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**Selectivity of Migration in the Taipei Metropolitan Area -
A Comparison with the Chinese Mainland**

Zusammenfassung: Nach einem Überblick über längerfristige Urbanisierungstrends in Taiwan in der Periode 1940-1993 konzentriert sich dieser Aufsatz auf eine Analyse von Migrationsströmen, Migrationsgründen und Migrationsselektivität in der Stadtregion Taipei. Als Datenbasis dienen die Migrationsfragen der monatlichen Arbeitserhebung in Taiwan während der Jahre 1981 bis 1985. Neben dem generellen Merkmal einer positiven Selektion, die besser ausgebildete junge Erwachsene bevorzugt, enthüllt die Studie dabei klar unterschiedliche Muster für die einzelnen Migrationsströme vor. Auffällig ist, dass – abweichend von vielen anderen asiatischen Staaten - die Urbanisierung in Taiwan im Einklang mit der Industrialisierung verläuft. Ähnlich wie in Europa und Amerika findet eine mittlerweile substantielle Abwanderung aus der Innenstadt von Taipei in die Umgebung statt.

Schlagworte: Urbanisierung, Industrialisierung, Migration, Selektivität, Taiwan

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Abstract: After a brief outline of long-term urbanisation trends in Taiwan during the period 1940-1993, this article focuses on an analysis of migration streams, migration reasons and migration selectivity in the Taipei Metropolitan Area. The migration questions contained in the monthly Taiwan labour force surveys from 1981 to 1985 serve as the database. Besides the general trait of a positive selection that favours better educated young adults, the study reveals clearly differing patterns for the individual migration streams. It is conspicuous - and divergent from many other Asian countries – that urbanization in Taiwan proceeds in pace with industrialization. Similar to Europe and America, a meanwhile substantial population outflow from the core of Taipei City to the periphery is taking place.

Key words: Urbanisation, industrialization, migration, selectivity, Taiwan

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A COMPARISON WITH THE CHINESE MAINLAND**

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1 Introduction

Taiwan is an exception to much of what has been written about development and urbanisation in Asia. While many Asian countries have experienced urbanisation without much industrialisation¹, Taiwan has undergone the transformation from a predominantly agricultural society to an industrial society in a way which is far more similar to the earlier experience in Western Europe and the United States than most other Asian nations.

The history of urbanisation in the West has been one of rapid growth of cities during the early periods of industrialisation followed by the outward expansion of urbanisation from the larger cities as improving transportation made it possible for both workers and manufacturing establishments to locate further from the centre.² Finally, as Western nations reached a peak in their levels of industrialisation and moved into the 'post-industrialisation' era, rates of urban growth slowed for both the central cities and their surrounding suburbs and many of the older central cities experienced population loss. This has been observed both in the United States,³ as well as in several Western European countries,⁴ and in Japan.⁵

Zelinsky⁶ introduced the concept of a mobility transition which was similar to the demographic transition whereby societies which were undergoing modernisation would pass through different phases of mobility. Bouvier, Macisco and Zarate⁷ and Wilson⁸ have elaborated the mobility transition model to specify how the selectivity of migration should change with societal development and urbanisation. In the initial stages of urbanisation, migrants from rural areas to the cities are expected to be positively selected from the rural populations, although they may not possess as much education or skills as the urban residents. As urbanisation proceeds, the difference between urban and rural areas is expected to become smaller, and the degree of selectivity of migration is likely to decline. In the post-industrial society the proportion rural is small so that a large proportion of migrants move from urban origins and migrants are expected to have somewhat higher levels of education and skills than non-migrants at both the origin and destination.

Several studies in less developed countries have demonstrated that rural to urban migrants tend to be young adults who possess higher than average levels of education and skills than those who remain in rural villages.⁹ In mainland China, economic reform was initiated in the beginning of 1980s, the pace of rural-urban migration had been resumed and even exceeded the level of the 1950s. It has been reported that Chinese migrants in the 1980s share the similar characteristics for migrants of less developed countries.¹⁰ But there is limited evidence to suggest that

¹ Davis, Kingsley, 'Asia's Cities: Problems and Options', in: *Population and Development Review*, 1:1, 1975, p.71-86; McGee, T.G., *The Southeast Asian City*, New York 1967.

² Frey, William and Alden Speare, Jr., *Regional and Metropolitan Growth and Decline in the United States*, New York 1987.

³ Frey, William, 'Migration and Depopulation of the Metropolis: Regional Restructuring or Rural Renaissance', in: *American Sociological Review*, 52, 1987, p.240-257 and see footnote 3.

⁴ Vining, Daniel R. and Tomas Kontuly, 'Population Dispersal in Major Metropolitan Regions: An International Comparison', in: *International Regional Science Review*, 3, 1978, p.49-73.

⁵ Kuroda Toshio, *The Role of Migration and Population Distribution in Japan's Demographic Transition* (Papers of the East-West Population Institute, No.46), Honolulu 1977.

⁶ Zelinsky, Wilbur, 'The Hypothesis of the Mobility Transition', in: *Geographical Review*, 61, 1971, p. 219-249.

⁷ Bouvier, Leon.F., John J. Macisco Jr. and Alvan Zarate, 'Toward a Framework for the Analysis of Differential Migration: The Case of Education', in: Anthony H. Richmond and Daniel Kubat, eds., *Internal Migration*, Beverly Hills 1976.

⁸ Wilson, Franklin D., 'Aspects of Migration in an Advanced Industrial Society', in: *American Sociological Review*, 53:1, 1988, p.113-126.

⁹ Browning, Harley, 'Migrant Selectivity and the Growth of Large Cities in Developing Societies', in: *National Academy of Sciences, Rapid Population Growth*, Vol.II, Baltimore 1971, p.273-324; Connel, John et al., *Migration from Rural Areas: The Evidence from Village Studies*, Delhi 1976; Findley, Sally, *Planning for Internal Migration* (U:S: Bureau of the Census), ISP-RD-4, Washington, D.C. 1977; Shaw, R. Paul, *Migration Theory and Fact* (Bibliography Series No.5, Regional Sciences Research Institute), Philadelphia 1975.

¹⁰ Wang, Yuhai, 'Zhongguo renkou qianyi qu chengshihua guoji xueshu taolunhui zongshu' (Summary of the International Academic Symposium on China's Population Migration and Urbanization), in: Zhongguo shehui kexueyuan renkou yanjiusuo, ed., *Zhongguo renkou nianjian (Almanac of China's Population)*, Beijing 1990, p.552-555; Scharping, Thomas, 'Rural-Urban Migration in China', in: Wolfgang Taubmann, ed., *Urban Problems and Urban Development in China* (Mitteilungen des Instituts für Asienkunde), Hamburg 1993.

urbanisation becomes less selective as development proceeds.¹¹ The argument for this change is that the early migrants are innovators who are breaking with the established modes of production to seek new ones.¹² Once migration streams are established, migrants can follow the paths of the earlier innovators and can receive help from village members already established in the city.¹³ Also, as the volume of migration to cities increases, it becomes more of a mass movement encompassing a wider range of the rural population. However, Price and Sikes¹⁴ suggest that the selectivity of rural to urban migration in the United States may have increased over time, and Wilson¹⁵ presents data showing relatively little change from the 1930s to the 1970s.

As urbanisation proceeds, there are also likely to be changes in the motivations of migrants. At early stages of urbanisation, migrants are drawn to cities primarily for higher education and for non-agricultural employment. Those in the return streams are likely to be children of large landholders who are returning to help manage the family estate after receiving education, school teachers and officials being posted in the village, workers returning to agriculture after either failing to find satisfactory urban employment or after acquiring sufficient money to pay off debts or to purchase land.¹⁶ While education and employment are the main reasons for migration, there are likely to be some female migrants who move for marriage or to follow their husband to the city. As urbanisation proceeds, other reasons such as housing become more important. It has been argued that non-employment reasons were important in the return migration to non-metropolitan areas which was observed in the United States in the 1970s.¹⁷

In the first half of 1980s, Taiwan provides an interesting locale to test the transition thesis for three reasons. At first, Taiwan is still in the later stages of industrial development. Secondly, population spilling from Taipei metropolis to its periphery is first observed in this period. Thirdly, Taiwan has completed its population transition in this period. The pace of population growth has slowed down and affected further urbanisation. Besides, Taiwan's experience may provide lessons for mainland China. Since mainland China has initiated economic reform in the beginning of 1980s, several factors have contributed to the growth of floating population in urban and peri-urban areas. On the one hand, more flexible official attitudes have been adopted toward household registration and food supply. There have been fewer restrictions on gaining provisional urban residence. Members of the floating population are still unable to get urban *hukou* registration booklets, they nevertheless may stay in cities as long as they want. In addition to this administrative relaxation, food supply is also not a concern since the state monopoly in grain marketing has been lifted. These factors have removed the major obstacles of voluntary movements. On the other hand, a large sum of foreign capital has been invested mainly in the eastern coastal areas of mainland China. It thus has attracted a large amount of labourers moving from central and western areas into eastern coastal provinces and urban areas. In brief, floating population has gradually superseded formal migration with change of household registration. Or voluntary migration has gradually overtaken involuntary migration. The proportion of involuntary migration declined from an average of 43.9% in 1982 - 1987 to 38.4% in 1986 - 1987.¹⁸ The shift implies a change from purely job-related movements to movements which are composed mainly of economic reasons but mixed with other reasons such as marriage and retirement. The change will make migration in mainland China rather similar to that of Taiwan in terms of motivation. Taiwan's experience will thus be useful to mainland China.

In the next section, we shall briefly review the recent history of industrialisation and urbanisation in Taiwan and the extent to which it follows the earlier pattern of Western nations. We shall examine the patterns of migration in Taiwan and see to what extent the characteristics of migrants in different streams conform to the expectations based on Western experience.

¹¹ Browning, Harley and W. Feindt, 'Selectivity of Migrants to a Metropolis in a Developing Country: A Mexican Case Study', in: *Demography*, 6, 1969, p.347-357.

¹² Peterson, William, 'A Topology of Migration', in: *American Sociological Review*, 23, 1958, p.256-66.

¹³ Gallin, Bernhard, *Hsin Hsing Taiwan: A Chinese Village in Change*, Berkeley 1966.

¹⁴ Price, Daniel O. and Melanie M. Sikes, *Rural-Urban Migration Research in the United States* (Center for Population Research Monograph, NICHD), Washington 1974.

¹⁵ See footnote 8.

¹⁶ Speare, Alden Jr., 'Urbanization and Migration in Taiwan', in: *Economic Development and Cultural Change*, 22, 1974, p.302-319; Speare, Alden Jr. and John Harris, 'Education, Earnings and Migration in Indonesia', in: *Economic Development and Cultural Change*, 34(2), 1986, p.223-244; Textor, Robert, *From Peasant to Pedicab Driver*, University Cultural Report Series No.9 (Yale University), New Haven 1961.

¹⁷ Brown, David L. and John M. Wardwell, *New Directions in Urban-Rural Migration - The Population Turnaround in Rural America*, New York 1980.

¹⁸ See footnote 10.

2 Recent History of Urbanisation in Taiwan

Taiwan is of particular interest because of the rapid industrialisation and urbanisation which have occurred there in the past 30 years. The simultaneous occurrence of urbanisation and industrialisation make urban areas attractive to large numbers of young migrants and tend to lead to positive selection of migrants. In 1951, 59% of Taiwan's labour force was employed in agriculture or other primary sector activities and less than 15% were employed in the industrial sector. By 1980, primary sector employment accounted for only 19% of the labour force and 43% were employed in industry. By 1993, the counterpart percentages were further decreased to 11.5% and 39.1% respectively. This significant change in industrial structure was accompanied by rapid urbanisation, with the greatest growth occurring in the Taipei region.

The process of urbanisation in Taiwan is summarised in Table 1. In 1940, there were only three cities over 100,000 (Taipei, Kaohsiung, and Tainan) and they contained less than 10% of the population. By 1993, there were 34 cities (or townships) with populations over 100,000 and 57.3% of Taiwan's population lived within their boundaries. For the entire period from 1940 to 1993, the growth of cities has exceeded that of the total population. However, as the growth of the total population has slowed, so has the growth of cities, so that by the 1990s the city population was growing at only 2.1% per year overall and 0.4% within constant boundaries. Also, in the 1970s and 1980s, the growth of the larger cities slowed, while smaller cities and area surrounding the largest cities continued to grow more rapidly. To some extent, the smaller cities may appear to be growing more rapidly because some of them are overbounded so that growth is confined within their fixed boundaries, whereas some of the largest cities may be underbounded so that the growth is occurring at the periphery.

Table 1 **Growth of the Total Population of Taiwan and the Population in Cities Over 100,000 from 1940 to 1993**

Year	Total Population (in 1000's)	Average Annual Growth in Previous Period	Population in Cities over 100,000	Average Annual Growth (%) in Preceding Period		Percent of Total Population in Cities
				Overall	In Constant Boundaries	
1940	5872		577			9.8
1950	7554	2.6	1560	10.5	5.6	20.7
1960	10792	3.6	2795	6.0	5.3	25.9
1970	14676	3.1	5282	6.6	4.7	36.0
1980	17805	2.0	8396	4.7	3.5	47.2
1985	19258	1.6	9668	2.9	2.4	50.2
1990	20353	1.1	11281	3.1	1.5	55.4
1993	20944	1.0	12007	2.1	0.4	57.3

Sources: 1940: Barclay, G., *Colonial Development and Population in Taiwan*, Princeton 1954.
 1950 and 1960: Department of Civil Affairs Taiwan Provincial Government, *Household Registration Statistics of Taiwan 1959-61*, Taipei, July 1962.
 1970: *Taiwan Demography Monthly*, 5:12, December 1970.
 1980: Ministry of the Interior, *Taiwan-Fukien Demographic Fact Book*, Taipei 1980.
 1985: op. cit. 1985.
 1990: op. cit. 1990.
 1993: op. cit. 1993.

The spilling over of growth into adjacent areas was most noticeable in the Northern region which contains the capital city of Taipei. Since 1950, growth in the Taipei metropolitan area has been greater in the periphery than in the central city and between 1970 and 1980 the periphery grew twice as fast as the centre (see table 2). By the 1990s, Taipei city experienced population loss, while the periphery continued to grow slowly. This shift in the growth pattern has been accompanied by a shift in the growth of manufacturing away from the centre and into the surrounding area. While the growth in the periphery has slowed considerably since 1980, the periphery continued to grow more rapidly than the city.

Table 2 Growth of the Taipei Metropolitan Area, 1940 to 1993

Year	Population (in 1000's)			Average Annual Growth (%) in Preceding Period**		
	Taipei City*	Peripheral Townships	Total Metropolitan Area	City	Periphery	Total
1940	392	334	726			
1950	646	400	1046	5.1	1.8	3.7
1960	1097	762	1859	5.4	6.7	5.9
1970	1770	1300	3070	4.9	5.5	5.1
1980	2220	2331	4551	2.3	6.0	4.0
1985	2508	2711	5219	2.5	3.1	2.8
1990	2720	3099	5819	1.6	2.7	2.2
1993	2653	3262	5915	-0.1	1.7	0.5

* Using constant boundaries as redefined in 1968. These have remained the same through 1993

** Based on the formula: $r = 100 * (\text{EXP}(\ln(P2/P1)/n) - 1)$, where n = no of years.

Sources: 1940 to 1970: Liu, Paul K.C., 'Economic Aspects of Rapid Urbanisation in Taipei', in: *Academia Economic Papers*, 7 (1), 1979, p.151-187.
1980, 85, 90, 93: see Table 1.

In brief, it has been observed that Taiwan has undergone a rather similar experience to Western Europe and the United States in urbanisation and development. Consequently, it is of particular interest to find out whether Taiwan also shared similar changes in the nature of migration. In the rest of this paper, we shall examine the migration streams in Taiwan in the 1980s and the reasons given by migrants in these various streams. We will be interested in how the characteristics of migrants differ among streams and by reason for migration.

3 The Data

Beginning in 1979, a series of migration questions were added to the October round of the monthly labour force survey conducted by the Directorate General of Budget, Accounting and Statistics (DGBAS) in Taiwan. This survey is intended to be representative of the non-institutional population of Taiwan and involves a two-stage stratified sample design. In the first stage, village level units (*Cun* and *Li*) were selected from a list stratified according to degree of urbanisation and industrial composition, as indicated in household registration data. In 1980 there were a total of 7,319 *Cun* and *Li* in Taiwan with an average of about 500 households each. 511 of these were selected as primary sampling units.

In the second stage, households were systematically selected within the sample of village level units. In total, about 16,500 households were selected, which is equivalent to an overall sampling fraction of 4 per thousand. Each person has been given a weight which enables the sample population to be inflated to the total population of Taiwan. These weights were adjusted to match the population by age and sex as recorded in the household register.¹⁹ Throughout this paper, weighted results will be presented, while the unweighted numbers and estimates of sampling errors are available in the appendix.

We have based our analysis on data from the migration questions from the surveys from 1981 to 1985 for persons aged 15 and over. We limited the analysis to persons 15 and over because only these persons were asked the labour force questions and reason for moving. In these data, a person is defined as a migrant if he or she moved across a city or township boundary within the year preceding the survey. These data identify the city or township of origin and the city or township of destination for each migrant. However, to make the data more manageable, we will focus only on migration in the Taipei Metropolitan Area. We have divided all of Taiwan into only three areas: Taipei City, Taipei's periphery, and all other areas. The periphery of Taipei includes Keelung City and the townships in the

¹⁹ Directorate-General of Budget, Accounting and Statistics (DGBAS), Executive Yuan, *Report on the Internal Migration Survey in Taiwan Area, Republic of China, Taipei 1992, 1994.*

North Large Metropolitan Area, as defined by Liu ²⁰ excluding those which are within Taipei City itself. There are six migration streams between these three areas:

1. Migration from Taipei's periphery to Taipei City.
2. Migration from other areas to Taipei City.
3. Migration from Taipei City to Taipei's periphery.
4. Migration from Taipei City to other areas.
5. Migration from other areas to Taipei's periphery.
6. Migration from Taipei's periphery to other areas.

4 Migration Streams

During the five year period from 1981 to 1985, there were 11,229 migrants aged 15 and over observed in the labour force survey, or an average of 2,246 per year. When weighted appropriately, this corresponds to about 4,509,000 migrants for all of Taiwan. These numbers imply that about 6.8% of the population move across township boundaries each year. Because we are interested in migration to and from Taipei City and Taipei's periphery, we have excluded other migration streams and are left with slightly less than half of the total sample (equivalent to 2,162,000 persons) for analysis.

Among the six streams defined above, the second stream, from other areas to Taipei City, had the highest volume of migration, with 816,000 persons (see table 3). This stream accounted for 38% of the total migration among these three areas for the five year period. The stream from other areas to Taipei's periphery ranked second in volume with about 433,000 migrants. If the movement from Taipei's periphery to Taipei City (208,000) is added to these two streams, approximately two-thirds of all migration among these areas is accounted for by migration toward Taipei.

Table 3 Number of Migrants by Origin and Destination (Thousands)

Origin	Destination			Total Out-Migrants
	Taipei City	Periphery	Other Areas	
Taipei City	--	245	289	534
Periphery	208	--	171	379
Other Areas	816	433	--	1249
Total In-Migrants	1024	678	460	2162
Net In-Migrants	490	299	-789	0

Source: Tabulations from *Taiwan Labour Force Surveys, 1981-85*. Based on migrants aged 15 and above, weighted to represent the total population of Taiwan.

The net gains from migration can be obtained by subtracting the total out-migrants from each area from the total in-migrants (see the last line of Table 3). These show that Taipei City gained 490,000 migrants and that Taipei's periphery gained 299,000. Most of these gains were from the exchange with other areas. Since the flow from Taipei City to its periphery was greater than the flow from the periphery to the city, the periphery had a net gain of 37 thousand from its exchange with the city. These figures show that while many of the migrants from outside areas still go to the city, the net flow within the metropolitan area is towards the periphery. This is consistent with the findings from the United States and other Western countries.²¹

The net in-migration to Taipei City which was measured in the Labour Force Survey is much higher than the net migration recorded in the household registration data. The registered net migration for Taipei City was only about 129,000 for 1981 to 1985,²² whereas the data from the Labour Force Survey indicates a net in-migration of 490,000 for the period from 1981 to 1985.²³ There are two possible explanations for this difference. The most likely

²⁰ Liu, Paul K.C., 'Economic Aspects of Rapid Urbanization in Taipei', in: *Academia Economic Papers*, 7(1), 1979, p.151-187.

²¹ See footnote 3: Frey, William.

²² Ministry of the Interior, *Taiwan-Fukien Demographic Fact Book*, Taipei 1981, 1982, 1983, 1984, and 1985.

²³ *Taiwan Labor Force Surveys, 1981-85*.

explanation is that the registration data do not include an accurate count of recent migrants to the city. Delays in reporting changes in residence can be substantial. Speare et al.²⁴ estimated that the population of the Taipei metropolitan area was under counted by about 8% in 1973 and it is likely that this figure may have increased since then because registration staff have not been increased sufficiently to keep up with the population increase in the city.

However, it is also possible that there are some errors in the sampling and weighting of the Labour Force Survey. A survey which represents the overall population well, may not provide good estimates of net migration. Net migration is more sensitive to sampling errors because it involves the difference of sample estimates for in-migration and out-migration. For example, the unweighted numbers of migrants from the periphery to Taipei were 378 compared to 329 from Taipei to the periphery, so that the net-migration estimate is based on a net difference of 49 persons.

While the lack of agreement between the survey and the household register with respect to the magnitude of migration streams raises some doubt about the accuracy of estimates of the numbers of migrants in various streams, there is no reason to suspect that the survey is biased with respect to the characteristics of migrants or their reasons for moving. On the one hand, we have found that migration was mainly composed of rural to urban movements. On the other hand, we have found that there was considerable residential outflow from Taipei to its periphery. These two phenomena suggest that migrants were positively selected. The rest of the paper will concentrate on these questions.

5 Reasons for Moving

The reasons for moving varied by stream (see table 4). Overall, job changes and finding a new job were the major reasons for moving, accounting for about 47% of all moves. Education and housing ranked second and third with 21% and 17% of movers giving these reasons, respectively. Marriage had a minor role, with only about 6% of persons moving to become married. It is thus obvious that the majority of migrants were pulled by positive factors in the places of destination.

It is interesting that none of the six streams had a distribution of reasons for moving which was similar to the total. However, we find that there are two types of distributions of reasons among the streams. Streams 1 and 3 which involve short distance movement between Taipei and its periphery basically shared one type of movement, and the other four streams, which involved longer distance moves, had another type of distribution. In general, housing reasons predominated among the shorter distance moves while job reasons were most important for the longer distance moves.

Table 4 **Reasons for Moving by Stream (Percentage Distribution)**

Stream	Reasons For Moving						Total
	Job Change	1st Job	Education	Housing	Marriage	Other	
P to C	9.6	13.5	13.8	41.5	6.7	15.0	100.0
O to C	22.8	33.6	31.4	3.1	3.4	5.7	100.0
C to P	8.5	5.0	5.3	56.8	11.3	13.1	100.0
O to P	25.9	16.1	16.1	16.0	6.7	7.7	100.0
C to O	37.8	22.6	22.6	5.3	4.0	18.1	100.0
P to O	38.6	14.7	14.7	14.6	8.0	9.8	100.0
Total	23.7	21.8	21.2	16.7	5.7	9.8	100.0

Source: see Table 3

C = Taipei City

P = Periphery around Taipei

O = Other areas in Taiwan

Persons moving to Taipei from its periphery were more likely to move in search of jobs or to attend school than those moving in the reverse direction. In contrast, housing reasons, such as buying a new home, rental expiration,

²⁴ Speare, Alden Jr. et al., 'A Measurement of the Accuracy of Data in the Taiwan Household Register', in: *Academia Economic Papers*, 3(2), 1975, p.35-74.

poor living environment and houses which were too small were much more important for persons moving from Taipei to its periphery. When the numbers moving in each direction are examined by reason, we see that 77 thousand migrants moved from the periphery to Taipei for work or study and only 46 thousand moved in the opposite direction for these reasons, for a net gain of 31 thousand. However, Taipei had a net loss of 53 thousand to the periphery for housing reasons. These differences imply that Taipei is still the centre for education and employment, especially for those seeking a job for the first time, while the periphery is able to provide better housing at a lower cost because of its lower density.

Taipei gained considerably from areas beyond its periphery and job reasons and education accounted for most of these moves. Nearly one third of the migrants moving to Taipei from other areas were seeking first jobs and another 31% came for education, or accompanied persons moving for these reasons. The migrants moving in the reverse stream from Taipei to the other areas were more likely to be changing jobs or moving for other reasons and less likely to be moving for education or to find their first job than those who moved to the city.

The reasons for moving between Taipei's periphery and other areas were similar to the ones for movement between Taipei and the other areas. Migrants to the periphery were somewhat more likely to be changing jobs than those going to the city (25.9% compared to 22.8%) and they were less likely to be moving for education (16.1% compared to 31.4%). While housing was more often mentioned as a reason for moving from other areas to the periphery than for those moving to the city, it was not as important as it was for migrants between the city and the periphery.

In summary, as Taiwan has proceeded along the road of urbanisation the chief motivations for migration have changed from economic ones to housing and other non-economic ones. This was particularly the case for movements between Taipei and its periphery. However, long distance migration was still motivated by economic factors or by educational reasons. In the discussion above, we have emphasised differences which are due to characteristics of places of origin and destination and how they affect the type of mobility. In the next section, we will focus on the influence of types of mobility on the characteristics of migrants in these different streams.

6 The Selectivity of Migrants in Different Streams

In this section, four demographic characteristics, age, sex, marital status and education, are examined. Table 5 shows mean age of migrants by streams and types of mobility. As we expected, migrants tended to be younger and better educated than the residents of the areas of origin. Moreover, we found that age differences among types of mobility vary more by reason for moving than by stream. Among the five specific types of mobility, those moving for housing are the oldest and those moving for education are generally the youngest. The only exceptions were those who moved due to 'other' reasons who tended to be even older than those moving for housing reasons. Unfortunately, the survey provides no information on the reasons classified as 'other'. Those moving for housing reasons included persons buying new homes, who complained about their previous home being too small or providing a poor living environment, or who were troubled by the expiration of a rental contract. In order to be able to afford to buy a home or to move to a larger housing unit or a better environment, people usually have to be relatively older and better established than those who are continuing their education, entering the job market, or getting married.

The overall mean age of migrants, as shown in table 5, was 26.9 years. On the other hand, those who moved to acquire their first job or for study were among the youngest migrants. In many of the streams, the average age of persons moving for education was around 21. One exception is the group of persons moving from the periphery to Taipei for education, where the average age is 26.5. On closer scrutiny, this group included many older relatives who accompanied persons moving for education and it appears that some families were moving into the city from nearby towns in order to be able to send their children to city schools. Overall, only 2.1% out of the 21.3% who gave education as a reason were relatives accompanying the persons seeking education. However, in the stream from the periphery to Taipei, the relatives made up slightly more than half of the persons moving for education. Some of those moving to enter the labour market are also older and may either be relatives accompanying younger persons who are entering jobs or married women who are returning to work after childbearing.

Table 5 Mean Age of Migrants By Stream and Type of Mobility

Stream	Type of Mobility						Total
	Job Change	1st Job	Education	Housing	Marriage	Other	
P to C	26.9	28.4	26.5	32.0	25.5	33.6	30.1
O to C	27.1	22.6	21.0	28.1	24.2	35.4	24.1
C to P	28.5	25.9	24.8	34.8	25.9	38.6	32.8
O to P	29.5	22.1	20.3	31.3	23.0	36.2	26.3
C to O	28.0	25.8	20.8	34.4	23.3	35.7	27.8
P to O	28.1	30.8	20.8	33.1	23.8	30.4	28.0
Total	28.0	23.5	21.3	32.9	24.3	35.7	26.9

Means for the total population (1984):

C = Taipei City 34.3; P = Periphery around Taipei 34.8; O = Other areas in Taiwan 37.4

Source: see Table 3.

The two intermediate groups are those who moved because of changes in jobs or marriage. The mean age for the first group varied from 27 to 30 years old and was higher than that for persons entering the labour force in all streams except the streams from the periphery to other areas. The mean age for those moving for marriage varied from 23.0 to 25.9 years. Marriage migrants in both directions between Taipei and the periphery were older, on the average, than the longer distance migrants. As will be seen later, the marriage migrants were mostly females and consequently, their mean age must be close to the average age of marriage for brides in Taiwan. The household registration data show that the mean age at first marriage for women ranged from 24.2 to 25.3 years during 1981 to 1985.²⁵

In all streams, the average age of the total migrants was less than that of the total population at either the place of origin or the place of destination. This was also true for all migrants moving for employment, education or marriage. However migrants moving for housing and other reasons were similar in age to the total population in many of the streams. Housing movers going to Taipei City or from other areas to the periphery were younger than average, while other movers to the periphery tended to be older than average. When we review the composition of migration streams by sex, we find again that the differences among mobility types are greater than the differences among streams. The most extreme case are marriage migrants. Since Taiwan is basically a patrimonial society, it is customary for brides to move to stay with the bridegroom's family. Consequently, males comprised only 6.6% of the marriage movers, on the average (see table 6). In contrast, movers for job changes, entry into the labour market and education contained a majority of males. The percentage of males among job changers varied from 50.8% for those moving from other areas to the periphery to 56.7% for those moving from other areas to Taipei City.

Table 6 Percentage of Migrants Who Are Males by Stream and Type of Mobility

Stream	Type of Mobility						Total
	Job Change	1st Job	Education	Housing	Marriage	Other	
P to C	56.3	47.4	46.4	53.2	6.5	47.5	47.8
O to C	56.7	58.3	49.0	39.1	6.2	62.5	52.9
C to P	52.3	30.4	50.7	44.3	10.4	35.6	39.7
O to P	50.8	61.7	68.8	47.6	4.7	72.5	54.8
C to O	54.8	58.5	63.2	62.1	5.8	51.1	54.9
P to O	56.6	56.4	71.6	51.7	4.7	65.2	54.8
Total	54.8	57.7	55.1	48.0	6.6	55.2	51.7

Percentage of males for the total population in each area (1983):

C = Taipei City 49.5; P = Periphery around Taipei 50.2; O = Other areas in Taiwan 50.1

Source: see Table 3.

Among migrants moving for education or to enter the labour force, females outnumbered males in the short distance streams between Taipei and its periphery, whereas males outnumbered females in the longer distance streams to and from other areas in Taiwan. The biggest differences can be seen between labour force entrants moving from Taipei

²⁵ See footnote 22, 1985.

to the periphery where less than one-third of the migrants were male compared to the stream of migrants moving from the periphery to other areas for education where 61.7% were male.

Among migrants who moved for housing reasons, the proportion of males was lowest for those going from other areas to the city and highest for those going from the city to other areas. However, since relatively few people in these streams moved for housing reasons, this difference may not be reliable. Of greater interest is the difference in the sex distribution of the two main streams of people moving for housing reasons, those between Taipei and its periphery. While 53.2% of the housing migrants from the periphery to the city were males, only 44.3% of the migrants from the city to the periphery were males. Since the majority of housing migrants are married, this difference must be due to the unmarried migrants. It appears that unmarried males are somewhat more likely to remain in the city and that unmarried females are more likely to move out.

To a large extent, the differences in the sex composition of groups of migrants moving for different reasons tend to offset each other so that the proportion of males in most migration streams does not differ greatly from that of the total population. The main exception are migrants from the city to the periphery where there are significantly fewer males than at either the origin or the destination.

Table 7 Percentage of Unmarried Migrants by Stream and Type of Mobility

Stream	Type of Mobility						Total
	Job Change	1st Job	Education	Housing	Marriage	Other	
P to C	49.9	74.5	52.6	26.2	0.0	25.0	36.7
O to C	54.5	84.5	91.6	50.0	0.0	55.9	74.3
C to P	45.4	56.5	83.7	28.5	6.7	20.2	30.7
O to P	40.6	82.0	95.3	17.7	0.0	51.5	55.3
C to O	62.1	90.0	97.4	53.8	4.5	48.5	68.3
P to O	43.9	65.1	94.6	18.2	4.9	57.1	48.8
Total	51.2	82.0	90.5	27.7	2.5	43.5	59.1

Percentage of unmarried persons among total population in each area (1983): C = Taipei City 41.3; P = Periphery around Taipei 33.2; O = Other areas in Taiwan 29.5

Source: see Table 3.

Because migrants tend to be young, they are less likely to be married than the total population. In all streams except that from the city to the periphery, the proportion of unmarried migrants exceeds the proportion unmarried at the place of origin (see table 7). However for migrants from the periphery to the city, the proportion single is intermediate between the origin and the destination.

There is considerable variation in marital status of migrants among both streams and types of mobility. Those who moved for education or to enter the labour force had the highest proportions single. Overall, 90.5% of those moving for education were single and 82.0% of those moving to enter the labour force were single. The proportions single in these streams were much higher than the proportions single in the adult population in general, which was only 47%.²⁶ This is especially true for the longer distance moves where it appears that it is mainly the single persons who are inclined to move for education or to enter the labour market. The main exceptions are the streams from the city to the periphery and the periphery to the other areas to enter the labour force and the stream from the periphery to the city for education. As we noted in table 5, migrants in these streams for these reasons also tended to be considerably older than migrants in the other streams, since they consisted of some older and married relatives.

There are also relatively high proportions of single persons among those moving to change jobs. As was the case in migration for education or to enter the job market, job changers who moved between the city and other areas were more likely to be single than those moving shorter distances.

Most of the migrants who moved for housing reasons were unmarried. With the exception of the small numbers of migrants who moved for housing reasons between other areas and Taipei or the reverse direction, the proportion single among housing movers ranges from 18 to 29%. It seems understandable that few single persons would want

²⁶ See footnote 19, 1986.

to buy homes and most single persons are not sufficiently concerned about the size of their housing unit or the living environment to want to move.

Logically there should be no unmarried persons among the group who moved for marriage. However, table 7 shows small percentages single in three streams. These are due to a total of about 4 cases and may be coding errors. However, they could be due to divorces. In the period from 1981 to 1985, the crude divorce rate in Taiwan increased from .83 per 1000 to 1.08 per 1000.²⁷

The selectivity of migration in terms of education is shown in table 8. Because age is very important to understanding educational differentials, the table is divided into persons aged 15 to 24 and those 25 to 34. There were not sufficient numbers of older migrants to tabulate education by stream beyond age 34. Overall, those who moved for education had the highest proportions of senior high graduates, and this was particularly true for those aged 25 to 34. Among those 15 to 24, some are not old enough to have completed high school so that the proportions who are high school graduates range from 58% for migrants from the periphery to Taipei to 97% for migrants from the other areas to the periphery. These numbers are significantly higher than those for the total populations of these areas which range from 23 to 41%.

This implies that most of those who moved for education were either moving to attend college or were returning to their parents home after completing high school or college. High schools and particularly colleges tend to be concentrated in the city so that the normal flow is from the other areas and the periphery to the city for education and in the opposite directions upon completion of education. The fact that the proportion of senior high graduates is considerably higher in the stream from the city to the other areas than in the stream from these areas to the city suggests that either, many of these migrants came to the city to attend high school and returned after graduation, many persons from Taipei go out to attend universities in Taichung, Tainan, or elsewhere on Taiwan. Some schools are also located in the periphery around Taipei, and the difference in the proportion of high school graduates between the streams from the periphery to other areas is similar to that for the city and other areas, but not as large. The proportions are lowest for the short distance migration between Taipei and the periphery suggesting that many of these migrants are moving to attend high school rather than college.

In most streams, the new entrants into the job market have higher proportions with high school education than migrants for any other reasons except education. However, this is not true for the stream from Taipei to the periphery for both age groups, or the stream from the periphery to the city for persons aged 15 to 24, where persons moving for housing or marriage are better educated, on the average, than those entering the labour force.

The education of migrants in general compares favourably with the education of the total population, which ranges from 23.3% in other areas to 41.0% in Taipei. The proportion of migrants who were high school graduates was 44.8% on the average and was higher in all streams than the populations at either the origin or the destination. The education of migrants was particularly high among migrants moving for educational reasons from Taipei to other areas. However, most of these migrants were returning after completing education.

Among those entering the labour force, migrants in four of the six streams had education above average for Taiwan, but those from the city to the periphery had below average education and those from other areas to the periphery were close to the average. Among job changers, only those moving from the city to other areas and those moving from the periphery to the city had above average education and those moving to the periphery from either the city or other areas and those moving from the periphery to other areas had lower than average education.

²⁷ See footnote 22, 1985.

Table 8 **Percentage of Migrants Who Are High School Graduates or Above**
by Age Group, Stream and Type of Mobility.

Type of Mobility							
Stream	Job Change	1st Job	Education	Housing	Marriage	Other	Total
Age Group 15-24							
P to C	31.7	41.2	57.9	52.0	21.7	45.5	45.6
O to C	29.7	42.4	74.6	56.8	34.9	41.6	53.3
C to P	34.4	32.1	61.0	49.2	82.2	76.8	54.6
O to P	42.1	44.9	97.4	--	8.5	25.7	60.2
C to O	33.8	53.9	94.6	13.8	31.5	49.5	61.5
P to O	--	--	94.3	--	--	--	66.9
Age Group 25-34							
P to C	50.8	73.9	84.9	46.4	68.2	55.9	56.9
O to C	45.6	59.5	46.4	18.8	51.8	55.6	49.2
C to P	25.4	31.8	--	34.4	58.6	20.4	36.4
O to P	29.6	86.2	100.0	43.5	--	8.9	53.5
C to O	56.2	72.3	100.0	33.6	65.2	22.7	53.9
P to O	40.7	100.0	--	--	--	--	54.9

Percentage of high school graduates among total population (1983):

C = Taipei City 41.0; P = Periphery around Taipei 28.5; O = Other areas around Taiwan 23.3

Note: Percentages are not shown if there are fewer than 10 cases.

Source: see Table 3.

It is difficult to understand the relationship between education and migration for those making job related moves without more insight into the types of changes in occupation and industry involved in these moves.

In the 10 to 20 years preceding this survey, many factories were built in Taipei's periphery and many skilled and unskilled labourers were attracted to jobs in these factories. As shown in table 9, the proportion of the total population in the periphery employed in skilled and unskilled jobs exceeds 50% and is higher than the other two areas. Migrants in the two streams to the periphery also had high proportions of skilled and unskilled labourers. Among job changers, the combined proportions of skilled and unskilled workers in streams 3 and 4 were 51.1 and 65.3% respectively. Among those entering the labour force, the combined proportions in these occupations were 43.8 and 70.5% for streams 3 and 4, respectively. Since these two types of workers have relatively low education, this explains why streams 3 and 4 have the lowest percentages who are high school graduates or above among the six streams. Among job changers, streams 2 and 6 also had relatively high proportions of skilled and unskilled workers.

Table 9 Percentage Distribution of Current Occupation by Stream for Job Related Moves

Stream	Professional and Administration	Clerk	Sales	Services	Farm	Skilled	Un-skilled	Total
Moved For Job Change								
P to C	12.8	31.5	2.1	15.8	3.0	30.6	9.3	100.0
O to C	6.3	12.8	14.8	11.1	0.3	44.5	10.4	100.0
C to P	5.4	7.3	3.6	25.8	0.0	51.7	5.1	100.0
O to P	3.4	14.1	4.3	7.3	1.8	64.4	7.6	100.0
C to O	10.6	20.5	10.8	11.6	8.9	30.6	7.4	100.0
P to O	10.2	10.2	7.7	8.9	7.6	50.6	5.7	100.0
Total	7.6	14.8	10.5	11.1	4.1	44.2	7.6	100.0
Moved to Enter Labour Force								
P to C	5.4	31.8	12.5	20.0	0.0	21.7	8.6	100.0
O to C	9.6	12.5	14.0	9.1	0.2	34.5	20.0	100.0
C to P	11.2	14.9	11.5	18.6	0.0	37.9	5.9	100.0
O to P	7.2	9.6	7.6	4.2	1.0	57.3	13.2	100.0
C to O	29.0	13.0	5.4	18.4	4.9	15.2	14.1	100.0
P to O	14.0	13.9	7.5	14.8	4.2	39.4	6.2	100.0
Total	10.5	13.0	11.3	9.7	0.9	38.3	16.3	100.0
Occupation Distribution For Total Population in Each Area								
City	11.0	25.9	18.6	11.8	1.2	28.0	3.5	100.0
Periphery	6.8	16.8	12.7	9.0	2.8	46.5	5.4	100.0
Other	5.7	10.1	11.8	6.9	25.0	36.0	4.4	100.0

Source: see table 3.

Further evidence of the role of job opportunities in structuring the composition of migration streams can be seen in the distribution of migrants by industry (see table 10). The data for the total population show that the periphery of Taipei contains the highest proportion employed in manufacturing and the City the lowest of the three areas. For streams 3, 4 and 6, the proportion of job changers who were employed in manufacturing industries ranged from 37.6 to 50.6%. The other three streams had lower proportions employed in manufacturing. Among new entrants to the labour force, the highest proportion employed in manufacturing is found in the stream from other areas to the periphery of Taipei (63.1%). However new entrants who moved from Taipei to the periphery were more likely to be employed in commerce than in manufacturing.

Table 10 Percentage Distribution of Current Industry by Stream for Job Related Moves

Stream	Agri- culture	Manufac- turing	Construc- tion	Communi- cation	Service	Other	Total
Moved For Job Change							
P to C	3.4	24.8	13.8	16.7	28.6	12.7	100.0
O to C	0.3	27.6	18.4	26.9	18.0	8.7	100.0
C to P	0.0	37.6	12.8	18.3	27.6	3.7	100.0
O to P	2.3	50.6	14.4	8.1	17.3	7.4	100.0
C to O	9.2	28.5	8.5	22.2	22.2	9.7	100.0
P to O	9.7	41.3	9.4	14.1	16.2	9.2	100.0
Total	4.1	34.4	13.6	19.7	19.4	8.7	100.0
Moved to Enter Labour Force							
P to C	0.0	29.7	7.4	35.3	17.0	12.7	100.0
O to C	0.2	33.2	8.5	23.0	25.9	9.2	100.0
C to P	0.0	28.1	7.2	36.9	11.2	16.6	100.0
O to P	1.0	63.1	5.3	10.9	15.9	3.8	100.0
C to O	4.9	28.4	5.4	16.1	41.2	3.9	100.0
P to O	4.2	44.0	3.9	13.6	34.0	0.3	100.0
Total	0.9	40.3	7.2	28.0	24.1	7.4	100.0
Industry Distribution For Total Population in Each Area (1983)							
City	1.3	27.1	8.3	27.3	21.0	15.0	100.0
Periphery	3.0	41.0	8.9	16.9	16.9	13.3	100.0
Other	25.3	31.8	7.1	15.2	13.1	7.6	100.0

Note: Other includes mining, transport, finance and utilities.

Source: see table 3.

7 Discussion

In this study, we have postulated that Taiwan will replicate the experience of western Europe and the United States in terms of urbanisation and its relationship to development. Among the evidence presented in this paper, there are three aspects of urbanisation which are of particular interest. First, it appears that during the past four decades, urbanisation in Taiwan has occurred at the same pace as industrialisation. This makes Taiwan's experience more similar to the earlier urbanisation of Western nations than to the current urbanisation in the majority of the less developed countries where urbanisation is proceeding more rapidly than industrialisation. Secondly, there has been a substantial residential outflow from Taipei City to its periphery in the 1980s. Finally, between 1981 and 1985, migrants in general continued to be positively selected relative to the populations at place of origin, although the degree of selectivity varied by stream and type of mobility. While the first two observations are in line with mobility transition theory, this theory predicted that selectivity should decline once a country was substantially urbanised.

In the 1990s, positive migration selectivity was still observed in Taiwan. For example, better educated and young people are more mobile. In 1992, migrants with college or above education ranked first, accounting for 21.5%.²⁸ It was followed by junior high college (15.6%), senior high vocational (13.9%) and senior high (12.0%) education. Similarly, young adults accounting for the majority of migrants. Migrants aged 20 - 24 had a greatest share of 20.3% in 1992. The two adjacent age groups (15 - 19 and 25 - 29) ranked second and third. Their counterpart proportions were 17.1% and 16.5% respectively. The continuation of positive selectivity of migration in Taiwan suggests that

²⁸ See footnote 19.

Taiwan has not yet reached the post-industrialised era. This is consistent with the fact that net-migration is still in the direction of greater urbanisation, despite the recent declines in urbanward migration.

There are other fundamental reasons why Taiwan's migrants are still positively selected in Taiwan. Chinese culture has traditionally emphasised education as an important access to family status. Since the best schools are located in the major cities, young people continue to move to these cities in search of higher education. In addition, the government of Taiwan is highly centralised in Taipei City. Since most civil service jobs require above average education, migrants entering these jobs tend to be positively selected in terms of education. Furthermore, because of the centralisation of government offices many businesses and financial institutions which must obtain permits from the government prefer to settle in Taipei to be close to these government offices.

The phenomenon of positive selection in migration implies that decentralisation is critical to Taiwan's rural development. Unless efforts can be made to retain highly educated and skilled persons in rural areas, these areas may suffer in the long run and the gap between urban and rural areas may increase.