1976, 1980; Wood, 1981).

The individual cost-benefit model, therefore, concerns the computation of the expected costs and benefits of migration (see Speare, 1971). Migrants may capture increased wages associated with their greater labor productivity, but they also must undertake certain investments, including monetary and non-monetary costs (Sjaastad, 1962). The former include expenses incurred by migrants in the course of moving, such as costs of transportation of themselves and disposal of movable and immovable property necessitated by a shift in residence. The non-monetary costs include the earnings foregone while traveling, searching for, and learning a new job. In addition, there are psychic costs involved in migration but which are difficult to measure. The returns of migration can also be broken down into monetary and non-monetary components. Non-monetary returns include changes in “psychic benefits” as a result of locational preferences.

Sjaastad (1962) argues that the expected net return of migration is the sum of monetary returns and psychic benefits accrued from migration minus the monetary and psychic costs of migration. Nevertheless, the monetary returns of migration are not the real income to be earned in the receiving sector, but the “expected” income. Expanding upon Sjaastad’s notion, Todaro (1969, 1976) proposes that the expected net return is a function

of urban-rural expected income difference and the likelihood of obtaining an urban job.¹⁶

The possibility of potential migrants obtaining jobs in modern urban sectors is a crucial element in the decision-making process to migrate; indeed, it is more important than the wage differential. In most cases, there is a gap between rural and urban wages. Urban

¹⁶ Todaro's (1976) mathematical equation of calculating the expected net returns of urban-rural migration is as

$$V(0) = \int_0^n [P(t) \times Y_u(t) - Y_r(t)] \times e^{-it} \times dt - C(0)$$

where,

- $V(0)$: the discounted present value of the expected net urban-rural income stream over the migrant's time horizon,
 $P(t)$: the probability that a migrant will have secured an urban job at the average income level in period t ,
 $Y_u(t)$: the average real incomes of individuals employed in the urban economies,
 $Y_r(t)$: the average real incomes of individuals employed in the rural economies,
 $C(0)$: the cost of migration,
 n : the number of time periods in the migrant's planning horizon; and
 i : the discount rate reflecting the migrant's degree of time preference.

Massey (1990) modifies the equation of Todaro.

$$ER(0) = \int_0^n [P_1(t) \times P_2(t) \times Y_d(t) - P_3(t) \times Y_o(t)] \times e^{-it} \times dt - C(0)$$

where,

- $ER(0)$: the expected net return before the planned departure at time 0,
 $P_1(t)$: the probability of avoiding deportation from the area of destination at different points in the migrant's stay; for internal migrants and legal international migrants it is always 1.0, but for undocumented international migrants it may be substantially less than 1.0,
 $P_2(t)$: the probability of being employed at time t ,
 $Y_d(t)$: the income that a migrant can expect to earn in the destination at different points in period 0 to t ,
 $P_3(t)$: the probability of being employed in the home community at time t , and
 $Y_o(t)$: the income within the community of origin at different points in period 0 to t .

Therefore, the product of $P_1(t)$, $P_2(t)$, and $Y_d(t)$ provides the expected returns from migration. The product of $P_3(t)$ and $Y_o(t)$ gives the gross expected gain from choosing to stay at the original community. The result of the interaction of seven elements in the equation shows that the net return of migration is the difference between the income that would be earned at home community and that expected from migration. Then summing up the difference over the time horizon (0 to t) and discounting it by a factor r , which reflects the greater utility of income in the present than the future. Finally, the expected net return of migration is that the result computed above subtracts the costs of migration, $C(0)$.

employment usually provides higher wages or wage rates than rural employment. The urban-rural expected income difference is not the major concern of potential migrants, rather the major concern is employment opportunity. Therefore, if the higher wages of urban employment are presupposed, the possibility of obtaining an urban job significantly determines the expected returns which are the expected income increases minus the costs of migration.

In addition, the individual perspective of migration theories proposes that the decision to migrate is an investment decision which involves an individual's expectation of increasing productivity of human resources in terms of costs and returns over time (Massey, 1990a; Sjaastad, 1962; Todaro, 1976, 1980). Given their skills, people choose to move to where they can be more productive.

Because of the importance of obtaining an urban job in the decision-making process, the individual perspective emphasizes the individual characteristics of migrants in response to the neoclassical microeconomic theory linking human capital influences with the probability of obtaining a job, and with the rate of remuneration. Early migration studies, therefore, focused on differences in human capital characteristics between migrants and non-migrants (Browning, 1969; Ladinsky, 1967; Long, 1973; Zachariah, 1966).

A broad range of individual-level human capital characteristics have been incorporated into this migration model. Browning (1969) concludes that overall, migrants are positively selective in terms of education and occupational position. He also demonstrates

that migrants have become less selective over time. There has been a shift from a “pioneer” to a “mass” pattern of migration, with the latter group more closely approximating the characteristics of the origin population. Ladinsky (1967) points out that low income and high education stimulate geographical mobility while increases in family size and age slacken it. Further, young married professionals move more often and farthest, and males move somewhat more than females. Research by Long (1973) suggests that education is not a particularly good predictor of short-distance moves, but it becomes an increasingly important source of migration difference with increasing distance of move.

In the context of less developed countries, Zachariah (1966) shows that migration to Bombay is highly selective for ages of maximum economic activity. Migration streams to Bombay were preponderantly male, and, among males, those who were married predominated. As to education level, migrants had more years of schooling than the general population at origin but fewer years than nonmigrants residing in Bombay. Further, migrants’ participation in wage labor markets was high; and there was evidence of migrant concentration in industries and occupations requiring less skill, less education, and less capital than was true for nonmigrants.

Although in the early stage, the individual perspective played an important role in directing migration research and demonstrating the characteristics of migration streams, this perspective is not able to present a comprehensive understanding of human migration. This problem also reflects on the internal migration research in Taiwan.

Besides revealing the differences between migration streams, this perspective could not even provide an explanation to the question: Why, among a group of people with similar human capital characteristics, do some migrate to urban areas, while some stay at areas of origin? Further, the individual approach obviously, at least, ignores the impacts of a larger structure on individual human behaviors. The empirical research based on this perspective usually draws different conclusions. Different research concludes that different migrants' characteristics dominate migration streams. Indeed, these differences might be caused by different economic structures which require different types of labor force.

However, the individual perspective of migration is supportive for this research in examining how family power dynamics relate to human migration in Taiwanese families. Specifically, besides examining the characteristic differentials between migrants and non-migrants, the individual perspective leads to the assessment on how age and gender relate to decisions to migrate. Especially, within Taiwanese families, the interactions among family members are shaped by an authoritarian hierarchy, which is determined by individual characteristics, such as gender, age and/or generation. However, the individual perspective of migration is supportive for this research in examining how family power dynamics relate to human migration in Taiwanese families. Specifically, besides examining the characteristic differentials between migrants and non-migrants, the individual perspective leads to the assessment on how age and gender, which determine the power of a family member within Taiwanese family, relate to the decisions of migration.

3.2.2 Structural Perspectives of Migration Theories

The structural perspective proposes that migration is merely one type of human behavior that can occur in response to change, and it can provide impetus for change (Guest, 1989; Wood, 1981). Structuralists basically argue that migration decisions are inevitably made by actors who weigh the costs and benefits of movement, but that these decisions are always made within the specific social and economic environment that is determined by larger structural relations in the political economy (Amin, 1974; Goldscheider, 1987; Massey, 1990a).

The assumptions underlying this approach are also based upon a concept of dual economy consisting of areas characterized by zero or very low productivity because of surplus labor and areas characterized by high labor wages because of the scarcity of labor. The resulting differential in wages stimulates workers from low wage areas to migrate to high-wage areas. Furthermore, the movement of labor changes the supply of, and demand for, labor in both sending and receiving areas. The redistribution of the labor force theoretically adjusts wage rates of workers in both areas of origin and the destination. The increased supply of workers in the receiving sector, which is the high-wage area, puts downward pressure on wages there while the loss of workers from the sending area, where wages are low, creates an upward pressure on wages there. Neoclassical economists, therefore, believe that migration is an equilibrating mechanism that brings about wage equality in the two sectors by way of shifting human resources from areas where their social marginal products are often assumed to be zero toward areas where these marginal products are not only positive, but also rapidly growing as a

result of capital accumulation and technological progress (Lewis, 1954; Massey et al., 1993; Ranis and Fei, 1961).

The immediate socioeconomic context not only helps to determine parameters such as the probability of employment and the costs of migration, but it also affects the way cost-benefit calculations are framed and conceptualized. In other words, although it may be true that migration is a personal behavior which is based on a rational decision to maximize expected returns, these decisions are always constrained by specific local structural conditions. Therefore, Goldscheider (1987), in a review of the migration literature, suggests that a more complete understanding of migration requires a greater emphasis on the integration of migration studies into broad theoretical developments in social structure and social change.

Three concepts regarding the structural perspective of labor migration are introduced. They are intervening opportunities developed by Stouffer, uneven economic development, and regional restructure introduced by Frey to explain the population redistribution in the 1970s in the United States. These three approaches are particularly useful in the examination on the rural-urban migration in Taiwan. While the concept of “intervening opportunity” could explain the differences between short-distance and long-distance migration, “uneven economic development” explains how more employment opportunities stimulated by the urban development attract to migrants from rural areas in Taiwan. The concept of “regional development” can be applied to the examination on Taiwan during the 1960 and 1980, when rural industry emerged.

3.2.2.1 Intervening Opportunities

One such broad theoretical approaches views migration as a product of geographic differentials in the supply of and demand for labor (Lewis, 1954; Massey, 1988, 1990b; Massey et al., 1993; Ranis and Fei, 1961). Stouffer's (1940, 1960) theory of intervening opportunities can be considered a macro approach of out-migration analysis. Stouffer (1940) argues that linear distance is not an important determinant of migration behavior or patterns and that there is no certain relation between migration and distance. In his view, it is not necessary to assume that because the distance between places A and B is short, most migrants move from A to B. Rather, Stouffer (1940) argues that "distance" should be regarded in socio-economic not geometric terms. According to his theory of "intervening opportunities," the number of people out-migrating from an area is not a function of distance, but rather a function of the spatial distribution of opportunities. More specifically, the number of migrants from place A to place B is a direct function of the number of opportunities in place B, an inverse function of the number of opportunities intervening between place A and place B, and the number of other migrants competing for the opportunities in place B (Stouffer, 1960).¹⁷

¹⁷ The mathematical equation is represented as

$$Y = \frac{X_M}{X_B \times X_C}$$

where,

X_M : the number of opportunities in the destination,

X_B : the number of opportunities intervening between the origin and destination, and

X_C : the number of other migrants competing for the opportunities in the destination.

continue to the next page...

The shortcoming of this particular perspective, however, is that it primarily focuses on the pull factors of migration at the point of destination. The push factors at areas of origin are totally left out. It suggests merely that out-migration is a product of opportunities in areas of destinations.

3.2.2.2 Uneven Economic Development

According to Massey (1988), economic development is geographically uneven.¹⁸ In fact, available evidence suggests that a large share of moves are not volitional but are structural, imposed by conditions beyond an individual's control, most commonly economic dislocations (Spear, Goldstein, and Frey, 1975). Massey (1988) believes that the initiation of economic development in a peasant society necessarily destroys its stable and integrated social and economic system. In agrarian societies, the destruction due to the emergence of economic development creates a pool of people with weakened ties to the land and the community. This pool of socially and economically displaced peasants inevitably provides the source of migration. Massey's "geographic unevenness of economic development" model proposes that, on the one hand, since capital cannot be spread equally and thus is concentrated in certain urban areas, geographic differences in the marginal productivity of labor are reflected in rural-urban wage differentials between areas. In addition, an unbalanced distribution of capital investment may cause an

¹⁸ Dorothy S. Thomas (1941) and Brinley Thomas (1954) propose the model of cyclical economic development to explain the human migration between countries, which is derived from a conclusion dependent upon the historical observations. Douglas S. Massey (1988) innovates the concept of geographic unevenness of economic development, which is an expansion of the model of cyclical economic development offered by Thomas (1941) and Thomas (1954).

unbalanced supply and demand for labor. These differentials provide strong incentives for geographic mobility of the labor force which accelerates economic development and urbanization at the point of destination. Briefly, this perspective first assumes that the prevalence of emigration from agrarian societies is due to the creation of a pool of potential migrants through the destruction of the economic system. Second, it assumes that discontinuities in economic growth across time and space produce cyclical constrictions of opportunity in developing urban economies paired with expansions of opportunity in growing economies at other places.

For the Taiwanese migration research, the approach of “uneven economic development” is especially appropriate for examining migration during the first couple of decades after World War II. At the beginning of the postwar, the primarily rural population was living on agricultural production. The limited sources for nation-wide economic development were invested in a few urban sectors to develop the economy there, which led to an unbalanced rural-urban economic structure and development. In addition to more employment opportunities established in a few major cities in Taiwan, rural areas with limited land and increasing population pressures could not produce adequately from farming land or surplus rural labor force could not input their labor power for production. Therefore, this particular perspective would be helpful to understand how the structural factors influenced rural-urban migration in Taiwan.

3.2.2.3 Regional Restructuring

Similar to Massey’s (1988) “discontinuities in economic development across time and space” argument, Frey’s (1987, 1990) concept of “regional restructuring” interprets

internal migration as a product of the geographical restructuring of the economic function of cities in the United States since the 1970s. Population redistribution reflects a spatial representation of shifts in the organization of production and is the function that the affected areas perform within the new organization (Frey, 1987, 1990). In other words, the non-metropolitan turnaround and the metropolitan growth slowdown in the 1970s were not only explained as the result of economic dislocations, but also viewed as a new geographic growth. Growing areas will be those that successfully redirect their economies toward advanced service delivery, high-tech research and development, and recreation and leisure-time activities (Frey, 1987, 1990).

Frey (1987) categorized metropolitan areas into two groups: command and control centers consisting of diversified service centers and specialized service centers; and subordinate centers consisting of production centers and consumer-oriented centers. Not all large metropolitan areas, however, are expected to transform into advanced service centers. Metropolitan areas that cannot successfully shift from industrial production to post-industrial services will continue to decline (Frey, 1987, 1990). Perhaps the roles or positions of these declining metropolitan areas will be taken over by rapidly growing areas in the future. Therefore, this perspective provides the explanation to why many Northern metropolitan areas classified as command and control centers experienced significant declines or growth slowdown during the 1970s. It was because of a transitional disinvestment in old-line manufacturing activities.

Although Taiwan is different from the United States in a variety of ways, such as Taiwan is small and does not have many Metropolitan Statistical Areas (MSAs), which have experienced dramatically changes in economic development and restructuring, Taiwan experienced the development of rural industry and industrial de-concentration and decentralization. The rural industrial development changed the roles of certain rural areas in the division of labor and life styles of rural villagers, further influencing the human migration patterns. The notion of “region restructuring,” therefore, is applicable to understand patterns of internal migration during the period in which Taiwanese rural industrial development emerged.

The macro perspectives mentioned above generally have concentrated upon the relationship between economic development and urbanization. Migration originates in structural changes that affect the relations of production in sending and receiving societies. Population movement is a human behavior in response to the changing structure of the economy, and urbanization or population redistribution is a by-product of human migration. Economic transformation from an agricultural to an industrial economy produces a pool of dislocated workers who respond to the rewards of greater productivity in developing urban economies. Migration assumes greater or lesser importance depending on the degree of economic connection between sending and receiving areas. As economic integration of inter-region grows, an inverse association between business cycles develops, networks of transportation and communication interlink, and labor recruitment becomes more frequent, thereby bringing about large-scale movements of labor between areas (Frey, 1987, 1990).

Between 1950 and 1980, the rural economy in Taiwan changed dramatically. People in rural areas moved from depending primarily on agricultural incomes to depending more on industry than on agriculture. The structural perspective of migration provides a theoretical base to understand how economic and industrial advantages of urban areas lead to in-migration. In addition, it creates a tool to examine whether the development of rural economy and industry would stop or slow down out-migration from rural areas in Taiwan. However, the weakness of structural perspectives of migration is that they do not consider individual differentials. They lead to the mis-understanding that people in the same structural and economic circumstances would react the same or at least similarly.

3.2.3 Family Perspectives of Migration

In principle it is clear that human behaviors are usually influenced by structural constraints. Therefore, an understanding of population movement must encompass both the broad structural societal parameters that affect behavior and the factors that motivate individual actors. In the context of rural areas, where the unit of production and consumption is the household or the family, an integration of individual and structural approaches can be accomplished through the analysis of household behavior as the unit interacts with its environment (Chant, 1992; Schmink, 1984; Wood, 1981).

The dynamic character of household behavior can be conceptualized as a series of “sustenance strategies” by which the household actively strives to achieve a fit between its consumption necessities, the labor power at its disposal (both of which are determined by the number, age, gender, and skills of its members), and the alternatives for generating

monetary and nonmonetary income (Boyd, 1989; Grigg, 1980; Guest, 1989; Wood, 1981). Under conditions of structural change, a household must devise especially flexible and innovative strategies compatible with shifting productive opportunities, and responsive to other factors that affect the sustenance of the unit. In other words, an agrarian family must provide its members with opportunities for inputting their labor power, and the outcome of labor invested must also meet the consumption necessities of the family. Once the balance between labor input and consumption necessities is achieved, the family theoretically will not need any sustenance strategy. Under conditions of structural change, the imbalance between these two key components probably occurs, and the family needs to seek an alternative to achieve a new balance.

The family perspective of migration, therefore, provides a theoretical framework to explain why migration is one of a set of family sustenance strategies. Migration can be theoretically linked with two factors: accessibility to land, and participation in local wage labor markets. These two factors are strongly linked to family structures, in terms of family type, family composition and size.

3.2.3.1 Accessibility to Land and Participation in Local Wage Labor Markets

Whether family members have adequate employment opportunities and whether their productivity is able to cope with their consumption necessities are critical in the choice of family strategies (Grigg, 1980; Guest, 1989; Wood, 1981). In the absence of other employment opportunities, land is the most important and limited resource of employment opportunities for the population in rural areas. Accessibility to land can separate rural population into two groups. The first group includes people who have

access to adequate land, and are able to live on their agricultural productivity. Under conditions in which the agricultural products generated by the input of family labor power cannot meet consumption needs, although a family may farm a large piece of land, its members must depend upon participation in wage labor markets. The second group includes those who do not have access to adequate land and must participate in wage labor markets. They have to sell their labor either as farm laborers or as off-farm workers.

If migration is a family sustenance strategy, those families that have adequate land for their members to work on and produce enough agricultural products from their land to survive, do not find it necessary to encourage family members to work as wage laborers either on- or off-farm. By contrast, people from families with inadequate land must live on wages generated by the sale of their labor. Sending selected family members away to seek employment opportunities (i.e., migration) is a necessary family strategy for those families that have access to inadequate land to sustain their way of life and that do not have access to alternative non-farm resources and employment in the rural area. In sum, migration might not be the necessary or immediate solution for dealing with inadequate land for family labor input or producing agricultural products for family survival. The theoretical perspective of migration as a family sustenance strategy suggests that migration is an alternative once participation in local wage labor markets is impossible in rural areas.

Migration has also been considered as one of the family “mobility” strategies by another group of scholars (see Connell et al, 1976). This particular perspective argues that access to adequate land for agricultural families is not necessarily negatively correlated with the possibility of labor mobility of family members. The availability of land can facilitate labor mobility of selected family members by enabling a greater investment to be made in the education of some members, and by providing the funds that allow migrants to undertake the often time-consuming task of finding employment (Connell et al., 1976).

3.3 Research Framework and Hypotheses for Migration in Taiwan

This research is primarily based on the family and structural perspectives of migration theories, which assumes that migration is influenced by the following factors:

accessibility to land, and participation in local wage labor markets.

Accessibility to land influenced villagers’ daily life. As Bernard Gallin (1967: 369-370) states:

[O]ne’s family [was] the basis of identity for the individual. The only way to secure status for the individual and the family was through wealth from the land [in the 1950s in Taiwan]. ... This meant that the family and its members usually had little choice other than to remain on the land. ... [Therefore, land] served as a means for securing the continuity and status for the family.

Therefore, this dissertation will discuss how landholdings relate to the decision of migration at the family level. Specifically, I will examine how the amount of land for the consumption of family members and for labor input influences the migration of family members. The need of family farming land, however, depends on family type. This

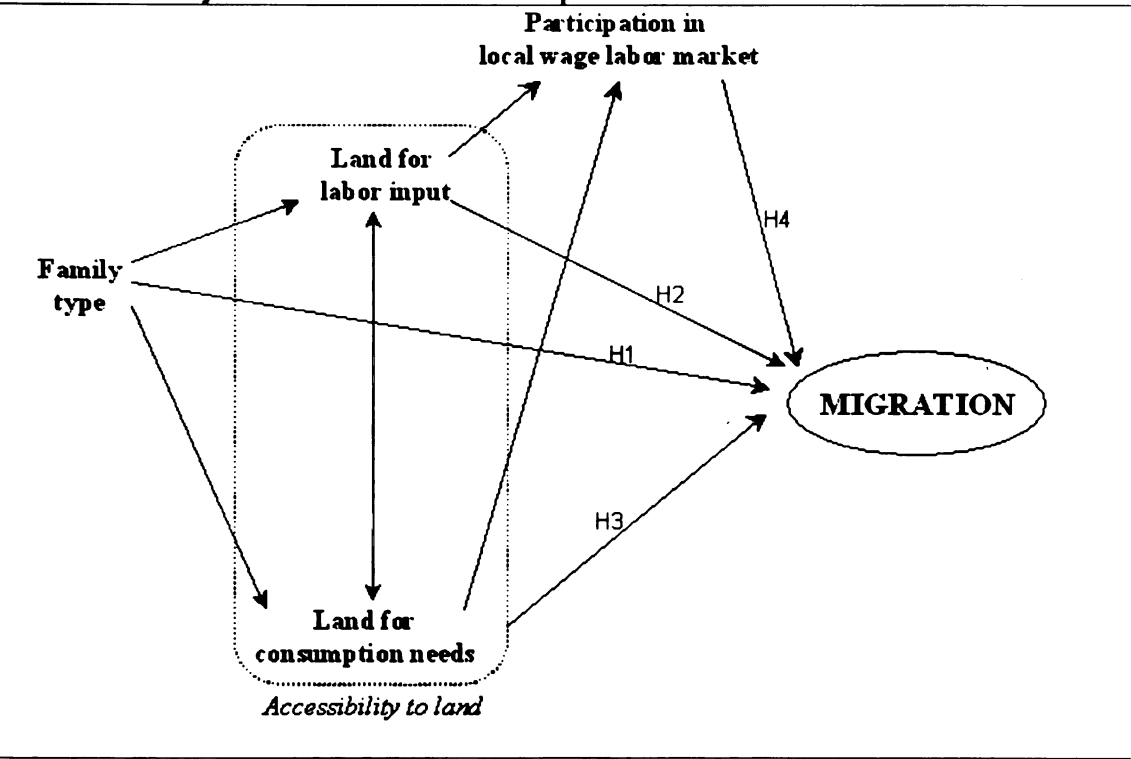
research also examines the relationship between family structure and migration. In addition, family structure in terms of family size is included in the discussion of how that structure determines the accessibility to land and the participation in local wage labor markets.

Research hypotheses are developed following the research diagram in Figure 3.1. It demonstrates how family type, accessibility to land, and participation in local wage labor markets theoretically influence human migration behavior within the family research framework. In addition to the examination of the relationships among family type, accessibility to land, participation in local wage labor markets, and migration, the discussion of how structural factors are related to migration will be developed during the comparisons of the 1965 and 1979 data.¹⁹ In 1965, when rural population had to rely primarily on agriculture, which could not absorb surplus labor and/or produce insufficiently, migration would have been adopted to overcome the lack of rural employment opportunities and inadequate agricultural production. In 1979, while rural industry created more employment opportunities for the rural population, and rural families diversified their sources of family incomes, migration would have been adopted to overcome the lack of employment opportunities, but not the inadequate agricultural production for family consumption. Although migration could be a family strategy for coping with structural constraints in both 1965 and 1979, the influences of factors on migration would be different between two time periods. Therefore, comparing how

¹⁹ This research will focus on the 1965 and 1979 data. Please see Section 3.4 for detailed information on data.

accessibility to land, and participation in local wage labor market influenced the decisions of migration between two time periods would be helpful in examining how structural factors affected human migration.

Figure 3.1 The Theoretical Integrative Model of Migration Analysis, Derived from the Family/Household and Structural Perspectives



3.3.1 Family Type

The basic socioeconomic family unit of the village is the *chia*, defined as “a unit consisting of members related to each other by blood, marriage, or adoption, and having a common budget and a common property” (Lang, 1946:13). The economic family in Taiwan takes one of three forms: conjugal, stem, and joint with the majority being conjugal or stem. Most stem families are enlarged conjugal families in which one son has

married and had children (Lang, 1946; Gallin, 1966). The structure of both types of economic family is hierarchical according to generation, age, and gender. Yet there are differences across family types in the family decision-making process. Authority within the conjugal unit lies with the husband and father of that unit while in stem families the married son often participates in the family's decision making process (Gallin, 1966).

However, family type represents not only different family compositions, but also size. In general, a joint family has more family members than other types of families, and a conjugal family has the fewest members. The stem family falls in between in size. A family is like a person. It experiences birth and growth. As a family moves from the conjugal type to the joint, its size increases. The increase in the family size could lead to additional family members joining the labor force. The family's consumption needs increase too. Therefore, in rural areas, the different family types not only represent differences in family size, but also reflect the varying needs for land to provide adequate occupational opportunities to meet the growing family's needs for consumption and labor participation.

Type of family is reflected in the family sustenance and mobility strategies in terms of farming land as well as in migration. In terms of the division of labor within the family, a joint family could have more family members. Once certain family members have to migrate to other locations to seek occupational opportunities, their work left at home can be taken over by other non-migrant family members. In contrast, conjugal families which consist of a married couple and their unmarried children, are unlikely to send any family

members away for diversifying family income sources or maintaining the family sustenance. Therefore, the first research hypothesis is (see Figure 3.1):

H1: *Stem and/or joint families are more likely to have migrant family members than conjugal families.*

3.3.2 Accessibility to Land

In the absence of non-farm economic activities, land is the most valuable resource and means of production in rural areas. In areas with a low degree of industrial development, the amount of family land reflects the socio-economic status of the family. The amount of land a family has access to influences not only job opportunities available for family members, but also its consumption needs. Adequate land provides family members a focus for their labor power. However, as Massey (1988, 1993) argues, once the rural economy is capitalized and commercialized and agriculture is modernized, some people will lose access to land, netting a labor surplus. People without land must participate in wage labor markets. In the local areas, they may be hired as farm laborers or work as off-farm laborers.

Adequate land generates sufficient agricultural products to meet the consumption needs of a family. Nevertheless, adequate land for labor force input from family members does not necessarily lead to adequate land for family consumption. A family could consist of those who are in the labor force, and those who are not. The number of family members in the labor force should be smaller than or equal to the number of family members having consumption needs, and should include all family members. For example, a family might have two persons in the labor force, but may have more than two who have

consumption needs; after all, young children are not in labor force, but they still have consumption needs.

Furthermore, the average land holding available for each family member in the labor force is not necessarily equal to the average land available to supply its members' consumption. The two concepts must be discussed separately. While family land provides family members who are in labor force the opportunity for labor input, it also has to produce agricultural products for family members' consumption. Family members do not necessarily have to consume all agricultural products from family land. Agricultural products might be sold or exchanged for other things family members need.

If family land does not generate adequate agricultural products for consumption, a family must have their family members sell their labor for wages. Migration as a family sustenance strategy not only solves the problem of surplus family labor, but also is a coping strategy for insufficient agricultural production from the family land. Therefore, accessibility to land influences the decision-making of migration. More specifically, I hypothesize that migration is a family sustenance strategy (see Figure 3.1):

- H2: *The smaller the landholding per family member in the labor force, the more labor migrants the family has.*
- H3: *The smaller the landholding per family member, the more labor migrants the family has.*

3.3.3 Participation in Local Wage Labor Markets

In rural areas families having inadequate land for labor input or family consumption must sell their labor for wages to maintain family's sustenance. However, migration is not necessary. Family members can look for occupation opportunities locally to diverse sources of family income and solve the problem of surplus labor. Migration becomes an option when no occupation opportunities are available in the home area. Therefore, participation in the local wage labor market reduces the likelihood of becoming a migrant worker. In other words, the opportunity to participate in local wage labor markets besides working on their own land is crucial for non-migrants. Those who are unable to participate in the local wage labor market are more likely to migrate. The research hypothesis is:

H4: *Families with lower participation rates in local labor markets are more likely to have family members migrating than are families with higher local labor market participation rates.*

This hypothesis implies that increasing the possibility of participating in local wage labor markets will lower the likelihood of migration. It also suggests that rural industrial development, which provides more occupation opportunities for a rural population, might slow or stop rural out-migration. The logic behind this suggestion is two-fold. First, the economic perspective suggests migration is a family sustenance strategy, and thus rural industrial development is assumed to solve the problem of rural surplus labor. Second, if

migration is seen as a family mobility strategy, rural industrial development will provide the opportunity for families to diversify their income sources.²⁰

3.3.4 The Integrated Research Model

Thus far, migration has been considered at the family and structural levels. Those arguments will be taken a step further by providing a comprehensive understanding for the integrated research framework and the relationships between all factors. The research diagram shown in Figure 3.1 is based on the family and structural levels.

Family type, land-holding for family working members, profitable land-holding for family members' consumption needs, and participation in local wage labor markets have been shown to theoretically influence migration, in terms of increasing or decreasing the likelihood of family members becoming migrants. The discussion on how access to land influences migration considers the importance of family type, which determines how much land is needed for labor input and consumption for family members. Although family size is associated with the likelihood of labor mobility, it is very unlikely that family size can totally determine the decision to migrate. Large families are probably more likely to send family members to urban cities. But, migration decisions can also be indirectly influenced by family size. Specifically, larger families would have more need for family land for consumption and labor input, which would directly increase the likelihood of family members being labor migrants.

²⁰ Although this dissertation suggests that migration could be one of family sustenance and mobility strategies, this research is not able to distinguish when migration is adopted as a family sustenance or
continue to the next page...

Resorting to sending a family member away as a migrant is a difficult decision for certain rural people because of the potential costs and risks associated with migration. Therefore, migration is not an option until local employment opportunities have been exhausted. Families with little farming land for either labor input or consumption may diversify the family income sources by some members pursuing occupation opportunities in their home area first. The decision to migrate is made with increasing rural “push” factors and/or urban “pull” factors. As shown in Figure 3.1, the rural “push” factor is the possibility of participating in local wage labor markets, which is determined by the large economic structure. In the case of Taiwan, the opportunities to participate in rural wage labor markets are determined by the change of economic structure and rural industrial development. In sum, this research diagram lays out the associations between the major factors and migration. Using the multi-variate analysis, many of the research questions previously raised can be answered. We can understand whether the size of family farm land relates to the family migration decision, and how the change of the large economic structure influences human migration behaviors. The relationship between family size and the likelihood of family migration can also be examined.

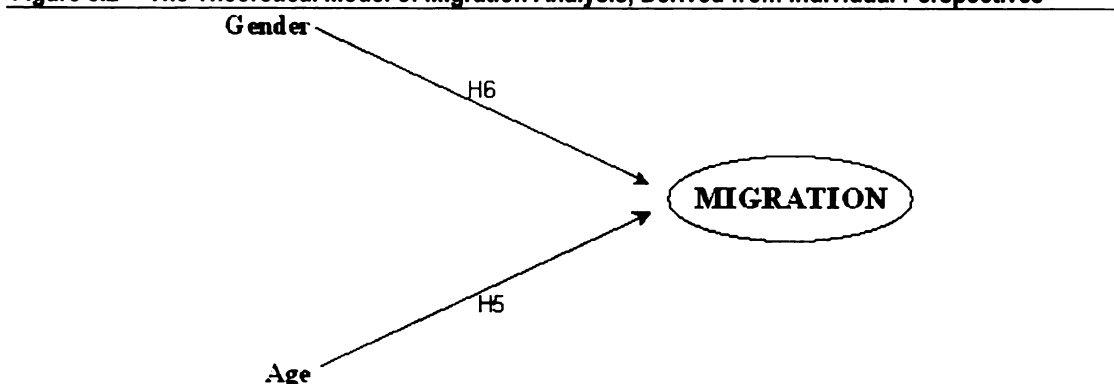
3.3.5 Research Frameworks and Hypotheses on Family Power Dynamics

The final research question is how do family power dynamics relate to family migration decisions and processes in Taiwan. My intention is not only to distinguish different characteristics between migrants and non-migrants, but also to examine who in

mobility strategy.

Taiwanese families was more likely to move away from homes. Based on the individual perspective of migration, a research framework is constructed and presented in Figure 3.2.

Figure 3.2 The Theoretical Model of Migration Analysis, Derived from Individual Perspectives



Traditionally, gender, generation and age shaped an authoritarian hierarchy within a Taiwanese family, which directs the interactions among family members. The eldest male usually had the highest status. Although their status could rise with the births of male offsprings or age, women's status was lower than that of any male members. R. S. Gallin (1985) points out that in contemporary Taiwan, family dynamics are still shaped by the patrilineal kinship structure. Male offsprings are primarily considered to have inherent rights to family property. Women's low family status was traditionally more or less re-enforced by the patrilocal rules of residence. Specifically, when a woman married, she left her natal home to live as a member of her husband's family. Therefore, parents considered daughters a liability. Women were household members who drained family resources as children and who withdrew their assets (domestic labor and earning power) when they married. Sons, in contrast, contributed steadily to the family's economic

security during its growth and expansion and provided a source of support for their parents in old ages.

Feminist researchers such as Gallin (1985), Gates (1987), Greenhalgh (1985), and Wolf (1972) argue that daughters are victims of patriarchal kinship systems. They indicate Taiwanese parents traditionally socialized daughters to believe themselves as worthless, and that literally everything they had, including their bodies, their upbringing, their schooling, belonged to their parents and had to be paid for. Due to their inferior status in families, women usually did not participate in migration decisions or were not migration initiators. They followed or moved after their fathers or husbands. They were treated as a means for family sustenance or mobility strategies.

Female migration to the cities usually was not based on choice but rather the will of other family members, such as fathers or husbands. Their economic activities in cities could have reflected the purpose of their migration. Young women were not allowed to migrate without parental permissions (Huang, 1984). Once they migrated, young women participated in wage labor markets in urban areas. As a component of the family sustenance/mobility strategies, young unmarried females are more likely to be sent by their household heads to cities in search of job opportunities to diversify or increase family income sources, while young males may stay in school for education.

Married males are more likely to adopt labor migration as a strategy to overcome family economic difficulties. If migration is adopted as short-term strategy, married women are

likely to be left at home taking care of family land. Migration of married females is not impossible. However, since married female migrants are expected to take the primary role in taking care of their families, they are less likely to participate in wage labor markets or take jobs outside their residence in cities than are young females. The relationships between individual characters and migration can be seen in the Figure 3.2 and are reflected in the following hypotheses.

- H5: *Younger women are more likely to migrate to cities and to work for pay than are older women.*
- H6: *Among those who participate in urban wage labor markets, male migrants are older than female migrants.*

Female migrants from rural areas can be divided into two age categories. Younger female migrants might move to participate in wage labor markets while older women might migrate to take care of their families. While parents, especially fathers, sent their unmarried daughters to cities to seek waged employment to increase family income, they kept their sons in school, thereby investing in their sons' earning ability and thus the older generation's life in old age. Unmarried women were theoretically a component of a family's sustenance or mobility strategies. When married women were expected to assume the domestic responsibilities of their mothers-in-law, they were unlikely to participate in the urban labor force. When the opportunities in the rural labor market were insufficient, family members in the labor force had to seek job opportunities outside of the rural area became necessary. Because married men were socialized to earn money to support and/or maintain their families, they were likely to participate in the waged labor

market. Therefore, unmarried women and married men were more likely to participate in the waged urban labor force than unmarried men and married women.

In sum, these research hypotheses correspond to the five research questions presented in Chapter II. Figure 3.3 relates the hypotheses derived in this chapter to the research questions developed.

Figure 3.3 How Research Hypotheses Correspond to Research Questions

Question	Hypothesis
Q1. How does the amount of cultivated land available relate to the decision of migration?	H2, H3
Q2. How does the development of rural industries influence the migration of the rural population?	H4
Q3. How does family type influence the migration decision of family members?	H1
Q4. How do family power dynamics relate to migration decisions and processes?	H5, H6

3.4 Data Sources

Following the theoretical review and the introduction to the research frameworks and research hypotheses, this section introduces the data and methods for this research. The data were collected in Hsin-Hsing Village, Taiwan by Professors Bernard Gallin and Rita S. Gallin between 1957 and 1990. Although data were collected over the course of thirty-five years, this research only uses those data collected in 1965 and 1979. These two time periods contain more detailed migration information than data from other years.

This research utilizes data from two sources: semi-structured surveys conducted by the Gallins and governmental household registration records.

3.4.1 Surveys

In both 1965 and 1979, surveys were administered to every family in the village.

Respondents included adult men and women, their parents, or other adult children in families. All willing or available adults became respondents. Villagers in Hsin-Hsing were interviewed. In both questionnaires of 1965 and 1979, questions were organized into seven categories: 1. family composition, 2. family division, 3. landholding, 4. non-farm labor, 5. entrepreneurial activities, 6. family living conditions, and 7. migration information. This research only adopts those questions regarding family composition, landholdings, non-farm labor, and migration information.

The section on family composition provides a list of family members including a family head and other family members.²¹ Additional information includes each family member's birthday, sex, age, educational level, occupation, and other socio-demographic data. Due to memory bias, the surveys resulted in inaccurate or incomplete data. For example, informants sometimes provided the wrong birth dates or educational levels of family members, or even forgotten those information. The governmental household registration records helped to improve the accuracy of information such as this.

The landholding section contains information about family land status: ownership, rented-out, and rented-in which include also borrowed-in. For the 1979 questionnaire, questions on land were also separated the land into two categories: wet and dry land. The

intersection of three categories of the land ownership and two types of land creates six categories of landholding. Also, information was collected on how land was utilized and what crops families grew. Although the questionnaires were designed to collect detailed information, most families did not have such detailed information. Generally the questions about family landholdings are helpful to indicate how much land was self-cultivated, rented-in, and rented-out by a family.

The questions on the “non-farm labor” focused on those family members who worked at a job other than tilling the family land. Included were questions about the type of job a person performed, whether s/he worked part-time or full-time, how long s/he had worked at the job, the job location, and how the earnings s/he made from the job were spent.

The migration information included who the migrant was, when s/he migrated, where s/he went, and what the migrant did. Although in 1965, more questions were asked about the urban life of the migrant, how much the migrant earned, and how much s/he remitted, they are not used for this research. Without the information for 1979, no comparison can be made.

This research primarily uses the surveys conducted in Hsin-Hsing Village. Most questions in these two semi-structured surveys were open-ended questions. The questions were about who are family members in the family, how old they are, what are their sexes,

²¹ Theoretically, a family is “a unit consisting of members related to each other by blood, marriage, or adoption” (Lang, 1946:13). However, this research does not apply a strict definition for “family.”

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what are their educational levels, and so on. While these are open-ended questions, they are very straight forward and need no complicated coding system. This research only used part of data collected from the interviews. The selected data from the surveys are combined with the information retrieved from the governmental household registration records.

3.4.2 Household Registration Records

The household registration records were collected from the local governmental household registration office. There is duplication between the personal interviews and the governmental household registration records (e.g., some villagers' birth-dates and educational achievement). However both are used because the household registration records provided additional information and very reliable personal demographic information, especially on events regarding birth, death, and marriage. Household registration records include information on household heads, members of the household, sexes, educational level, occupation, births, deaths, migrants, where they migrated, and marriages.

Governmental registration records were used as a supplement to the survey data, some information contained in the governmental household registration records is, however, not reliable at all because the records have not been systematically updated. They are usually updated by officers. In some cases, family members might report to the registration office a change of their families. Usually, family members report events

Researchers let informants decide who are their family members.

regarding births, deaths, and migration to the office, but they do not inform the office about changes in educational levels and occupations of family members. Educational levels of villagers change year by year, they need to be updated constantly. For example, a person who had been registered in 1963 as a fifth grade elementary student was still registered as a fifth grader two years later when that student was in the seventh grade.

For migration, household registration records might collect false information. Usually villagers believed that if they moved their records and registered in cities to which they migrated, they might lose their land. Therefore, male migrants' wives might have registered in the cities, so that their children could be enrolled in schools in the cities, and a husband retained his registration in the village.

3.4.3 Database and Variables

This study focuses only on those families with members considered permanent residents of Hsin-Hsing Village. It does not include those families permanently residing in urban areas. Therefore, the “migrant family” in this research refers to a family in Hsin-Hsing Village with family members migrating to urban areas. For the purpose of this research, data collected from the two surveys and governmental household registration records are organized according to individual and family. In general, this research covers 537 villagers clustered into 82 families in 1965, and 544 people who were members of 73 families in 1979. A detailed demographic profile of Hsin-Hsing Village is provided in Chapter IV.

The data were entered beginning with information at the individual level. Each family was assigned a family ID. Each family member listed in the governmental household registration records was also assigned a personal ID. The information regarding each family member included his/her name, relationship to the family head, birthday, and sex. The age of each villager was calculated by subtracting the years of research from a villager's birth year.

The governmental household registration records contained more people than the real population in Hsin-Hsing Village. Therefore, the second step was to identify those who considered family members by informants who were interviewed during the two surveys in 1965 and 1979. Based on the survey data, a list of villagers including migrants and non-migrants was created. In this research, migrants are considered those who were staying in urban cities, but were still considered as family members by people in their families in the research area. Those people who were shown in the governmental household registration records, but were not listed by villagers were eliminated. Besides providing a list of Hsin-Hsing Villagers, the survey data also identified the locale of each migrant at the time of interview. Based on this information, migrant villagers were identified.

Additional information at the individual level obtained from the surveys includes the occupation of each villager and educational level. For the family level analysis, the individual data are aggregated to create an additional database with information including:

1. how many people are in each family, how many are males, and how many are females,
2. family composition: how many family members are parents, spouses, siblings, children, grandchildren, and other relatives of the family head, and family type,
3. proportion in labor force, proportion of students, proportion working on family land,
4. age stratification, and
5. proportion of current and labor migrants.

3.4.4 Operationalization of Variables

The two surveys provide other valuable information at the family level for this research.

They include the size of family farming land, which was collapsed into three groups: self-cultivated, rented-in, and rented-out land. The open-ended questions tell how many migrant relatives, friends, or town-folk the family knew. Further, based on the family composition, the type family can be determined, which could be either conjugal, stem, or joint.

3.4.4.1 Landholding

The basic information on family characteristics is, further, transformed into variables carrying specific functions for this research. There are four indicators measuring family landholding. For purposes of this research, the “absolute” amount of family landholding is not as important as the “relative” amount, where “absolute” consists of the total amount of family farming land per family. Instead, this study will employ the “relative” land, which is the average amount of land per family member. As the relative amount is standardized from the absolute amount, it becomes a tool for comparison between

families. The relative amount considers not only how much land a family has, but also how many family members relying on the family land.

The area measurement unit is the *chia*, which is equal to 0.97 hectares or 2.40 acres. In this research, rented-in land represents the land that was borrowed from relatives, villagers, or other people. For borrowing the land, “tenants” usually paid rent. In some cases, land-tillers did not need to pay for rent, but land tax to the government. In contrast, rented-out land means the land that was loaned to someone. Landlords might have collected the rent and paid the land tax. In some case, landlords might have received no rent, but had land-tillers paid the land taxes to the government. Paying or not paying the rent or land tax and how to pay the rent depended on the agreements between landlords and land-tillers.

Land in Taiwan, generally, can be either dry or paddy land. For the paddy land, “the first and second annual crops were [traditionally] devoted to the cultivation of rice” (B. Gallin and R. S. Gallin, 1982a:219).

In 1978-79, however, only two-thirds of Xin Xing [Hsin-Hsing] farmers cultivated rice exclusively during these crop periods. Two-fifths gave over part of their land surface to the cultivation of vegetables or sugarcane, and approximately one sixth cultivated no rice at all. Further, in the third crop - traditionally devoted to the cultivation of vegetables for marketing - approximately one-third of the farmers allowed their land to lie fallow. In short, Xin Xing [Hsin-Hsing] farmers either diversified their crops to realize a larger profit from the land or limited the time and energy they devoted to farming, thereby releasing themselves for more remunerative activities (B. Gallin and R. S. Gallin, 1982a: 219-220).

In the 1950s and 1960s, the Nationalist government forced farmers to grow rice by making them to pay the land taxes in rice. The market price of rice, however, was much higher than the government paid to farmers. For the best profit, then, most farmers had to grow rice, instead buying rice from the market to pay for the land taxes. Therefore, in this research, farmers are assumed to hold paddy land and grow rice. However, B. Gallin and R. S. Gallin (1982a) also indicate, farmers received almost no profit from the land they tilled. They estimated that after the deduction of all costs, which include taxes, fertilizer, and other fees, a family could have made about NT \$1990 (NT \$36=\$1 US) for one crop of rice cultivated from 0.1 *chia* of paddy land in 1978.

Dry land in the research area generally was used to grow sweet potatoes, which could be consumed by animals or human beings. In this research, the size of dry and paddy land cannot be distinguished because there is no sufficient data available. The amount of land for family consumption, therefore, is measured as the summation of the size of self-cultivated and rented-in land. For the comparison of families in the village, the amount of land for family consumption is further standardized by the following formula:

$$\frac{\frac{(SCL + RIL)}{0.1} \times 1990 \times 2}{NFM}$$

where,

SCL : the size of self-cultivated land,
RIL : the size of rented-in land, and
NFM : the total number of family members.

This equation is derived from Gallin and Gallin's (1982a) research. It estimates how much each family member can share from the production of a family's farming land. In the equation, "2" represents two crops. "1990" and "0.1" are used to represent the fact that "0.1 *chia* of paddy land produces NT\$ 1990 per crop." Because "2," "1990," and "0.1" are three constant components, this equation can be simplified as:

$$\frac{(SCL + RIL)}{NFM}$$

Please note that there are several assumptions behind the above formula. First, it assumes that families in the village only grew two crops. Second, they all cultivated rice. Third, their land was all paddy land. The equation proposed above is applied to both the 1965 and 1979 data. Therefore, four, it is assumed that families with the same amount of farming land will experience the same proportion of increase or decrease in agricultural production between 1965 and 1979. Finally, this research is also based on the assumption of that each piece of same-size land produces the same quality and quantity of agricultural products.

The weakness of this equation is that it is based upon many assumptions. However, the purpose of this equation is to serve as a best proxy for measuring the land for family consumption and also to estimate how much a family benefits from the land they cultivated.

3.4.4.2 Local Wage Labor Market Participation

Another set of variables are created to measure participation in local wage labor markets.

The first variable is called local wage labor market participation rate (WR). It measures the proportion of family member participating in local labor markets for wages. It, therefore, is calculated as:

$$WR = \frac{FMW}{NFM} \times 100$$

where,

FMW : the number of family member working locally for wages, and
 NFM : the total number of family members.

Following the equation above, controlling for the family size, the more family member working locally for wages, the higher a family's local wage labor market participation rate is.

The second variable for measuring local labor market participation is called overall local labor market participation rate (LR) which is calculated by the following equation.

$$LR = \frac{FML}{NFM} \times 100$$

where,

FML : the number of family member working in local labor markets, and
 NFM : the total number of family members.

Controlling for family size, the more family members obtaining jobs locally, the higher overall local labor market participation rate is. Please note that WR and LR are different.

In calculating the former, the denominator includes those who hold paid jobs or sell their labor power for wages, while the latter measures also includes those people who farm family land.

In addition, this research uses local labor-force participation rate (*LFR*), which is by the number of family members working in local wage labor markets, divided by the total number of family members in the labor force, whether they are paid or un-paid workers or unemployed, multiplied by 100. The equation is:

$$LFR = \frac{FMW}{LF} \times 100$$

where,

FMW : the number of family member working locally for wages, and
LF : the total number of family members who are in the labor force.²²

In sum, because the participation in local labor market is multi-dimensional, this research adopts three variables to measure a family's local labor market participation rates. These three are the local wage market participation rate, the overall local labor market participation rate, and local labor-force participation rate. Each variable is created to measure different concepts. First, the local wage labor market participation rate is designed to measure the proportion of family members participating in local labor markets for wages. It is important for examining the likelihood of the local area providing

²² As defined previously, those who are counted in the labor force must be 15 years old or above, but not including students or retired people.

villagers additional sources for diversifying family income, besides farming family land. Second, the overall local labor market is created for examining the possibility of the local area providing the villagers the chance of labor participation. In addition, the third variable for examining the likelihood of villagers who were participating in labor force being able to participate in local labor markets for diversifying the sources of family incomes.

3.4.4.3 Migration

Migration considered in this analysis is labor migration, which is defined as the movement of people of working age away from Hsin-Hsing Village. A labor migrant is a villager in the urban labor force, who was residing outside of the village during the two research periods. Therefore, at the family level, labor migration in this research is measured as the number of family members in the urban labor force residing outside of the village. It is simply measured as the “absolute” number.

3.4.4.4 Other Variables

Other variables used in this research include family type, villagers’ education, age, and gender. These variables are straightforward. The family type is categorized by following traditional definitions. The categories for family type include conjugal, stem, and joint family. Educational levels are measured as the years of education achieved by the villagers. Age is measured as the difference between birth-year and the research year (1965 or 1979).

To summarize, family landholdings, local labor market participation, and migration in this research are measured in more than one way. The factor of “local labor market participation” contains three indicators, the factors of family landholdings and migration are multi-dimensional. The variables for family landholdings are intended to measure two dimensions: land for labor input and land for family consumption. The variables for measuring migration are in two dimensions: general migration (including labor or non-labor migration), and labor migration. While the other two factors are multi-dimensional, the factor of local labor market participation has three indicators: local wage labor market participation rate, overall local labor market participation rate, and local labor-force participation rate. Because they are the indicators for measuring local labor market participation, they, further, are needed to be combined. In this research, these three indicators will be collapsed through the application of factor analysis.

3.5 Methods

The methodological analyses for this dissertation range from simple exploratory analysis to complex inferential analysis, from statistics for single variables, to bivariate statistics, and then to multivariate statistical analyses. These statistical methods will be applied to the following two chapters.

3.5.1 Descriptive Methods

This study outlines a basic picture of Hsin-Hsing Village in Taiwan in 1965 and 1979 by presenting a profile for the village, which will be shown in the fourth chapter. Therefore, the data are first described through simple descriptive statistical techniques. The relationship between two or more variables, “measures of association” is used to

demonstrate the strength of the relationship and association, and the direction of the association between variables.

Specifically, descriptive statistics will be used to display the Hsin-Hsing's demographic information, in terms of gender, age group, family size, and family type distributions. The descriptive information on the village's economy will also be demonstrated, such as the size of land in terms of three ownership types, and villagers' wage labor market participation rates.

Bivariate descriptive statistical procedures further emphasize the relationship between combinations of key variables. This research will use contingency tables to demonstrate the relationship between family type and numbers of family members who are migrants. To describe the association between the independent and dependent variables, Pearson's correlation coefficients are used, which demonstrate the strength and direction of the association of the interval level variables. Specifically, this particular statistical method will be used to measure the relationship between land-holdings and migration. For example, the strength and direction of associations between the total amount of family land, the size of land per working family member, and the size of profitable land per family member, and the total numbers of current and labor migrants from Hsin-Hsing Village are examined by applying Pearson's correlation coefficients.

Moreover, the bivariate descriptive statistical techniques are used as controls.

Specifically, this research will examine the statistical relationships between participation

in local wage labor markets and human migration, and the associations between land-holdings and migration by controlling for family type.

3.5.2 Inferential Statistics--Multivariate Analysis

Linear multiple regression analysis will be used to demonstrate how well the number of current and labor migrants in a family is explained by the combination of other independent variables, such as the size of land for labor input and land for family consumption, and family members' participation in local wage labor markets. When migration is measured as a dichotomous variable, the logistic multiple regression analysis will be applied to show how well the combination of those independent variables predicts the likelihood of a village of working age residing outside of the village.

3.6 Summary

This chapter described and explained the theoretical frameworks, hypotheses, data and methods necessary to examine four research questions raised in the second chapter. In terms of theoretical frameworks, this dissertation adopts an integrated framework at the family level to examine how migration serves as a family sustenance/mobility/survival strategy to cope with structural and ecological constraints, and a framework at the individual level to examine power dynamics within Taiwanese families.

Based on the research frameworks, six research hypotheses are constructed. The research relies on the data collected in 1965 and 1979 in Hsin-Hsing Village, Taiwan to examine these research questions. Statistical methods proposed to apply in this research include from simple exploratory analysis to complex inferential analysis. These statistical

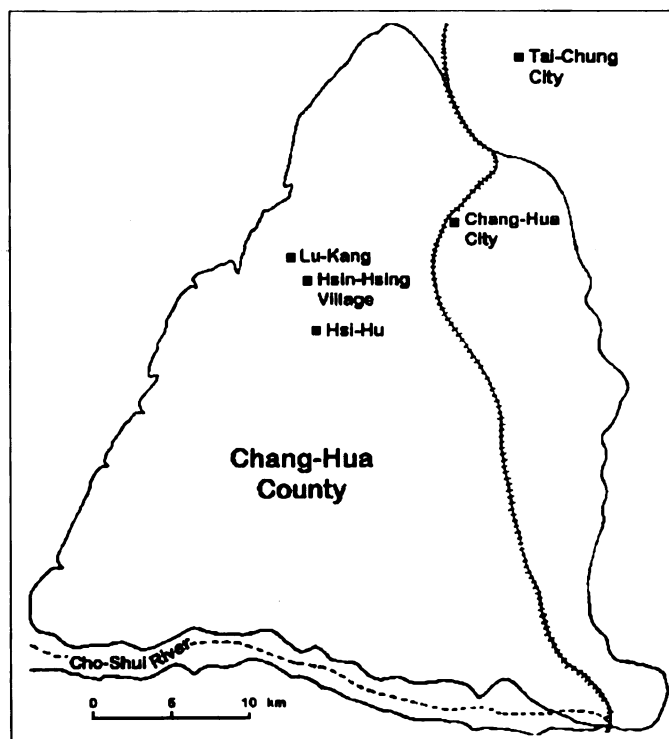
methods include for single variables, bivariates, and multiple variables. In Chapter IV this dissertation will provide a profile for Hsin-Hsing Village by demonstrating descriptive statistics on demographic, economic information. Further, in the fifth and sixth chapters, I will apply the statistical analyses to examine the associations between migration and influential factors.

CHAPTER IV

THE PROFILE OF THE RESEARCH AREA – HSIN-HSING VILLAGE

This chapter builds a profile of the research area, Hsin-Hsing Village, in terms of its geographical location, demographic infrastructure, and family, social, and economic infrastructure. In addition, this chapter will also provide an historical comparison of the village with Taiwan as a whole.

Map 4.1 **Geographic Location of Hsin-Hsing Village**



Note: Map 4.1 is adopted from the figure published in the work of R. S. Gallin and B. Gallin (1992).

4.1 Introduction

There are four hierarchical administrative layers in Taiwan: (1) province or municipality (3); (2) city or county (23); (3) district, or rural or urban township (359); and (4) village, the smallest administration unit (7,696). The research area for this dissertation, Hsin-Hsing Village, is one of the 22 villages in Pu-Yan rural township in Chang-Hua county, Taiwan. Hsin-Hsing Village is geographically located on the west-central coastal plain of Taiwan, approximately 130 miles south of the island's capital -- Taipei -- and 15 miles off the western coast (see Map 4.1). It is a small village located beside the road that runs between Lu-Kang and Hsi-Hu, two urban townships in the same county.

Hsin-Hsing Village was founded in about 1785 by Hokkien-speaking immigrants from Fu-Chien province in the southeastern part of China (B. Gallin, 1966; B. Gallin, 1978; B. Gallin and R. S. Gallin, 1982a, 1992). Because the nearby urban township -- Lu-Kang²³ - was a port, villagers believed that their ancestors came to Taiwan through there. Hsin-Hsing is a multi-lineage village (B. Gallin, 1978; B. Gallin and R. S. Gallin, 1982a), in which about 80 percent of the villagers carry one of four surnames, Huang, Kang, Li, and Shih (B. Gallin, 1978). Member families within each lineage (*tsu*) share a demonstrated common ancestor in the village itself (B. Gallin, 1978).

²³ Lu-Kang was a major trading center during the 18th and 19th centuries. It was also the major port of entry for many immigrants from China. Lu-Kang lost its importance after the Japanese occupied Taiwan in 1895. When Japanese developed the colonial economy in Taiwan, Lu-Kang's importance as a port was replaced by Kee-Lung, which is located in the northeast of Taiwan. The new port is closer to Japan than Lu-Kang.

In the 1950s, travel to Hsin-Hsing Village was time-consuming and troublesome. From Taipei, travelers, first, had to take a train to the closest major city -- Chang-Hua²⁴ (B. Gallin, 1966). The distance between the capital and Chang-Hua is about 117 miles and, according to B. Gallin (1966), it took "about three hours by diesel express or six hours or more by a local train" (p. 10) to travel the distance. From Chang-Hua,

the traveler ... [took] a bus headed southwest to the old port city of Lu-Kang.... The thirty-minute trip in an old wooden Japanese bus ... [was] made entirely on dirt roads. After a half-hour wait in Lu-Kang, the traveler [boarded] another, similar bus for the trip to the village, which lies about three miles inland or southeast of Lu-Kang. The uncomfortable fifteen-minute ride [ended] when the bus ... [came] to a halt in front of the Hsin Hsing village store (B. Gallin, 1966: 10-11).

As B. Gallin and R. S. Gallin (1982a) described, in the late 1950s, the road running between Lu-Kang and Hsin-Hsing Village was made of dirt, and it was flanked on both sides by village houses and farmland. The road was always bumpy and noisy, and it was traveled by "oxen pulling wheeled carts loaded with bundles of produce or farm supplies, ... pedestrians or bicyclists " (R. S. Gallin and B. Gallin, 1992: 281).

Mass transportation systems in Taiwan have been improved since the late 1950s. The road was made of cement. A new highway was constructed in the 1970s running through the west plain of Taiwan. The train system was upgraded to an electrical locomotive

²⁴ The other major city near Hsin-Hsing is Tai-Chung, which is about 20 miles northeast of it. Tai-Chung is one of the five largest cities in Taiwan. In the 1970s, Tai-Chung was developed into a major economic zone in central Taiwan. A commercial port and a major export-manufacturing zone was established nearby. From Tai-Chung travelers can take a bus through the interior route to Chang-Hua and by way of Lu-Kang arrive in Hsin-Hsing Village.

express. The train takes only two to three hours to travel from Taipei to Chang-Hua. Hsin-Hsing Village is less than ten miles from the major highway constructed in the 1970s, which runs from the northern to the southern Taiwan on the west plain. As R. S. Gallin and B. Gallin (1992:285) write,

Two air-conditioned buses -- one from Taipei to Lukang and the second from Lukang to the village -- convey the traveler to the community in a mere three and a half hours. The first leg of the journey is made on a four-lane superhighway; the second consists of a ride along the two-lane county road, which is now paved with cement and clogged with motorcycles, automobiles, taxicabs, tour buses carrying Taiwanese on pilgrimages to the many famous and not-so-famous temples that dot the island, trucks transporting produce and products to Taiwan's markets, as well as containers packed with commodities destined for shipment overseas. The bus passes countless service and retail-sales shops, factories, and business that line the road, as well as cultivated and fallow fields crowded between the numerous commercial and industrial structures that dot the countryside.

Along with the change of mass transportation system, the economic structure changed at the national level as well as around Hsin-Hsing area, which led to a new socio-economic infrastructure for villagers. As described in Chapter II, while the importance of agriculture in the economic development was declining in Taiwan, industrial development was growing in importance and received more and more attention from the government. Industrial development started in the early 1950s. The development of rural industry began in the mid-1960s. Following the national trend, Hsin-Hsing Village moved from an agriculture-based to non-agriculture-based economy. In the late 1970s, besides village houses and farmland, over 30 factories were located beside the road running between Lu-Kang and the village. According to B. Gallin and R. S. Gallin (1982a:212-215),

These [factories] were labor-intensive and ranged from large establishments that manufactured textiles and furniture, to medium-sized enterprises that built bamboo and wood products, to small, satellite factories (or family workshops) that performed piece work for larger firms. In addition to those situated along the road, the area was dotted with other factories that also produced articles for local and foreign consumption.

During the 1960s and 1970s, Hsin-Hsing Village changed dramatically, especially the economic structure. The village's economic infrastructure is discussed in Section 4.4. Along with the change of village's economic infrastructure, villagers' socio-economic infrastructure changed as well, which is discussed in Section 4.6.

4.2 Climate and Spatial Layout of the Village

Taiwan lies in the semitropical zone. Hsin-Hsing Village is just north of the Tropic of Cancer. Since Taiwan is a small island located between the Pacific Ocean and Taiwan Strait, most places are humid. Northern Taiwan has warm, humid summers and cold, rainy winters (Culturgrams, 1999). By contrast, the south is warmer, with rain falling mostly in the summer. Snow can be seen only at the peaks of mountains, but it does not snow often. The average summer highs range from 89° F to 100° F and average winter lows are between 54° F and 64° F (Culturgrams, 1999).

Unlike the interior areas, Hsin-Hsing, which is located in the coastal area, directly faces the icy winds blowing from north China and the Taiwan Strait (B. Gallin, 1966). However, the Hsin-Hsing area has never had snow. Rain is seasonal. According to Chen (1950) and B. Gallin (1966), 80 and 85 percent of the annual rainfall comes during the

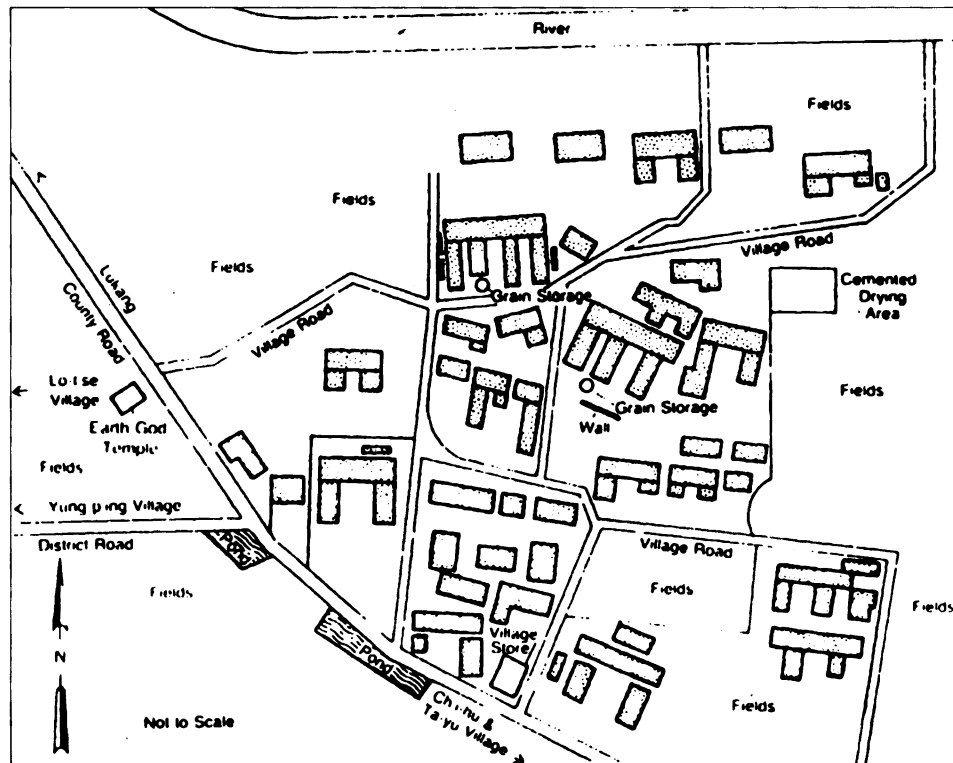
late spring and summer. Summer months are typhoon season. Rain in the late summer helps Hsin-Hsing villagers to grow rice. After the rainy season, the weather is relatively dry, and agricultural production has to depend on the water from the irrigation system (B. Gallin, 1966).

Hsin-Hsing Village is roughly laid out in a triangle shape (see Figures 4.2 and 4.3). On the north and east ends of the village, it is surrounded by fields. A bit further north of the village, a river borders it. The road running between Lu-Kang and Hsi-Hu is on the southwest end of the village. The Earth God temple²⁵ was situated next to the road running between Lu-Kang and Hsi-Hu.

In the 1960s, agriculture was the primary source of villagers' income. A large cemented drying area was located on the east end of the village next to the fields. There were also two grain storages, which were located next to villagers' houses.

²⁵ The Earth God is one of the most popular gods in Taiwan. He is believed to protect agriculture and land (see <http://www.tungshiaues.mlc.edu.tw/landgrfa/11right.htm>, <http://roc.tnkc.edu.tw/monkey/fo/fo13.html>, and <http://www.xyes.tc.edu.tw/county6-a.htm>). R. Gallin and B. Gallin (1992) point out that Hsin-Hsing villagers worshiped the Earth God on a daily basis.

Map 4.2 Spatial Layout of Hsin-Hsing Village in 1958



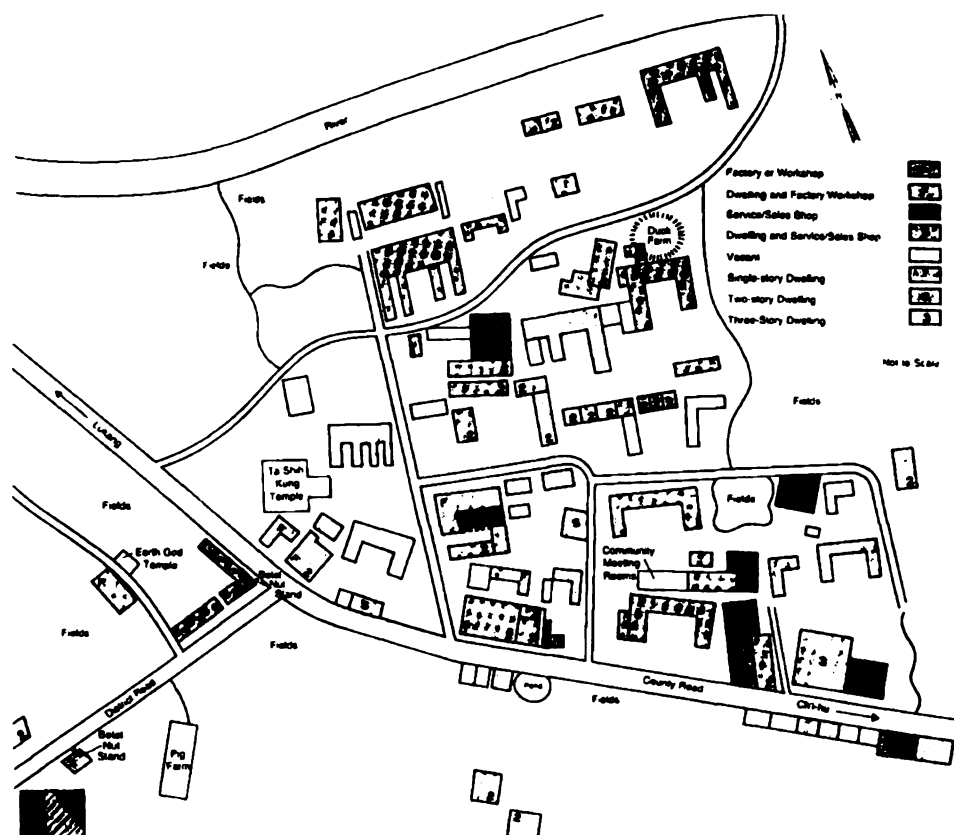
Note: Map 4.2 is copied from the figure published in the R. S. Gallin and B. Gallin (1992).

Within the village, a few dirt paths separated houses into several different residential sectors. Generally, people with the same surnames resided closely to each other (B. Gallin, 1966: 26). For example, most Kang families clustered in the middle-east corner right next to the cemented drying area. Shih families were located in the north end of the village, while Huang families were located in the south end of the village along the road running between Lu-Kang and Hsi-Hu. Most Shen families clustered at the southeastern corner of the village right next to fields. Those families without common ancestors were scattered throughout the village.

According to B. Gallin (1966: 26),

the houses of the villagers, at least the original sections built, are of one basic type; they vary mainly in size. The basic structure is a single length of rooms, with the ancestral-worship room in the center, flanked by one or two rooms on either end which are used for sleeping and cooking. Many houses in the village have been enlarged by the addition of wings which give the dwelling an L or U shape, but [, in 1965] most of them were ... built according to the basic plan.

Map 4.3 Spatial Layout of Hsin-Hsing Village in 1990



Note: Map 4.3 is copied from the figure published in the R. S. Gallin and B. Gallin (1992).

Along with the change of economic structure in the Hsin-Hsing area, the rural economy and villagers' living standards in the village were improved. The improvement of the living standards in the village first was reflected on the change of residences. In the 1950s and 1960s, houses were primarily "constructed of bamboo, mud, and plaster" (R. S. Gallin and B. Gallin, 1992: 282). Houses made of fired bricks were few. Later, villagers upgraded their houses or, after razing them, constructed new buildings made of brick or concrete; the latter often were two- or three-story houses (see Map 4.3).

In addition, some villagers operated businesses in their homes or constructed units abutting their home to use as factories, workshops, or stores. Newly developed factories and workshops were usually scattered in the village. To attract business, most service or sales shops were located beside the main roads running between Lu-Kang and Hsi-Hu. As the primary economic structure moved toward a non-agricultural base, the two grain storages and the cemented drying area in the village in the 1960s for the purposes of agricultural production, were removed.²⁶

In the mid-1970s, the village was expanded to the other side of the road running between Lu-Kang and His-Hu. While in the late 1950s, there were only fields and two fish-ponds on the south side of the road, by 1979 one of the fish-ponds had been removed and some houses were located along the road. Because of the development of the rural economy, some new service shops also were opened at the intersection of the road running between

²⁶ Although Map 4.3 shows the Ta-Shih-Kung temple located next to the road running between Lu-Kang and Hsi-Hsu, the temple was not built until 1989, primarily with money donated by village migrants.

Lu-Kang and His-Hu and the one leading to Yung-Ping Village. In addition, the Earth God Temple was destroyed and a new larger temple honoring the god was erected.

4.3 Family Structure

The family has generally been described as the basic unit of Taiwanese society. For Chinese or Taiwanese, the term “family” refers to a unit consisting of members related to each other by blood, marriage, or adoption (Cohen, 1976; Lang, 1946).²⁷ The composition of the family takes one of three types: the conjugal, stem, or joint.²⁸

Traditionally, the joint family was considered the ideal family structure, in which there are as many generations of the male line as possible and as many male siblings as possible, plus their spouses and unmarried children living as one household (Chi, 1991).

However, scholars have empirically found that the typical Chinese family (including those in Taiwan and China) consists of around five persons, making up a nuclear or a stem family (Diamond, 1969; Fried, 1974; Fukutake, 1967; Gallin, 1976; Hsu, 1943, 1948; Taeuber, 1970).

Based on the data Rita Gallin and Bernard Gallin collected during their first trip to Taiwan between 1957 and 1958, they concluded that conjugal families were the most common form in Hsin-Hsing Village (B. Gallin and R. S. Gallin, 1982a, 1982b).

²⁷ The family often coincides with the household, but “family” and “household” are not identical. According to Greenhalgh (1990: 85),

[t]he family, a relatively enduring kinship unit, was distinct from the household, a less permanent residential unit made up of any family member (and occasionally also nonfamily members) who happened to live together at a given time.

²⁸ The definitions of the three family types were introduced in the first chapter.

According to their calculations in 1957-1958, 66 percent of families were of the conjugal type, making up 56 percent of the population in the village (see Table 4.1). In contrast, only ten percent of the population resided in joint families at that time. This particular type of family accounted for only five percent of families in Hsin-Hsing. The remaining 29 percent of families in Hsin-Hsing were of the stem type, constituting 35 percent of Hsin-Hsing's population (see Table 4.1).

Table 4.1 The Population and Number of Families by Family Types, 1957-1958, 1965, and 1979

	1957-1958 [*]		1965				1979 [†]			
	Pop.	Family	Population		Family		Population		Family	
Family Type	%	%	N	%	N	%	N	%	N	%
Conjugal	56	66	242	45.1	44	53.7	185	34.0	36	49.3
Stem	35	29	286	53.3	36	43.9	174	31.9	24	32.9
Joint	10	5	9	1.7	2	2.4	186	34.1	13	17.8
All families	100	100	537	100.0	82	100.0	545	100.0	73	100.0

The statistics shown in these two columns were published in Gallin and Gallin's works (1982a, 1982b). The first column shows the percentage of Hsin-Hsing villagers residing in each type of families. The second column shows the percentage of Hsin-Hsing families in the three types of family structure.

[†] In their papers, Gallin and Gallin (1982a and 1982b) have reported the same information. Although the statistics in this table are different from theirs, they are very close. Their figures for 1979 show that 30 percent of villagers lived in conjugal families, representing 45 percent of total families in the village. Thirty-six percent of the population and 37 percent of the families were of the stem type. The remaining 34 percent of villagers and 18 percent of families were of the joint type.

The data collected in 1965 reveal that Hsin-Hsing's population was organized into 44 conjugal families, 36 stem families, and two joint families in the village.²⁹ Similar to the Gallins' findings in 1957-58, the conjugal family was the primary family type in Hsin-Hsing, accounting for 53.7 percent of families. Stem and joint families accounted for 43.9

percent and 2.4 percent of families, respectively. People living in stem families accounted for the largest proportion of the village population, making up about 53.3 percent of Hsin-Hsing villagers. People living in conjugal families accounted for 45.1 percent of the population while those living in joint families accounted for only 1.7 percent of the Hsin-Hsing population. Compared to the 1957-58 data, the 1965 data show that the number of families at the stem stage slightly increased (from 35 to 36), while the proportion of the population living in stem families in Hsin-Hsing increased tremendously (from 35 percent to 53.3 percent). In contrast, the numbers of conjugal and joint families decreased (from 56 to 44 and from 10 to 2, respectively), as did the proportion of population living in nuclear and joint families (from 56 percent to 45.1 percent and from 10 percent to less than 2 percent, respectively).

Based on the data collected in 1978-79, the Hsin-Hsing population was almost evenly distributed into the three types of families, although conjugal families still accounted for the largest proportion of families, followed by stem families (see Table 4.1). The number of families and the population accounted for by joint families, however, significantly increased between 1965 and 1979. The number of joint families increased to 13 in 1979 from two in 1965 and the number of villagers in joint families increased from nine to 186. The people considered as members of joint families accounted for 34.1 percent of the village population. The numbers of conjugal and stem families decreased (from 44 to

²⁹ Families were defined by villagers. Family members include migrants and non-migrants.

36 and from 36 to 24). The proportion of population living in these two types of families also declined (from 45.1 percent to 34.0 percent and from 53.3 percent to 31.9 percent).

I argue that the increase of joint families during the period of 1965-79 was strongly related to the out-migration of villagers, a strategy adopted for family economic purposes in 1965. In the late 1970s, migration might still have carried a strong economic function, but it also led to a social consequence -- the maintenance or formation of joint families. In point of fact, most villagers counted as members of joint families in 1979 were residing outside the village. The association between migration and the increase of joint families, however, will be discussed in Chapter VI, which primarily deals with the issues of family power dynamics.

Along with the decrease of the proportion of villagers residing in conjugal and stem families, the average family size among these two types of families also declined during the period of 1965 to 1979. Among conjugal families, the average family size was 5.5 (242 divided by 44) in 1965. It decreased to 5.1 (185 divided by 36) in 1979. A similar pattern is found in stem families. The average family size dropped from 7.9 (286 divided by 36) persons in 1965 to 7.3 (174 divided by 24) in 1979. The decrease in the average family size of conjugal and stem families in the village was directly related to the villagers' reproductive behaviors, especially the decline in fertility. In contrast, the average family size of joint families increased. This phenomenon, however, is related to migration. A detailed discussion will be presented in Chapter VI, which also introduces

how out-migration was related to the increase of joint families in the village in the late 1970s.

A national survey on Taiwanese reveals that “[t]he proportion in nuclear units ... [on the island] increased from 36[%] to 50% between 1965 and 1980 ... [, and] the percentage in stem households has remained around 35% throughout this period” (Weinstein et al., 1994: 311). In a further analysis focusing on married couples aged 20-39 with husband’s parents available, they suggest that “[u]rbanization was ... negatively related to household extension [--] ... the likelihood of residing in a nuclear household was greater for residents of cities than of townships” (Weinstein et al., 1994: 317). However, the proportion of conjugal families in rural townships increased from 27 percent to 50 percent during their research periods.³⁰ The results presented by Weinstein and her associates are different from those for Hsin-Hsing -- the proportion of conjugal (nuclear) families decreased from 53.7 percent to 49.3 percent of village families, and the proportion of stem families dropped from 43.9 percent in 1965 to 32.9 percent in 1979. However, it is not certain that Hsin-Hsing families were different from families in Taiwan or other rural areas. First, Weinstein and her associates studied Taiwanese “households,” instead of “families.”³¹ Second, Weinstein’s research focused on those members “co-residing,” while this research includes those family members both living together and living apart.

³⁰ See Table 12.5, Percentage of Couples in Various Living Arrangements, by Characteristics of Couple and Duration of Marriage: Taiwanese Couples with Husband’s Parents Available, Respondents Aged 20-39, in Thornton and Lin’s *Social Change and the Family in Taiwan* (1994).

³¹ See Footnote 27.

4.4 Economic Infrastructure

In 1965, villagers derived their primary livelihoods from agricultural production. By 1979, the community's economy had changed dramatically from a system based almost purely on agriculture to a system founded predominantly on off-farm employment (B. Gallin and R. S. Gallin, 1982a; Gallin and Ferguson, 1988).

4.4.1 Agriculture Sector

To establish its new regime and restore the economy of Taiwan, after moving to Taiwan in 1949, the Nationalist government first adopted a land reform program. Scholars generally concur that land reform greatly contributed to the equalization of wealth among the Taiwanese farming population (see Fei, Ranis, and Kuo, 1979; Greenhalgh, 1987; Ho, 1978; Hwang, 1991; Koo, 1968; Lee, 1971; Thorbecke, 1979; Yang, 1970). However, most families in Hsin-Hsing Village cultivated farms far too small to support all family members, and, therefore, remained poor despite the reform. B. Gallin and R. S. Gallin (1982a) point out that in 1957, 45% of the village families cultivated below 0.5 hectare of land and 84% cultivated below 1.0 hectare. At the individual level, the average of 0.12 *chia* of land was cultivated per person in the village (B. Gallin and R. S. Gallin, 1982a).

B. Gallin (1967) has argued that in traditional China the land was considered the only means by which the family could be served, and its continuity secured. In 1949, four years after World War II, the overall land cultivated by Hsin-Hsing villagers was 61.5 *chia*, which was the combination of 25.8 *chia* of owned land and 35.7 *chia* of tenanted land (B. Gallin, 1966: 99). The "Land-to-the-Tiller" program did not create more land for

villagers. Rather, it re-distributed land ownership, which also created more people farming smaller land parcels as well as more small landholders. The average size of land cultivated by 92 families was 0.67 *chia* in 1949 (B. Gallin, 1966: 98). Between 1949 and 1957, the average cultivated land farmed by Hsin-Hsing families did not change significantly. Nevertheless, during the implementation of the series of sales of public land and the “Land-to-the-Tiller” program, farming land owned by Hsin-Hsing families significantly increased from 25.8 *chia* in 1951 to 44.9 *chia* in 1957 (see Table 4.2). In contrast, the amount of the tenanted land for the village as the whole dramatically dropped from 35.7 *chia* in 1951 to 16.3 *chia* in 1957, which was nearly the amount of the increased owned land by Hsin-Hsing villagers.

Table 4.2 Landholdings by Family Types, 1949, 1951, 1957, 1965, and 1979

	Conjugal	Stem	Joint	All Families
1949*				
Self cultivated land				25.8
Tenanted land				35.7
1951*				
Self cultivated land				25.8
Tenanted land				35.7
1957*				
Self cultivated land				44.9
Tenanted land				16.3
1965 ⁺				
Self cultivated land	15.0 (43)	14.8 (36)	0.4 (2)	30.2
Tenanted land	5.8 (43)	6.5 (36)	0.5 (2)	12.8
1979 ⁺				
Self cultivated land	8.6 (36)	12.4 (24)	6.5 (13)	27.5
Tenanted land	5.0 (36)	5.1 (24)	1.6 (13)	11.7

* Information for 1949, 1951, and 1957 are from Tables 13, 14, 16, and 17 in B. Gallin (1966).

⁺ The statistics for 1965 and 1979 were calculated from the data for this research.

B. Gallin (1966) argues that the land reform policies in the 1950s led to two major improvements in the land tenure situation: (1) a significant increase in land ownership and decrease in tenancy; and (2) a large increase in the number of Hsin-Hsing mixed owner-tenants. Nevertheless, the land reform brought about virtually no increase in the total amount of land cultivated by Hsin-Hsing villagers. While the reform produced important changes in the internal nature of the land tenure situation, it did not and could not solve the basic problem -- an insufficiency of cultivatable land coupled with rapid population growth.

Land ownership in Hsin-Hsing significantly changed between 1957 and 1965. Among 81 families with adequate information regarding land, 30.2 *chia* of land were owned, and 12.8 *chia* of land were tenanted by villagers (see Table 4.2). Table 4.3 demonstrates the average size of the family land categorized by land ownership.³² The average land cultivated by villagers significantly decreased to 0.53 *chia* (see Table 4.3), which was lower than what each family in Hsin-Hsing village had farmed in the 1950s. On the other

³² The mathematical function for calculating the average size of the land owned and for labor input is:

$$AL = \frac{\sum_{i=1}^n l_i}{n}$$

where,

AL : the average size of the owned land or the land for labor input,
l_i : the size of the owned land or the land for labor input for the family *i*,
i : the family *i*, which ranges from 1 to *n*, and
n : the total number of families in the village.

continue to the next page...

hand, both owned and tenanted land by Hsin-Hsing families decreased between 1957, 1965, and 1979. In 1979, Hsin-Hsing villagers collectively held 27.5 *chia* of land, and tenanted 11.7 *chia*. The average of land cultivated by each Hsin-Hsing family in 1979 was 0.54 *chia*, which slightly increased from 0.53 *chia* in 1965. At the individual level, the average size of land per family member in the labor force was 0.15 *chia* in 1965 and 0.16 *chia* in 1979.³³

Table 4.3 Descriptions of Land-holding: Hsin-Hsing, 1965 and 1979

	1965		1979	
	Mean	Std. dev.	Mean	Std. dev.
All Families*				
Land owned	0.38	0.41	0.39	0.44
Labor-input land†	0.53	0.41	0.54	0.47
Land-holding per working family member	0.15	0.13	0.16	0.19
N=	81		72	

* In both of the 1965 and 1979 data, there is one family with missing data for generating this table.
† Labor-input land includes the owned and rented-/borrowed-in land.

³³ The equation for calculating the “land-holding per working family member” is:

$$WM = \frac{\sum_{i=1}^n \left(\frac{l_i}{m_i} \right)}{n}$$

where,

WM: the average size of the land for labor input for each family member in the labor force,
l_i: the size of the owned land or the land for labor input for the family *i*,
m_i: the number of family members in the labor force in the family *i*,
i: the family *i*, which ranges from 1 to *n*, and
n: the total number of families in the village.

Landholdings of Hsin-Hsing villagers were smaller than the statistics for Taiwan as a whole in both 1965 and 1979. *The Statistical Yearbook of the Republic of China, 1981* shows that in 1965, there were 805,323 hectares (830,304 *chia*) of farming land cultivated by the agricultural population in about 873,000 households.³⁴ The cultivated land included 681,283 hectares (702,416 *chia*) of land owned by 757,760 agricultural households and 124,040 hectares (127,888 *chia*) of land cultivated by 196,440 tenant households. In 1975, the cultivated land in Taiwan decreased to 743,664 hectares (766,733 *chia*). There were 788,060 households cultivating 627,642 hectares (647,111 *chia*) of self-owned land, and 190,102 tenanted households farming 116,021 hectares (119,620 *chia*) of tenanted land. The *Taiwan Statistical Data Book* (1981) shows that in 1979, the total area of cultivated land for Taiwan as a whole was 915,393 hectares, while the total number of farm families was 898,341.³⁵ In other words, the area of cultivated land per farm families was 0.92 hectares (0.95 *chia*) in 1965 and 1.02 (1.05 *chia*) hectares in 1979, respectively. Compared to national statistics, Hsin-Hsing villagers (with 0.53 *chia* and 0.54 *chia* in these same years) could not depend solely on agriculture for subsistence, and had more need to seek supplemental income sources than other rural populations in Taiwan in general.

During the 1950s and 1960s Hsin-Hsing's economy was primarily agricultural and focused on wet-rice cultivation. Village families derived most of their livelihood from

³⁴ The data are from the Supplementary Table 17. Farm Land Area in Taiwan Area by Ownership in the *Statistical Yearbook of the Republic of China, 1981*. Since the same data source does not have the compatible data for 1980, the comparison here is made between 1965 and 1975.

two crops of rice, as well as from marketable vegetables grown in the third crop (B. Gallin and R. S. Gallin, 1982a). While increasing population created problems of land scarcity (R. S. Gallin and B. Gallin, 1992), the dearth of industry in the area could not meet the demand of villagers who cultivated too little land to support their families (R. S. Gallin and B. Gallin, 1992). Therefore, migration was one of alternatives in the 1950s and 1960s to increase family income. Seeking or diversifying family income sources can change villagers' agricultural behaviors and, indeed, the utilization of farming land in the village changed in the late 1970s. As B. Gallin and R. S. Gallin (1982a:219-220) indicate:

Traditionally, the first and second annual crops were devoted to the cultivation of rice. In 1978-79, however, only two-thirds (65.5%) of [Hsin-Hsing] farmers cultivated rice exclusively during these crop periods. Two-fifths (19.9%) gave over part of their land surface to the cultivation of vegetables or sugarcane,³⁶ and approximately one sixth (14.8%) cultivated no rice at all. Further, in the third crop -- traditionally devoted to the cultivation of vegetables for marketing -- approximately one-third (36.1%) of the farmers allowed their land to lie fallow. In short, [Hsin-Hsing] farmers either diversified their crops to realize a larger profit from the land or limited the time and energy they devoted to farming, thereby releasing themselves for more remunerative activities.

Certainly, how to diversify family income sources could be shaped by the economic structure surrounding Hsin-Hsing. The increased availability of job opportunities in

³⁵ See Table 4-4, Cultivated Land, Agricultural Population and Employment, in *Taiwan Statistical Data Book* (1981).

³⁶ The increase in the amount of sugarcane grown by village farmers might be viewed as an attempt to utilize the land with the least investment of time and effort (Gallin and Gallin, 1982). Villagers increasingly fielded this crop because the Taiwan Sugar Corporation assumed most of the responsibility for its cultivation. The corporation made all the labor and transportation arrangements for the planting, harvesting, and delivery of mature cane. The farmer had only to irrigate the fields and wait the 15 to 18 months required for its fruition, a process traditionally adopted only by those few farmers who had enough capital to finance their families during the long growing season of the cane (Gallin and Gallin 1982).

industrial and service sectors could provide the villagers the possibility of diversifying their family income sources. Therefore, B. Gallin and R. S. Gallin (1982a: 225) view “the decrease in vegetable acreage for the third crop ... [to be] an adjustment to the other economic opportunities available in the area.” As they argue in the late 1970s, farming was seen by villagers as “a supplemental source of income” (B. Gallin and R. S. Gallin, 1982a: 225), and the role that agriculture played in the family economy seemed to be replaced largely by the industrial and/or service sectors. However, 60 villagers, accounting for 27.5 percent of the residents in the labor force, continued to farm, because they treated family land as a source of security, although they did not see the land as an economic investment (B. Gallin, 1974).

4.4.2 Industry and Service Sectors

To solve the lack of cultivatable and profitable land, villagers may work locally as hired farm laborers or as off-farm laborers, or they may migrate to seek work in urban cities. As Tsai (1981) reports, the governmental plan of rural industrial development was started in the early 1950s. Rural industrialization in the surrounding area of Hsin-Hsing, however, did not emerge until the 1970s.³⁷ In 1965, in the absence of rural industrial development, seeking occupational opportunities locally was very unlikely for Hsin-Hsing villagers. By 1979, industry had burgeoned in the Hsin-Hsing area. In fact, 78 percent of newly developed industrial zones were located in rural counties in 1979 (Tsai, 1981). There was a new industrial zone developed in the rural township right next to

³⁷ Hsin-Hsing area includes Hsin-Hsing Village and its surrounding area.

Hsin-Hsing and, according to B. Gallin and R. S. Gallin (1982a), this zone “was the site of the largest export shoe manufacturing [on the island]” (p. 215).

The data in Table 4.4 demonstrate the participation of villagers in local wage labor markets. A family’s local labor-force participation rate is the number of family members in the labor force working in the local area divided by the total number of family members in the labor force multiplied by 100. Proportionate local self-cultivating farmers in the labor force is the number of self-cultivating farmers divided by the total number of family members in the labor force multiplied by 100. “Family’s local labor-force participation rate” and “proportionate local self-cultivating farmers in the labor force” are calculated differently. The different calculations reflect that they measure different conceptions.

Table 4.4 Descriptions of Local Labor Market Participation: Hsin-Hsing, 1965 and 1979

	1965		1979	
	Mean	Std. dev	Mean	Std. dev.
Conjugal Families				
Family's local labor-force participation rate	80.8	25.1	88.8	22.6
Proportionate local self-cultivating farmers in labor force	49.2	33.7	23.4	28.4
Percentage of family members working locally for paid wages	10.0	17.5	33.2	26.8
N=	44		36	
Stem Families				
Family's local labor-force participation rate	82.6	20.0	84.8	23.2
Proportionate local self-cultivating farmers in labor force	37.9	24.4	29.7	24.3
Percentage of family members working locally for paid wages	9.1	11.1	17.7	15.3
N=	36		24	
Joint Families				
Family's local labor-force participation rate			45.8	23.1
Proportionate local self-cultivating farmers in labor force			10.2	6.2
Percentage of family members working locally for paid wages			15.6	16.7
N=			13	
Stem and Joint Families				
Family's local labor-force participation rate	80.9	23.8	71.1	29.6
Proportionate local self-cultivating farmers in labor force	37.2	24.6	22.8	21.9
Percentage of family members working locally for paid wages	8.6	11.0	17.0	15.6
N=	38		37	
All Families				
Family's local labor-force participation rate	80.8	24.4	79.8	27.7
Proportionate local self-cultivating farmers in labor force	43.7	30.3	23.1	25.1
Percentage of family members working locally for paid wages	9.4	14.8	25.0	23.2
N=	82		73	

The number of family members in the labor force includes both non-migrants and migrants. In this research, migration is viewed as one family strategy for overcoming structural constraints. Seeking occupational opportunities in urban areas is assumed to be

as important as taking jobs for wages locally. Therefore, the intention of the former is to measure the proportion of family members taking jobs in Hsin-Hsing area among all family members who needed to have occupational opportunities for inputting their labor. The purpose of the latter is to measure the proportion of family members working as self-cultivating farmers among all family members who needed to have occupational opportunities for inputting their labor. Therefore, these two measurements indicate the likelihood of family members who needed to input their labor taking occupations in the Hsin-Hsing area.

In addition, the percentage of family members working locally for paid wages is the number of family members working locally for paid wages divided by the total number of household members multiplied by 100.³⁸ This variable measures the proportion of family

³⁸ The equation for calculating the average of “family’s local labor-force participation rate,” “proportionate local self-cultivating farmers in labor force,” or “percentage of family members working locally for paid wages” is:

$$PR = \frac{\sum_{i=1}^n 100 \times \left(\frac{l_i}{m_i} \right)}{n}$$

where,

- PR* : the average proportion of family members participating in local labor markets, working as self-cultivating farmers, or selling their labor for wages,
- l_i* and *m_i*: for calculating the average “family’s local labor-force participation rate, *l_i* is the number of members in the labor force working in the local area in the family *i*, and *m_i* is the number of members in the family *i* in the labor force. For the average “proportionate local self-cultivating farmers in the labor force,” *l_i* is the number of self-cultivating farmers in the family *i*, and *m_i* is the number of members in the family *i* in the labor force. For calculating the average “percentage of family members working locally for paid wages,” *l_i* is the number of family members working locally for paid wages in the family *i*, and *m_i* is the total number of family members in the family *i*.
- i*: the family *i*, which ranges from 1 to *n*, and
- n*: the total number of families in the village.

members contributing to a family's economy by taking paid occupations in the Hsin-Hsing area.

At the individual level, in 1965, 317 villagers were in the labor force, including 252 villagers residing in Hsin-Hsing, and 65 migrants living in urban cities. In 1979, the total number (305) of villagers in the labor force was close to that in 1965. While 218 of these villagers resided in the village, 87 villagers lived in cities. Therefore, 79.5 percent of villagers in the labor force took a job in the surrounding area of Hsin-Hsing in 1965, while 71.5 percent did so in 1979.

Table 4.4 shows the data at the family level. It reveals that most villagers in the labor force participated in local on- or off-farm labor markets in 1965. Generally, each family had more than 80 percent of its family members in the labor force holding at least one occupation in Hsin-Hsing area (see the bottom panel of Table 4.4). The same pattern also was found in 1979. However, the proportion of family members in the labor force working as self-cultivating farmers decreased from 43.7 percent in 1965 to 23.1 percent in 1979.³⁹ The difference not only reflects the increase of Hsin-Hsing villagers participating in the non-agricultural sector, but also the increasing availability of paid off-farm occupations in the village and area. As shown in Table 4.4, in 1965 only 9.4 percent of family members worked in the Hsin-Hsing area for wages. The average proportion of

³⁹ The change of the proportion of villagers working on farm was close to the national statistics. For Taiwan as a whole, in 1965, 46.5 percent of the labor force participated in agricultural production (*Taiwan Statistical Data Book*, 1989). It decreased to 21.5 percent in 1979 (*Taiwan Statistical Data Book*, 1989).

family members holding paid occupations increased to 25.0 percent in 1979. In general, this increase is due to the change in the economic structure surrounding Hsin-Hsing, which created more paid occupational opportunities for villagers in 1979 than in 1965.

The newly created occupational opportunities were in the industrial and service sectors. However, the factories surrounding Hsin-Hsing provided only a portion of the occupation opportunities available in the area (B. Gallin and R. S. Gallin, 1982a). Other job opportunities were available to villagers in the service sector and in small satellite factories located in Hsin-Hsing and other villages in the township. The service sector included retail sales shops, enterprises involved in construction, and so on. The small satellite factories owned by villagers offered employment opportunities not only to the members of the owners' families, but to villagers as well (B. Gallin and R. S. Gallin, 1982a).

However, the change of the economic structure in the local area did not influence everyone equally. At the family level, it is implausible to suppose that every family had the same reaction to the new economic structure. Some villagers were hired to participate in local wage labor markets, while some villagers started their own businesses. In 1979, 17 Hsin-Hsing families had their own businesses, including nine, which were operated by conjugal families, and four run by members of stem families and four by members of joint families.

In general, reactions to the new economic structure are dependent on the capability and the needs of a family. Different types of family structures had different patterns of local labor market participation (see Table 4.4). Conjugal families had a slightly smaller proportion of family members in the labor force participating in local on- and off-farm labor markets than did the combination of stem and joint families in 1965. Specifically, in 1965 conjugal families had an average of 80.8 percent of family members in the labor force working in Hsin-Hsing area, while 80.9 percent of villagers in stem and joint families were working there.⁴⁰ Nevertheless, the difference in 1965 was very small. In contrast, the difference in 1979 was more striking. While conjugal families had an average 88.8 percent of their family members in the labor force working in local labor markets, the combination of stem and joint families shared an average of about 71.1 percent of their family members participating in Hsin-Hsing's labor markets. As stem and joint family members are separated, the difference between conjugal and stem families becomes smaller, but the one between conjugal and joint families and the one between stem and joint families remain striking. Thirteen joint families shared an average of 45.8 percent of the family members in the labor force working in the Hsin-Hsing area. On the other hand, both conjugal and stem families increased the proportion of family members in the labor force participating in the Hsin-Hsing labor market from 1965 to 1979.

The statistics shown above reflect how Hsin-Hsing families reacted to economic change in order to maintain their family economies. In 1965, when most families in the village

⁴⁰ In contrast, as derived from Table 4.4, for the village as the whole, every family had 20.1 percent of family members in the labor force working in cities as labor migrants in 1965 (19.8 percent for
continue to the next page...

farmed, and not many paid job opportunities were available locally for villagers, almost every family had at least one self-cultivating farmer. At the same time, conjugal families first had fewer family members for inputting into labor market than larger families. Second, to maintain the family economy, conjugal families needed less financial sources than larger families, because they had fewer family members consuming. Under this circumstance, conjugal families usually had one family member working as a self-cultivating farmer. Thus, compared to larger families, conjugal families had a higher proportion of family members working as self-cultivating farmers in the Hsin-Hsing area.

The development of rural industry and the change of economic structure in the Hsin-Hsing area during the 1970s provided more occupational opportunities for villagers. In addition, their influence seemed to be greater for conjugal families than for stem and joint families. The 1979 data reveal that conjugal and stem families respectively had 88.8 percent and 84.8 percent of family members in the labor force working in the Hsin-Hsing area. Meanwhile, conjugal families had 11.2 percent (100 percent minus 88.8 percent) of family members in the labor force working as migrant laborers in cities. This proportion was lower than the 15.2 percent of stem families and 54.2 percent of joint families. In addition, conjugal families had an average of 33.2 percent of their family members in the labor force taking paid jobs in the Hsin-Hsing area. This proportion was followed by the 17.7 percent of stem families and 17.0 percent of joint families. The change of villagers' labor market participation, however, changed the contribution of on-farm and off-farm

conjugal families and 18.9 percent for stem families).

economic activities to family income. B. Gallin and R. Gallin (1982a) estimated that in the late 1950s about 95 percent of resident families' income were derived from farming and farm-related wage labor. In contrast, by 1979, about 85 percent of the resident families' income was derived from off-farm activities (B. Gallin and R. S. Gallin, 1982a).

4.5 Demographic Infrastructure

B. Gallin (1966) in his book, *Hsin Hsing, Taiwan*, demonstrates that the population of the village increased from 594 in 1953 to 644 in 1957. His research also reveals that there were 657 villagers clustering in 115 families in 1958 (Gallin, 1978; B. Gallin and R. S. Gallin, 1982a; R. S. Gallin and B. Gallin, 1992). Among villagers, there were 320 males and 337 females. Male and female villagers accounted for 48.7 percent and 51.3 percent of the village population, respectively. In 1966, 612 villagers in 112 households were officially recorded in the governmental household registration records (B. Gallin, 1978). However, only 506 villagers actually resided in Hsin-Hsing (B. Gallin, 1978).

According to the data collected from the research area in 1965, there were 537 villagers including 263 males (49.0 percent) and 274 females (51 percent) living in 82 families. The 1979 data reveal that villagers reported that there were 545 villagers including 288 males (52.8 percent) and 257 females (47.2 percent) grouped into 73 families in Hsin-Hsing Village. The total numbers of the Hsin-Hsing population include 79 migrants (56 male and 23 female villagers) in 1965 and 157 (86 male and 71 female villagers) in 1979. In contrast, there were 473 villagers residing in the village during the research in 1965 while 384 villagers resided in Hsin-Hsing in 1979.

While the total population of the village increased slightly between 1965 and 1979, other demographic characteristics of Hsin-Hsing changed more significantly during the period. The data in Table 4.5 demonstrate demographic changes in terms of gender and age as well as dependency ratios. The dependency ratio used here is the so-called “age dependency ratio,” which represents the ratio of the combination of child and elderly populations to the population of intermediate age (Shryock et al., 1976). The dependency ratio is calculated as the number persons under ages 15 and 65 and over divided by the number of people 15 to 64 years of age.⁴¹

4.5.1 Gender

To demonstrate the demographic characteristics of Hsin-Hsing Village, I begin by introducing the population distribution, in terms of gender. Although the total population in Hsin-Hsing increased slightly from 537 in 1965 to 545 in 1979, the female population decreased to a level lower than it was in 1965 (see Table 4.5). In 1965 there were more female villagers than males. The 274 female villagers accounted for 51 percent of village population. Between 1965 and 1979, the number and proportion of female villagers decreased to 256 and 47 percent, respectively. Male villagers numbered 263 in 1965, accounting for 49.0 percent of the village population. The male population increased to 288 or 52.8 percent of the village population in 1979. The gender changes in the

⁴¹ Specifically, the formula is

$$\left[\frac{(p_{0-14} + p_{65+})}{p_{15-64}} \right] \times 100$$

population led to a change in village sex ratios, which increased from 96.0 males per 100 females in 1965 to 112.5 males per 100 females in 1979.

During the period of 1965-79, the decrease in the female population of the village was due to the decrease of the female live births. As shown in Table 4.5, in 1965, there were 102 female villagers under age 15. In 1979, the female population under age 15 dropped to 78. The decrease in the age group under 5 was especially significant. The female population in this age group dropped almost 50 percent between 1965 and 1979. This decline also reflects the fact that, in the late 1970s, there were more males born than females.

Table 4.5 The Population of Hsin-Hsing Village by Gender and Age Group, and the Mean Ages, the Median Ages, and Dependency Ratio, 1965 and 1979

Age Group	1965						1979					
	Male		Female		Total		Male		Female [†]		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Under 5	28	10.6	29	10.6	57	10.6	31	10.8	15	5.9	46	8.5
5-9	34	12.9	37	13.5	71	13.2	35	12.2	32	12.5	67	12.3
10-14	31	11.8	36	13.1	67	12.5	39	13.5	31	12.1	70	12.9
15-19	28	10.6	38	13.9	66	12.3	26	9.0	27	10.5	53	9.7
20-24	33	12.5	27	9.9	60	11.2	37	12.8	23	9.0	60	11.0
25-29	23	8.7	19	6.9	42	7.8	24	8.3	23	9.0	47	8.6
30-34	13	4.9	10	3.6	23	4.3	15	5.2	20	7.8	35	6.4
35-39	13	4.9	10	3.6	23	4.3	14	4.9	19	7.4	33	6.1
40-44	9	3.4	14	5.1	23	4.3	11	3.8	8	3.1	19	3.5
45-49	18	6.8	17	6.2	35	6.5	10	3.5	9	3.5	19	3.5
50-54	9	3.4	9	3.3	18	3.4	11	3.8	11	4.3	22	4.0
55-59	8	3.0	7	2.6	15	2.8	11	3.8	12	4.7	23	4.2
60-64	3	1.1	5	1.8	8	1.5	12	4.2	11	4.3	23	4.2
65-69	7	2.7	6	2.2	13	2.4	5	1.7	7	2.7	12	2.2
70-74	1	0.4	5	1.8	6	1.1	4	1.4	2	0.8	6	1.1
75 and over	5	1.9	5	1.8	10	1.9	3	1.0	6	2.3	9	1.7
Total [‡]	263	100.0	274	100.0	537	100.0	288	100.0	256	100.0	544	100.0
Mean age [*]	25.3 (19.0)		25.2 (19.8)		25.2 (19.4)		25.9 (19.3)		28.6 (20.2)		27.2 (19.8)	
Med. age	21.0		18.5		20.0		22.0		24.5		22.5	
Dep. Ratio	0.68		0.76		0.72		0.68		0.57		0.63	

* Standard deviations are in the parentheses.

† One case missing information on age.

‡ The sex ratios were 96.0 and 112.5 in 1965 and 1979, respectively. At the national level, the ratios were 105.8 and 109.3 in 1965 and 1979, respectively.

For this research, the sex ratio acts as another means of presenting the population distribution in Hsin-Hsing based on gender. The sex ratios for Hsin-Hsing Village as a whole do not accurately represent both those of migrant and non-migrant villagers. In other words, the sex ratios for non-migrants and migrants were different from the one based on the combination of the non-migrant and migrant population. For the villagers residing in the village, the sex ratio was 84.0 males per 100 females. Among the migrants, in 1965, the sex ratio was 276.5 males per 100 females, which was extremely

high. In 1979 the difference in sex ratio between migrant and non-migrant villagers narrowed. For non-migrants the sex ratio was 111.0 males per 100 females and that for migrants was 121.1 males per 100 females. These statistics indicate that in both 1965 and 1979, male villagers dominated the migration stream.

In the same time period, Hsin-Hsing Village as the whole had a different demographic infrastructure than the nation. The national statistics show that in 1965 males and females accounted for 51.4 percent and 48.6 percent of the national population, respectively (see *Statistical Yearbook of the Republic of China: 1998*). Along with the increase of the national population from 12.6 million in 1965 to 17.5 million in 1979 (a growth rate of 0.0235),⁴² the percentages in 1979 accounted for by male and female populations remained similar to those seen in 1965. About 52.2 percent of the national population was male, while 47.8 percent was female. The change at the national level during this time period was not as dramatic as that in Hsin-Hsing Village. With a slight change in the proportions of male and female population, the sex ratio at the national level increased slightly from 105.8 males per 100 females in 1965 to 109.3 in 1979 while Hsin-Hsing Village increased from 96.0 males per 100 females in 1965 to 112.5 in 1979.

⁴² The nationwide population increase rate was 2.35% annually between 1965 and 1979, based on solving for r in the following equation.

$$P_n = P_0 e^{rn}$$

where,

P_0 : the initial population,
 P_n : the population at the end of the period (n years),
 n : the length of the time in years, and
 e : a mathematical constant.

4.5.2 Age

As with sex ratios, the age structure of Hsin-Hsing as a whole does not accurately reflect differences between those residing inside and outside the village. When the two populations are combined, more than a half of the population was younger than 25 years old in 1965 and 1979 (see Table 4.5). The proportions of villagers younger than 25 years old were 59.8 percent and 54.4 percent in 1965 and 1979, respectively. More precisely, in 1965, 50 percent of the population of Hsin-Hsing Village was 20 years old or younger. In 1979, 50 percent of the village population was 22.5 years old or younger (see the median age in Table 4.5). Other information also shows that the village population was older in 1979 than in 1965. While in 1965, villagers younger than 20 years old accounted for almost 50 percent of the village population, in 1979, 43.4 percent of the population was younger than 20 years old. In addition, in both time periods, children younger than 15 years accounted for more than one-third of the village population. Villagers younger than 10 years old accounted for 23.8 percent of the population in 1965 and 20.8 percent in 1979. With a young population, the mean ages of people in Hsin-Hsing Village were 25.3 years in 1965 and 27.2 years in 1979.

The mean age in 1979 was older than that in 1965; 27.2 versus 25.3 (see Table 4.5). This was probably due to two reasons. First, the fertility rate decreased. The decreased fertility rate led to fewer young villagers in 1979 than in 1965. While the group of children under age 10 accounted for 23.8 percent of the villagers in 1965, 20.8 percent of villagers were under age 10 in 1979. Second, medical facilities and living standards had been improved, extending villagers' life expectancy and leading to a decrease in mortality. In 1965,

people age 60 and older accounted for 6.9 percent of the village population, and this percentage increased to 9.2 in 1979. The combination of these two factors led not only to the increase of villagers' mean age, but also to the change of the age structure in Hsin-Hsing.

The migrant and non-migration populations, however, had different age structures. In 1965, the mean age of the migrants was 26.3 years, while that of the non-migrants was 25.1 years. In 1979, because of the increase of young generation participating in migration, the mean age of the migrants was 20.5 years. In contrast, the mean age of the non-migrant villagers was 29.9 years, an increase from 25.1 in 1965. In addition, in 1979, the mean age of the migrants in the labor force was 30 years while their counterparts residing in the village was 40.8 years. This demonstrates that labor migrants were generally younger than those villagers in the labor force residing in Hsin-Hsing as well as that the labor force residing in Hsin-Hsing Village was geriatrified.

For Hsin-Hsing Village as the whole, while people younger than 25 years old accounted for a large proportion of the population in both time periods, the elderly who were 65 or older constituted only a small proportion. They accounted for 5.4 percent of the population in 1965 and 5.0 percent in 1979. People ages 25-64 accounted for 34.9 percent and 40.5 percent in 1965 and 1979, respectively. While fewer elderly were found in 1979 than in 1965, the 1979 proportion of villagers ages 25-65 exceeded the 1965 proportion.

Villagers ages 15-64 accounted for 58.4 percent of the village population in 1965 and 61.2 percent in 1979. While villagers who were younger than age 15 accounted for 36.3 percent of the 1965 population and 33.7 percent in 1979, elderly villagers who were age 65 or older accounted for 5.4 percent in 1965 and 5.0 percent of the Hsin-Hsing population in 1979. The dependency ratios were low. In 1965, the dependency ratio was 0.72, and it dropped to 0.63 in 1979. Although the age dependency ratio is a measure of age composition, it may also roughly represent the burden of dependency, which the productive population must bear. The low dependency ratios suggest that children and an old population in Hsin-Hsing did not cause a heavy burden for the villagers aged 15 to 64. They reflect that there were more villagers who were economically active than those who were not.

The dependency ratios also demonstrate that the migrant and non-migrant villagers had different age structures. In 1965, the dependency ratio of the non-migrant villagers was 0.88, and that for the migrants was only 0.03. This reflects the fact that among those residing in Hsin-Hsing Village, villagers ages 15-64 accounted for a similar proportion of those under age 14 and over 65 combined. The migration stream in 1965, however, was dominated by villagers who were ages 15-64. In 1979, the difference between the dependency ratios of non-migrant and migrant villagers closed. While the dependency ratio for non-migrant villagers was 0.63, that for migrant villagers was 0.66. The change in the dependency ratios for the migrants reflects the fact that the village's out-migration stream in the late 1970s was no longer dominated by villagers of working age any more. However, in 1979, no one older than age 65 was found in the group of villagers residing

outside of the village. About 60 percent of migrants were ages 15-64, and those under age 15 accounted for 40 percent of the migration population in 1979. These statistics reflect the settlement and growth/maturation of migrant families in urban cities.

The village resident population, in contrast, is geriatricized. In 1965, villagers age 50 and over accounted for 14.4 percent (68 out of 473) of the population residing in the village. The proportion increased to 23.4 percent (90 out of 384) in 1979. During the same time period, among villagers residing outside of Hsin-Hsing, the proportion accounted for by villagers age 50 and over almost remained the same. The proportion was 3.1 percent (2 out of 64) in 1965 and 3.2 percent (5 out of 156) in 1979.

Age composition changed between 1965 and 1979 (see Table 4.5 and Figure 4.1). Cohort analysis⁴³ indicates that villagers decreased among almost all age groups. The group of villagers who were under age 5 in 1965 were in the group of age 15-19 in 1979. Fifty-seven villagers were under age 5 in 1965 and in 1979 only 54 villagers were in the age group 15-19. Although 71 villagers were at ages 5-9 in 1965, only 60 villagers were found at ages 20-24. A similar pattern -- population decreasing -- was found in almost every age cohort. The decrease of population was significant among the young population, especially among the group of people who reached working ages -- specifically, the group of villagers who were at ages 5-29 in 1965 moved out of Hsin-Hsing permanently, and started their own families in destinations to which they had

⁴³ Cohort analysis evaluates the change of the demographic characteristics of the same cohort between two time periods.

migrated.⁴⁴ The significant population decrease can also be found among the elderly.

Villagers who were in the age cohorts of 45 and older in 1965 were few in 1979. This situation was caused by the death of old villagers.

The 1965 population pyramid shows the instant increase of births after World War II (see Figure 4.1). During the first two decades of the postwar period, births continually increased. In the early 1970s, the birth rate in the village started declining (see the 1979 population pyramid in Figure 4.1). Further, the two population pyramids also reveal that villagers ages 30 and older accounted for a relatively small proportion of the village population. This situation might have been caused by poor medical facilities and malnutrition in the early 20th century and during World War II. Poor medical facilities especially might have led to a high infant mortality rate, and a high rate of children dying during their childhood.

As found in the Hsin-Hsing population, similar age structures are evident at the national level. People younger than 25 years old accounted for 61.0 percent and 55.0 percent of the national population in 1965 and 1979, respectively. In 1965, 53.4 percent of the national population was younger than 20 years old. People under 15 years of age, and ages 15-64 and 65 and over accounted for 44.4 percent, 53.1 percent, and 2.6 percent of the national population, respectively. In 1979, young people accounted for less of the

⁴⁴ A few young villagers permanently moving out did not lead to a dramatic increase of the villagers' mean age in this research. The villagers were defined by those interviewees who were still residing in the village. In 1979, a great number of young villagers living in urban cities were still considered as family members. Consequently, the village's mean age was young in 1979.

national population than in 1965. People younger than 20 years old accounted for 44.2 percent of the population in Taiwan. People under age 15 accounted for almost one-third (32.7 percent) of the national population. Those who were ages 15-64, and 65 and over accounted for 63.3 percent and 4.1 percent of the national population, respectively. With a young population, the median age in 1965 was 18.1 years for all population (18.5 years for males and 17.6 years for females). The median age at the national level increased to 22.7 years (23.0 years for males and 22.3 years for females) in 1979.

Like the information presented in the data of Hsin-Hsing Village, the national data demonstrate an immediate increase of births after the World War II. In the mid-1960s Taiwan had its smallest number of live births ever. In the late 1960s and early 1970s, the birth rate in Taiwan declined. The declining birth rate in the 1970s was related to the initiation of the family planning program in 1964, which did not begin officially until May 1968 (Hermalin et al., 1994). The declining birth rate was directly attributable to the rapid rise of contraceptive use in Taiwan, which was achieved by the acceptance of modern methods supplied by the family planning program. According to a research report by Sun (1987), released by the Taiwan Provincial Institute of Family Planning, 4.4 percent of married women aged 15-44 used contraceptive methods in 1965, and this percentage increased to 44.0 percent in 1980.⁴⁵ In addition, a decreased mortality rate contributed to the increase in the proportion of population ages 15-64, and 65 and over in 1979. As Hermalin et al. (1994: 50) pointed out, “[b]etween 1948 and 1968 expectation

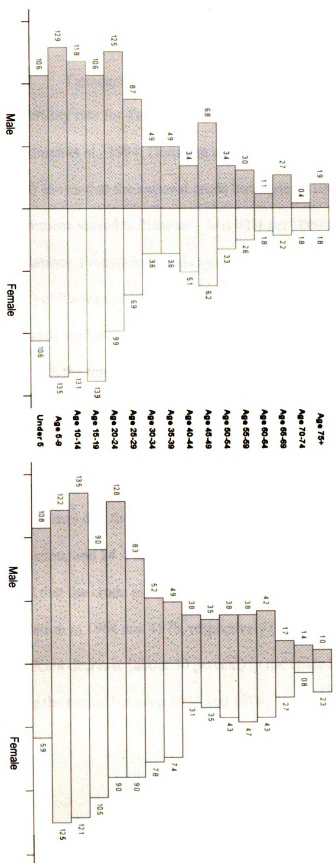
of life advanced by twenty years, from forth-eight to sixty-nine years, and another five years was added between 1969 and 1988.”⁴⁶

In general, the population of Hsin-Hsing Village and the national population shared similar age structures in both 1965 and 1979. The postwar baby boom led to a high proportion of the young population in the 1960s and 1970s. The initiation of the national family planning reduced the birth rate in the 1970s. In contrast to fertility, the gradually improved mortality conditions led to the increase of population aged 15 to 64 and 65 and over. At the national level, with a high proportion of young population in 1965, the dependency ratio was 0.86. In 1979, with the increase of population ages 15-64 and the decrease of fertility, the dependency ratio decreased to 0.58.

⁴⁵ Women’s participation in the wage labor market might have contributed to the increase in use of contraceptive methods. However, studying why women used contraceptives is not a focus of this research.

⁴⁶ Due to the poor medical facilities and living standards, the life expectancy at birth was around 30 years in 1906, which increased to 48 years in 1941 and then increased about one-half year for each elapsed calendar year (Hermalin et al., 1994).

Figure 4.1 Population Pyramids of Hsin-Hsing Village, 1965 and 1979



4.5.3 Demographic Process -- Fertility

The fertility rate for Taiwan as a whole sharply increased in the early postwar period (Freedman et al., 1994; Hermalin et al., 1994). Using governmental records, Hermalin (1994) shows that the national crude birth rate in 1949 -- the year the nationalist government moved to Taiwan -- was 42.4 per 1000 population. Based on their calculations, Freedman and his associates (1994) demonstrate that the crude birth rate (CBR) of Taiwan in 1956 was 44.8 per 1000 people. Since 1956, the crude birth rate has constantly declined. Freedman and his associates (1994) also point out, “[b]etween 1965 and 1990, the total fertility rate for Taiwan ... fell by 72% ... [, and] the crude birth rate fell ...[by] 63%” (p. 267).

Information from a series of the Taiwan-Fukien Demographic Fact Book, Republic of China shows that the crude birth rate of Taiwan area in 1965 was 32.1 per 1000 population, and 24.4 in 1979 (see Table 4.6). The data collected by interviewing villagers reveal that the crude birth rates in Hsin-Hsing Village were 31.7 and 22.1 per 1,000 population in 1964 and 1978, respectively (see Table 4.6). These two figures reveal a significant decrease (about 30 percent) in the crude birth rate in Hsin-Hsing Village during the period between 1964 and 1978.

Table 4.6 A Comparisons of Crude Birth Rate, General Fertility Rate, and Child-Woman Ratio of Hsin-Hsing Village (HHV), Taiwan Area (TWN), Chang-Hua County (CHC), and Pu-Yan Rural-Township (PYT) : 1965 and 1979'

	1965				1979			
	HHV	TWN	CHC	PYT	HHV	TWN	CHC	PYT
Crude Birth Rate	31.7	32.1	31.3	33.8	22.1	24.4	27.1	28.8
General Fertility Rate	144.1	151.8	146.5	156.2	85.3	94.5	108.4	116.9
Child-Woman Ratio	422.2	742.5	732.2	756.5	356.6	438.7	485.7	483.9

Because the data used for this research were collected in 1965 and 1979, the crude birth rate and general fertility rate are calculated based on the number of live births in 1964 and 1978. The way the crude birth rate and general fertility rates are calculated is imperfect. For the crude birth rate of 1964, it is calculated by the number of live births divided by the number of year-end population of 1964, and multiplied by 1000. The same procedure is applied to the calculation of the 1978 crude birth rate. The year-end population of 1964 is the total population in 1965 minus new births in 1965. Therefore, in this case, the year-end populations of 1964 and 1978 are 524 and 540. Methodologically, the general fertility rate is the number of live births in a given year divided by the number of women ages 15-49, multiplied by 1000. In this research, general fertility rate is calculated as the number of live births in 1964 or 1978 divided by the number of women ages 15-49 in 1965 or 1979, multiplied by 1000. Although the way the crude birth rate and general fertility rate calculated is imperfect, they still provide a general picture of fertility in Hsin-Hsing Village in the mid-1960s and the late 1970s.

Hsin-Hsing Village as the whole followed the national trend in terms of crude birth rate.

Other demographic statistics, such as general fertility rate (GFR) and child-woman ratio,

also indicate Hsin-Hsing Village followed the national fertility trend -- a declining

fertility. However, compared to the fertility rates of its surrounding areas in the same

township and same county, and at the national level, Hsin-Hsing Village had low fertility

rates. As seen in Table 4.6, the general fertility rate at the national level in 1965 was

151.8 per 1000 population, but it was 144.1 in Hsin-Hsing. Comparing this rate to the

regional statistics, Hsin-Hsing was low, while the statistics at the county level and rural-

township level were 146.5 and 156.2 per 1000. In 1979, the general fertility rate of Hsin-

Hsing Village was also lower than those for Pu-Yen rural-township (116.9 per 1000),

Chang-Hua county (108.4 per 1000), and Taiwan as a whole (94.5 per 1000).

With limited data from the Statistical Yearbook of the Republic of China, 1983 as a basis for comparisons, the lower fertility rate in Hsin-Hsing was due to a smaller proportion of married women who were in reproductive ages, compared to Taiwan as a whole. The governmental data show that in 1966, Taiwan had 2.6 million women aged 15-44. Sixty-five percent of the women in the same age group were married.⁴⁷ In 1965, Hsin-Hsing Village had 118 women ages 15-44, and 52.5 percent of this group of women were married. For Taiwan as a whole, in 1980, there were 2.5 million married women at ages 15-44, accounting for 58.9 percent of the women in the same age groups. The data of Hsin-Hsing Village show that in 1979, 53.4 percent (62 out of 116) of women at ages 15-44 were married. Although data at the county or rural township were not available, the limited data demonstrate that the low fertility rate of Hsin-Hsing Village could be related to a small proportion of married women at the childbearing age.

In terms of the general fertility rate, migrant women had higher GFRs than non-migrant women. The data in the absolute numbers show that in 1964, there were 17 live births among the Hsin-Hsing population. Two births were given by migrant women while the other 15 mothers were non-migrant villagers. In 1978, most mothers (eight) of new-born babies were residing in urban cities. Only four women giving births in 1978 were non-migrants. Taking the sizes of migrant and non-migrant population into account, in 1964, the general fertility rate for the non-migrant women was 140.2 per 1000, while that for migrant women was 181.8 births per 1000 women ages 15-49. The high general fertility

⁴⁷ See Supplementary Table 4. Single and Married Population 15 Years of Age and Over, by Sex and Age, in Thornton and Lin's *Statistical Yearbook of the Republic of China, 1983*.

rate of migrant women in 1965 was due to, first, the small number of married migrant women, and second, the predominance of migrant women who were single. In the late 1970s, due to the participation of young couples in migration or the increase of conjugal units in cities, the general fertility rate increased to 190.5 per 1000 women ages 15-49. On the other hand, the GFR of non-migrant women dramatically dropped to 51.3 births per 1000.

Besides the general fertility rate, the child-woman ratios for Hsin-Hsing Village as a whole were lower than those for the rural-township, county and the national levels in both research periods. While in 1979 the village's child-woman ratio was lower but close to the statistics at the rural-township, county and the national levels, the village's 1965 child-woman ratio was much lower than the statistics at all three other levels. The low child-woman ratio was directly related to the low number of live births in the early 1960s, which led to a low proportion of children under 5 years of age. At the national level, in 1965 children under age 5 accounted for 15.7 percent of the population. In the same time, children under age 5 only accounted for 10.6 percent of the Hsin-Hsing population. In 1979, the gap in the proportion of population accounted for by children under 5 narrowed. Only 8.5 percent of Hsin-Hsing's population was made up of children under age 5; the proportion was 11.2 percent for Taiwan as a whole.

While the decline in fertility was caused by the initiation of the national family planning program, it was also a product of a delay in marriage. Illegitimate birth was not morally acceptable in the 1960s and 1970s and, in Taiwan, women would not have given birth

until they were married.⁴⁸ The census data in 1966 show that in Taiwan 8.6 percent of women ages 15-19 and 59.5 percent of women ages 20-24 were married, while 92.9 percent of women ages 20-29 were married (see Lin, 1994). In 1980, 5.3 percent, 41.5 percent, and 82.7 percent of women at the age groups 15-19, 20-24, and 25-29 were married (see Lin, 1994).

Nationwide industrialization is likely to lead to a delay in marriage. With the increase of occupational opportunities in the industrial and service sectors in Taiwan, single women were likely to participate in labor markets to contribute the economy of their natal families as long as possible. Consequently, women were very likely to delay marriage. In contrast to 1965, in which one birth occurred among teenagers in the village, no teen mothers were found in Hsin-Hsing Village in 1979. Besides starting birthing later in the late 1970s, women stopped giving birth earlier. While the 1965 survey data show some births by women age 35 and older, there were no births by women older than 35 years old in 1979. A delay of marriage postpones the start of women giving births and shortens the period of reproduction.

All the data show that villagers' reproductive behaviors had been changing during the mid-1960s and the late 1970s. The changes were possibly related to the change of the village's economic structure. The shifting from an agricultural-based economy to an industrial-based created more job opportunities for not only men, but also women. To

⁴⁸ Pre-marital sex was practiced but in most instances pregnancy led to marriage.

contribute to the economy of their natal families, single women delay marriage, and consequently, postpone their first births. In addition, because of an increase of young married women residing in the urban cities with their husbands, in the late 1970s, the migrant population had a high fertility rate than the non-migrant one.

4.6 Socio-economic Infrastructure

4.6.1 Education

The educational attainment of Hsin-Hsing villagers improved from an average of 2.89 years of schooling in 1965 to 4.40 years in 1979 (see Table 4.7). This increase reflects changes in governmental educational policies in the 1950s and 1960s, especially, in 1968 when compulsory education was increased to the ninth grade, as well as the villagers' improved economic condition. Education was provided to people in Taiwan for free, although students paid a small amount of fees for tuition, materials and lunches. Students from poor families, however, were eligible for discounts and/or scholarships.

Villagers in the late 1970s generally received more education than their counterparts in the mid-1960s. Among villagers at age six and over, the illiterate accounted for 38.1 percent in 1965 and 26.5 percent. For villagers age 25 and over, the proportion accounted for by the illiterate decreased from 60.3 percent in 1965 to 41.2 percent in 1979. Their average educational attainment was 2.32 years in 1965 and 4.07 years in 1979.

For Taiwan as a whole, the proportion of the school-age population in elementary school increased from 4.7 percent in 1905 to 57.6 percent in 1940.⁴⁹ In 1964, 96.8 percent of children ages 6-11 were attending elementary schools, 43.5 percent of the population aged 12-14 was enrolled in junior high schools, and 23.7 percent of people of ages 15-17 was enrolled in senior high schools.⁵⁰ Only 8.1 percent of people ages 18-21 attended colleges. By 1979, the proportions of population attending primary, junior high, and senior high schools, and colleges increased. Almost all children (99.7 percent) ages 6-11 were enrolled in primary schools. Eighty-six percent of teenagers ages 12-14 attended junior high schools, and 52.8 percent of the population ages 15-17 were enrolled in senior high schools. The proportion of people ages 18-21 in colleges almost tripled, increasing to 23.9 percent in 1979. Generally speaking, from the beginning of the 20th century to the late 1970s, the educational environment improved continually. More and more people attended schools and stayed in school longer.

According to a Taiwanese governmental report published in 1981, at the national level, 72.9 percent of Taiwanese aged six and over either were attending schools or had some education, and 23.1 percent of the population was illiterate in 1965.⁵¹ In 1979, the illiterate accounted for only 10.3 percent of the Taiwanese population. Meanwhile, the educated accounted for 86.6 percent, who either were in schools or had some education.

⁴⁹ See Table 3.2, Selected Demographic and Socioeconomic Indicators, 1905-1940, in *Social Change and the Family in Taiwan* (1994: 52).

⁵⁰ See Table 3.2, School Attendance Rates by Level of Schooling and Sex, Selected Years, 1949-1988, in *Social Change and the Family in Taiwan* (1994: 68).

⁵¹ See Table 2-4B, Population by Levels of Education, in *Taiwan Statistical Data Book* (1981).

In Hsin-Hsing, the improvement of educational attainment of young people was significant, especially for those who were ages 15-34. In 1965, the average years of education for those 15-24 of age were 5.36 years, and 3.70 for those aged 25-34. The data collected in 1979 reveal that the average years of education for Hsin-Hsing villagers increased to 8.75 years for those aged 15-24, and to 7.03 years for ages 25-34. Besides demonstrating an increase of educational attainment of the villagers between 1965 and 1979, these figures show that young villagers generally had more education than their older counterparts.

Table 4.7 Average Years of Educational Attainment of Hsin-Hsing Villagers, 1965 and 1979

Age Group	1965			1979		
	Male	Female	Total	Male	Female	Total
Under 15	2.15	1.75	1.94	2.21	2.12	2.17
15-24	6.89	3.91	5.36	9.13	8.25	8.75
25-34	4.92	2.14	3.70	8.32	5.86	7.03
35-44	4.50	1.48	2.96	6.04	2.48	4.19
45-54	2.63	.88	1.77	5.00	1.65	3.37
55-64	2.73	.00	1.30	2.35	.57	1.46
65 and over	.23	.00	.10	1.42	.00	.63
25 and over	3.49 (3.9)	1.11 (2.4)	2.32 (3.5)	5.40 (4.0)	2.83 (3.6)	4.07 (4.0)
All ages	3.80 (3.6)	2.01 (2.9)	2.89 (3.4)	5.07 (4.1)	3.64 (3.8)	4.40 (4.0)

Note: Standard deviations are in the parentheses.

In addition to the inequality of educational attainment between the younger and older generations, educational inequality also can be found between men and women. Although both the male and female population in Hsin-Hsing generally increased their overall educational level, boys received more education than their female counterparts. The gap

between males and females was wider among older than younger villagers. Also, the difference was wider in 1979 than in 1965.

In 1965, among villagers who were 25 years and older, 41.3 percent of males attended school for six years or longer, while only 14.3 percent of female villagers did so. In 1979, the proportion of villagers with at least six years education were 64.7 percent among males and 38.6 percent among female villagers. Opportunities to attend school for male and female villagers increased, but the inequality between men and women persisted. In 1979 among 64.7 percent of males with at least six years education, more than 35 percent of them at least had finished a middle-school education. In contrast, only 14.3 percent of women finished a middle-school education among those who attended schools for six years or more.

B. Gallin (1966:196), describing the village in the late 1950s, argues that “[some] girls had either not attended [schools] at all that year [1957], or had dropped out during the course of the school year.” He (1966:196) further argues that “[t]his is probably attributable to one or both of two factors: the impoverished condition of some families and the negative attitude of some parents toward the necessity of schooling, particularly for girls” (p. 196). In contrast, the gap in the educational levels between males and females of the young generation narrowed between 1965 and 1979. In other words, in 1979 the difference between the educational attainment of young males and young females was smaller than that of 1965. This change may reflect a change of parental attitudes toward the necessity of schooling for girls. The other contribution to this could

be the implementation of a new government educational policy in 1968 extending free education to nine years of schooling.

In general, migrants had more education than non-migrant villagers. Comparing the average years of educational attainment of villagers in the labor force, in 1965 while the non-migrants had an average of 2.56 years, migrant villagers had an average of 5.38 years. In 1979, the gap between non-migrants and migrants was narrowed (4.00 years for non-migrants and 5.41 years for migrants). The similar pattern is also found among both male and female villagers. In 1965, the difference of average educational years between non-migrant and migrant men was about 2.1 years (3.43 years versus 5.51 years). In 1979, the difference decreased to about 1.3 years (4.70 years versus 5.98 years). For female villagers, the change was dramatic. In 1965, while non-migrant female villagers had only 1.82 years of education, their migrant counterparts had 5.00 years. The gap in education between non-migrant and migrant female villagers decreased to about 1.5 years (3.22 years versus 4.73 years) by 1979.

However, the difference in the years of education between migrant and non-migrant villagers was due to the uneven distribution of the illiterate. Most illiterate villagers resided in the village. In 1965, among villagers aged 25 and over, 32 percent of migrants were illiterate, while 64.5 percent of non-migrant villagers were illiterate. In 1979, among the villagers in the same age group, while only four migrant villagers (6.3 percent) were illiterate, 96 non-migrant villagers (53.6 percent) were illiterate.

4.6.2 Occupation

In postwar Taiwan, agriculture was the primary economic base. In the first two decades of the postwar period, more than 50 percent of the working population aged 12 and over was participating in agricultural production.⁵² In 1965, 53.7 percent of workers age 12 and over were working in the agricultural sector. Only 12 percent of the working population participated in industrial production. Meanwhile, people working in commerce, transportation, personal services, professions, government services, and other sectors accounted for 34.3 percent of the working population age 12 and over. In 1979, the proportion of working population participating in industrial production for the first time exceeded that of people working in agriculture.⁵³ At the national level, people participating in agricultural and industrial productions respectively accounted for 29.7 percent and 29.8 percent of the working population age 15 years and over.⁵⁴

Although there were no data available to compare the occupational patterns of urban and rural residents directly, we, however, should not assume that the occupational patterns of urban and rural population were the same. As Tsai (1981) reports, rural industrial development was started in the early 1950s. During the early stage, “[t]he total area of land used for ... industrial zones in rural counties ... [was] comprised of 28.4% of the total land within the planned zones” (Tsai, 1981: 20). In 1960 for Taiwan as a whole there were 18,791 factories. There were 5,282 factories located in five large cities, accounting

⁵² See Table 2-5A, Employment (Age of 12 and Over), in *Taiwan Statistical Data Book* (1981). Please note that in 1965, the governmental statistical data were only available for age 12 and above.

⁵³ See Table 2-5B, Employment (Age of 15 and Over), in *Taiwan Statistical Data Book* (1981).

⁵⁴ Since 1967, only workers aged 15 and over have been included into employment surveys.

for 28.1 percent of factories in Taiwan, and 4,395 in four metropolitan counties, which accounted for 23.4 percent. Other rural counties in Taiwan contained 9,114 factories, which accounted for 48.5 percent of factories in Taiwan. In the 1960s and 1970s, rural industry emerged. A great number of new factories were established in rural areas. By 1979, 20,966 factories were found in rural counties, which accounted for 35.9 percent of all factories in Taiwan. There were 23,921 (40.9 percent) and 13,548 factories (23.2 percent) located in four metropolitan counties and five large cities, respectively.

Consequently, although we do not know the exact proportions of population working in agriculture, industry, or service sectors in urban and rural areas, we can assume that more urban labor force participated in the industry sector than rural population.

4.6.2.1 Non-Migrant Villagers (1965)

Hsin-Hsing data on occupations were collected by asking villagers two questions. The first question is “what does a family member do most of the time?” The second one is “does he/she do anything else?” The primary economic source of livelihood for Hsin-Hsing villagers was agriculture in 1965. About 58.7 percent (148 out of 252) of non-migrant villagers in the labor force, who were residing in the village, took jobs relevant to agricultural production, especially male villagers (see Table 4.8). While 47.3 percent (95 out of 201) of male non-migrants were not in the labor force, 106 male villagers who were in the labor force accounted for 52.7 percent of non-migrant males. Seventy-nine male villagers primarily worked as self-employed farmers accounting for 39.3 percent of non-migrant male villagers. The same group of male villagers also accounted for 74.5 percent (79 out of 106) of non-migrant male villagers who were in the labor force in 1965. Only a few non-migrant male villagers (17) held occupations other than as self-

cultivating farmers. Two male villagers sold their labor working in agriculture production while seven male villagers worked as off-farm wage workers. Without industrial occupational opportunities, four of these seven male villagers worked at governmental offices, while one was hired to work at a pork stand and one guarded a fish pond. Only one male villager worked in a small factory. The remaining seven male villagers operated their own businesses in the village. These seven male entrepreneurs accounted for the same proportion as those who were off-farm wage workers.

Table 4.8 Hsin-Hsing Villagers' Occupations by Migration Status and Labor Force: 1965 and 1979

	1965				1979			
	Male		Female		Male		Female	
	N	%	N	%	N	%	N	%
Non-migrants								
Not in labor force								
Sub-total	95	47.3	98	40.2	95	46.6	73	40.1
In labor force								
Housekeeper			73	29.9	1	0.5	39	21.4
Family worker			1	0.4	1	0.5	6	3.3
Self-employed farmer	79	39.3	55	22.5	35	17.2	25	13.7
Farm laborer	2	1.0	12	4.9				
Off-farm worker	7	3.5	3	1.2	33	16.2	35	19.2
Self-employed (off-farm worker)	7	3.5	1	0.4	20	9.8	4	2.2
Military	8	4.0			17	8.3		
Unemployed	3	1.5	1	0.4	2	1.0		
Sub-total	106	52.7	146	59.8	109	53.4	109	59.9
Total	201	100.0	244	100.0	204	100.0	182	100.0
Migrants								
Not in labor force								
Sub-total	8	14.0	7	30.4	38	45.2	29	41.4
In labor force								
Housekeeper			3	13.0			13	18.6
Family worker					1	1.2	5	7.1
Off-farm worker	38	66.7	10	43.5	21	25.0	21	30.0
Self-employed (off-farm worker)	3	5.3			22	26.2	2	2.9
Military	2	3.5			2	2.4		
Apprentice	4	7.0	2	8.7				
Unemployed	2	3.5						
Unknown			1	4.4				
Sub-total	49	86.0	16	69.6	46	54.8	41	58.6
Total	57	100.0	23	100.0	84	100.0	70	100.0

Among 146 female non-migrant villagers who were in labor force, most reported housekeeping as their primary occupation, followed by those who reported themselves to be self-employed farmers. In 1965, those who were not in labor force accounted for 40.2 percent (98 women) of non-migrant female villagers, while 146 women who were in the labor force (out of 244 women) accounted for 59.8 percent of non-migrant female villagers. Seventy-three of non-migrant female villagers who were in labor force reported

being housekeepers at home as their primary occupations, and 55 (22.5 percent) non-migrant women worked as self-employed farmers in 1965. The 55 self-cultivating farmers also accounted for 37.7 percent (55 out of 146) of the female labor force within the village. In addition, one woman operated her own business. Nevertheless, some of women who reported working as housekeepers were also doing other jobs. For example, two women reported being farm laborers as their secondary occupations, while two women did piece work at home, one was a dress-maker, and four farmed their family land.

Combining both male and female villagers, there were eight villagers operating their own businesses in the village in 1965. Because the rural industrialization had not started influencing the village's economic structure, most of these enterprises were service-based at this time. While five (including four men and one woman) entrepreneurs were selling fruits, vegetables, fish, or pork, and were like vendors, one man operated a grocery store in the village. The other two villagers who owned their own businesses included one doctor and one man who operated a carpenter workshop.

In addition, in 1965, 148 (including 81 males and 67 females) non-migrant villagers worked in the agricultural sector. This group of villagers accounted for 58.7 percent (148 out of 252) of non-migrant villagers who were in the labor force. Although this proportion does not include those women who reported "housekeeping" as their primary occupation and who also worked on family land, it was still higher than the national statistics (53.7 percent), mentioned previously. This reflects the fact that in 1965

agriculture was the primary source of family income for people residing in the village. Because off-farm occupational opportunities in the surrounding area were limited, family land was the primary means of production. Therefore, people in the village relied more on agriculture than any other income sources, although remittances from family members residing and working outside of the village were critical to their survival.⁵⁵ Wang and Apthorpe (1974: 32) point out in their research that “half of the first 25 households interviewed in depth said that they were in receipt of income from outside family members. On average this means 33.5 percent of the total income of households ... is not derived from farming”.

4.6.2.2 Migrant Villagers (1965)

In 1965, migration carried a strong economic function. People migrated to seek occupations elsewhere. Most Hsin-Hsing migrants (86.0 percent of male migrants and 69.6 percent of female migrants) participated in wage labor markets. Similarly to those residing in Hsin-Hsing, migrant villagers who were not in labor force were primarily students or children too young to attend schools.⁵⁶ However, while most villagers residing in Hsin-Hsing worked in agricultural production, most migrant villagers sold their labor for wages. Among 49 male migrants who were in labor force, 38 worked for

⁵⁵ Wang and Apthorpe (1974:78) suggest that remittances were not necessarily in “the form of cash.” They ranged from visible to invisible. For the visible, in some cases they could have been agricultural machinery (Wang and Apthorpe, 1974). For the invisible, some “brothers living away from the farm may have made over at any rate the use of their land to a brother living at home perhaps for no rent if he pays the land and irrigation tax” (Wang and Apthorpe, 1974: 78).

⁵⁶ Those who reported themselves housekeepers who were usually female are counted in the labor force. Although they did not directly contribute to a family monetary income, they indirectly contributed to the family economy.

wages at destination, while only three male migrants were self-employed. A great proportion of the 38 hired male villagers did service work, such as pulling carts and operating pedicabs, delivering goods, and working as store clerks. According to the records, there was only one male migrant villager working as a manufacturing worker in 1965.

Among migrant villagers, males and females had different occupational patterns in 1965. While a great proportion of male migrants (20 out of 38) worked in the service sector, 50 percent of female migrants (5 out of 10 women) who were working as off-farm workers participated in industrial production as factory workers. These women were relatively young. Three of them were teenagers and two were in their early 20s. In addition, they were all single. The other five female labor migrants included two teenagers, two in their 20s, and one 60-year old woman. Two of them worked as cooks, one worked in the Central Market, one was a paid housekeeper, and the other worked as a clerk. Among these five women, two were married and three were single.

To sum up, a comparison of the occupations of people residing in Hsin-Hsing and those who migrated out to seek occupational opportunities shows that most of villagers (including migrants and non-migrants) were not participating in industrial production in 1965. There were only seven villagers (including one non-migrant male villager, one migrant male villager, and five migrant female villagers) in the labor force, who worked in industrial production. Most non-migrant villagers participated in farming, while a great proportion of migrant villagers participated in the service sector.

These findings reveal that in 1965 migrants were more likely to take occupations in the service sector, while non-migrants were more likely to work on farms. Very few migrants or non-migrant villagers worked in industrial production for wages. While no industrial production opportunities were available for non-migrant villagers in Hsin-Hsing, social networks influenced the migrant villagers' occupation-seeking behaviors. Studies suggest that job seekers' heavily rely upon social networks (Campbell and Marsden, 1990; Holzer, 1987 and 1988; Rees, 1966). The influence of social networks on Hsin-Hsing migrants' job seeking behaviors is also evident. In the mid-1960s, industrial production occupations were available in cities, but 20 male migrants, who accounted for more than 50 percent of male migrant off-farm workers, were working in the service sector. Strikingly, 15 male migrants in the service sector were working at the same place -- the large, wholesale Central Market located in Taipei. These 15 male migrant villagers accounted for three-quarters of male migrants working in the service sector. They were either working as cart drivers who delivered vegetables or as clerks who sold vegetables.

4.6.2.3 Non-Migrant Villagers (1979)

By 1979, the occupational structure of the residents of Hsin-Hsing had changed dramatically. Although 27.5 percent of non-migrant villagers in the labor force still worked in farming, agricultural production was no longer the primary economic source of family income. As the data in Table 4.8 show, there were more male non-migrant villagers working as off-farm laborers (33) or self-employed (20) than those who were self-cultivating farmers (35). The 33 male villagers who sold their labor for wages included: (1) eleven villagers who worked in factories, (2) six who worked as white-

collar workers, including those people working in banks and government offices, (3) twelve working in the service sector including one deliverer, three drivers, seven construction workers, and one baker, and (4) four male villagers hired as carpenters for wages. In sum, one-third of male non-migrant villagers who reported they were off-farm workers participated in industrial production. Of the remainder, 15.2 percent were white-collar workers and 36.3 percent of them participated in the service sector. The 35 male non-migrant villagers working as self-employed farmers accounted for 32.1 percent of male non-migrants in the labor force.

There was also a great increase in the number of women working off-farm. While in 1965, only 1.2 percent of non-migrant female villagers worked off-farm, 19.2 percent of non-migrant female workers reported themselves to be off-farm workers in 1979. If we merely take the women participating in the labor force into account, there were only 2.1 percent (3 out of 146) of non-migrant female laborers working off-farm for wages in 1965. In 1979, the proportion dramatically increased to 32.1 percent (35 out of 109). The occupations that were more likely to be taken up by this group of people included working in factories and doing piece work at home. There were two female non-migrants working in the service sector. Meanwhile, between 1965 and 1979, there was a significant decrease in the proportion of females reporting themselves as housekeepers. Among 39 women who reported housekeeper as their primary occupation, ten also reported working a second job in 1979. They were working as cooks, construction workers, or farming family land. The increase in women reported taking a second occupation could be attributed first, to the availability of more occupational opportunities

for villagers in 1979 than in 1965, and second, to more males participating in off-farm labor markets, thus making farming family land a responsibility shared by women.

In addition, among villagers residing in Hsin-Hsing Village, those who worked in agricultural production were generally older than those who worked as off-farm laborers (see Table 4.9). This pattern was found in both 1965 and 1979. In 1965, while the average age of male self-employed farmers was 38.2, that of male off-farm workers was 28.8. A similar pattern was also found among female villagers (28.8 versus 28.3). In 1979, the difference in the average ages between self-employed farmers and off-farm workers increased. The average ages of male self-employed farmers and off-farm workers were 54.7 and 34.0, respectively (see Table 4.9). Among female villagers, they were 44.3 for self-employed farmers and 32.3 for off-farm workers (see Table 4.9). These statistics reveal that agriculture has been geriatrified; family farming was usually taken care of by the old population. In contrast, young villagers preferred to participate in off-farm labor markets.

Table 4.9 Average Age and Educated Years of Hsin-Hsing Villagers by Selected Occupations, and Migration Status: 1965 and 1979

	1965				1979			
	Male		Female		Male		Female	
	Age	Educ.	Age	Educ.	Age	Educ.	Age	Educ.
Non-migrants								
Housekeeper	--	--	37.6	1.7	80.0	0.0	49.8	1.8
Family worker	--	--	22.0	6.0	29.0	9.0	30.0	6.0
Self-employed farmer	38.2	3.7	28.8	2.1	54.7	2.7	44.3	1.8
Farm laborer	41.5	2.5	27.2	2.2	--	--	--	--
Off-farm worker	28.8	6.6	28.3	2.0	34.0	6.7	32.3	4.9
Self-employed (off-farm worker)	35.7	5.6	47.0	0.0	36.9	6.4	37.8	4.5
Migrants								
Housekeeper	--	--	22.7	4.0			33.2	6.0
Family worker	--	--	--	--	21.0	9.0	30.2	6.0
Off-farm worker	26.5	6.0	23.9	4.9	32.4	8.7	24.4	7.5
Self-employed (off-farm worker)	30.3	2.7	--	--	30.7	7.8	26.5	6.0

With the emergence of rural industry in the surrounding area of Hsin-Hsing, there was an increase in the number of villagers participating in off-farm labor markets, and in entrepreneurs in the village. According to the 1979 data, there were twenty male and four female entrepreneurs residing in the village (see Tables 4.8 and 4.10). One woman operated a workshop, which was a satellite factory of a big manufacturer, and one man owned a spring factory (see Table 4.10). Both of these entrepreneurs hired factory workers. Three male villagers operated machine, motorcycle shops in 1979, which had not been seen in 1965. Three villagers were operating construction businesses, including two men and one woman. With the growth in entrepreneurship, vender-type small-service businesses decreased from four in 1965 to one in 1979.

Table 4.10 Entrepreneurship among resident villagers, Hsin-Hsing: 1965 and 1979

Entrepreneurship	1965		1979	
	Male	Female	Male	Female
Spring manufacturer			1	
Motorcycle shop			2	
Machine shop			1	
Workshop (carpentry, suitcase manufactory, satellite factories)	1		2	1
Village store	1		3	1
Drug store			1	
Repair shop			2	
Construction services			2	1
Rice mill and rice drying business			2	
Doctor	1			
Barber shop				1
Other merchant (fruit, vegetable, fish, pork, sawdust, construction materials)	3	1	4*	
Total	6	1	20	4

* In 1979, there were four male villagers selling vegetables, sawdust, and construction materials. However, there was only one village running a vender-type business.

4.6.2.4 Migrant Villagers (1979)

Among 46 male migrant villagers, 21 (45.6 percent) sold their labor for wages, and 22 (47.8 percent) operated their own business at their destination in 1979. While the number of villagers selling their labor for wages decreased between 1965 and 1979, the number of male villagers operating their own businesses in cities increased from three to 22 male migrant villagers. Meanwhile, although more male migrants worked in manufacturing in 1979 than in 1965, the number was still small. Eight male migrants worked in factories in 1979, representing 38.1 percent of male migrants who sold their labor for wages.

Not surprisingly, as more male villagers operated businesses in cities and conjugal migrant units increased (which will be discussed in Chapter VI), the number of migrant women who worked as family workers increased. In 1965, no women worked as a family worker in cities. In contrast, five married women, who accounted for 12.2 percent of

female migrants in the labor force, helped to operate family businesses in 1979. In addition, the number of female migrants selling their labor for wages increased from 10 in 1965 to 21 in 1979. Among these 21 off-farm female workers, only eight (38.1 percent) were married, and only two married women worked in manufacturing. The eight women who worked in factories were mainly single.

The national statistics show that those who participated in agricultural production accounted for 46.5 percent of the employed population in 1965 (*Taiwan Statistical Data Book, 1981*). The proportion decreased to 21.5 percent in 1979 (*Taiwan Statistical Data Book, 1981*). Following the national trend, the occupation patterns of non-migrant villagers reveal the increase of occupational opportunities in the industrial and service sectors in Hsin-Hsing Village between 1965 and 1979. The newly developed occupation opportunities in the industrial and service sectors absorbed the labor force released from the agricultural sector or just entering the labor market.

More female villagers sold their labor for wages in 1979 than in 1965. They primarily worked in non-agricultural sectors. Meanwhile, agriculture was geriatrified. While younger villagers participated in off-farm labor markets, older villagers had to take responsibility for farming family land. In addition, more and more villagers were self-employed. The number of self-employed villagers increased among both migrants and non-migrants. Villagers, especially male, chose to work off-farm and created occupational opportunities for themselves. They were relatively younger than those who worked in the agricultural production. Furthermore, although in 1965 most migrant

villagers who participated in labor markets were male, the number of women who were migrant workers in cities increased in 1979. Among female migrant workers, while very few married migrant women worked in manufacturing, most factory female workers were single.

As shown in Table 4.9, not only was the average age different between people holding different occupations, so also was the average year of educational attainment. Among non-migrant villagers, those who participated in agricultural production had fewer years of education than those working off-farm. In 1965, among non-migrant men, while self-employed farmers had an average of 3.7 years of education, off-farm workers had 6.6 years and entrepreneurs had 5.6 years. In 1979, the average years of education for male off-farm workers and male entrepreneurs respectively increased to 6.7 and 6.4, and that for male self-employed farmers decreased to 2.7 years. The data also show that in 1979, among female non-migrants, those who worked off-farm had more education than self-employed farmers.

Among the migrants, entrepreneurs had less education than those who worked as off-farm worker or helped operate family businesses. In 1965, while male entrepreneurs had an average of 2.7 years of education, those selling their labor for wages had 6.0 years of education. In 1979, while male migrant off-farm workers had 8.7 years of education, migrant entrepreneurs had 7.8 years. A similar pattern was found among female migrants. While those migrant women working for wages had 7.5 years of education, those women operating businesses in urban cities had 6.0 years of education. In sum, the statistics on

the average years of education reveal that those who sold their labor for wages had more education than those who held other types of occupations. In addition, these statistics might imply that occupations recruiting workers required more education than did participating in agricultural production or being entrepreneurs.

4.7 Summary

With very few exceptions, Hsin-Hsing Village, in general, followed the national trends in several ways. First, although median ages were different between Taiwan as a whole and Hsin-Hsing Village, the age structures were similar -- the young accounted for a large portion of the population. For example, in 1965 both Taiwan as a whole and Hsin-Hsing had more than 50 percent of their populations younger than 20 years old. The population information in 1979 shows that the populations in Hsin-Hsing and Taiwan as a whole were getting older. Their median ages increased, and more old people could be found in 1979 than in 1965 in the population. However, the migrant and non-migration populations had different age structures. While in the mid-1960s migrants were primarily married males and the young generation participated in migration in the late 1970s, the mean age of migrants in 1965 was older than that of non-migrants, and in 1979 non-migrants had a higher mean age than migrants.

In 1979, young people in Hsin-Hsing and Taiwan as a whole did not account for the same proportions of the population as they did in 1965. This was primarily related to the decline in the fertility rate. Hsin-Hsing Village followed the national trend. Fertility rates decreased dramatically. In addition, women in the village had a shortened reproductive period. In 1979, female villagers at the reproduction ages started their first birth later and

stopped reproduction earlier than did women in 1965. This reproduction behavior of the female villagers followed the national pattern. As Freedman et al. (1994) points out: “Taiwan’s fertility decline began first among women at older ages and later among women at younger ages,” implying that for Taiwan as a whole, women’s reproductive period shortened.

In terms of education, more and more children attended schools and they stayed in school longer in 1979 than in 1965. This can be attributed to changes in governmental education policies in the 1950s and 1960s, especially the extension of the compulsory education to the ninth grade in 1968, and rising incomes. The change in educational policies influenced the young population more than the old. For example, in 1979, Hsin-Hsing villagers ages 15-24 had 8.75 years of education, which means that almost every villager in this group finished his/her junior high school education. The average years of education attainment for villagers at ages 25-34 increased from 3.7 years in 1965 to 7.0 years in 1979.

Besides education, Hsin-Hsing Village was also influenced by national economic plans. As the development of rural industry was a part of national economic plans, more and more off-farm occupation opportunities were created by the newly established industries and factories in the rural hinterland in the 1970s. Hsin-Hsing villagers, following the national trend, shifted from working primarily in agricultural production to work in the industrial and service sectors. At the national level, more than a half of workers worked in agricultural production in 1965, but the proportion dropped to less than 30 percent in

1979. In Hsin-Hsing Village, the proportion of family members in the labor force working as self-cultivating farmers dramatically declined from 43.7 percent in 1965 to 23.1 percent in 1979. Meanwhile, the proportion of family members holding paid occupations in the businesses in and surrounding Hsin-Hsing Village increased from 22.5 percent in 1965 to 33.9 percent in 1979.

CHAPTER V

THE DETERMINANTS OF RURAL-URBAN MIGRATION FROM HSIN-HSING VILLAGE

Chapter IV provided a profile of the research village, in terms of its geographical location, demographic infrastructure, and family, social, and economic infrastructure. As the data showed, between 1965 and 1979, the number of Hsin-Hsing villagers living outside of the village almost doubled. During the same time period, for Hsin-Hsing Village as a whole, the number of villagers participating in wage labor markets increased, while the number of self-employed farmers dramatically decreased.

Between 1965 and 1979, Hsin-Hsing Village experienced a slight increase in population from 537 to 545, respectively. The number of people actually residing in the village, however, decreased dramatically (from 454 to 389). In fact, while there were 83 migrants (15% of Hsin-Hsing's total population) documented in 1965, by 1979, the number of the villagers who resided outside of Hsin-Hsing Village increased to 156, accounting for 28.6 percent of the total population.

Hsin-Hsing Village followed national trends in economic development. The postwar national economy was developed from a base of agriculture to one primarily dependent on industrial production (B. Gallin and R. S. Gallin 1982a; Gallin and Ferguson, 1988; Ho, 1978), and rural industrial development occurred in the 1970s (Tsai, 1981; Lu, 1981). The growth of industries in a spatially decentralized manner enabled an increasing number of farm households to combine farming with part-time or full-time employment

in non-farm activities. Hsin-Hsing villagers shifted from working primarily in agricultural production to employment in the industrial and service sectors in the late 1970s. The number of self-employed farmers (134), accounting for 53.2 percent of non-migrant villagers in the labor force in 1965, decreased to 60, accounting for 27.5 percent in 1979. The proportion of villagers holding off-farm jobs for pay increased from 26.2 percent (83 out of 317) of the village labor force in 1965 to 53.8 percent (164 out of 305) in 1979 (see Table 4.8).

In Taiwan, agriculture accounted for 23.6 percent of the national gross domestic production in 1965 and decreased to 8.6 percent in 1979 (see Table 2.1). The significance of agriculture declined in Hsin-Hsing Village over time as well. And, as we saw above, the proportion of Hsin-Hsing villagers in the local labor force who reported they were self-cultivating farmers dramatically declined between 1965 and 1979. At the same time, farming was geriatrified. The mean age of farmers increased from 34.2 years in 1965 to 50.7 years in 1979. Among male farmers, the mean age increased from 38.1 years old in 1965 to 54.7 in 1979, while that of female farmers increased from 28.8 years old in 1965 to 45.0 in 1979. In addition, the total area of land available for cultivation (including both land owned and rented-/borrowed-in) for farmers in the village decreased from 43 *chia* in 1965 to 39.2 *chia* in 1979. This chapter examines the relationship between: (1) change in land access and migration, and (2) change in rural economic structure and migration in both 1965 and 1979. Specifically, the issues discussed include:

1. whether labor migration was related to family type,

2. whether labor migration was related to a family's accessibility to land, and
3. whether labor migration was related to villagers' local labor market participation.

5.1 Family Type and Migration

5.1.1 Theoretical Position and Hypothesis

The structure of the Taiwanese family takes one of three forms: conjugal, stem, and joint.⁵⁷ These forms represent not only different compositions but different sizes as well.

In general, a joint family has more family members than other family forms, while a conjugal family has the fewest members. The stem family falls in between in size. A family, like a person, experiences both birth and growth. As a family moves from the simple conjugal type toward the complex joint form, its size increases.

An increase in family size leads to additional family members joining the labor force as well as an increase in a family's consumption needs. Therefore, in rural areas, the different family types not only represent differences in size, but also reflect varying needs for land to meet a growing family's need for consumption and labor input.

For large families, sending family members to seek job opportunities in cities may be necessary as well as possible when rural economic opportunities are inadequate. Having additional family members increases consumption needs, in addition to a possible increasing need for labor input opportunities. Larger families include the labor reserves necessary to cover excess farming work generated by absent migrant family member(s).

In contrast, migration is less likely for conjugal families, which typically consist of a married couple and their unmarried children, although in Hsin-Hsing a number of simple families include older parent(s).⁵⁸ Therefore, the first hypothesis examined in this research is:

H1: *Stem and/or joint families are more likely to have migrant family members than conjugal families.*

5.1.2 Measurement

Migration considered in this analysis is labor migration, which is defined as the movement of people of working age away from Hsin-Hsing Village. A labor migrant is a villager in the urban labor force, who was residing outside of the village during the two research periods. Therefore, at the family level, labor migration in this research is measured as the number of family members in the urban labor force residing outside of Hsin-Hsing Village. To examine the first hypothesis, analysis of variance (ANOVA) is used; this statistical technique “detect[s] evidence of any difference among a set of group means” (Agresti and Finlay, 1986:398). First, the mean numbers of labor migrants between types of family are tested for significant differences. Second, complex family types (i.e., stem and joint) are examined to determine if they have more family members in the urban labor force than the simple family type (i.e., conjugal).

⁵⁷ See Chapter III for definitions of the three types of Taiwanese families.

⁵⁸ Both the 1965 and 1979 data showed there was one conjugal family consisting of a married couple and the mother of the household head.

5.1.3 Analysis and Discussion

In 1965 there were no significant differences in the number of labor migrants according to family type, while in 1979 there were significant differences in the number of labor migrants between different types of family. The data for both years generally show that larger families had more family members in the urban labor force than did conjugal families (see Table 5.1). Specifically, in 1965 stem and joint families had an average of 0.87 labor migrants who were in the labor force and residing outside of the village, while conjugal families had 0.64. Nevertheless, the F-test demonstrates that the difference in the number of labor migrants between conjugal and complex families is not statistically significant at $\alpha=0.05$. Therefore, the first research hypothesis is not supported by the 1965 data.

Table 5.1 Analysis of Variance for Labor Migration by Family Types, Hsin-Hsing: 1965 and 1979

1965		Mean	N	F
1965				
Conjugal family		0.64	44	1.06
Stem-Joint family †		0.87	38	
1979				
Conjugal family		0.42	36	50.60 ***
Stem family		0.67	24	
Joint family		4.31	13	
*** significant at level of .01 ** significant at level of .05 * significant at level of .10				
† Two joint families are included into this category for the analysis.				

As can be seen in Table 5.1, the F-test shows that in 1979 family type and labor migration had a significant relationship. The difference in the number of family members in the urban labor force between different types of domestic units is statistically

significant at $\alpha=0.01$. The first research hypothesis is supported by the 1979 data. On average, however, the number of labor migrants in conjugal and stem families was very close (see Table 5.1). While conjugal families had an average of 0.42 labor migrants, stem families had 0.67. Joint families with an average of 4.31 labor migrants was much higher than the averages of conjugal and stem families.

Post hoc comparisons are done to determine if larger family types had more labor migrants than small families in 1979. In Table 5.2, we can see that the mean difference in the number of family members in the urban labor force between conjugal and stem families is not significant at $\alpha=0.05$. Joint families had more family members in the labor force residing in urban cities than the other two types of family structures. Specifically, in 1979 joint families had 3.89 more labor migrants than conjugal families and 3.64 more than stem families. This finding indicates that the statistical significance shown in Table 5.1 for the 1979 data was primarily due to joint families for either one or both of two reasons. First, large families have more members available to deploy to cities. Second, individual units within joint families, which already had migrant family members settled in cities, expanded and with the addition of children and, perhaps, as the youngsters, aged, additional wives and children as members. Without sufficient data, this research is not able to identify if the family members of joint families in urban cities were new migrants or the members of long-time migrant families. Regardless, joint families supplied many more labor migrants than any other type of family structure.

Table 5.2 Comparison of the number of labor migrants between conjugal, stem, and joint families in Hsin-Hsing, 1979

	Mean difference
Conjugal families vs. stem families	-.25
Conjugal families vs. joint families	-3.89 ***
Stem families vs. joint families	-3.64 ***
*** significant at level of .01 ** significant at level of .05 * significant at level of .10	

The relationship between family type and labor migration was not significant in 1965 while it was significant in 1979. In the early years, some villagers adopted labor migration as a strategy to maintain family sustenance. Theoretically, facing uncertainty in urban cities, villagers were not sure of the benefits of migration (Massey 1990b; Taylor 1986). Therefore, male villagers usually migrated to cities alone and left their wives and/or families in the village (B. Gallin, 1978; B. Gallin and R. Gallin, 1974). In addition, a great proportion of migrant villagers maintained their landholdings in Hsin-Hsing for security. B. Gallin and R. Gallin (1974: 344) point out that in 1965 about three-quarters of Hsin-Hsing migrants to Taipei “still owned or rented some land in the village.” This finding suggests that regardless of family type, Hsin-Hsing villagers probably adopted similar strategies to overcome economic hardship. Nevertheless, small families with a limited labor force, part of which had to take care of family land, included few members who could migrate to seek job in cities in order to supplement the meager profits gleaned from the land. Put another way, small families had fewer available members to send to urban cities than did complex families.

During the mid-1960s, however, larger families did not send significantly more family members to seek job opportunities in urban cities, although they had more family

members in the labor force than small families. This might be the product of two phenomena. First, at that time, most villagers grew rice in the first and second crops and production required intensive human labor. In the absence of modern agricultural machines or technology, “[t]he entire rice-growing operation [was] performed by hand labor” (B. Gallin, 1966:49). (This operation included germinating and planting seedlings, flooding the rice paddy, transplanting seedlings to land, application of fertilizer, irrigating the crop, weeding, and finally rice harvesting.) Because rice production was dependent on a tremendous amount of human labor, labor migration in the 1960s was not generally considered an option unless “the family economic situation ... was extremely serious” (B. Gallin and R. Gallin, 1974: 344). Second, unmarried women and men rarely were deployed to cities in the 1960s, because of the dearth of opportunities for jobs there for them. Therefore, families usually had only one or at most two family members who sought occupational opportunities in the cities. In fact, in 1965, there were only slight insignificant differences between conjugal and stem/joint families in terms of the number of family members in the labor force residing outside of Hsin-Hsing Village (0.64 versus 0.87).

In 1979, more family members in the labor force resided outside of the village than in 1965. As shown in Table 4.8, 87 villagers (28.5% or 87 out of 305) who were in the labor force migrated or lived outside of the village in 1979. The comparable figures for 1965 were 65 (20.5% or 65 out of 317). By 1979 complex families, especially joint families, had more family members in the labor force residing in the cities than did simple families

(see Table 5.1). These differential labor migration patterns are primarily attributable to two structural factors: economic and family.

Three aspects related to the economic structure contributed to the difference. First, agricultural production was not as important in 1979 as it was in 1965. In the 1960s, agricultural production was the primary source of family income. By the end of the 1970s, off-farm employment had replaced agriculture as the primary source of family income for villagers residing in Hsin-Hsing (B. Gallin and R. S. Gallin, 1982a). If there were no economic opportunities locally, participating in off-farm labor markets would have been impossible in the late 1970s. Therefore, the second factor responsible for differential labor migration patterns between families was that rural industrial development created off-farm jobs for villagers. As B. Gallin and R. S. Gallin (1982a) point out, in the late 1970s, many firms, ranging from large labor-intensive factories to small satellite factories or family workshops, were established in Hsin-Hsing and its surrounding area, in addition to a government-sponsored industrial park erected in the next township.⁵⁹ The third factor accounting for the differential, then, was the “reorganization” of farming practices through (a) the implementation of the land consolidation program in the late 1960s and (b) the mechanization and chemicalization of Hsin-Hsing farming in the late 1970s. The land consolidation program led to the possibility of utilizing modern agricultural technology, thereby releasing some human labor from agricultural production (B. Gallin, 1974; B. Gallin and R. S. Gallin, 1982a).

Thus, compared to the late 1960s, agriculture was mechanized rather than labor-intensive in the 1970s.

Although the conditions associated with the economic structure theoretically held across family type, family structure shaped the way the labor of working-age family members was deployed. In terms of labor migration, small families probably would have had fewer family members in the labor force residing in urban cities in 1979 than large families, especially joint families. Conjugal families, which, in general, consist of a couple and their unmarried child(ren), usually have two persons in the labor force. Although farming was not as labor intensive or necessary in 1979 as it was in the 1960s, villagers with land continued to devote some time to farming.⁶⁰ The increase in non-farm jobs combined with innovations in agricultural technology allowed villagers with land to take care of family land as well as to hold off-farm occupations in Hsin-Hsing Village and its surrounding area. This was especially true for those family members from conjugal families.

For example, in 1979, there were 29 non-migrant villagers in the labor force who worked for monetary income and held a secondary occupation as a self-employed farmer. Among these 29 villagers, 21 were men and eight were women living in 24 Hsin-Hsing families,

⁵⁹ Although rural industrial development generated only a portion of the occupational opportunities available for villagers in the late 1970s, it led to the creation of occupational opportunities in other sectors, such as the personal and service sectors.

⁶⁰ Gallin and Gallin (1982:218) point out four reasons. First, land was a source of family income. Second, family land was a source of food. Third, farming families had to grow rice to pay for land taxes. Four, additional taxes would be imposed if family land was not cultivated.

of which six families included labor migrants. These villagers were either self-employed entrepreneurs, or worked as off-farm workers or family workers as their primary occupations. Sixteen (55.2%) lived in conjugal families while seven (24.1%) and six (20.7%) were members of stem and joint families, respectively. The proportion accounted for by those family members in conjugal families was larger than that of the combination (44.8%) of those in stem and joint families. Therefore, it is clear that in the late 1970s, conjugal families were more likely than other types of families to increase their family incomes by participating in local off-farm labor markets and in devoting their spare time to taking care of family land than were other types of families. In contrast, complex families were more likely to include urban labor migrants than rural off-farm workers at this time.

In point of fact, the data show that labor migration was a preferred option for complex families, especially joint families. In 1979, the average family size for conjugal, stem, and joint families was 5.1, 7.3, and 14.3, respectively (see Table 4.1). Among joint families, 54.7 percent (58 out of 106) of family members in the labor force worked outside of the village, while the figures for conjugal and families were only 12.7 percent (14 out of 110) and 18.2 percent (16 out of 88), respectively. In short, complex families included more labor migrants than simple families.

Nevertheless, migrant families continued to farm. Because complex families, especially joint families, in general had more surplus labor than smaller families, when modern agricultural machines and chemical inputs reduced the need for a large agricultural labor

force, farming was left to older family members and to part-time workers, i.e., non-migrant family members who worked off-farm and took care of the family land. For example, within 13 joint families with labor migrants, 19 villagers participated in agricultural production. They included ten villagers (52.6%) who primarily worked as self-employed farmers and nine villagers (47.4%) who primarily worked as off-farm workers and tended the land as their secondary occupation (see Table 5.3). Among the ten villagers working as self-employed farmers, nine (90%) were age 50 and over. Among the nine villagers who worked as self-employed farmers as their secondary occupation, six (66.7%) were age 50 and above while only three (33.3%) were younger than 50 years old.

Table 5.3 Characteristics of Hsin-Hsing Villagers Working on Family Land within Conjugal, Stem, and Joint Families with Labor Migrants, 1979

	Conjugal		Stem		Joint		Total	
	M	F	M	F	M	F	M	F
Villagers working on family land as a primary occupation								
Under 50	1	2	0	3	0	1	1	6
Age 50 and over	4	3	3	0	7	2	14	5
Subtotal	5	5	3	3	7	3	15	11
Villagers working on family land as a secondary occupation								
Under 50	2	1	0	0	0	3	2	4
Age 50 and over	0	0	1	1	4	2	5	3
Subtotal	2	1	1	1	4	5	7	7

The same analysis is conducted for the eight stem families with labor migrants. Six members (75%) of these families primarily worked on family land, while two members

(25%) worked on family land as their secondary occupation (see Table 5.3). Among the six villagers working on family land as their primary occupation, three were men age 50 and over, and three were women under age 50. The two villagers working on family land as their secondary occupation, were both age 50 and over, and one was a man and the other was a woman.

In point of fact, within the 29 families (13 joint, 8 stem, and 8 conjugal) with family members in the urban labor force, 14 villagers, accounting for 35.0 percent of the 40 villagers working on family land, were primarily working off-farm and working on-farm as their secondary occupation (see Table 5.3). Twenty-seven villagers (67.5%) who participated in agriculture (as either a primary or secondary occupation) were age 50 and over. This reflects the fact that agriculture was geriatrified. If we take only the members of stem and joint families into account, 20 villagers participating in agricultural production were age 50 and over, and they accounted for 74.1 percent (20 out of 27) of the agricultural labor force of stem and joint families in the village. This proportion was much higher than that for conjugal families (53.8% or 7 out of 13). In contrast, 46.2 percent (6 out of 13) of the villagers farming family land in conjugal families with labor migrants were under age 50. Those who worked family land as their second occupation were all under age 50 (see Table 5.3). This finding reflects the fact that in complex families, farming was more likely to be left to older non-migrant villagers than it was in conjugal families. Younger villagers living in conjugal families were likely to work off-farm for wages as their primary occupation, and farm family land as their secondary occupation.

The division of labor by age was accompanied by some change in the division of labor by gender. There were slightly more male than female farmers who worked the land either as a primary or secondary occupation; 22 (55.0%) were men and 18 (45.0%) were women. Of these 18 women, eight were age 50 and over, and they accounted for 20.0 percent (8 out of 40) of the villagers participating in agricultural production. The remaining ten (25.0%) were under age 50. Of the 22 male farmers, 19 (47.5%) were age 50 and over. Only three male farmers (7.5%) were younger than age 50. This reflects the fact that agricultural production in the village in the late 1970s was primarily performed by older villagers. In addition, younger farmers were likely to be female. This reflects the fact that young resident women on occasion took over men's farming work, thereby releasing male villagers for off-farm employment.

The foregoing discussion shows that in the late 1970s, there was no significant difference in the number of family members in the urban labor force between stem and conjugal families. The association between family type and the number of family members in the labor force residing outside of the village was primarily related to the increase in the number of joint families between 1965 and 1979. The fact that joint families were more likely to adopt labor migration or to have family members in the labor force residing in urban cities than other types of families in 1979 is attributable to the structures of the local economy and families. First, complex families had more family members to deploy; and second, joint families had more surplus labor than smaller families. These two factors intersect with the other three factors related to the economic structure: (1) the importance

of agricultural production was replaced by off-farm economic activities; (2) more off-farm occupational opportunities for resident villagers existed in the late 1970s than the mid-1960s; and (3) the land consolidation program of the late 1960s, and the introduction of modern agricultural technology in the late 1970s, obviated the need for a large farm labor force. These five factors also explain why smaller families, especially conjugal families had fewer family members in the labor force residing outside of the village.

In sum, the first hypothesis (H1) is not supported by the 1965 data. The relationship between family type and labor migration in 1965 was not significant. As is evident in Table 5.1, the difference in family members resorting to labor migration between conjugal and stem/joint families was insignificant. In the early years the insignificant relationship between the number of family members in the labor force residing outside of the village and family type can be attributed to the fact that intensive human labor was necessary for farming land in Hsin-Hsing. Regardless of family type, most families could have only one or two labor migrants in the mid-1960s, and the labor force which remained behind had to apply itself to agricultural production.

The first hypothesis, however, is supported by the 1979 data. As shown in Table 5.2, joint families had significantly more labor migrants or family members in the labor force residing outside of the village than conjugal and stem families in 1979. The “modernization” of agriculture and the development of rural industry allowed non-migrants to maintain off-farm occupations as well as take care of family land. While the members of conjugal families were more likely to remain in Hsin-Hsing Village than

those who were members of larger families, joint families included more family members who held jobs or sought occupational opportunities in cities. Joint families used migration to solve the problems of surplus labor and insufficient agricultural production generated by family land.

5.2 Accessibility to Land and Migration

5.2.1 Theoretical Position and Hypothesis

In the absence of off-farm economic activities, land is the most valuable resource and means of production in rural areas. The amount of land a family has accessible influences not only job opportunities available for the unit's members, but also agricultural production for a family's consumption. Adequate land provides family members an outlet for their labor power and generates sufficient agricultural products to meet the consumption needs of a family. If family land does not generate adequate agricultural products for consumption, a family must have its family members sell their labor for wages, thereby providing money to purchase resources to satisfy this need. Labor migration is a strategy to solve both the problem of insufficient agricultural production and the problem of surplus family labor (Grigg, 1980; Guest, 1989; Wood, 1981).

Because agriculture was the base of the economy in Hsin-Hsing in 1965, accessibility to land was extremely important for the villagers. Theoretically, migration was one strategy to achieve a fit between their consumption needs and the labor power at their disposal (Boyd, 1989; Grigg, 1980; Guest, 1989; Wood, 1981). Once a family could not produce enough for consumption, the family was likely to resort to migration for some of its

members. Labor migration was also an option for families with insufficient land to absorb its labor. Therefore, the resulting research hypotheses are:

H2: *The smaller the landholding per family member in the labor force, the more labor migrants the family has.*

H3: *The smaller the landholding per family member, the more labor migrants the family has.*

5.2.2 Measurement

While the second hypothesis (H2) examines the relationship between landholding for labor input and labor migration, the third hypothesis (H3) examines the relationship between landholding for family consumption and labor migration. The overall family farming land is the sum of the size of self-cultivated land and that of rented-/borrowed-in land.

Landholding for labor input is operationalized as the amount of overall family land divided by the number of family members in the labor force. This measurement, named landholding per working family member, indicates the average size of farming land per family member in the labor force. The numerator for this measurement is the amount of land a family has accessible, while the denominator is the number of family members in the labor force, including both resident and non-resident villagers. This measurement does not indicate whether a family has adequate family land for each member to input his/her labor. It is assumed, however, that a family with a larger average size of land per family member in the labor force provides more occupational opportunities to its members than those with a smaller average size of land.

Landholding for family consumption is operationalized as the amount of overall family land divided by the total number of family members who are or are not in the labor force. Therefore, the numerator for this measurement is the amount of land a family has accessible, and the denominator is the family size, which counts both resident and non-resident villagers. This variable is called landholding per family member. Assuming family members have similar consumption needs, a larger family needs more farming land to generate agricultural products for consumption because such a unit has more family members to feed than a smaller one. Although this measurement does not indicate if the land available is sufficient, it assumes that a family with a greater amount of land per family member is more able to satisfy the unit's consumption needs than a family with smaller amount of land per family member.

In a broad sense, labor migration and the demand for land are inter-locked. On the one hand, a high demand for land would lead to a high possibility of labor migration if little land were available to accommodate a family's need for labor input or to produce food for its member's consumption. On the other hand, labor migration would be likely to relieve the pressure on land because labor migration reduces the number of people who need to input their labor and the amount of food needed to feed them. Because this research focuses on how family land accessibility influences labor migration, however, a family's land accessibility is treated as an independent variable. In contrast, labor migration is treated as an outcome of a family's land accessibility. "Family's land accessibility" is assumed to precede the occurrence of labor migration, and represents the

size of land available for family members in the labor force to input their labor. With little land available, families would have to have family members who are in the labor force seek job opportunities outside of the village to input their labor. “Family’s land accessibility” also represents the amount of agricultural products generated for consumption. With little land, families may have inadequate agricultural production to satisfy their members’ consumption needs. Some family members in the labor force, therefore, might have to seek occupational opportunities outside of the village to maintain and supplement the family economy, thereby providing funds to purchase the required food.

Family’s land accessibility is hypothesized to contribute to labor migration. “Family land accessibility” in this research is not designed to measure population pressure on the land, nor is it treated as an outcome of labor migration. Therefore, this research does not focus on or measure how labor migration relieves pressure on land. In other words, when the landholding for labor input and the landholding for family consumption are operationalized, family members in the labor force residing outside of the village are included in the denominators for measuring landholding per working family member and landholding per family member.

5.2.3 Analysis and Discussion

To examine the second and third hypotheses, the Pearson’s correlation coefficient is adopted, which is also called the standardized regression coefficient and indicates the direction and strength of the association between two variables (Agresti and Finlay, 1986; McTavish and Loether, 1988). The Pearson’s correlation coefficients displayed in Table

5.4 demonstrate that in 1965 labor migration was significantly associated with landholding per working family member, but not with landholding per family member. Statistically, one standard deviation increase in the landholding per working family member was associated with 0.22 standard deviation decrease in the number of labor migrants. One standard deviation increase in landholding per family member decreased 0.15 standard deviation in the number of family members in the labor force residing in urban cities. These negative figures suggest that the more land a family has accessible, the fewer family members in the labor force who reside outside of the village. A similar pattern is found in the 1979 data. A one standard deviation increase in landholding per working family member and in landholding per family member was associated with 0.19 and 0.13 standard deviation decreases in the number of labor migrants, respectively. Nevertheless, the associations are not statistically significant.

Table 5.4 Correlation between Accessibility to Land and Labor Migration in Hsin-Hsing: 1965 and 1979				
	1965		1979	
	<i>r</i>	N	<i>r</i>	N
Landholding per <u>working</u> family member	-.22**	81	-.19	72
Landholding per family member	-.15	81	-.13	72
*** significant at level of .01 ** significant at level of .05 * significant at level of .10				

Examining the second (H2) and third (H3) research hypotheses, there are almost no significant relationships between family landholding and labor migration in 1965. The only exception is the negative association found between landholding per working family member and number of labor migrants. The relationship was significant at $\alpha=0.05$. This

significantly negative correlation supports the second research hypothesis (H2) which is, “the smaller the landholding per family member in the labor force, the more labor migrants the family has.”

In 1965, the adoption of labor migration was significantly related to the amount of land available per family member in the labor force. Hsin-Hsing families with larger land parcels per working member had fewer labor migrants than those with smaller land parcels per working family member (see Table 5.4). This means that larger land parcels had a negative effect on migration to cities to seek work, while smaller land parcels per working family member had a positive effect on movement to cities to seek jobs.

Note, however, that all Pearson’s correlation coefficients were in the same direction and were similar in terms of strength; they range from $-.13$ to $-.22$. The differences among the four different Pearson’s correlation coefficients are slight. The significant association between landholding per working family member and the number of family labor migrants in 1965 could be a result of the combination of a slightly larger correlation coefficient and a larger sample size in that year than in 1979.⁶¹ Nevertheless, labor migration was weakly associated with landholding per working family member in 1965, although the relationship is statistically significant. When the Pearson correlation coefficient is -0.22 , the R-square is about 0.048 , which indicates that landholding per

⁶¹ For this analysis, “family” is the analytic unit. The data consist of 81 families in 1965 and 72 families in 1979.

working family member only explains 4.8 percent of the variation of labor migration in 1965.

In sum, the 1965 data demonstrate a significant association between landholding for labor input and labor migration, but with a very slight difference from the insignificant association between landholding per family member and labor migration. An increase in landholdings per working family member reduced the number of family members in the labor force residing outside of the village. Nevertheless, in terms of the strength of association, the significant Pearson correlation coefficient is not much different from the insignificant one in 1979. In addition, the proportion of the variance in the number of family members in the labor force residing outside of the village explained by landholding per working family member in 1965 was very small. Therefore, a family's accessibility to land seemed to have a weak relationship with the labor migration of Hsin-Hsing villagers in the 1960s.

The perspective viewing migration as a family sustenance strategy argues that migration acts as a mechanism to maintain the balance of adequate labor input opportunities and adequate production for family consumption (Grigg, 1980; Guest, 1989; Wood, 1981). Certainly this perspective strongly assumes that there is a negative relationship between family landholding and migration from rural areas. This pattern is not obvious in the 1979 data. There is no significant association between a family's accessibility to land and labor migration. The number of labor migrants a family had was not significantly associated with the land a family had available for either labor input or family

consumption. Therefore, the 1979 data do not support either the second or the third research hypotheses. This seems to suggest that, in 1979, family differences in numbers of family members in the labor force residing outside of the village were not necessarily related to differences in the amount of land accessible to domestic units.

The weak and/or insignificant associations between family's land accessibility and the number of family members in the labor force residing outside of the village, however, do not necessarily imply that a family's access to land had no influence on labor migration. Statistically, the Pearson's correlation coefficients show that the different numbers of family members in the urban labor force were not significantly associated with differences in land accessibility. In this research, family's land accessibility represents the differences in the amount of land available to individual families in Hsin-Hsing. It does not tell us whether a family had adequate or inadequate family land. The variation in family's land accessibility between families was very small. Therefore, the insignificant associations show only that differences in family land accessibility could not explain why Hsin-Hsing families had different numbers of labor migrants. Nevertheless, the occurrence of labor migration in the village still was related to "inadequate family land accessibility." In other words, families with less land available might not necessarily have had more family members in the urban labor force than those with more land available. Land in the village, however, was ubiquitously inadequate. The movement to cities of family members in the labor force was prevalent in 1965, regardless of the quantity of family land available as a comparison of Hsin-Hsing's holdings to that of Taiwan as a whole show. Nationally, each family had an average of 0.95 *chia* of cultivated land, while

Hsin-Hsing families had only 0.53 *chia* (see Section 4.4.1 on the agriculture sector in Chapter IV).

5.3 Local Labor Market Participation and Migration

5.3.1 Theoretical Position and Hypothesis

Structuralists argue that migration decisions are not made in a vacuum (Amin, 1974; Goldscheider, 1987; Massey, 1990a). Individual migration decisions are strongly influenced by factors in the larger environment. The previous section of this chapter merely discussed the relationship between migration and accessibility to land. Other structural factors influencing migration must also be examined. To solve the problems of a surplus labor force and inadequate agricultural production for agrarian families, the adoption of out-migration and a search for job opportunities in local labor markets are two additional strategies for most families. The opportunity to participate in the local wage labor market is one of the most important structural factors influencing migration decisions (Wood, 1981).

In rural areas, families with inadequate land for labor input or family consumption must sell their labor for wages to maintain the family's sustenance. The adoption of labor migration is not necessary until local employment opportunities are exhausted in the home area (Wood, 1981). This view would suggest that a negative relationship exists between finding employment in the local labor market and labor migration. Those who are unable to find work in the local labor market would be more likely to migrate than those who are able to find work in the local labor market. The research hypothesis is:

H4: *Families with lower participation rates in local labor markets are more likely to have family members migrating than are families with higher local labor market participation rates.*⁶²

5.3.2 Measurement

This hypothesis suggests a negative relationship between participation in local labor markets and the adoption of labor migration. Specifically, this hypothesis proposes that a family with a lower rate of its family members participating in local labor markets would have more family members out-migrating to seek job opportunities than would a family with a higher local labor market participation rate.

The local labor market participation rate is measured in two ways: a family's local labor-force participation rate and the proportion of family members working locally for pay (see Chapter III). A family's local labor-force participation rate is the number of family members in the labor force holding occupations in the Hsin-Hsing area divided by the total number of family members in the labor force multiplied by 100. The denominator includes family members in the labor force holding paid or unpaid jobs in the Hsin-Hsing area and migrant family members working elsewhere. The proportion of family members working locally for wages is the number of family members working locally for pay divided by the total number of family members multiplied by 100. The group of family members working locally for wages excludes self-employed farmers and housekeepers.

⁶² Theoretically, there is a mutual relationship between labor migration and local labor market participation. Labor migrants could send remittances home, thereby reducing the necessity for family members to seek paid jobs locally. However, this research primarily examines how local labor market participation influences labor migration. In other words, in this research, family members' participation in local labor markets is measured to study how families adopted migration as a strategy
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Measuring families' participation in local labor markets demonstrates the input of their labor power and the sale of their labor to generate monetary income for family consumption.

5.3.3 Analysis and Discussion

As shown in Table 5.5, labor migration was significantly and negatively associated with a family's local labor-force participation rate at $\alpha=0.01$. A one standard deviation increase in a family's local labor-force participation rate was associated with a 0.70 standard deviation decrease in number of family members in the labor force residing outside of the village in 1965. There was no significant relationship between the number of family members in the labor force residing outside of the Hsin-Hsing village and the proportion of family members working locally for paid wages in 1965. The Pearson's correlation coefficients shown in Table 5.5 also demonstrate the significant and negative association between labor migration and local labor market participation for 1979. In 1979, a one standard deviation increase in a family's local labor-force participation rate was associated with a 0.83 standard deviation decrease in the number of labor migrants. Further, a one standard deviation increase in the proportion of family members working locally for paid wages led to a 0.35 standard deviation decrease in the number of family members in the labor force residing outside of the village.

in response to the likelihood of family members participating in local wage labor markets, which is primarily determined by the local economic structure.

Table 5.5 Correlation between Local Wage Labor Markets and Labor Migration in Hsin-Hsing: 1965 and 1979

	1965		1979	
	r	N	r	N
Family's local labor-force participation rate	-.70 ***	82	-.83 ***	73
Proportion of family members working locally for paid wages	-.05	82	-.35 ***	73
*** significant at level of .01 ** significant at level of .05 * significant at level of .10				

The fourth research hypothesis is supported by the 1965 data when a family's participation in the local labor market is measured as a family's local labor-force participation rate. The 1965 data do not support the research hypothesis if a family's participation in the local labor market is measured as the proportion of family members working locally for wages. Nevertheless, regardless of how a family's participation in the local labor market is measured, the fourth research hypothesis -- families with lower participation in local labor markets are more likely to have family members migrating than are families with higher local labor market participation rates -- is supported by the 1979 data.

In general, labor migration was negatively associated with obtaining jobs locally. The higher a family's local labor-force participation rate, the fewer the number of family members in the labor force residing outside of the village. In 1979, the number of family members in the labor force residing in urban cities was also associated with the proportion of family members working locally for wages. The higher the proportion of family members working locally for pay, the fewer the number of people deployed as labor migrants.

Nevertheless, the data in Table 5.5 raise a question: Why was labor migration not associated with the proportion of family members working locally for wages in 1965? The answer to this question lays in the fact that during the 1960s, the primary economy in Hsin-Hsing Village was agriculture, and only a few non-agricultural jobs were available locally. Most villagers worked only on their family land. In Table 5.6, we see that of the 252 villagers in the labor force residing in Hsin-Hsing in 1965, 134 villagers, accounting for 53.2 percent of non-migrants in the labor force, were working as self-employed farmers. Seventy-three female villagers (50.0%) reported their primary occupation as housekeepers. Among this group of women, six reported working on-farm as their secondary occupation, while three reported working off-farm as their secondary occupation. Only 33 villagers (13.1%) were self-employed off-farm workers, workers in family enterprises, farm laborers, and off-farm workers laboring for income.⁶³ It appears that the opportunity to participate in the local labor market to generate a monetary income for family consumption was small in the 1960s. The few paid wage opportunities available led to the limited number of people earning a monetary income locally in 1965.

⁶³ Although family workers in 1965 rarely received wages for their labor, their families benefited economically from their labor input. In other words, family workers contributed to an increase in their family's monetary income through their unpaid labor. Thus, they are considered to bring monetary income to their families indirectly, and, accordingly, treated as paid workers.

Table 5.6 Labor Force and Local Labor Market Participation in Hsin-Hsing by Family Types: 1965 and 1979

	Male		Female		Total	
	N	%	N	%	N	%
1965						
Self-employed farmer	79	74.5	55	37.7	134	53.2
Housekeeper	0	0.0	73	50.0	73	29.0
Self-employed (off-farm worker)	7	6.6	1	0.7	8	3.2
Family worker	0	0.0	1	0.7	1	0.4
People working for wages*	9	8.5	15	10.3	24	9.5
Military	8	7.5	--	--	8	3.2
Unemployed	3	2.8	1	0.7	4	1.6
People in Labor Force	106	100.0	146	100.0	252	100.0
1979						
Self-employed farmer	35	32.1	25	22.9	60	27.5
Housekeeper	1	0.9	39	35.8	40	18.3
Self-employed (off-farm worker)	20	18.3	4	3.7	24	11.0
Family worker	1	0.9	6	5.5	7	3.2
People working for wages*	33	30.3	35	32.1	68	31.2
Military	17	15.6	--	--	17	7.8
Unemployed	2	1.8	0	0.0	2	0.9
People in Labor Force	109	100.0	109	100.0	218	100.0

* People working for wages include farm laborers and off-farm workers.

Theoretically, labor migration should be negatively associated with local work opportunities. The weak and insignificant association between labor migration and the proportion of family members working for wages evidenced in the 1965 data, however, should not be viewed as local employment having no bearing on a family's migration decision. The weak and insignificant association in the 1960s was due to the rural economic structure in which agriculture production occupied villagers' daily life and local off-farm wage occupations were not readily available. In the 1960s, most people in the labor force stayed in the village to farm their family land because farming demanded a great amount of human labor. Only 49 male and 16 female villagers from Hsin-Hsing, accounting for 20.5 percent of villagers in the labor force, worked in cities in response to

poor employment opportunities at home, and they tended to be oscillating migrants.⁶⁴

Most did not permanently settle in their destinations. Rather, they, especially men, moved back and forth between their destinations and Hsin-Hsing in accord with the exigencies of the agricultural cycle in the village.

Rural industrial development in the 1970s created more paid work for Hsin-Hsing villagers locally than had been available in 1965. In 1979, the number of villagers who resided in Hsin-Hsing and worked for monetary incomes increased from 32 (12.7%) in 1965 to 92 (45%). Of these 92 villagers, 24 (11.7%) were self-employed workers and 68 (33.3%) sold their labor for wages (see Table 5.6). Concurrently, agricultural production became less crucial as the source of family income than it had been in the 1960s.

Agricultural profits simply could not compare with the income that could be earned from off-farm employment (B. Gallin and R. S. Gallin, 1982a). Along with the change in the economic structure of the village, the number of villagers who reported themselves as self-employed farmers dramatically decreased from 134 (53.2%) in 1965 to 60 (27.5%) in 1979 (see Table 5.6).

By the late 1970s, improvements in agricultural technology made work off-farm possible for Hsin-Hsing villagers. Some farming work that had been dependent on human labor in the 1960s (e.g., preparing the land and transplanting seedlings) was done with modern agricultural machines in the late 1970s. Tube wells were dug in fields and diesel engines

⁶⁴ As B. Gallin and R. Gallin (1974: 344) point out, “men move initially without their wives or families and send part of their earnings back to their families in the village. At the outset, they return often to
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and electronic motors were used for irrigating fields. The widespread adoption of herbicides and pesticides reduced the need for human labor (B. Gallin and R. S. Gallin, 1982a).⁶⁵ But, as pointed out previously, totally abandoning the family farming land was still impractical. The creation of off-farm occupations in the late 1970s made it possible for villagers to earn an income by participating in the non-agricultural labor market in addition to caring for their family land.

But, in general, farming was left to older or retired family members, while the younger generation participated in local off-farm labor markets (R. S. Gallin, 1984). Therefore, the large number of villagers participating in labor markets in Hsin-Hsing and its surrounding area in 1979 not only reflects the high proportion of family members working locally, but also the high proportion of family members working locally to generate monetary income. The increase in local opportunities led to a significant and negative association between the number of family members in the labor force residing outside of the village and a family's local labor market participation in the late 1970s.

In summary, there were different associations between labor migration and the proportion of family members participating in local wage labor markets in 1965 and in 1979. While the association was insignificant in 1965, it was statistically significant at $\alpha=0.01$ in 1979. In contrast, data in both time periods reveal strong negative relationships between

the village, to plant and harvest crops or to observe festivals or rituals.”

⁶⁵ Meanwhile, the traditional system of exchange labor for harvesting was abandoned, and it was replaced by hiring groups of professional laborers to reap the crop.

migration and the proportion of family members in the labor force holding either paid or unpaid jobs in the local area. The opportunity to hold jobs in Hsin-Hsing by family members in the labor force reduced the number of family members moving to cities to seek wage-earning opportunities.

The industrial development surrounding the Hsin-Hsing area possibly changed the villagers' migration behaviors. During the 1960s, migration was adopted by those families which were able to or had to send family members to work in the cities. Rural industrialization created more wage employment opportunities in the local area for villagers by the 1970s. As mentioned previously, seeking employment opportunities locally or in cities was an option for villagers to cope with the problems of surplus labor and inadequate family production. The newly created waged job opportunities in the 1970s not only provided villagers more paid employment opportunities than were available in 1965, but also the opportunity to increase their family incomes. In 1979, the number of family members relying on labor migration was significantly and negatively associated with the proportion of family members in the labor force obtaining jobs in the Hsin-Hsing area as well as the proportion of family members obtaining paid jobs in local labor markets.

5.4 The Best Predictor of Labor Migration

Finally, multiple regression is applied to examine which factor(s) is/are the best predictor(s) of the number of family members in the labor force residing outside of the village. Statistically, multiple regression is appropriate under a situation where "there are usually several independent variables that have an effect on any dependent variable, and

those variables are usually correlated/inter-related among themselves” (Agresti and Finlay, 1986: 316). In this research, multiple regression is more appropriate than a bivariate analysis, such as Pearson’s correlation coefficient, to reveal which factor(s) is/are better predictor(s) for gauging the number of family members in the urban labor force. In addition, the multiple regression method allows the analysis of partial relationships between labor migration and one of the influential factors, controlling for other influential factors. Further, the standardized partial regression slopes provide a means of comparing the effect of independent variables (McClendon, 1994).

Table 5.7 shows that, in both time periods, a family’s local labor-force participation rate was a strong predictor of the number of family members in the labor force residing outside of the village, especially in 1965. The standardized regression coefficient (or standardized partial regression slope) indicates that in 1965 one standard deviation increase in “family’s local labor-force participation rate” led to a decrease of 0.79 standard deviation in the number of family members in the labor force residing outside of the village, controlling for other factors such as family type, proportion of family members working locally for wages, landholding per working family member, and landholding per family member. In other words, controlling for other factors, there is a negative association between “family’s local labor-force participation rate” and labor migration; the increase in “family’s local labor-force participation rate” caused the decrease in the number of family members in the labor force residing outside of the village. In 1979, the influence of a family’s local labor-force participation rate on labor migration was weaker than it was in 1965. Nevertheless, it remained strong. Controlling

for other factors, one standard deviation increase in “family’s local labor-force participation rate” in 1979 caused a decrease of 0.57 standard deviation in the number of family members in the labor force residing in urban cities.

Table 5.7 Multiple Regression for Labor Migration, Family Type, Family’s Local Labor Force Participation Rate, Proportion of Family Members Working Locally for Paid Wages, Landholding Per Working Family Member, and Landholding Per Family Member for Hsin-Hsing Village: 1965 and 1979

	1965		1979	
	B	Beta	B	Beta
Family type				
Joint (reference)*				
Stem (reference)+			-2.17	-.54 ***
Conjugal	-.33	-.16 **	-2.23	-.60 ***
Family's local labor-force participation rate	-.04	-.79 ***	-.04	-.57 ***
Proportion of family members working locally for paid wages	.00	.02	-.00	-.02
Landholding per <u>working</u> family member	-.73	-.09	-.55	-.05
Landholding per family member	.50	.04	1.01	.05
Constant	3.88		6.19	
R-square	.66		.81	
N=	79		72	

* For the analysis of the 1979 data, joint families are used as the reference group.
+ For the analysis of the 1965 data, stem families are used as the reference group. In the analysis of the 1965 data, two joint families are excluded due to a small number of cases. However, these two joint families are not combined with 36 stem families. The analysis with the combination of stem and joint families produces a very different result from the one shown in this table. Stem and joint families in the 1965 data seemed to have different characteristics. It would be inappropriate to combine them as a category for the multiple regression analysis.

Additionally, the results of the multiple regression show that family type was also a significant predictor of labor migration, especially in 1979. The multiple regression model for 1965 includes 79 conjugal and stem families while that for 1979 consists of 72 families. Compared to stem families, in 1965, conjugal families had fewer family members in the labor force residing outside of the village. Controlling for other factors, in

1965, conjugal families had 0.33 family labor migrants fewer than stem families. The influence of family type on the number of family members in the labor force residing in urban cities increased in 1979. In 1979, conjugal and stem families had significantly fewer numbers of family members who were in the labor force and residing outside of the village than did joint families.

The multiple coefficient of determination (R-square) for the 1965 data is 0.66, which means that 66 percent of the total variation in “the number of family members in the labor force residing outside of the village” is explained by the simultaneous predictive power of all independent variables, including family type, family land accessibility, and participation in the local labor market. In 1979, the proportion of the total variance in the number of family members in the urban labor force accounted for by the combination of independent variables increased to 81 percent.

Interestingly, the multiple regression analysis demonstrates results different from those of the bivariate analysis, especially the association between family type and the number of family members in the labor force residing outside of the village. The multiple regression analysis examines the relationships between labor migration and one of the influential factors, controlling for other independent variables. Family type is significantly associated with labor migration when other influential factors are held constant. In this case, among families with the same access to land and local labor participation rates, larger families had more family members in the labor force residing outside of the village than did smaller families.

In sum, the results of the multiple regression analysis reveal high multiple coefficients of determination which demonstrate that the variations in the number of family members in the urban labor force were accounted for by the combination of the following independent variables: family type, family land accessibility, and family's participation rate in the local labor market. Further, family type and local labor market participation rate were more significantly associated with the number of family members in the labor force residing outside of the Hsin-Hsing area than was family's land accessibility regardless of its measurement. In other words, in both time periods, while family type and family's participation rate in the local labor market were significant associated with labor migration, there was no significant association between family's land accessibility and labor migration, even when other independent variables were held constant. In addition, family type was not simply associated with the number of family members in the urban labor force, because of its family size or structure. Larger families did not necessarily have more labor migrants than smaller families. The association between family type and labor migration was also influenced by factors related to the local economic structure, such as the availability of paid work in the local labor market.

5.5 Summary

This chapter demonstrated how family type, family access to land, and participation in the local labor market were associated with the labor migration of Hsin-Hsing villagers in 1965 and 1979. The associations between labor migration and the factors affecting it changed over time according to Hsin-Hsing's economic structure.

In both 1965 and 1979, the associations between labor migration and the villagers' local labor market participation were determined by the local economic structure. In the 1960s, agriculture was the primary means of production in the Hsin-Hsing area. The amount of farm land available to input labor was responsible for the villagers' local labor market participation. By the end of the 1970s, a rural industrial zone established near the village as well as local industrial development, influenced the work patterns of Hsin-Hsing villagers. More non-agricultural job opportunities became available to the villagers and, in 1979, villagers participating in local non-farm wage labor markets accounted for a great proportion (45.4% or 99 out of 218) of the labor force working locally. More villagers worked locally for monetary income in 1979 (45.4%) than in 1965 (5.2%).

The land consolidation program of the late 1960s and development of new agricultural technologies increased the likelihood that villagers were both self-employed farmers and paid off-farm workers by the late 1970s. In the 1960s, farming was labor-intensive, and there were few off-farm employment occupations available in the Hsin-Hsing area via which to diversify family income sources or to supplement the family economy. Villagers had to go out of the local area to seek jobs. When more off-farm jobs became available in the late 1970s, villagers were able to diversify family income sources and increase the unit's income by taking waged jobs locally. They could simultaneously work on their family land because innovations in agricultural production reduced the need for intensive human labor.

In sum, the analyses in this chapter show that family's local labor-force participation rate, which is measured as the number of family members in the labor force holding occupations in the Hsin-Hsing area divided by the total number of family members in the labor force multiplied by 100, was more influential in labor migration than other factors. The results of the multiple regression analysis show that when other factors are controlled, a family's local labor-force participation rate had the most influence on labor migration in 1965. It was also very influential in 1979.

In 1965, the bivariate analysis shows that family type and the number of family members in the labor force residing in urban cities were not significantly associated with each other. The results of the multiple regression, however, show that in both research periods, family type had significant associations with a family's labor migration when other factors are controlled. The results demonstrate that the simple type of families had fewer family members who were labor migrants than families of the complex type, controlling for other independent factors. In addition, the influence of family type on the number of family members in the labor force residing outside of the village increased over time.

With the exception of the relationship between family land accessibility and labor migration, the results basically support the theoretical framework. In addition, the results demonstrate that migration is a complex process. Explanations based solely on the bivariate relationship analyses are too simple and incomplete to reveal how and why migration is used to improve a family's economy. In Chapter III, I discussed how migration is theoretically related to each of the individual factors considered in this

chapter. Their relationships are conditional, however. For example, migration theoretically should be positively related to family type. Nevertheless, labor migration is not necessary or possible, when few family members are in the labor force. In an agrarian society, farming is the primary source of family income. A large number of family members in the labor force leads to a high demand for land to input labor and to produce resources for family consumption.

In addition to the structure of families, the adoption of migration is strongly influenced by the local economic structure within which villagers are embedded. When a local economic structure is able to provide local people the job opportunities they desire, out-migration will decline. In sum, the influencing factors of rural-to-urban migration are inter-locked. Research frameworks should not be based on the bivariate relationships, but rather need to be multi-variate.

This chapter has primarily examined the Hsin-Hsing data at the family level. That is, the “family” in this chapter is mainly characterized in terms of its type, land accessibility, and participation in local labor markets. The “family,” however, can also be characterized in terms of other characteristics, such as family members’ genders and ages. In the next chapter, this dissertation will move forward to discuss migration at the individual level. The data analyses and interpretations of labor migration will incorporate villagers’ genders, ages, and education levels to discuss how family power dynamics are implicated in the process of migration.

CHAPTER VI

MIGRATION AND FAMILY POWER DYNAMICS IN HSIN-HSING VILLAGE

Chapter V examined the associations between labor migration and influential factors such as family type, family landholdings, and local labor market participation. The analyses were at the family level. This chapter will focus on the individual level, examining the associations between migration and family power dynamics in Hsin-Hsing Village. I begin with a brief review of the individual perspective of migration theory, arguing that migration decisions are affected by the characteristics of potential migrants -- characteristics that are implicated in power dynamics within the family. I then summarize the different characteristics of Hsin-Hsing people residing in urban cities and living in the village. In the sections that follow, I provide a discussion of family power dynamics during the process of migration by examining who migrated and who did not, and exploring the association between employment status and migration. Family power dynamics are analyzed (1) in terms of relations among women and (2) in terms of male-female relations.

6.1 Overview of the Individual Perspective of Migration Theory

The individual perspective within migration theory, especially the individual cost-benefit model, suggests that migration is the outcome of a rational evaluation of the costs and benefits of movement (see Massey, 1990; Sjaastad, 1962; Todaro, 1976, 1980). The expected net return of migration has been used methodologically as an indicator to predict if a potential migrant will choose to move or to stay. Potential migrants will choose to

move if the expected net return of migration is positive; if it is negative, potential migrants will choose to stay (Bowles, 1970; DaVanzo, 1981; Guest, 1989; Harris and Todaro, 1970; Sjaastad, 1962; Todaro, 1969, 1976, 1980; Wood, 1981). If the expected net return of migration is zero, potential migrants are indifferent about either migrating or staying.

Todaro (1969, 1976) proposes that the expected net return is a function of expectations about urban-rural income differences and the likelihood of obtaining an urban job. The possibility of potential movers obtaining jobs in modern urban sectors is a crucial element in the decision-making process to migrate. Because of the importance of obtaining an urban job in the decision-making process, the individual perspective emphasizes the different characteristics (e.g., age and gender) and human capital (e.g., education) of migrants, in accord with the neoclassical microeconomic theory linking migrants' characteristics with the probability of obtaining a job.

The individual perspective of migration theory has been applied prevalently in empirically tests (see Browning, 1969; Chang, 1979; Chiang, 1978; Ladinsky, 1967; Li, 1974; Liao, 1977; Liu, 1993; Long, 1973, 1992; Speare, 1974; Tsai, 1978; Yin, 1978; Zachariah, 1966). Results suggest that personal characteristics determine the decision of migration. However, the empirical research on migration in Taiwan usually draws different conclusions. As shown in Chapter III, researchers (e.g., Chang, 1979; Chiang, 1978; Li, 1974; Liao, 1977; Liu, 1993; Speare, 1974; Tsai, 1978; Yin, 1978) identify different personal characteristics of movers involved in the migration process on Taiwan.

These different conclusions suggest that while the migration decision may be an outcome of a rational evaluation of the “expected returns” of movement, this emphasis is insufficient to fully explain the migration decision-making process. Migration may also be a consequence of the dynamics inherent in a family power hierarchy, which is shaped by the interaction of age and gender. While personal characteristics determine the likelihood of migration, the fact is that migration reflects a family power hierarchy, which is based on personal characteristics such as age and gender. As Wolf (1991) argues, “household[/family] strategies necessarily embody relationships of power, domination, and subordination if a strategy is formulated by the decision maker(s) and successfully executed by those for whom decisions are made” (p. 32). In this research, the individual perspective of migration provides a means to inspect migration and to identify characteristics of migrants and non-migrants in Hsin-Hsing Village in the mid-1960s and the late 1970s. I move beyond this focus, however, by emphasizing the intersection of age and gender, and exploring how family power dynamics are implicated in the decision-making process of migration and the employment status of migrants and non-migrants.

6.1.1 Characteristics of Villagers in Urban Cities

As reported in Chapter IV, the number of Hsin-Hsing villagers residing in urban cities increased from 79 in 1965 to 157 in 1979. During this same time period, among villagers residing outside of Hsin-Hsing Village, the proportion accounted for by women rose from 29.1 percent (23 out of 79) to 45.5 percent (71 out of 157). In both research periods, there were more men than women residing outside of Hsin-Hsing Village. Additionally, the

proportion of villagers in urban cities accounted for by those in the labor force⁶⁶ declined from 82.3 percent (65 out of 79) in 1965 to 56.5 percent (87 out of 154) in 1979 (see Table 4.8).⁶⁷

The migrant and non-migrant populations had different age structures. In 1965, the mean age of migrants was 26.3 years while that of non-migrants was 25.1 years. In 1979, due to the addition of a young generation to the group of villagers residing in urban cities, the mean age of migrants decreased to 20.5 years. In contrast, the mean age of rural villagers increased to 29.9 years. This increase reflected the geriatrification of the rural labor force. As the 1979 data showed in Chapter IV, the mean age of villagers in the rural labor force was 40.8 years, while that of their counterparts in the urban labor force was only 30.0 years.

Further, as the data in Table 6.1 reveal, in the mid-1960s, Hsin-Hsing's migrants were more likely to be in the urban labor force than were those in the late 1970s. The 1965 data reveal that 79 villagers resided outside of the village, and that most of these migrants (78.5% or 62 out of 79) were of working age (i.e., 15-64 years). Male villagers accounted for more than 70 percent (46 out of 62) of villagers in the urban labor force. By contrast,

⁶⁶ Theoretically, everyone over a certain age is capable of getting a job. In this research, people in the labor force include those who are capable of participating in the *wage* labor market. This group of people are usually ages 15-64. However, as members of the labor force, they can be paid or un-paid workers or unemployed. In this research, people in the *wage* or *paid* labor force are those who participate in the labor market for income. Therefore, people in the labor force are not necessarily in the *wage* or *paid* labor force. For example, women who report themselves as housekeepers are in the labor force, but they are not in the labor force for *income*. The reason I make this distinction is to acknowledge that women's domestic work, though unpaid, is labor.

women migrants accounted for less than 30 percent (16 out of 62) of the total. On average, women migrants were younger (22.3 years) than were their male counterparts (26.1 years) (see Table 6.2). While in 1979 more than 40 percent (19 out of 46) of male migrants were married, only about 30 percent (5 out of 16) of their female counterparts were married.

⁶⁷ Because of missing data, the number of Hsin-Hsing villagers residing in urban cities is sometimes reported as 157 and sometimes reported as 154.

Table 6.1 Villagers' Migration Status by Gender, Marital Status, Hsin-Hsing Village: 1965 and 1979

Migration Status	Male			Female			Total
	Married	Un-married [†]	Sub-total	Married	Un-married [†]	Sub-total	
1965							
Non-migrant not in labor force	7 (3.6%)	88 (45.6%)	95 (49.2%)	3 (1.6%)	95 (49.2%)	98 (50.8%)	193 (100.0%)
Non-migrant in labor force	72 (28.6%)	34 (13.5%)	106 (42.1%)	89 (35.3%)	57 (22.6%)	146 (57.9%)	252 (100.0%)
Non-labor migrant (no occupation) ⁺	0	10 (58.8%)	10 (58.8%)	0	7 (41.2%)*	7 (41.2%)	17 (100.0%)
Labor migrant	19 (30.6%)	27 (43.5%)	46 (74.2%)	5 (8.1%)	11 (17.7%)	16 (25.8%)	62 (100.0%)
Total	98 (18.7%)	159 (30.3%)	257 (49.0%)	97 (18.5%)	170 (32.4%)	267 (51.0%)	524 (100.0%)
1979							
Non-migrant not in labor force	7 (4.2%)	88 (52.4%)	95 (56.5%)	3 (1.8%)	70 (41.7%)	73 (43.5%)	168 (100.0%)
Non-migrant in labor force	71 (32.6%)	38 (17.4%)	109 (50.0%)	79 (36.2%)	30 (13.8%)	109 (50.0%)	218 (100.0%)
Non-labor migrant (no occupation) ⁺	0	38 (56.7%)	38 (56.7%)	0	29 (43.3%)	29 (43.3%)	67 (100.0%)
Labor migrant	28 (32.2%)	18 (20.7%)	46 (52.9%)	26 (29.9%)	15 (17.2%)	41 (47.1%)	87 (100.0%)
Total	106 (19.6%)	182 (33.7%)	288 (53.3%)	108 (20.0%)	144 (26.7%)	252 (46.7%)	540 (100.0%)

[†] The category of "unmarried" includes those who were single, divorced, separated, and widowed.
^{*} These seven women include three retired women at their 60s and 70s, one student in her 20s, and three preschoolers.

⁺ Migrants who did not have a job could be retired, students, or too young to be in the labor force.

Table 6.2 Mean Ages of Villagers by Gender, Marital and Migration Status, Hsin-Hsing Village: 1965 and 1979

Migration Status	Male			Female			Total
	Married	Un-married [†]	Sub-total	Married	Un-married [†]	Sub-total	
1965							
Non-migrant not in labor force	72.4	9.0	13.7	67.0	11.4	13.1	13.4
Non-migrant in labor force	41.8	24.3	36.2	39.9	22.1	33.0	34.3
Non-labor migrant (no occupation) ⁺	--	12.8	12.8	--	35.4 [*]	35.4	21.6
Labor migrant	35.1	19.5	26.1	40.4	18.2	22.3	25.1
Total	42.7	14.3	25.1	40.3	16.4	25.1	25.1
1979							
Non-migrant not in labor force	69.4	9.8	14.2	73.3	15.8	18.2	15.9
Non-migrant in labor force	47.2	27.4	40.3	45.3	31.0	41.4	40.8
Non-labor migrant (no occupation) ⁺	--	7.6	7.6	--	7.9	7.9	7.8
Labor migrant	34.4	25.5	30.9	31.0	23.1	28.1	29.6
Total	45.3	14.6	25.9	42.8	18.2	28.6	27.2

[†] The category of "unmarried" includes those who were single, divorced, separated, and widowed.
^{*} These seven women include three retired women at their 60s and 70s, one student in her 20s, and three preschoolers.
⁺ Migrants who did not have a job could be retired, students, or too young to be in the labor force.

In the late 1970s, villagers who were too young (i.e., under the age of 15 years old) to be in the labor force or who were students accounted for a large proportion of Hsin-Hsing people residing in urban cities, making up 43.5 percent (67 out of 154) of migrant villagers (see Table 6.1). Those who resided in cities in 1979, but were not in the labor force, were primarily youngsters, as their mean age (7.8 years) reveals (see Table 6.2). Those who were in the urban labor force made up 56.5 percent (87 out of 154) of villagers residing outside of the village. At the same time, the gender difference among villagers in the urban labor force was slight. While there were 46 men in the urban labor force (52.9% or 46 out of 87), 41 women accounted for 47.1 percent (41 out of 87) of

urban villagers who were of working age. In addition, most villagers in the urban labor force were married. Twenty-eight men (60.9% or 28 out of 46) and 26 women (63.4% or 26 out of 41) were married.

As mentioned in Chapter IV, migrants, in general, had more education than non-migrant villagers. A comparison of the average years of educational attainment of villagers in the labor force shows that, in 1965, villagers in the *urban* labor force had an average of 5.38 years of education while villagers in the *rural* labor force had an average of 2.56 years of schooling. The implementation of a new government educational policy in 1968, however, narrowed the gap between migrants and non-migrants. In 1979, while villagers in the urban labor force had an average of 5.41 years of education, their rural counterparts had an average of 4.00 years, increasing from 2.56 years in 1965 (see Section 4.61).

These statistics reveal that Hsin-Hsing villagers residing in urban cities had different characteristics in the mid-1960s and the late 1970s. These different characteristics reflect their position in the labor force, educational attainment, and gender and marital status. Villagers in the labor force accounted for a larger proportion of migrants in urban cities in the mid-1960s than in the late 1970s (82.3% vs. 56.5%). Among female villagers in cities, the proportion accounted for by single women decreased from 68.8 percent (11 out of 16) to 36.6 percent (15 out of 41) between 1965 and 1979. Married women and youngsters increased dramatically among Hsin-Hsing villagers residing in urban cities in the late 1970s.

Associated with the increase in married women and youngsters, the family structures of people residing in urban cities changed as well. In the mid-1960s, solo migration was prevalent. Villagers usually lived alone at destination.⁶⁸ The total number of migrant conjugal units was only 11. In 1979, there were 27 migrant conjugal units living outside of Hsin-Hsing Village, in which 114 villagers clustered. The increase in the number of migrant conjugal units reflected the settlement of early migrants, which led to family growth/maturation in cities.

These findings on migrants' characteristics are not exactly the same as the findings of past research on Taiwan (see Chang, 1979; Chiang, 1978; Li, 1974; Liao, 1977; Liu, 1993; Speare, 1974; Tsai, 1978; Yin, 1978). The different conclusions might reflect the dissimilar labor needs of different economic structures in the 1960s and 1970s, and the unlike structures of families, which determine how many family members and who among them migrates. In Chapter V, I discussed the associations between family structure, local and national economic structures, and migration. In this chapter, I move beyond the traditional "cost-benefit" argument and consider the role of power dynamics in the migration process. To this end, I examine the association between migration and family power dynamics. Specifically, this chapter will provide a discussion of family power dynamics during the process of migration, by examining (1) who migrated and who did not, and (2) the association between employment status and migration. This discussion will focus on male-female power relations and on power relations among

⁶⁸ Some men lived with co-villagers or kin (Gallin and Gallin 1974).

women. The purpose of this discussion is to encourage an expansion of the individual perspective of migration by considering why personal characteristics are implicated in the decision-making process of migration.

6.2 Theoretical Position and Hypotheses

The individual perspective of migration theory suggests that personal characteristics determine decision-making about moving. Within the Taiwanese family framework, however, migration can be viewed not only as an outcome of personal characteristics, but also as a product of family power dynamics. Traditionally, age and gender shaped the authoritarian hierarchy, which guided inter-relationships among family members and the behavior of individuals in Taiwan. These power dynamics reflected Taiwan's patrilineal kinship structure (R. S. Gallin, 1985).

While migration is a rational reaction to the outcome of a "cost-benefit" analysis of movement, I argue that migration is also a consequence of the dynamics inherent in a family power hierarchy, which is shaped by the interaction of age and gender. Different migration behaviors thus are related to the way the intersection of age and gender position people within this hierarchy. Research has showed the association of migration with gender and age, respectively. Roos (1983) argues that gender differences between men and women lead to different possibilities of participating in labor markets. Other researchers (see Chang, 1979; Chiang, 1978; Li, 1974; Liao, 1977; Liu, 1993; Speare, 1974; Tsai, 1978; Yin, 1978) suggest that age determines the likelihood of migration to seek waged job opportunities. However, it is the intersection of gender and age that influences the decision to migrate as well as the employment status of a migrant at

destination. An individual's gender as well as his/her age determines whether or not a villager migrates and what he/she does at destination. In other words, his/her gender and age simultaneously determine whether a migrant villager participates in the urban wage labor market.

Men and women in rural Taiwanese families usually were, and continue to be, treated differently. Women generally had a lower status than men did. Women's low family status was traditionally reinforced by patrilocal rules of residence. As R. S. Gallin (1984:385) explains, traditionally,

when a woman married, she left her natal home to live as a member of her husband's family.... [Therefore,] parents considered daughters a liability, household members who drained family resources as children and who withdrew their assets (domestic labor and earning power) when they married. Sons, in contrast, contributed steadily to the family's economic security during its growth and expansion and provided a source of support for their parents in old age.

As a consequence, "parents strongly preferred male children" (R. S. Gallin, 1984: 385). Taiwanese parents usually transferred all the family estate to their sons and, directly and indirectly, persuaded their daughters to give up their inheritance in favor of their brothers (Tang 1985).

Due to their inferior status in the family, women, especially daughters who were seen as victims of the patriarchal kinship system by feminist researchers (R. S. Gallin, 1985; Gates, 1987; Greenhalgh, 1985, Wold, 1972), usually did not participate in migration

decisions or initiate the decision to migrate.⁶⁹ Female migration to cities usually was not based on choice but rather on the will of other family members, particularly fathers. On the one hand, because parents were protecting their daughters' presumed innocence, young women were not allowed to migrate without parental permission (Huang 1984). On the other hand, because Taiwanese parents traditionally thought daughters drained family resources and withdrew their labor power from their families when they married, they felt that they were not able to pay back the money the older generation invested in them before they married out (Greenhalgh, 1985). As a consequence, Taiwanese parents deployed their daughters into the labor market as early as possible, thereby enabling them to begin repaying their debt by improving and/or maintaining the family economy. In contrast, they kept their son(s) in school to increase their earning ability, thereby investing in the parents' future, i.e., their life in old age.

In addition to gender, the different status of members within a family was determined by age. Traditionally, the eldest man in the family had the highest status in Hsin-Hsing Village as well as in Taiwan as a whole. Moreover, older family members usually had a higher status than younger members in their families. Although the relationships among female members were very dynamic and complicated (see R. S. Gallin 1986), in general, mothers and mothers-in-law traditionally had a higher status than their daughters and daughters-in-law. Before their marriage, women were subordinated by their parents,

⁶⁹ Although this research emphasizes the inferior status of unmarried daughters in the mid-1960s and the late 1970s, later research shows that they, as well as married women, may benefit from participating in wage labor markets (see R. S. Gallin, 2001). Being an income earner can change a woman's position in the family power hierarchy.

especially fathers. Once she married a woman was subordinated by her parents-in-law, especially her mother-in-law; "a women came to her husband's home as a submissive, exploitable bride" (R. S. Gallin, 1986:38). A daughter-in-law traditionally was expected to assume the responsibilities of her mother-in-law, taking care of the house and its members. Mothers-in-law were allowed to enjoy the leisure time provided by this division of labor. When agriculture was the primary source of the family economy, as it was in Hsin-Hsing in the mid-1960s, a daughter-in-law was also expected to participate in agricultural production. When, in 1965, men had to seek wage employment opportunities in urban cities to improve and/or to maintain the family economy, daughters-in-law had to stay in the village, participating in agricultural production and taking care of their mothers-in-law and the domestic unit.⁷⁰ Therefore, due to their subordinate status in relation to their mothers-in-law, daughters-in-law were less likely to be migrants than other family members.

If married couples resided together in urban cities, the men usually participated in the waged labor market. In contrast, the women tended to work without pay at jobs such as housekeepers or unpaid family workers. Both men and women had internalized the belief that "domestic work was women's work" (R. S. Gallin, 1995:125) and that it was "natural for a man to earn money" (R. S. Gallin, 1995:125). As a consequence, while married migrant men worked outside to improve and/or to maintain their family

⁷⁰ Men traditionally held major responsibility for the land. When they migrated to cities to seek waged job opportunities, married women assumed major responsibility for this work in the absence of their husbands (R. S. Gallin, 1984).

economy, married migrant women were likely to stay at home to manage their homes and to take care of family members.

In sum, while parents, especially fathers, sent their unmarried daughters to cities to seek waged employment to increase the family income, they kept their sons in school, thereby investing in their sons' earning ability and thus the older generation's security in old age. Unmarried women were theoretically a component of a family's sustenance or mobility strategies but their input into these efforts was temporary. Married women also were a part of these strategies; because they were expected to assume the domestic responsibilities of their mothers-in-law, however, they were unlikely to participate in the urban wage labor force. When opportunities for waged jobs in the rural labor market were insufficient, family members in the labor force had to seek job opportunities outside of the rural area. Because men were socialized to earn money to support and/or maintain their families, they were likely to participate in the waged labor market. Therefore, unmarried women and married men were more likely to participate in the waged urban labor force than unmarried men and married women. Assuming married people are older than the unmarried, I hypothesize that:

H5: *Younger women are more likely to migrate to cities and to work for pay than are older women.*

H6: *Among those who participate in urban wage labor markets, male migrants are older than female migrants.*

In general, these research hypotheses focus on how age and gender are related to migration and to occupation at destination. Research hypothesis five (H5) examines the relationship between age and migration and employment status among female villagers. In other words, this research hypothesis examines if younger or older women are more likely (1) to move to urban cities and (2) to take employment for wages at destination.⁷¹ Because the hypothesis deals with two different phenomena -- i.e., (1) migration to cities, and (2) occupation at destination, I examine this research hypothesis in two stages. First, I explore if an increase in age reduces the likelihood of a woman being a migrant in urban cities among women of working age.⁷² Second, I explore (1) who is more likely to work for pay among female migrants of working age, and (2) whether female migrants ages 15-64 are more likely to work for pay than are their non-migrant counterparts. Research hypothesis six (H6) emphasizes the age differentials between male and female villager migrants participating in the urban *wage* labor market. Examining and discussing these research hypotheses will throw light on how power dynamics within families influenced migration and the employment patterns of rural migrants in Taiwan. In the absence of quantified data on the operation of power in the family, measures such as those used will allow inferences to be made about the exercise of power within the family, particularly given the theoretical discussion above.

⁷¹ Not every woman of working age is necessarily in the labor force. For example, a female high school student is working age, but in this research she is not considered to be in the labor force.

⁷² Students are excluded.

6.3 Measurement

To examine research hypothesis five (H5), the first stage is to apply logistic regression to explore the likelihood of being a migrant among female villagers ages 15-64, who are in the labor force. A logistic regression model provides a good way to examine how various factors influence a binary outcome. Moreover, as an inferential statistical tool, logistic regression analysis can also be adopted as a tool to illustrate changes in the likelihood of migration along with increases in age.

In the analysis, the independent variable is a villager's age, which is measured as the difference between a person's year of birth and the research year. Thus, for example, a woman born in 1925 will be 40 years old in 1965 and 54 years old in 1979. The dependent variable is the occurrence of migration, which is dichotomous. Please note that this analysis does not include students. Among the group of villagers included in the logistic regression analysis, those who resided in urban cities are coded "1," and those who resided in Hsin-Hsing are coded "0" for the dependent variable.⁷³

To examine whether age influenced the probability of female villagers being migrants, this analysis includes *migrant* and *non-migrant* women in the labor force.⁷⁴ As the hypothesis proposes, younger women are more likely to migrate and to work for wages at destination than are older women. In the first stage of the analysis, I expect to see that, with an increase in women's age, the likelihood of residing outside of the village

⁷³ Female students are not coded "1," because they are not in the labor force.

⁷⁴ All women in the labor force are included for the purpose of comparison.

becomes smaller. In other words, the proposed association between the likelihood of migration and age among female villagers is negative.

In the second stage of the analysis of research hypothesis five (H5), contingency tables classify female villagers of working age by three characteristics: migration status, occupation, and living arrangement. Migration status includes two categories: migrants and non-migrants. Occupation includes five categories: housekeeper, unpaid family worker, self-employed farmer, off-farm worker, and self-employed business owner. "Living arrangement" is categorized in two ways: living with a mother-in-law and living with preschooler(s). Each of these two categories is coded either "yes" or "no." Contingency tables are created to examine women's characteristics in terms of their occupation and living arrangement by their migration status.

Analysis of variance (ANOVA) is used to examine research hypothesis six (H6). In the examination of H6, ANOVA is applied to detect if there is a significant difference in terms of age between men and women migrants participating in *wage* labor markets. As mentioned above, "age" is measured as the difference between the research year and the birth year. The analysis for this hypothesis includes male and female migrants working for pay in cities. Since the hypothesis proposes that male villagers in the urban wage labor force are older than are their female counterparts, I expect to find the mean ages of male villagers in the urban wage labor market to be higher than are those of their female counterparts.

6.4 Analysis and Discussion

6.4.1 Age and Migration among Female Villagers

The fifth research hypothesis (H5) proposes that younger female villagers are more likely to move to urban cities and to work for pay than are older women. The intentions behind this research hypothesis include examining how age influences women's migration and employment status, and demonstrating how age is related to family dynamics among women during the process of migration. Because the hypothesis deals with two different phenomena: migration to cities, and occupation at destination, in the analysis and discussion of this research hypothesis, I take a two-stage analysis. First, I examine if age is related to the likelihood of women of working age being migrants. If it is, the question becomes: How is female migration related to power dynamics among women and other family members in the domestic unit? To answer this question, I discuss how migration is related to the employment status of women in the labor force. In other words, I examine whether or not women residing in urban cities were more likely to participate in the *wage* labor market than were women who lived in Hsin-Hsing Village.

Furthermore, the results of logistic regression analysis are converted to predict the probabilities of migration among villagers of working age. While Table 6.3 demonstrates the statistical results of the logistic regression analysis, Figures 6.1A and 6.1B show the probabilities of being migrants along with increases in ages.

The logistic regression results indicate not only that age was related to migration, but also that gender was related to likelihood of migration (see Table 6.3 and Figures 6.1A and 6.1B). Female villagers had much lower probabilities of being migrants than did their

male counterparts in the mid-1960s. This finding is consistent with the statistics presented in Chapter IV and in section 6.1.1 of this chapter, which showed that more male than female villagers resided in urban cities, especially in the mid-1960s.

Age was significantly associated with the probability of migration in the mid-1960s and in the late 1970s (see Table 6.3). The association between age and migration was negative. With the increase in ages, villagers in the labor force became less likely to reside in urban cities. The logistic regression coefficients are converted into the probabilities of being migrants (see Figures 6.1A and 6.1B). These two figures illustrate that with an increase in age, the probabilities of movement to urban cities decreased for both male and female villagers, who were ages 15-64 in both the mid-1960s and the late 1970s.

Table 6.3 Logistic Regression of Labor Migration, Hsin-Hsing: 1965 and 1979

	Male and Female		
	B	Exp(B)	Sig.
1965			
Gender (male)	-1.48	.23	.00
Age	-.07	.93	.00
Constant	1.24	3.46	.09
-2 Log likelihood	247.28		
N=	286		
1979			
Gender (male)	-.14	.87	.60
Age	-.06	.94	.00
Constant	1.26	3.54	.00
-2 Log likelihood	321.04		
N=	291		

Figure 6.1A Estimated Probabilities of Migration Hsin-Hsing Villagers Age 15-64, 1965

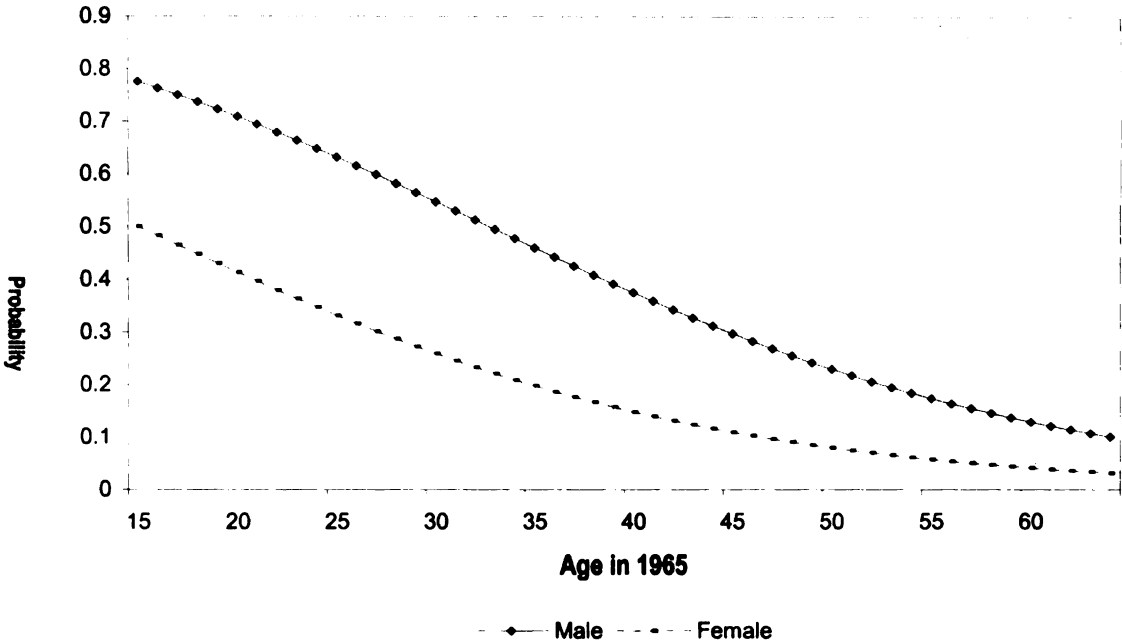


Figure 6.1B Estimated Probabilities of Migration Hsin-Hsing Villagers Age 15-64, 1979



6.4.1.1 Migration among Women

To test research hypothesis five (H5), gender is controlled for in the logistic regression model. The results shown in Table 6.3 reveal that research hypothesis five (H5) is supported by both the 1965 and the 1979 data. In other words, the information in Table 6.3 demonstrates that among female villagers, the negative association between the likelihood of being a migrant and age is significant. The 1965 data show that a one-year increase in age resulted in a seven-percent-decrease in the log odds of being a migrant. A significantly negative association between age and being a migrant is also found in the 1979 data. A one-year increase in age resulted in a six-percent-decrease in the log odds of being a migrant. The results of the logistic regression for female migration suggest that women's ages were negatively related to the likelihood of their being in the urban labor force. In both time periods, among female villagers of working age, an increase in age decreased the likelihood of residing in urban cities.

The individual perspective of migration theory suggests that the negative association between migration and age among women reflected the fact that, in the Taiwanese economic environment of the mid-1960s and the late 1970s, job opportunities in cities attracted more younger than older women. However, this explanation does not indicate how migration is related to family power dynamics. In the following sections, I would like to move beyond the limits of the individual perspective on migration by discussing how different employment statuses among female migrants, and between migrant and non-migrant women in the labor force, suggest the association between family power dynamics and migration.

The fact that younger women in the labor force were more likely to reside in urban cities than their older counterparts was shown in Chapter IV. There we saw that, first, younger women accounted for a larger proportion of women in the urban labor force than did older women in both 1965 and 1979. Second, we saw that the mean age of women in the *urban* labor force was lower than that of women in the *rural* labor force during this same time period (see Table 4.9). Further, in the mid-1960s, unmarried women accounted for a large proportion (68.8% or 11 out of 16) of female villagers of working age residing in urban cities.

I begin to explain these differences by discussing why daughters' position in the family made them more likely to be migrants than sons. Then, I explore why married women were unlikely to migrate in search of paid work. Showing the different positions younger and older women held in the power hierarchy of the family helps illuminate why younger women were more likely to work for wages in cities than were older women.

The fact that female migrants were single (see Table 6.1) reflects the fact that young women, rather than young men, were deployed to cities as a means to maintain or improve their family economies. Compared to their female counterparts, single men in cities accounted for 57.8 percent of male villagers in the urban labor force in 1965. This proportion was lower than that accounted for by single women in the urban labor force (i.e., 68.8%) in 1965. I argue that the high proportion of young female villagers in the urban labor force, compared to their male counterparts, reflected the implementation of household heads' power. Traditionally, patrilineal kinship determined young women's

position in the family power hierarchy (R. S. Gallin, 1985; Gates, 1987; Greenhalgh, 1985, Wold, 1972), and they were treated as temporary family members. In the mid-1960s, withdrawing daughters from school and deploying them into the wage labor market as early as possible were strategies used to improve and maintain the family economy.

Married women's position within the family power hierarchy and the agriculture-based economic structure were barriers to their participation in the urban wage labor force.

When opportunities for waged jobs in the rural labor market were insufficient, family members in the labor force had to seek job opportunities outside of the rural area.

Because men were socialized to earn money to support and/or maintain their families, they were likely to participate in the waged labor market. Married women were expected to stay behind to assume the domestic responsibilities of their mothers-in-law, to care for the land in the absence of their husbands, and to service the desires of their mothers-in-law. They, therefore, were unlikely to migrate to cities. The combination of the likelihood of the migration of single women and the unlikelihood of married women engaging in migration explains the different moving patterns of younger and older women in the mid-1960s.

In short, gender in combination with age defined a woman's position in the power hierarchy of the family. Young women migrated to earn incomes that sustained the family. Older women stayed at home to serve their mothers-in-law and sustain a component of the family's economic base--the land.

In the late 1970s, deploying daughters into the *urban* wage labor market was still a practice used by Hsin-Hsing parents to improve or maintain their family economies. Although, the development of rural industry in the Hsin-Hsing area absorbed many young women who might otherwise have been sent to cities in search of employment, the number of unmarried female villagers residing outside of the village increased from 18 in 1965 to 44 in 1979 (see Table 6.1). Fifteen single women participated in the *wage* labor market in urban cities. These 15 single women accounted for 36.6 percent (15 out of 41) of the women who were living in cities and of working age, a percentage lower than that (68.8% or 11 out of 16) in the mid-1960s (see Table 6.1). Nevertheless, the decreased proportion of single women in the urban *wage* labor force did not represent a cessation of Hsin-Hsing parents' practice of sending daughters to seek waged opportunities in urban cities. In the late 1970s, rural Taiwanese parents still sent their unmarried daughters to seek waged employment opportunities in urban cities. Among the 15 single women in the urban wage labor market, 11 (73.3% or 11 out of 15) were either living alone or residing with their married siblings in urban cities.

More married women resided in urban cities with their husbands in the late 1970s than in the mid-1960s. In terms of absolute numbers, they increased from five in 1965 to 26 in 1979. These 26 married women residing in urban cities accounted for 63.4 percent (26 out of 41) of migrant women of working age (see Table 6.1). The increase in the number of married female migrants probably reflected the maturation of migrant families. Within the village, the proportion of women of working ages accounted for by married women

increased from 60.1 percent (89 out of 146) in 1965 to 72.5 percent (79 out of 109) in 1979 (see Table 6.1). This might have reflected the fact that rural industrialization made it possible for married women in the village to combine productive and reproduction work.

In sum, both logistic regression analysis and descriptive statistics reveal that younger women were more likely to be members of the urban labor force than older women in both the mid-1960s and the late 1970s. This reflects their positions in the authoritarian family hierarchy. In the absence of husbands and the presence of domineering mothers-in-law, married women had to stay in the village to take care of the land and to assume older women's work. In the late 1970s, rural industrialization created paid off-farm jobs for married women, although it did not obviate the need for them to retain their obligations of take care of the domestic unit. In the absence of a long-term value for the security of the family and in the presence of sons with potential continuing value, daughters had to migrate to cities in search of work. The practice of sending young single women to the urban cities to seek employment opportunities to maintain and/or improve the family economy indicates the traditional implementation of household head's power over their daughters.

6.4.1.2 Employment Status among Married Female Migrants

While the analysis in the first stage demonstrates the association between age and the likelihood of migration among women of working age, it does not necessarily demonstrate the reasons for migration among women. In the second stage of the analysis, I, therefore, focus on the employment status of migrant women.

When married women resided in urban cities, what did they do? Did they participate in the urban wage labor market? The association between age and migration among women and how family power dynamics influence the decision to migrate were shown in the previous section. Family power dynamics, however, not only influenced women's migration, but also their employment status in urban cities. To address the question posed at the beginning of this paragraph, then, I discuss how family power dynamics influence the employment status of female villagers residing in urban cities.

Participation in the urban wage labor market may reflect family power dynamics, which determine who is employed for income and who is not. As Shihadeh (1991:432) argues, “[t]he most powerful determinant of employment returns among wives was not their economic and demographic background characteristics but whether or not they played a *subsidiary* role in the family migration.” Following traditional gender norms, married women were responsible for domestic work and the care of other family members (R. S. Gallin, 1995). The responsibility for child-care is the primary barrier preventing married women from participating in labor markets for income (Friedl, 1967; Presser & Baldwin, 1980; Salaff, 1981; Saraceno, 1984). Indeed, Craig (1981) and O’Connor (1988) argue that getting their children out of the house is crucial for young mothers who wish to participate in wage labor markets. Therefore, reducing their child-care responsibilities is expected to increase the possibility of married women participating in wage labor markets. As Connelly (1992) argues, availability of no-cost child care leads to a relief

from child-care responsibilities, and increases married women's participation in the wage labor force.

There were thus two factors that influenced the likelihood that Hsin-Hsing women would or would not participate in wage labor markets: (1) living with young children, especially preschoolers, and (2) living with older female members, especially mothers-in-law.

Children who needed care generally were those who were too young to participate in the formal educational system. Day-care options were under-developed in Taiwan in the 1960s and 1970s. Children younger than six years old, the age for entering elementary school in Taiwan, thus became the major barrier to married women's participation in wage labor markets. A negative relationship consequently existed between the likelihood of a women with preschoolers participating in wage labor markets. Those who lived with preschoolers were less likely to work for pay than those who did not. Following the same logic, unmarried women were more likely to join wage labor markets than were married women with preschoolers (Chattopadhyay 1998).

6.4.1.3 Employment Status of Migrant and Non-Migrant Women

In 1965, among migrants from Hsin-Hsing village, there were 31 migrants living in 11 conjugal units in cities (see Table 6.4). Compared with Hsin-Hsing villagers residing in cities in the late 1970s, in 1965 the proportion of villagers migrating with other members in the same conjugal units was relatively low, only 37.8 percent (31 out of 82). Among these 11 conjugal units outside of the village in 1965, seven conjugal units were constituted by unmarried siblings. Only four conjugal units in cities were made up of married women residing with their husbands. Due to the early migrants' eventual

settlement in urban cities, migrant conjugal units increased. In the late 1970s, there were 114 Hsin-Hsing villagers clustered in 27 migrant conjugal units in urban cities. The growth/maturation of those early migrant families led to a large number of married men residing in urban cities with their wives and children in the late 1970s.

Table 6.4 Hsin-Hsing's Migrants in Conjugal Units and Migrant Conjugal Units, 1965 and 1979

	1965	1979
Total number of migrants	82	153
Migrants in conjugal units	31	114
Migrant conjugal units	11	27

The increase of migrant conjugal units led to the increase in the proportion of children and married women residing outside of Hsin-Hsing Village. This increase in the number of married women raised the proportion of female Hsin-Hsing villagers in the urban labor force. This increase, however, did not boost the proportion of women participating in the urban wage labor force. The fact is that married women with preschoolers tended either to work at home in cities, taking care of these young children, or to hold jobs (such as work in a family business or industrial outwork) that provided them with the flexibility to take care of young children and to work at the same time.

Although taking care of children is the major barrier preventing married women from participating in wage labor markets, if this difficulty can be overcome, joining the wage labor market theoretically becomes possible. Therefore, the question becomes: Who can

take care of preschool age children other than their mothers? The answer is that older family members, usually patriline grandmothers, assume this responsibility. A mother-in-law also can share a woman's responsibility for care of the home. Therefore, living with an older female family member could be positively associated with the probability of a woman's participating in the wage labor market. But, were rural married women more likely to participate in the wage labor market than their urban counterparts? Was employment status related to residential arrangements?

Table 6.5 demonstrates that among women living with preschoolers in 1979, those who resided in cities were less likely to participate in the labor market for *income* than were those who resided in Hsin-Hsing Village. The difference, however, is slight. Among married female villagers residing in cities, who had preschooler(s), only 29.4 percent (5 out of 17) were employed and earning income. At the same time, only 32.0 percent (8 out of 25) of women in the rural labor force, who were mothers of preschooler(s), participated in the wage labor market. The very slight difference between women with preschoolers in cities and in the village suggests that taking care of preschoolers did not cause the different likelihood of participating in the labor market for income between married women residing in cities and in Hsin-Hsing. In other words, living with preschoolers had a similar influence on participation in the wage labor market for women in cities and those in the village.

Table 6.5 Women Classified by Occupation, Migration Status, and Presence or Absence of Preschool Children, Hsin-Hsing Village, 1979

Occupation	Non-migrant		Migrant	
	no pre-schoolers	with pre-schoolers	no pre-schoolers	with pre-schoolers
Single Women				
Housekeeper/housewife	2	--	--	1
Family worker	4	--	--	--
Self-employed farmer	--	--	--	--
Off-farm worker	15	--	13	--
Self-employed (business owner)	--	--	1	--
N=	21	--	14	1
Married Women				
Housekeeper/housewife	28	9	3	9
Family worker	1	1	2	3
Self-employed farmer	18	7	--	--
Off-farm worker	13	7	4	4
Self-employed (business owner)	3	1	--	1
N=	63	25	9	17

Although living with preschoolers was not a necessary condition to explain why married women in the urban labor force did not work for income, mothers residing in the village with preschoolers who worked for pay might have received support from other female family members. In the late 1970s, there were 43 married women (25 in Hsin-Hsing and 18 living outside of the village) in the labor force who resided with their preschool child(ren) (see Table 6.6). Among this group of women, eight rural and five urban women participated in the labor market for income (see Table 6.6). They accounted for 32.0 percent (8 out of 25 rural women) and 27.8 percent (5 out of 18 urban women) of those living with preschoolers. The difference is slight. However, 55.6 percent (10 out of 18) of urban female villagers who had child(ren) of preschool age were housekeepers. Among rural female villagers, the proportion of women working as housekeepers was only 36.0 percent (9 out of 25), a much lower percentage than that of urban women.

Table 6.6 Occupations of Married Women Living with Preschoolers Classified by Migration Status, and Presence and Absence of Mother-in-law, Hsin-Hsing: 1979

Occupation	Non-migrant married women			Migrant married women		
	Living with mother-in-law	Living without mother-in-law	Subtotal	Living with mother-in-law	Living without mother-in-law	Subtotal
Housekeeper	5	4	9	0	10	10
Family worker	0	1	1	0	3	3
Self-employed farmer	3	4	7	--	--	--
Off-farm worker	6	1	7	0	4	4
Self-employed	1	0	1	0	1	1
Total	15	10	25	0	18	18

For women with child(ren) of preschool age, the probability of being an income-earner was determined by the accessibility of social support. Could older female family members have been the primary source of this support for women in the paid labor force? Did living with such relatives increase the likelihood of participating in the labor market for income? In the late 1970s, non-migrant women were more likely to reside with older female family members than were migrant women. In Hsin-Hsing, 15 women with preschool age child(ren) lived with their mothers-in-law, while no urban female villagers lived with mothers-in-law (see Table 6.6). Six rural women who lived with mothers-in-law were off-farm workers. They accounted for 85.7 percent (6 out of 7) of rural women who were working off-farm and living with preschool child(ren). The fact that these daughters-in-law were able to work outside of their houses implied that their mothers-in-law assumed responsibility for domestic work and took care of grandchildren as well, thereby releasing the younger women for paid employment. This datum suggests that

with rural industrialization, the traditional power dynamics between mothers- and daughters-in-law changed, and mothers-in-law gave up their traditional prerogative of a life of leisure in old age (R. S. Gallin, 1986).

Married women in the village, however, did not always benefit from living with older female family members. The presence of a mother-in-law did not necessarily release a daughter-in-law from domestic work. Traditionally, when daughters-in-law married into families, they assumed their mothers'-in-law responsibilities including their work in agricultural production. Following this logic, living with a mother-in-law did not necessarily increase the probability that a married woman would participate in the labor market to earn income.

Table 6.7 Occupational Matrix of Mothers-in-law and Daughters-in-law, Hsin-Hsing: 1979

Daughters-in-law	House-keeper	Off-farm worker	Self-employed farmer	Self-employed	Total
Mothers-in-law					
Retired	3	2	4	0	9
Housekeeper	3	5	4	1	13
Self-employed farmer	2	3	0	1	6
Total	8	10	8	2	28

Note: Columns are the occupations of daughters-in-law, and rows are the occupations of mothers-in-law. "3" in the first cell of the first column indicates that there were three daughters-in-law working as housekeepers, while their mothers-in-law were retired.

Table 6.7 demonstrates an occupational matrix for 28 daughters-in-law residing with their mothers-in-law in Hsin-Hsing Village. On the one hand, the data in this table show that

when mothers-in-law shared or assumed responsibility for taking care of the house, daughters-in-law were employed for monetary income. As R. S. Gallin (1984:391) writes, "the existence of a supportive family structure in which mothers-in-law took over some of the younger women's tasks had a direct impact on women's access to wage work." For example, among 13 daughters-in-law living with mothers-in-law who took care of the home, five (38.5%) worked for wages, while one (7.7%) was self-employed. On the other hand, the data in Table 6.7 demonstrate that not all married women benefited from living with their mothers-in-law. Nine daughters-in-law living with their mothers-in-law assumed primary responsibility for the work previously done by older women. Three (33.3%) of them were housekeepers and four (44.4%) worked on family land, while only two (22.2%) worked off-farm for income.

This analysis suggests that married women within the Taiwanese family continued to remain subordinate to their mothers-in-law. Their employment status not only *depended* on their position in the family power hierarchy, but also *influenced* their position in this hierarchy. The division of labor between mothers-in-law and daughters-in-law, on the one hand, influenced the probabilities of married women being waged laborers. On the other hand, it reflected the power dynamics between mothers-in-law and daughters-in-law. As R. S. Gallin (1986:42) argues,

[w]hen villagers were tied to the land, children were dependent on farms controlled by parents for a livelihood, and the old held sway over the young. Under those conditions, daughters-in-law had few resources to serve as a base from which to defy the authority of their mothers-in-law.

Nevertheless, change in the village's economic structure had the potential to affect the balance of power between mothers-in-law and daughters-in-law. When most villagers depended on off-farm employment to sustain the family economy, some mothers-in-law gradually lost their authority. As R. S. Gallin (1986:43) argues,

“[w]ith rural industrialization, most income was derived from off-farm employment, parents were dependent on children in whom the major income power rested, and daughters-in-law had achieved a new bargaining position with which to resist the traditional authority of their mothers-in-law.”

Some married women residing in the village received support from their mothers-in-law, and they thus participated in the rural wage labor market. Other rural married women, in contrast, continued to assume the responsibilities of their mothers-in-law, releasing the older women from the drudgery of reproduction and production. This difference was a product of a family's position in the class structure. Although this research could not measure class, R. S. Gallin (1994) argues that family power dynamics were affected by class. As she points out, poor older women in the village had no authority to command the labor of their daughters-in-law, and they had to work to secure their own future. Some financially secure older women, however, were able to maintain their life in old age and direct their daughters-in-law because their husbands owned productive property upon which the younger generation depended. In both instances, the division of labor between women of different generations reflected family power dynamics between mothers-in-law and daughters-in-law. But class intervened to influence the direction of the balance of power.

In sum, the association between age and working for pay among migrant women was negative. This negative relationship might have reflected the fact that urban employers were more likely to hire younger than older women. However, the data collected in the mid-1960s and the late 1970s show that while some migrant women were employed for income, others, especially married women with preschoolers, stayed at home as housekeepers. Unmarried and younger women in the urban labor force were more likely to work for income than their older and married counterparts. Because of the patrilineal kinship system, unmarried daughters were seen as temporary family members. Sending them to wage labor markets as early as possible made them start repaying their debt to their parents sooner rather than later. Nevertheless, in some cases these working daughters were able to change their position in their family power hierarchy by contributing to the family economy (R. S. Gallin, 2001).

Some rural women were able to work for pay while others were not, and this difference in occupational status was implicated in their mothers-in-law ability to control them and their labor. Urban women, in contrast, were unlikely to work for pay, and none lived with mothers-in-law. While the absence of older women may not have been a determining factor in urban daughters-in-law's occupational status, it does mean that mothers-in-law lost control over the younger women. Nevertheless, while older women's authority over them was mitigated, these women did not change their position in the traditional male-female hierarchy. They continued to be subordinate to their husbands. Following traditional gender norms, and in the absence of a mother-in-law to help in domestic work,

married women in urban cities were unlikely to work outside of their houses.⁷⁵ Without accessibility to an income, married women in urban cities had no base “from which to change absolute financial dependence on their husbands -- a dimension of the conjugal relationship they judged oppressive” (R. S. Gallin, 1995:129).

6.4.2 Age Differentials between Male and Female Villagers in the Urban Wage Labor Market

To demonstrate the association of migration with family power dynamics, I examine the relationship between age and gender among villagers participating in the urban wage labor market. I hypothesize that among villagers participating in urban wage labor markets, men are older than females. Analysis of Variance (ANOVA) is applied to examine the difference in age between men and women who were participating in urban labor markets for pay.

The results of the ANOVA shown in Table 6.8 reveal that research hypothesis six (H6) is not supported by the 1965 data. It is, however, supported by the 1979 data. In the mid-1960s, the age differential between men and women in the urban wage labor market was not statistically significant, while the age difference was significant in the late 1970s. In the mid-1960s, there were 60 Hsin-Hsing villagers (including 13 women and 47 men) working for pay in cities. In the late 1970s, 69 villagers (including 22 women and 47 men) participated in the urban wage labor force. The mean age of men participating in the urban labor force for wages was 26.1 while that of their female counterparts was 22.2 in

⁷⁵ Working outside of the home in urban cities was possible and necessary for married women when their
continue to the next page...

1965. Despite the fact that men had a higher mean age than women, the difference was not statistically significant. In 1979, the mean age of men working in the urban labor market for pay increased to 31.8. At the same time, the mean age of women working for income in urban cities increased to 24.6 from 22.2 in 1965. The difference in age between men and women participating in the urban labor force for income became statistically significant at $\alpha=0.01$.

Table 6.8 Analysis of Variance for the Ages of Villagers in the Urban Wage Labor Market by Gender, Hsin-Hsing: 1965 and 1979

	Sum of Squares	DF	Mean Square	F
1965				
Between Groups	154.6	1	154.6	1.37
Within Groups	6547.5	58	112.9	
Total	6702.2	59		
1979				
Between Groups	781.3	1	781.3	13.82 ***
Within Groups	3787.2	67	56.5	
Total	4569.2	68		

*** significant at level of .01 ** significant at level of .05 * significant at level of .10

While the individual perspective of migration theory suggests that participation in the wage labor market is determined by personal characteristics, it is possible that the likelihood of joining the labor market for pay can be a product of other factors such as family and economic structures. In Chapters IV and V, I discussed how family structure and local and national economic development influenced rural villagers' migration.

husbands did not earn enough to support their families.

Although migration might have been related to personal characteristics, moving to seek work also could have reflected power dynamics within a family. Although some researchers (e.g., Browning, 1969; Chang, 1979; Chiang, 1978; Ladinsky, 1967; Li, 1974; Liao, 1977; Liu, 1993; Long, 1973 and 1992; Speare, 1974; Tsai, 1978; Yin, 1978; Zachariah, 1966) suggest that personal characteristics determine the likelihood of migration, the fact is that migration is determined by the family power hierarchy, which is based on personal characteristics such as age and gender.

As shown previously, female villagers accounted for 25.8 percent (16 out of 62) of Hsin-Hsing villagers in the urban labor force in 1965. Their proportion increased to 47.7 percent (41 out of 87) in 1979. The increase in the number and the proportion of migrants, however, did not lead to an increased proportion of women working for pay in the urban labor force. In Taiwanese society, men traditionally were expected to be more outwardly oriented than were women. According to traditional gender norms, "[m]en dominated the public domain, working outside the home ...[, while] women presided over the domestic sphere, managing the household, [and] servicing its members ..." (R. S. Gallin 1984:386). Accordingly, differences in social expectations for married men and women result in different probabilities for occupational attainment (O'Connor 1988; Quinn 1977).

The age differentials between male and female villagers in the urban wage labor market can be discussed not only by examining the different positions of and social expectations for married men and married women, but also by interrogating those of and for unmarried

men and unmarried women. On the one hand, young unmarried women do not have the same home and child-care demands as married women. They thus are more likely to pursue non-traditional work options and to optimize income-producing activities than are married women (Chattopadhyay 1998; Treiman and Terrell 1975). On the other hand, Taiwanese parents preferred to deploy unmarried daughters rather than unmarried sons to urban wage labor markets to improve and/or maintain their family economies.

Sending daughters to the urban wage labor market as early as possible means parents had to withdraw them from school early. Women's unequal opportunity in comparison to men to gain education explains why men in the wage labor market were older than their female counterparts. The unbalanced positions of men and women in the family power hierarchy was reflected in their unequal educational opportunities. In Chapter IV, I showed that, in general, men had more education than women had in Hsin-Hsing Village. Table 6.9 shows that male adolescents were more likely to stay in school for education than their female counterparts did in the mid-1960s and the late 1970s. In other words, while young single men were pursuing higher education, young single women were likely to participate in the wage labor market.

Table 6.9 Students and Non-students by Gender, Hsin-Hsing: 1965 and 1979

	1965			1979		
	Male	Female	Total	Male	Female	Total
Non-student	24	44	68	3	7	10
Student	17	11	28	19	12	31
Total	41	55	96	22	19	41

In Table 6.9, the analysis of the 1965 data includes 96 male and female villagers ages 12-18. The analysis based on the 1979 data includes 41 villagers ages 15-18. The data in Table 6.9 indicate that among villagers ages 12-18 in 1965 and ages 15-18 in 1979, female villagers were less likely than their male counterparts to stay in school. In 1965, while 20.0 percent (11 out of 55) of female adolescents stayed in school, 80.0 percent (44 out of 55) of single women ages 12-18 participated in the wage labor force. By contrast, in this same year 41.5 percent (17 out of 41) of young men stayed in school, while only 58.5 percent (24 out of 41) participated in the wage labor force. These statistics show that in the mid-1960s, male adolescents were more likely than female adolescents to stay in school for education. A similar pattern is found in the 1979 data. While 86.4 percent (12 out of 19) of male adolescents stayed in school, only 63.2 percent (31 out of 41) of their female counterparts continued their studies.

The statistics in Table 6.9 reflect the unequal opportunities young female and male villagers had to attend school. They, further, reflect the different expectations parents held for sons and daughters. Sending sons to school is a long-term investment by parents for the elders' life in old age. Sending daughters to cities to seek employment opportunities for income as early as possible is a short-term family strategy adopted by parents to improve and/or maintain the family economy.

In sum, this section shows that in the late-1970s, among villagers who resided in urban cities and worked for income, men were older than women. This significant finding

reflects several social phenomena in the village, which led to the greater likelihood that young unmarried women and married men would participate in the labor market for pay than were unmarried men and married women. First, fathers dominated their daughters and held sway over their life chances. Young single women were deployed to seek work as a means to achieve the maintenance and/or improvement of the family economy. Their brothers, in contrast, stayed in school for education. Second, within the conjugal units in urban cities, married women with no access to an income continued to be subordinate to their husbands. As R. S. Gallin (1995:129) has argued, "[w]omen's control of their earnings ... has the potential to erode traditional ideology and its norms of behavior and to provide women with the resources necessary to create an autonomous space."

The different employment status among women in the urban labor force, in general, was affected by the intersection of their marital status and age. Married women usually were older than their single counterparts. Married women, especially those who resided with preschoolers in cities, usually were unable to pursue paid employment. These arguments provide a strong foundation to understand: (1) why younger female villagers in Hsin-Hsing were more likely to participate in the urban paid labor force than were older women in the mid-1960s and the late 1970s, (2) why younger female migrants were more likely than older female migrants to work for *income*, and (3) why men who participated in the urban labor force for income were older than their female counterparts.

Among those living in the village, some married women assumed the responsibility of their mothers-in-law, including farming family land and taking care of the home. Other

married women, however, participated in the rural wage labor market, while their mothers-in-law cared for their children and shared responsibility for the home and farm. Nevertheless, men and women are unequal in rural Taiwanese society. According to tradition, married men work to bring income into their families while married women assume responsibility for domestic work (R. S. Gallin 1985). This leads to an imbalance in the economic power of married men and women, directly determining their positions in the family power hierarchy.

Unmarried women were traditionally treated as temporary family members. Once they were married, they left their natal families to live with the families of their husbands. In this sense, they became members of their husbands' families which controlled their labor power. Following this logic, sending girls to school was not the ideal investment for parents who wished to ensure sustenance in their old age. Instead, parents preferred to send boys, who were theoretically responsible for their care as they aged, to school. Thus, male adolescent villagers were more likely to stay in school than were their female counterparts, and unmarried daughters were more likely to join the wage labor market than were their single brothers. Additionally, this explanation provides a base to understand the unequal opportunities for education between male and female adolescents in the village.

6.5 Summary

The primary intention of this chapter was to demonstrate how family power dynamics are related to migration. The inconsistent conclusions of past research derived from the individual perspective of migration theory suggest that while it is correct that the

migration decision is an outcome of a rational evaluation of the "expected returns" of movement, placing the emphasis on an individual's "cost-benefit" analysis is insufficient to fully explain the migration process. This chapter moved beyond the traditional "cost-benefit" argument and considered the role of power dynamics in the migration process. Two research hypotheses were examined to identify how family power dynamics, which are shaped by age and gender, influence migration and employment status at destination. Among women in the labor force, younger females were more likely than their older counterparts to migrate to cities to seek job opportunities. Among migrants participating in the urban wage labor market, men were relatively older than women.

Labor migration is affected by the economic structure. While most Hsin-Hsing villagers moved to cities to seek employment opportunities in the mid-1960s, job opportunities derived from the development of rural industry kept a great number of them in the rural area in the late 1970s. The individual perspective of migration theory suggests that personal characteristics determine decisions about migration. However, as I have argued, migration is also a product of the family power hierarchy. While young male adolescents stayed in school, young female were sent by their parents to work in cities to increase their family's monetary income and to maintain and/or improve the family economy.

When more conjugal units migrated to or developed in cities, there was no increase in the percentage of married women working for income. Those who worked for income in the labor force were primarily married men and single women. Because married people were usually older than the unmarried, among migrants working for income, men were older

than women. This, in addition, implied that, in cities, married men's and married women's positions were maintained in the traditional power hierarchy. In the absence of a job from which to derive money, married women had no base to challenge "absolute financial dependence on their husbands" (R. S. Gallin, 1995:129).

In the mid-1960s, when their husbands resided and worked for pay in urban cities, married women stayed in Hsin-Hsing Village to take care of their families and to farm the family land. The relationship between mothers-in-law and daughters-in-law in the village usually remained defined by tradition. In the late 1970s, however, when the development of rural industry brought a great number of off-farm employment opportunities to the Hsin-Hsing area, daughters-in-law had more opportunities to join the wage labor force than they previously had. For some, the development of rural industry brought changes in the traditional power dynamics between mothers-in-laws and daughters-in-law. When daughters-in-law worked in factories, older women assumed responsibility for domestic work. Under the changing economic structure, the increased off-farm employment opportunities in Hsin-Hsing area made young couples dependent more on the off-farm wage labor market for income than on farming. On the one hand, young couples were not dependent on land, which was controlled by their parents. On the other hand, daughters-in-law had more "resources to serve as a base from which to defy the authority of their mothers-in-law" (R. S. Gallin, 1986: 42).

In sum, this chapter demonstrates how family power dynamics were related to migration among female and male villagers and to their employment status. Age and gender define

interpersonal relationships between family members, and they determine the position of each family member within the power hierarchy of the family. The migration status and employment status of a person, indeed, reflect, his/her position within the authoritarian family hierarchy.

CHAPTER VII

CONCLUSIONS AND DISCUSSION

Voluntary migration usually is considered an economic activity. The most common conclusion of migration studies is that people migrate primarily for economic reasons, especially in the Third World (Parnwell, 1993). Researchers have argued that migration responds to spatial inequalities in expected earnings (Guest, 1989; Harris and Todaro, 1970; Sjaastad, 1962; Todaro, 1969, 1976, 1980; Wood, 1981). The gap between rural and urban wages leads to migration from rural areas with high wage rates in the urban modern sector inevitably leading to high expected income returns from rural emigration (Harris and Todaro, 1970). Others argue, however, that the rural-urban wage differential is institutionalized or politically determined, rather than market determined (Harris and Todaro, 1970; Montgomery, 1981). Montgomery (1981), for example, emphasized the rural-push side and insisted that, in certain areas, agricultural markets were highly distorted by government policies that made rural incomes artificially low, thereby stimulating rural-urban migration.

While structuralist views such as these consider migration to originate in institutional change that affects the relations of production in the sending and receiving sectors, the individual perspective suggests that migration is a human behavior in response to the spatial inequality in expected income and occupational opportunities between rural and urban areas. Within this individual view, the family perspective suggests that migration is a collective behavior involving discussion by family members as a group. Migration is

one of a series of household/family strategies by which family members actively strive to achieve a balance between the domestic unit's consumption necessities, the labor power at its disposal, and the alternatives for generating monetary and non-monetary income (Boyd, 1989; Grigg, 1980; Guest, 1989; Wood, 1981). For instance, under conditions of structural change, an imbalance between these two key components -- family labor input and family consumption -- is likely to occur and a domestic unit will have to seek an alternative sustenance strategy to achieve a new balance. The strategies for achieving such a new balance include seeking occupational opportunities in the local area as well as in places away from home. The family perspective on migration provides a theoretical framework to explain migration as one strategy to maintain and/or improve a domestic unit's economy.

The major limitation of the family perspective of migration theory is that it assumes migration decisions are made collectively. This perspective does not take into account the power hierarchy within which decision making occurs in the family. For Taiwanese families, the authority for decision making is traditionally held by one or a few family members. To expand the knowledge base of migration theory, therefore, this dissertation focused not only on the examination of how factors at the family level influenced migration in Hsin-Hsing, Taiwan, in 1965 and 1979, but also on the implication of family power dynamics on migration. Additionally, this research explored how changes in the economic structure of the village affected the influence of selective factors on migration at the family level. In other words, this dissertation discussed the associations between

family migration and its factors under the different economic structures of the Taiwanese rural area in the mid-1960s and the late 1970s.

In the following sections, I summarize the research and discuss its significance and limitations. I conclude with some thoughts about the political economy of Taiwan at the end of millennium -- the context within which migration will or will not occur. It is difficult to conclude with substantive recommendations because the dissertation deals with times long since gone. The final section, however, will demonstrate how the changing political economy in Taiwan might influence the migration of rural population.

7.1 Summary of Dissertation

7.1.1 Research Intentions

This research adopted three major migration perspectives: family, structural, and individual. The first intention of this research was to examine internal migration in Taiwan by adopting an integrated research framework, which laid out the relationship between factors that might spur movement and the likelihood of a family adopting migration. Specifically, this research examined how *family type*, *landholdings available for family working members* and *for the members' consumption needs*, and *family members' participation in local wage labor markets* influence migration. Second, this research, using this integrated approach, examined how change in economic structure influenced a rural family's implementation of migration. In other words, this dissertation adopted an integrated framework at the family level to examine how migration serves as a family sustenance/mobility/survival strategy to cope with structural constraints.

Nevertheless, such strategies are not adopted within a vacuum. Thus this research incorporated the notion of power and explored how a family power hierarchy intervened in the decision-making process influencing who did or did not migrate. In sum, this research was organized to answer the following four questions.

1. How does the amount of cultivated land available relate to the decision of migration?
2. How does the development of rural industry influence the migration of the rural population?
3. How does family type influence the migration decision of family members?
4. How do family power dynamics relate to migration decisions and processes?

7.1.2 Research Findings

In Chapter V, I showed that the associations between labor migration and the factors affecting it changed over time according to Hsin-Hsing's economic structure. In the 1960s, agriculture was the primary means of production in the Hsin-Hsing area. The amount of land available to input labor was responsible for the villagers' local labor market participation. By the end of the 1970s, a rural industrial zone established near the village as well as local industrial development influenced the work patterns of Hsin-Hsing villagers. More non-agricultural job opportunities became available to the villagers and, in 1979, villagers participating in local non-farm wage labor markets accounted for a great proportion of the labor force working locally. More villagers worked locally for monetary income in 1979 than in 1965.

The land consolidation program of the late 1960s and development of new agricultural technologies increased the likelihood that villagers were both self-employed farmers and paid off-farm workers by the late 1970s. In the 1960s, farming was labor-intensive, and there were few off-farm employment occupations available in the Hsin-Hsing area via which to diversify family income sources or to supplement the family economy. Villagers had to go out of the local area to seek paid jobs. When more paid off-farm jobs became available in the late 1970s, villagers were able to diversify family income sources and increase the unit's income by taking waged jobs locally. At the same time, they could work on their family land because innovations in agricultural production reduced the need for intensive human labor.

While descriptive statistics revealed the associations between migration and economic structures, advanced statistical analyses were applied to examine the relationships between migration and family factors. Family's local labor-force participation rate was more influential in labor migration than other factors. The results of multiple regression analysis showed that when other factors were controlled for, a family's local labor-force participation rate had the most influence on labor migration in 1965. It was also very influential in 1979.⁷⁶

Although a bivariate analysis for the 1965 data showed that family type and the number of family members in the labor force residing in urban cities were not significantly associated with each other, a multiple regression analysis suggested that family type had significant associations with a family's labor migration when other factors were controlled for. The results demonstrated that simple type of families had fewer family members who were labor migrants than families of the complex type, controlling for other independent factors. In addition, the influence of family type on the number of family members in the labor force residing outside of the village increased over time.

The analyses shown in Chapter V basically supported the theoretical framework, with the exception of the relationship between family land accessibility and labor migration. The weak and/or insignificant associations between family's land accessibility and the number of family members in the labor force residing outside of the village, however, do not necessarily imply that a family's access to land had no influence on labor migration. Rather, the insignificant associations show only that differences in family land accessibility could not explain why Hsin-Hsing families had different numbers of labor migrants. Nevertheless, the occurrence of labor migration in the village was related to "inadequate family land accessibility." Families with less land available might not necessarily have had more members in the urban labor force than those with more land available. But because land in the village was ubiquitously inadequate, all families in the

⁷⁶ As mentioned earlier in this chapter and some chapters in this dissertation, migration is a complex process. Advanced statistical techniques are needed in examining the statistical relationships between migration and other influential factors.

community included migrants who sought paid in cities. The movement to cities of family members in the labor force was prevalent in 1965, regardless of the quantity of family land available, as a comparison of Hsin-Hsing's holdings to that of Taiwan as a whole show. Nationally, each family in 1965 had an average of 0.95 *chia* of cultivated land, while Hsin-Hsing families had only 0.53 *chia* (see Section 4.4.1 on the agriculture sector in Chapter IV).

In addition to the examination of the relationships between migration and factors influencing it at the family level, this research, using data at the individual level, examined power dynamics within Taiwanese families in Hsin-Hsing Village. The statistical analyses showed, first, that among women ages 15-64, age was negatively related to the likelihood of migrating away from Hsin-Hsing Village. Those who were younger were more likely to migrate to urban cities than were those who were older. Second, among women of working age in urban cities, those who worked without pay were older than those who worked for monetary incomes. Third, in the late 1970s, the difference in age between men and women working in urban cities for pay was statistically significant. Men were significantly older than their female counterparts.

These results reflected several social phenomena in the village. First, fathers usually dominated their daughters, and young single women were deployed to seek paid work as a means to improve the family economy. Second, because of their position in the family power hierarchy and the division of labor it dictated, married women were less likely to work for wages than were other family members. In general, upon marriage, they

assumed the responsibilities of their mothers-in-law, including farming family land and taking care of the household. Even when they migrated, married women were assumed to hold prime responsibility for the care of preschoolers.

Gender inequality was also shown in the imbalanced opportunities young female and male villagers had to attend school. The unequal status between female and male adolescents, however, demonstrated a traditional social norm in Taiwan, which was re-enforced by partilocal rules of residence. As R. S. Gallin (1984:385) explains, traditionally,

when a woman married, she left her natal home to live as a member of her husband's family.... [Therefore,] parents considered daughters a liability, household members who drained family resources as children and who withdrew their assets (domestic labor and earning power) when they married. Sons, in contrast, contributed steadily to the family's economic security during its growth and expansion and provided a source of support for their parents in old age.

Therefore, "parents strongly preferred male children" (R. S. Gallin, 1984: 385). Having sons stay in school to acquire education was generally considered by Taiwanese parents as an investment to ensure parents' security in old age. The significant results of the analyses demonstrated these different expectations for sons and daughters.

In sum, the findings revealed that migration is a complex process. Internal movement within a society is affected by structural and family factors. But the process of migration

also is determined by family power dynamics, which are shaped by personal characteristics such as gender and age.

7.2 Significance of Dissertation

The significance of this dissertation lies in its contributions to migration theory. It moved beyond extant theory in two ways. First, this research applied an integrative research framework based on multiple perspectives of migration theory. Second, this research examined power dynamics within families during the process of migration.

The theoretical approach of this research is different from other migration studies on Taiwan. Internal migration was not a major issue in Taiwan until the over-urbanization of a few major cities was recognized in the 1970s, and research about internal movement here started in that decade. Past migration research primarily adopted either one of two perspectives: individual or structural. Some research based on the individual perspective utilized individual characteristics to carry out simple linear regression analyses (see Liao, 1977; Speare, 1971). Others studies compared the demographic characteristics of movers according to different migration streams (see Chiang, 1978; Li, 1974; Speare, 1974). Still other research used aggregated data to demonstrate the differences in migrants' backgrounds, using gender, age, education, and occupation as the major explanatory variables (see Chang, 1979; Liu, 1993; Tsai, 1978; Yin, 1978). In addition, most research used two-way contingency tables to compare economic variables with migrant characteristics.

When the economy in Taiwan started booming in the late 1970s and the early 1980s, the focus of migration research shifted from the individual perspective to the structural perspective. Migration studies at this time demonstrated that urban centers with more employment opportunities attracted more labor migrants than areas with fewer of job opportunities. In addition, these studies explained why certain areas became new destinations (see Liu and Tsai, 1990; Tsai, 1981; Tsai, 1990). This research, however, over-emphasized the importance of economic factors. While they provided a broad framework for understanding the incidence of migration in relation to the industrialization and the economic development process, these studies ignored the social dimensions that contribute to migration.

The first theoretical significance of this research then is that it proposes an integrated framework at (1) the family level to examine how migration serves as a family sustenance/mobility/survival strategy to cope with structural and economic constraints, and (2) the individual level to examine how power dynamics within Taiwanese families differentially affect the movement of members of the domestic unit. The detailed discussions in the dissertation strongly revealed that migration is a complex process. Explanations based solely on a single perspective are too simple and insufficient to reveal how and why migration is used to improve and/or maintain a family's economy. Influencing factors at one level are inter-locked with factors at other levels.

The second theoretical significance of this dissertation is that it focuses on the influence of a social dimension, which contributes to migration. Specifically, this dissertation, as indicated, examined power dynamics within Taiwanese families during the migration process. Past migration research in Taiwan heavily emphasized the causes of migration and how economic structures were related to migration. Family power dynamics were never dealt with within the frameworks adopted to explain migration. Traditionally, the individual perspective of migration theory suggests that personal characteristics determine decisions about migration. As I have argued, migration also should be seen as a product of a family power hierarchy, which shapes the interaction and behavior of family members and thus their movement. In this dissertation, I analyzed family power dynamics in terms of relations (1) between men and women, and (2) among women.

The results of the analyses showed how a family power hierarchy influenced men's and women's movement and participation in the urban labor force for wages. When more conjugal units migrated to or developed in cities, there was no increase in the percentage of married women working for income. Those who worked for income in the labor force were primarily married men and single women. Because married people were usually older than the unmarried, among migrants working for income, men were older than women. This, in addition, implied that, in cities, married men's and married women's positions were maintained in the traditional power hierarchy. In the absence of a job from which to derive money, married women had no base to challenge "absolute financial dependence on their husbands" (R. S. Gallin, 1995:129).

In addition, the findings highlighted the different economic roles of young male and female adolescents in and from Hsin-Hsing Village, which were derived from their positions in the family power hierarchy. Female adolescents were more likely to migrate than their male counterparts because young women were sent by their parents to work in cities to increase the domestic unit's monetary income and to maintain and/or improve its economy. In contrast, male adolescents stayed in school to achieve more education, thereby increasing their earning ability and presumably securing the life of their parents in old age.

These findings are theoretically important, because they demonstrate the inter-locked relationships between migration and family power dynamics. First, power within the family determines the likelihood of migration of family members. For example, the findings provide explanations for why young women were more likely to migrate to urban cities to seek employment opportunities than their male counterparts, and how the unequal status between male and female adolescents influence their migration and employment status. In addition, the traditional power dynamics within the family may be maintained during the process of migration. For instance, among migrant married couples, power dynamics within their conjugal units were likely to remain the traditional financial dominance-dependence relations, because women were less likely to work outside of their urban residences for monetary income than their husbands.

This research also showed that in the mid-1960s, when their husbands resided and worked for pay in urban cities, married women stayed in Hsin-Hsing Village to take care

of their families and to farm the family land. The relationship between mothers-in-law and daughters-in-law in the village usually remained defined by tradition. In the late 1970s, when the development of rural industry brought a great number of off-farm jobs to the Hsin-Hsing area, daughters-in-law had more opportunities to join the wage labor force than they previously had. For some, the development of rural industry brought changes in the traditional power dynamics between mothers-in-laws and daughters-in-law. When daughters-in-law worked in factories, older women assumed responsibility for domestic work. Under the changing economic structure, the increased off-farm employment opportunities in Hsin-Hsing area made young couples dependent more on the off-farm wage labor market for income than on farming. On the one hand, young couples were not dependent on land, which was controlled by their parents. On the other hand, daughters-in-law had more "resources to serve as a base from which to defy the authority of their mothers-in-law" (R. S. Gallin, 1986: 42).

These findings, then, illustrate the theoretical relationships among economic development, migration, and family power dynamics. Although this dissertation suggested that the hierarchy of power within a family influences the process of migration, the findings also suggest that family power dynamics can be shaped by local economic development, which directly or indirectly influences the employment status and migration status of villagers. The growth of the local economy increased the employment opportunities available to villagers, thereby lowering the degree of out-migration from the community. The changes in villagers' employment patterns further influenced the power dynamics within their families.

Although this research focused only on power within the family in Taiwan, it has implications for migration theory about other societies. The individual perspective of migration theory considers personal characteristics a form of human capital. People with different characteristics have different human capital. This perspective also assumes that those with certain personal characteristics (e.g., young male, and high educational level) are more likely to migrate than others because they can find employment in urban cities more easily than those who are less well endowed.

This dissertation focused on personal characteristics such as gender and age to argue that migration was an outcome of a hierarchy of power within the family. Gender and age define a person's position within a family power hierarchy. These characteristics also determine the interaction between and among family members. In the process of migration, which includes the decision-making process and the implementation of migration, family members may act together as a single unit to overcome economic and structural constraints. Nevertheless, family migration decisions are not usually made by domestic units. Rather, they are made by certain family members with power for those with less power. Migration is not necessarily based on the personal will of individual family members. The migration status and employment status of family members is the outcome of the dynamics of power, which are shaped by the gender and age of family members. In sum, the arguments about power presented in this dissertation provide an additional perspective to understand the process of migration. Migration may be an economic activity. But it is also a social phenomenon. To understand migration, the

social dimensions of the process are also needed. The notion of power within the family is one of those needed social dimensions.

7.3 Limitations of Dissertation

Although this dissertation contributes to the theory of migration, it has some limitations, which were caused by (1) ignoring qualitative data, and (2) missing data. Because of these problems with the data -- intentional and unintentional -- three key variables were excluded from the research reported herein.

First, the research was primarily based on quantitative data, and it was designed to examine the statistical relationships between migration and factors influencing the process. The data collected by Dr. Bernard Gallin and Dr. Rita S. Gallin include qualitative data as well as quantitative data, but this research was based only on the quantitative data. Ignoring the qualitative data represents a drawback of this research. Statistical analyses based on quantitative data are inadequate to understand the nuances of social facts. To discover the underlying meanings of and patterns in relationships, qualitative analyses are needed. Without utilizing the qualitative data, some discussions in this dissertation had to rely on arguments or examples presented in the published work of Dr. Rita S. Gallin and Dr. Bernard Gallin, which were primarily generated from their qualitative data. Their arguments and examples derived from the qualitative data provide meaningful contexts for this research to discuss and explain the numerical statistics.

Thus, although this research was designed to examine an integrated migration model, the exclusion of the qualitative data precluded the inclusion of some important influential factors of labor migration such as social networks. Social networks have theoretically and empirically proved important in migration decisions (see Dinerman, 1978; MacDonald and MacDonald, 1974; Massey, 1990a, 1990b; Massey et al., 1987; Mines and de Janvry, 1982; Mines, 1984; Mullan, 1989; Taylor 1986, Tilly and Brown, 1967). Interpersonal relationships are embedded in social networks. In Taiwan, social networks influence people's daily life (B. Gallin, 1974). Social networks also include people who are not kin-related, such as schoolmates and sworn brothers. Through social networks that link migrants and non-migrants, information of employment opportunities in urban cities are transferred to people at hometowns. Settled migrants provide new migrants assistance, thereby lowering the cost of relocation and increasing the likelihood of obtaining jobs. Social networks, therefore, are expected to positively influence the adoption of family migration. Without utilizing the qualitative data developed in in-depth interviews, there were no appropriate quantitative data to measure social networks. This research, therefore, did not examine or discuss the influence of social networks on migration.

Due to missing data, the second important factor which was excluded from this research, was *social class* or *socioeconomic status*. On the one hand, social class influences the decision of migration. Stark and his associates (1985) apply the concept of "relative deprivation" to explain migration behavior. They suggest that contrasting his/her situation with other people in the same area motivates a person's migration decision.

Those who have low social economic status are more likely to resort to migration than those who have high social economic status (Stark, et al. 1985).

In addition, social class influences the interactions between family members. R. S. Gallin (1994) argues that family power dynamics were affected by class in Hsin-Hsing Village. As she points out, poor older women in the village had no authority to command the labor of their daughters-in-law, and they had to work to secure their own future. Some financially secure older women, however, were able to maintain their life in old age and direct their daughters-in-law because their husbands owned productive property upon which the younger generation depended. In both instances, the division of labor between women of different generations reflected power dynamics between mothers-in-law and daughters-in-law. But class intervened to influence the direction of the balance of power.

This example reveals the importance of the social class/socioeconomic status of villagers for this research. However, quantifying or measuring social class among rural villagers is difficult. In an agrarian society, land usually is utilized to measure the social class of people, because land is the primary means of production. In the mid-1960s, although farming was the primary economic source of Hsin-Hsing villagers, the amount of land available to individual families did not sufficiently represent the social class or socioeconomic status of villagers. Most villagers had very little land. There was no variance, in terms of the size of land, among villagers. In the late 1970s, the economic structure of the Hsin-Hsing area changed. Farming was no longer the primary economic source of villagers' livelihood. Land was not the primary means of production. Therefore,

the size of land available to Hsin-Hsing families could not measure the social class or socioeconomic status of villagers.

How then can social class be measured? What are appropriate indicators to measure social class or the socioeconomic status of villagers? A conventional sociological definition of class is a group of people who have in common a specific power that shapes life chances (Weber, 1978:II). People with property and those without property are two basic categories of all class situations (Weber, 1978:II). A person's socioeconomic status reflects the style of life, economic conditions, and income level of the person (Dahrendorf, 1959:76). When land is not the primary means of production for villagers, it is inefficient to measure the socioeconomic status of villagers. Appropriate indicators for measuring the socioeconomic status of villagers should be those which can directly reflect their economic conditions and income level.

In Hsin-Hsing, I suggest using "family income" to measure the socioeconomic status of villagers for two reasons. First, family income not only directly reflects villagers' economic conditions and income level, but it also influences and/or determines the life style of villagers. Family income can come from a variety of sources. It can be derived from farming family land, working off-farm for wages, and/or operating a business. Family income is much better than the size of land owned for measuring the socioeconomic status of villagers. The size of land owned by villagers does not necessarily reflect their income levels, and, therefore, their life styles and chances. Second, although conjugal units within a complex family may be financially independent,

the family still can remain an undivided unit. Therefore, in a rural village, socioeconomic status is usually not discussed at the individual level, but at the family level. For example, a villager is building a mega-house in the village. When people in the village talk about the socioeconomic status of his family members, they generally refer to the family's socioeconomic status. People do not consider income differentials among family members when discussing class.

In the survey conducted in the 1960s, Dr. Bernard Gallin and Dr. Rita S. Gallin collected data on villagers' possessions (e.g., clocks, radios, sewing machines, television sets, bicycles, vehicles, washing machines, and refrigerators) and living conditions (e.g., materials of house wall, floor, and roof, and the ownership and types of toilet, bath, and kitchen). This information theoretically can be used to measure the social class/socioeconomic status of villagers, serving as a proxy for family income.

Nevertheless, because of missing data, this dissertation could not rely on the survey data. Among 82 families in Hsin-Hsing Village in 1965, there were only about 30 families for which adequate information on possession of household appliances and living conditions was available. Given the more than 50 families without information on socioeconomic indicators, the variable of social class/socioeconomic status had to be excluded from this dissertation. The issue of missing data also happened in the 1979 survey data. The majority of families did not have adequate information to measure their socioeconomic status.

Power dynamics within the family were also not measured directly because of missing data. This research simply discussed the different characteristics of labor migrants, in terms of their age and gender, to make inferences about family power dynamics during the labor migration process. Although age and gender traditionally shape the power hierarchy within Taiwanese families, they may not necessarily indicate a person's status within a family power hierarchy. They cannot directly reflect the dynamics of power within the family during the process of migration. For example, gender and age cannot tell "how" a migration decision is made or "who" makes the migration decision.

Therefore, the measurement of family power dynamics during the process of migration decision making needs to be more sophisticated and direct than just using age and gender as proxies. For example, we, first, can identify indicators, which are appropriate for measuring family power dynamics. These indicators can be (1) who participates in the migration decision-making, (2) if migrants have a chance to make a decision about migration, and (3) how the migration decision is made. Methodologically, we can design a series of questions to collect information on these three indicators. No data were available for this type of operation in this dissertation. "Family power dynamics," therefore, in this research was measured by using gender and age as proxies.

In sum, the limitations of this research were caused by the sole utilization of quantitative data and missing data. Limiting this research to the quantitative data and the examination of statistical analyses caused some drawbacks in the research. First, the influencing factor -- social networks -- associated with migration were excluded. Second, this dissertation had to rely on the arguments and examples in the published work of Dr. Bernard Gallin

and Dr. Rita S. Gallin derived from the qualitative data. Their arguments and examples, however, are extremely significant in providing meaningful contexts to understand migration in the rural village in Taiwan for this dissertation. In addition, their qualitative analyses reveal that research relying solely on statistical analyses is insufficient.

Other limitations are because of the issues of missing data. First, because there were more than 50 families without adequate information to measure “social class/socioeconomic status” for the statistical analyses, this variable had to be excluded from the whole research. Second, the same issue led to the measurement of “family power dynamics” by proxy. Gender and age were used to make inferences about the meaning and practice of power within the family.

Nevertheless, the future research needs to deal with these issues. First, the future research needs to utilize quantitative data to provide meaningful contexts to understand migration in Taiwan. Second, key factors such as social class/socioeconomic status and social networks needs to be collected, examined, and discussed. These variables are important in understanding migration in Taiwan.

7.4 Some Additional Thoughts

It is most usual to end a dissertation by including the implications for policy that emerge from the study upon which the dissertation was based. In this instance, however, such an enterprise is difficult because over 20 years have passed since the second period

examined in this research, i.e., the late 1970s. Many changes have occurred in Hsin-Hsing and its environs in particular and Taiwan in general since then, making suggestions for policy (based on the 1979 patterns) rather useless. Thus, in the space remaining, I document some of these changes and discuss how they may influence the migration of villagers.

In May 2001, I spent one day in Hsin-Hsing Village. Newly built highways make traveling to the village much easier than in the 1960s and 1970s. A new east-west highway has an exit to the north of the village. A paved two-lane road runs along the north edge of the village, next to the river. Nowadays, automobiles and motorcycles are the two major means of transportation. The trip from Taipei now takes less than four hours rather than the six to eight hours required in the 1960s.

In addition to changes in transportation facilities, the rural infrastructure has changed dramatically. Two- or three-story buildings abut the road running between Lu-Kang and Hsi-Hu. Factories and retail stores have been erected on agricultural land, and there are few rice fields to be found next to the road. Within the village, there are also many two- or three-story buildings, many equipped with modern appliances such as washing machines, air-conditioners, and stereo systems. In contrast, there are a number of abandoned houses, symbols of the villagers who migrated and settled elsewhere. Farm land also has been converted to industrial use. The only farm land within the village is located on the east-end of the village. Most of villagers I saw were old, and during the day-time they were taking care of grandchildren or were chatting with their friends in the

grocery store in front of the village or at the temple in the village. The only young people I saw were working in small factories scattered in the village; other young villagers were working locally outside of the village during the day-time.

According to my conversation with Dr. Bernard Gallin and Dr. Rita S. Gallin during this visit, I learned some things about the village. First, the oldsters still are the “farmers,” although most farming is now done by entrepreneurs who sell their labor power and work the land with machines. Second, villagers complain about the sluggish economy and several are living in China, having been sent there as managers by the companies for which they work. Third, there are a number of guest workers in the area, including Philippines working in the large mirror factor next to Hsin-Hsing and Thai and Indonesian men working in other nearby industries. Some of these immigrant workers rent vacant houses in the village, although they leave early in the morning and return after 9:00 P.M. There also is a Philippine guest worker living in the village who has been hired for work in agricultural production. Fourth, several male villagers have married women from China and Vietnam, and they live in Hsin-Hsing where they have assumed the status of dutiful daughters-in-law.⁷⁷ Finally, most of the people who now emigrate are those who are highly trained and educated. Those who are less endowed tend to stay in the village, either starting a small enterprise or working in local factories or businesses. These current phenomena serve as the guidelines for this section because they lead me to believe in the continuity of rural out-migration.

⁷⁷ Under the current law, these women are not allowed to work outside their homes for pay.

The geriatrification of agricultural production is a continuing trend in Taiwan (see *China Times*, December 2, 1999).⁷⁸ Today, most young villagers in Hsin-Hsing do not know how to farm (personal communication, Dr. Bernard Gallin and Dr. Rita S. Gallin, May 2001), and farming is primarily taken care of by old people. Old farmers hire entrepreneurs to perform rice farming during the first and second crops. In addition, villagers now rarely grow vegetables during the third crop, which was traditionally a cash crop. Most let their land lie fallow during the third crop because, they complain, growing vegetables is too labor intensive and not profitable.

The geriatrification of agricultural production in Hsin-Hsing Village reveals the declining role of agriculture in the national economy and is related to the unprofitability of this sector of the economy. The decline in the importance of agriculture makes it unlikely that young people will be attracted to farming as a source of income. The out-migration of rural young people, therefore, will probably continue.

Once Taiwan joins the World Trade Organization (WTO), agricultural production will be even less important for the national economy than it currently is. During the past decade, the Taiwanese government has actively attempted to join the WTO.⁷⁹ Joining the WTO

⁷⁸ See also "Farmland Must Not Be the Victim of Conglomerates" at Taiwan [He@dlines](http://www.taiwanheadlines.gov.tw/19991202/19991202o1.html) (<http://www.taiwanheadlines.gov.tw/19991202/19991202o1.html>).

⁷⁹ According to an on-line document (Taiwan in the WTO: An Economic and Policy Analysis, <http://www.taipei.org/un/wto0223.htm>), to establish its own "international space," Taiwan has tried to
continue to the next page...

means the reduction of international trading barriers and protective restrictions. On the one hand, Taiwan's economy will have to be fully liberalized. On the other hand, the Taiwanese government will lose its ability to protect the agricultural sector as it has in the past (see *China Times*, January 3, 2000).⁸⁰ Restrictions on the import of agricultural products, including sugar, rice, and tobacco, will have to be removed. Imported agricultural products will replace some produced domestically. Agricultural production will become less profitable than participating in off-farm labor markets, and, therefore, will be very unlikely to attract young villagers. In addition, because domestic agricultural production will be replaced by and/or compete with foreign agricultural production, farming will be less profitable than it is now.⁸¹

Changes in the rural economic structure do not happen within a vacuum. They are determined by the global economy. During the 1990s, international trade became more competitive than it was, and a number of new industrial countries emerged to challenge "dragons" such as Taiwan. To survive, entrepreneurs in Taiwan need to upgrade their technology to produce better quality commodities and to lower the cost of production, thereby enabling them to compete with NICs that have cheaper labor and raw materials available. Following an international trend, some Taiwanese entrepreneurs have started moving their business to countries in Southeast Asia and China in search of cheaper labor

establish an increased presence in international organizations, such as the Asia Pacific Economic Council (APEC), the World Health Organization (WHO), and the World Trade Organization (WTO).

⁸⁰ See also "Taiwan's Future Economic Challenge" at Taiwan [He@dlines](http://www.taiwanheadlines.gov.tw/20000103/20000103o1.html) (<http://www.taiwanheadlines.gov.tw/20000103/20000103o1.html>).

than that available on the island. When Taiwanese manufacturers move overseas, they also send some managers to operate their off-shore factories. It is unlikely that this situation will change and the out-migration of Hsin-Hsing people with managerial skills and experience will undoubtedly continue.

To stem the flight of manufacturing in the early 1990s, the government began to allow manufacturers to import immigrant workers from Southeast Asia countries, especially Thailand, Malaysia, Vietnam, Indonesia, and the Philippines (see *Sinorama*, December, 1999).⁸² On the one hand, the arrival of immigrant workers into the rural area may mean that jobs usually held by villagers with a low education will be taken by immigrant workers. On the other hand, local manufacturers may not be able or willing to upgrade to produce competitive products and will be unable to absorb labor with high education in the village.⁸³ When the local sector cannot provide employment opportunities which match the educational levels and income expectations of local people, more foreign workers, who are willing to work longer and harder and for less pay, will be imported by

⁸¹ Farming land, therefore, will not be able to serve as a safety net for migrants who might lose their jobs in urban centers and return to the rural area in search of work.

⁸² See also "Foreign Labor Changes the Face of Taiwan" at Taiwan [He@dlines](http://th.gio.gov.tw/show.cfm?news_id=486) (http://th.gio.gov.tw/show.cfm?news_id=486).

⁸³ To upgrade, local manufacturers require a great deal of capital for expensive equipment, appropriate infrastructure, well-educated employees, and research and development (R&D). Because local factories in traditional industries usually are small-scale, such upgrading is problematic. First, new equipment and appropriate infrastructure are expensive, and many manufacturers may not have the necessary capital to underwrite such investments. Second, the owners of these industries usually do not have enough knowledge of new technology and their costs will increase if they have to hire well-educated employees to compensate for their lack of know-how. Third, the owners of these small-scale factories are not will to invest in R&D because it is too risky and unpredictable. In the short-term, then, upgrading factories is costly. Some owners may go bankrupt before they even can recoup their investment or make a profit. For these reasons, owners of small-scale local factories are reluctant to upgrade to produce competitive products.

local manufacturers. It is predictable that those young villagers who have high educational levels will out-migrate to areas that offer them appropriate job opportunities. Local traditional “sunset” industries are likely to be maintained by those villagers with low education and/or immigrant workers.

In addition to the “push” factors found in rural areas, there are some “pull” factors that have the potential to lead to the out-migration of villagers, especially young villagers with high education. The Taiwanese government has tried to emphasize high technology and the computer industry, and it has established new science-based industrial parks in a few areas over the past two decades to strengthen its share in the information technology market and expand the national economy (see *Forbes*, October 9, 2000).⁸⁴ Manufacturers producing information technology-related products, such as semiconductor chips, require a great deal of capital to establish and operate a business. The factories of the computer industry are unlikely to expand their operation to all places in Taiwan, as was the case when factories were established in hinterland for rural industrial development in the 1970s.⁸⁵ Rather, factories attract many people with high education from all places in Taiwan, including THE ISLAND’S rural areas. In the future, what we will probably see in rural areas are (1) primarily old people who are not willing to migrate and who depend for their livelihood on remittances from their children working in urban cities, and (2) a

⁸⁴ See also “Taiwan: A Partner for Peace and Progress” by Michael Bociurkiw at Taiwan [He@dlines](http://www.taiwanheadlines.gov.tw/doubletenth2000/10_10_p5.htm) (http://www.taiwanheadlines.gov.tw/doubletenth2000/10_10_p5.htm).

⁸⁵ High-tech factories require a stable power supply and a good environmental protection plan and system, which are extremely reliant on government assistance and support. With limited resources, the government is not able to create this type of environment island-wide.

smaller group of young villagers who operate either small-size family factories established by their parents in the old days or factories they themselves established more recently.

In sum, I strongly believe that rural emigration will continue. Viewed from the “push” side, first, agricultural production is unprofitable. Second, traditional rural industries are declining. Without upgrading, these local factories are not able to produce competitive industrial products, and/or absorb well-educated young villagers. To survive, factories may hire more and more low-cost immigrant workers or move overseas to seek cheap labor. The emigration of highly educated young villagers is inevitable. Viewed from the “pull” side, newly- developed factories will attract highly educated young villagers.

These factories are usually located in specific areas such as a few science-based industrial parks. There, companies pay more than local factories to attract well-educated employees. Inevitably, highly educated young villagers are likely to emigrate to work for these companies than to stay in the village to work in the traditional industry.

Given the likelihood of continuing rural out-migration in Taiwan. I would like to offer some suggestions for future research on internal migration there. First, qualitative data must be included in the analysis and qualitative research is necessary. Simply utilizing quantitative data is not enough to discover the underlying meanings of and patterns in relationships between migration and its influential factors. Qualitative analysis provides meaningful contexts to explain social phenomena. Second, key variables such as the social class/socioeconomic status and social networks should be collected, examined, and discussed. Literature demonstrates that social class influences the decision of migration,

and power dynamics within the family during the process of migration. Including the social class/socioeconomic status into the internal migration research is necessary for understanding internal migration. In addition, within a Taiwanese society, social networks influence people's daily life. Certainly, social networks influence the people's decision of migration. Without including social networks, an internal migration research on Taiwan is incomplete. Fourth, the dynamics of power within the domestic unit during the process of migration needs to be sophisticatedly measured. Instead of using a proxy the combination of gender and age, the concept of power dynamics during the process of migration needs to be paid more attention. Understanding the dynamics of power within the domestic unit can push the internal migration research forward, because it provides a new perspective for understanding and explaining migration.

APPENDIX A

The Chronicle of the Migration Policies in the Ching Dynasty (between the mainland China and Taiwan)

Year	Regulations
1684-1695	During this period, labor migration was encouraged by the Ching officers on Taiwan, because of the labor shortage for cultivating.
1684	First, migrants should have applied a permission. Second, no wives, children, or another families were allowed to migrate. Third, Hakkas were prohibited to migrate. Therefore, the only category of legal immigrants was male-Hokkienese.
1696	Hakka males were allowed to migrate between the mainland and Taiwan.
1718	Migrating back and forth between the mainland China and Taiwan was allowed, but it must have been permitted by the Ching officers. However, this new policy did not differ from the previous. Also, only males were allowed to migrate.
1732	Liang-min (good guys) who were willing to registrate in Taiwan's registration data could apply to migrate to Taiwan with their families. This new policy allowed other family members move with male migrants.
1740	All migration was forbidden.
1746	Family reunification was allowed. First, grand-parents and parents were allowed to migrate to Taiwan to reunite. Second, young generations were allowed to migrate to Taiwan to take care of old grand-parents and parents. Third, wives and children were not allowed to migrate, but those who migrated with those permitted by the first and second rules were allowed. However, this policy did not change the policy set up in 1740 that all migration was forbidden.
1747	Family reunification of Hakkas was allowed for only one year.
1760	Family reunification of all Taiwan immigrants for only one year.
1761	The family reunification program in 1760 did not increase many immigrants in Taiwan, so the <i>Ching</i> government decided to prohibit migration between the mainland China and Taiwan again.

continued

Year	Regulations
1776	Families of the <i>Ching</i> officers on Taiwan were allowed to migrate to Taiwan.
1788	All emigrants must have registered in Taiwan registration data.
1875	All emigration was allowed.

Sources: Chi, Chia-Lin. 1989. *Taiwan Shih* (The History of Taiwan). Taipei, Taiwan: Tzu Li Wan Pao Hse. p. 150-3.

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