

On One's Own: Self-Employment Activity in Taiwan

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SELF-EMPLOYMENT HAS been one of the major activities of postwar economic development in Taiwan. Despite the increase of wage and salaried employment that accompanied industrialization, more than one-fifth of the labor force in Taiwan, a comparatively large proportion among industrial societies, remained self-employed until the mid-1990s (see Yu 2001b: table 9.1). Furthermore, the average number of employees per establishment declined from 8.6 in 1981 to 7.6 in 1996 (DGBAS 1982, 1997). This was the result of a greater increase in the number of establishments, rather than a change in the size of the labor force during this period. This trend implies a somewhat steady labor flow into self-employment over the last two decades, despite the fact that the labor force in the agricultural sector shrank by nearly 10 percent. Not only do these facts present an evident challenge to earlier assumptions that wage employment would absorb most of the labor supply, and that self-employment would inevitably decline and disappear as the economy advances (see Portes and Benton 1984, or chapter 1, this volume, for references), but they also speak to the importance of studying self-employment activity in Taiwan.

Like other types of employment, self-employment results from a match of supply-side characteristics with structural opportunities enabled by the demand side. This chapter aims to tell the story of such a match for the case of Taiwan. First, we emphasize the macro-level opportunity structures in Taiwan that encourage entry into self-employment, in order to explain the unusually high percentage of self-employed labor force in Taiwan compared with other economies with a similar level of development. Looking at Taiwan in a cross-national context, we are forced to ask why self-employment was a more popular option in this national labor market than in Western countries and in Japan (see the figures in chapter 1 of this volume). Following previous studies that associate self-employment activity with macro-level opportunity structures in the labor market (Arum, Budig, and Grant 2000; Blau 1987; De Soto 1989; Portes and Benton 1984; Steinmetz and Wright 1989; Piore and Sabel 1984; Wal-

dinger 1986), we consider the propensity of becoming self-employed in Taiwan as a reflection of a particular macro-level opportunity structure that enables self-employment activity to flourish. Thus, this study aims to contribute to an understanding of the persistence of self-employment in industrial economies.

With respect to the labor supply side, individual attributes and resources such as ethnicity, gender, human capital, and personal ties have been found to impact entry into and exit from self-employment in various countries (e.g., Bates 1999; Portes and Jensen 1989; Sanders and Nee 1996; Waldinger 1989; Yoon 1991). Previous studies on self-employed women in Taiwan show that this group does not necessarily possess less human capital, despite great heterogeneity within the group (Simon 2000; Yu 1999, 2001b). Moreover, individual attributes that aid in the acquisition of social capital, such as kinship networks, geographical origins, or previous work experience, determine one's entry into self-employment to a great extent (Ka 1993; Simon 2000; Yu 2001b). This study will also examine determinants for entry into and exit from self-employment among individuals, while supplementing previous research by depicting detailed individual trajectories to and from self-employment for each job episode.

We will also address heterogeneity in Taiwanese self-employment processes. Research on self-employment in industrial societies often notes great heterogeneity within this category (e.g., Arum 1997; Arum, Budig, and Grant 2000; Jurik 1998; Yu 2001b). Not only do determinants for moving into and out of self-employment vary for different types of self-employment (e.g., unskilled, skilled, and professional self-employment), but paths into self-employment and the relevant outcomes of the activity also differ between men and women, as previous studies suggest (Boden 1996, 1999; Morokvasic 1991; Carr 1996; Yu 2000, 2001a). Therefore, this chapter will also explore the similarities and differences in individual attributes, occupational characteristics, survival chances, and exit patterns among unskilled, skilled, and professional self-employment, as well as gender differences.

MACRO-LEVEL TRENDS

The rapid expansion of the workforce, together with the proliferation of small businesses focusing on exports, created ample opportunities for self-employment in Taiwan in the postwar period. Small-scale enterprises began to flourish, particularly in labor-intensive industries such as textiles, processed food products, leather goods, wood products, and paper products, after the state shifted its development strategy from import substitu-

tion to export-led growth in the late 1950s (Cheng and Gereffi 1994). The total number of establishments doubled within a decade: from 216,300 in 1966 to 426,500 in 1976. By 1996, the number of establishments had reached 866,500, with an average of 7.6 employees per establishment. In the meantime, the labor force rose from 2.89 million in 1953 to 9.38 million in 1999, as a result of both industrialization and population growth. Throughout the period, there was a constant and significant proportion of nonwage employees, including the self-employed, within the labor force. As of 1999, some 5.4 percent of the labor force listed themselves as employers, 16.3 percent as self-employed workers, and 7.7 percent as unpaid or irregularly paid family workers (DGBAS 2000).

Despite the growth of self-employment in absolute terms, the percentage of self-employed has remained relatively stable over the past two decades. Figure 12.1A traces the changes in labor force composition for men from 1980 to 1999. The greatest change in the labor force has been a shift from agriculture to the service sectors. Although agricultural production was the prime engine of Taiwan's economic development in the early 1960s, the annual growth rate in farm production has steadily declined over the past three decades. There has been a downward drift for the labor force in the agricultural sector from 20 percent in 1980 to 10 percent in 1990. However, the employment shares in the industrial sectors remained relatively stable for both dependent employees and the self-employed. The most remarkable change took place in the service sector, where dependent employees increased their share by 8.8 percent and the self-employed by 3 percent.

Figure 12.1B shows changes in the female labor force. In addition to the downward trend in agriculture, the percentage of women employed in the industrial sector has also steadily declined since 1987. The two sectors together decreased their share of total employment by 24.4 percent. At the same time, female workers in the service sector increased their share to a similar extent; workers employed by the service sector rose from 15.6 percent in 1980 to 37.2 percent in 1999. Because female self-employment was predominantly located in the service sector, the shift of employment toward this sector has had a positive influence on the growth of female self-employment. While the share of female self-employment in the industrial sector remains small and more or less constant, the proportion of the self-employed in service industries has increased from 6.8 to 8.6 percent for women.

SCALE OF ECONOMY AND SELF-EMPLOYMENT

The scale of economy in Taiwan has a great impact on easing the entry into self-employment, partially as a result of state policy in the early

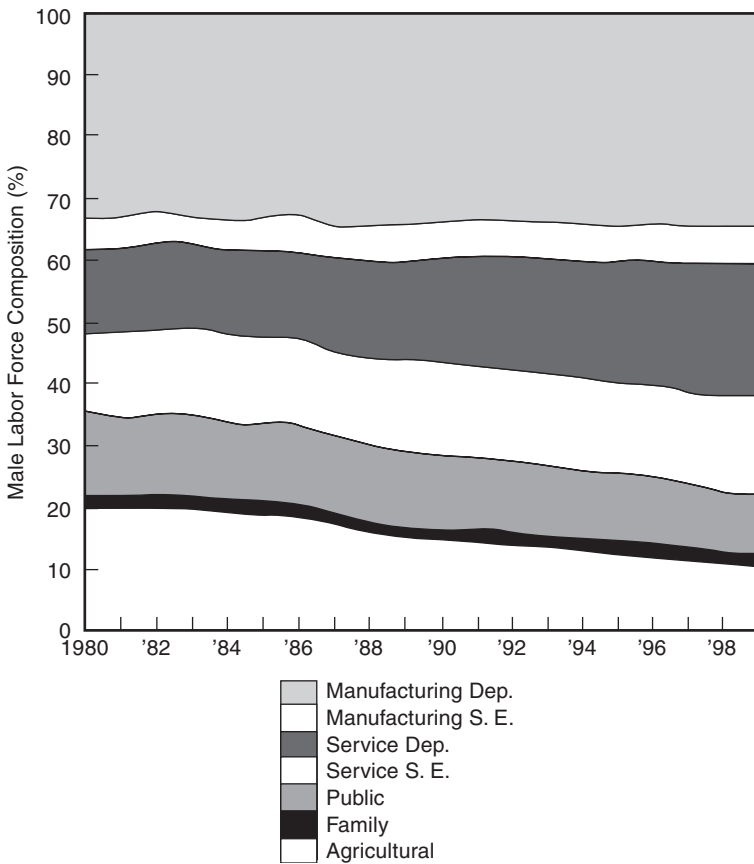


Figure 12.1A: Trends in Male Self-Employment in Taiwan, 1980–99

stages of economic development. Previous research has noted an unusually large number of small, mostly family-owned businesses and highlighted their significant role in the postwar economic development of Taiwan (Cheng and Gereffi 1994; Deyo 1989; Galenson 1979). In comparing Taiwan to its East Asian counterparts Japan and South Korea, several scholars argue that the Kuomintang regime, in order to defend its legitimacy, as well as secure its dominance on the island after the civil war in 1949, intentionally sponsored the establishment of small enterprises and caused a unique organizational structure that consisted of mostly small- to medium-sized family businesses widely dispersed all over the island (Cheng and Gereffi 1994; Hamilton and Biggart 1988; Noble 1998). The regime's fiscal policy of high interest rates, preference for short-term loans, and unsupportive attitude for markets in equity capital (e.g., the stock market), along with nonfavorist economic plans

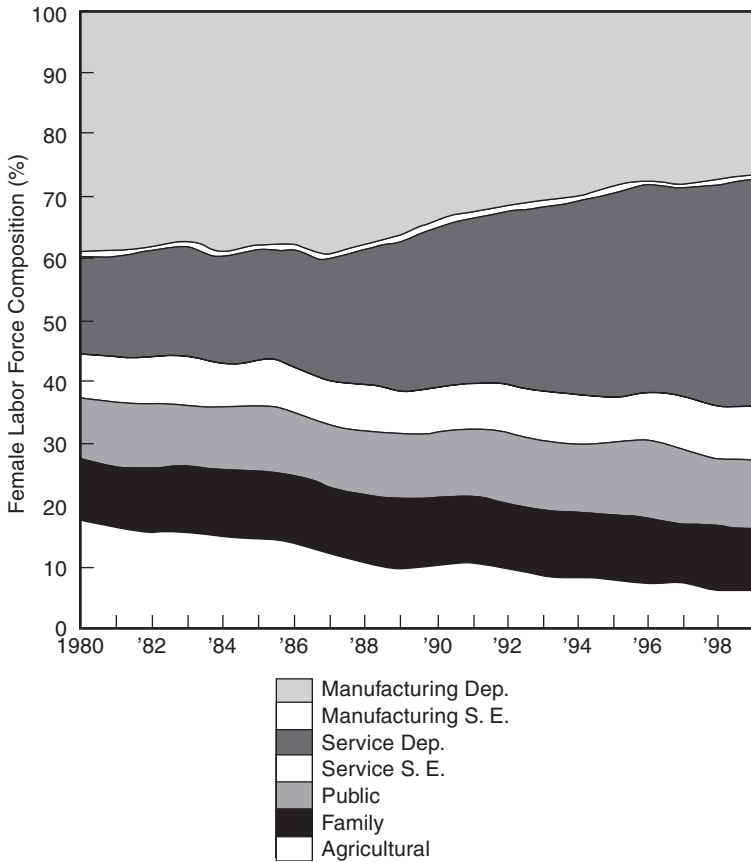


Figure 12.1B: Trends in Female Self-Employment in Taiwan, 1980-99

that encouraged competition, constrained the amount of capital available for individual businesses, and therefore impeded the growth of large enterprises (Hamilton and Biggart 1988).

Furthermore, Shieh (1991, 1992a, 1992b) argues that the unique arrangement of manufacturing processes in Taiwan has provided a niche for small and even very small establishments. Rather than incorporating mass production lines in large-scale factories, the process to manufacture goods in Taiwan involves many small establishments that contribute a simple part or task required for making the end product. The concentration on light and labor-intensive industries during the early decades of Taiwan's economic development allowed for arrangements of production that divided the overall process into many simple tasks, and these tasks were subcontracted to self-employed or home-based piece workers and

very small establishments. Thus, with these arrangements of production, an establishment can start and survive with relatively little input of skills and financial capital. Furthermore, with the help of subcontracting systems, a family-based establishment can simply mobilize family members to carry out the small and simple tasks in the whole production process (e.g., Ka 1993; Lu 2001).

Regardless of the reasons why small businesses flourish, there is no debate that the industrial structure in Taiwan has been characterized by a small scale of economy and relatively low capital requirement for business establishments. To illustrate, 33.8 percent of the Taiwanese labor force was employed in firms with fewer than ten employees, while in the United States only 11.8 percent of the labor force was in establishments of the same scale in 1996 (DGBAS 1997; US Department of Commerce, Bureau of Census 2000). The scale of economy remains comparatively small when we compare the figures for Taiwan with other East Asian countries, such as Japan and South Korea. For example, 55.2 percent of the Taiwanese labor force was working in firms of fewer than twenty-nine employees in 1995, whereas the percentages were 32.9 percent and 25.3 percent for Japan and South Korea, respectively (see Brinton 2001: table 12.5).

This particular economic structure has great implications for workers and their working lives. It eases the entry into self-employment and encourages the notion that “black hands (i.e., blue-collar workers) becoming bosses (by becoming self-employed)” was a possible path of upward mobility for manufacturing workers (Shieh 1989, 1992a). Furthermore, the large number of small businesses and subcontracting jobs leads to a large proportion of female workers participating in economic activities as unpaid or irregularly paid family enterprise workers or home-based piece workers (Ka 1993; Kao 1999; Li and Ka 1994; Lu 2001; Yu 1999, 2001b). Other research also shows that the small scale of the Taiwanese economy facilitates female self-employment and therefore empowers the women in the society (Simon 2000).

While the macro-level economic structures lower the threshold and smooth entry into self-employment, Taiwanese workers are not solely *pulled* into self-employment. A proper explanation of individuals' choice of self-employment needs to take into account the alternative—namely, dependent, paid employment. Studies in other countries often attribute the concentration of self-employment to overly rigid structures associated with dependent employment due to state regulations or employment practices in large firms (Arum, Budig, and Grant 2000; Aldrich and Waldinger 1990; Cheng 1997; De Soto 1989; Morokvasic 1991). Structural constraints maintained by the state or leading firms in the economy *push* certain groups of workers, such as immigrants or minorities, into

self-employment, as the barriers to dependent employment for these groups are particularly high.

We argue that Taiwan exemplifies a very different perspective on the connection between state or market regulations and self-employment. To be specific, while in various advanced economies self-employment is a response to rigidities imposed by state regulations or private firms, self-employment in Taiwan is a reaction to a weakly regulated private sector that does not provide proper labor compensation and sufficient job stability. It was not until the late 1980s that the Labor Standard Law was first enacted. The law mandated that employers were required to provide basic protections (e.g., minimum wages, workplace safety, upper limits of working hours, annual leave, maternity leave) and health insurance for employees, but covered only certain industries and firms beyond a certain size. The Labor Standard Law later expanded its coverage, but it is still inadequate and does not cover all in the labor force.

Furthermore, dependent employment in the private sector generally does not provide much more fringe benefits than self-employment, due to the state's policy. Most firms in the private sector do not have a pension plan or other fringe benefits for employees, since it is not required. The state does, however, require employers to partially bear the costs of their employees' employment and medical insurance, to ensure the state's provision of a lump-sum payment upon retirement and medical care for workers. However, these benefits are also available for self-employed workers through occupational unions, and the premiums for people who obtain insurance in this way are only slightly higher, as the state subsidizes part of the cost. In addition, the Employment Insurance Regulations exempted owners of businesses of fewer than ten employees from providing employment and health insurance for their employees until 1988. Based on the statistics from 1988, nearly 40 percent of the dependently employed were no better off than the self-employed, as far as fringe benefits were concerned, before the regulations changed (DGBAS 1989). Currently the exemption still applies to owners of firms of fewer than five employees.

With respect to job security, the small-establishment-based economy implies relatively high job instability for dependent employees, although in the postwar era, layoffs and large-scale layoffs in particular have been unusual because of labor shortages and economic prosperity (Tsay 1995; Yu 1999). In addition, while the birth of a small business is not difficult, the death of small businesses is also common. Small and very small establishments simply do not have the capacity to survive economic fluctuations. Hence, the lives of small establishments are likely to be shorter than individuals' working lives. Furthermore, there is little legal protection against employee dismissal and defiance of explicit or implicit em-

ployment contracts.¹ Both the authoritarian Kuomintang regime and the disproportionately large percentage of small- to medium-sized enterprises in the economy caused labor unions to play inactive roles in protecting private sector employees (Cheng and Gereffi 1994; Huang 1999). Thus, there has not been a considerable advantage for private-sector employment as compared to self-employment, with respect to job stability. This is particularly the case for unskilled workers, whose chances in the labor market are relatively poor.

Moreover, the prevalence of small-scale, family-owned businesses indicates blocked mobility for a large number of dependent employees; career ladders are already limited by the size of many businesses, and nonfamily members seldom reach the management level in small- to medium-scaled family-owned businesses. Thus, Shieh (1989) argues that becoming self-employed is considered the only way to break these low ceilings. Yu (1999, 2000, 2001b), using two different sources of survey data, also finds that self-employment has the potential to bring greater financial returns to education than dependent employment in the private sector. Therefore, the economic structures and low degree of state regulations create relatively high risks and little upward mobility for dependent employment and therefore push those workers who most likely possess low human capital and skills and would not benefit from dependent employment into self-employment. This explains why the proportions of unskilled to skilled self-employment were noticeably greater than in all other countries examined in this volume (see figs. 1A and 1B).

It is worth noting that we consider self-employment a response to the macro-level opportunity structures facilitated by the unique organizational structures in Taiwan, and we disregard the cultural explanation that there is a preference for being a leader in a small group rather than a follower in a large one, as expressed in the Chinese saying: "It is better to be a rooster's beak than a cow's tail." The insufficiency of this cultural explanation is evident in Hong Kong and Singapore, two other Chinese societies that contributed to the "East Asian Economic Miracle" but had only about 10 percent of the labor force in self-employment in 1995, while the percentage was as high as 22 percent in Taiwan for the same year (see Yu 2001b, fig. 9.1). The preference for becoming a "rooster's beak" in Chinese culture is certainly not strong enough to explain the exceptionally high proportion of self-employed workers in Taiwan.

SELF-EMPLOYMENT AND SOCIAL CAPITAL

In spite of the push and pull forces at the macrolevel, not everyone is able to become self-employed. The startup capital may be low, but pre-

vious research suggests that social networks or personal ties are the major determinants for entering and surviving self-employment (Ka 1993; Yu 2001b). Social connections to other self-employed people increase exposure to this type of employment and enhance the likelihood of considering self-employment as a career option. In Ka's case study of very small establishments in the textile industry in Taipei, help from strong ties such as families and friends was often identified as the reason for entering self-employment in this industry (Ka 1993). Similar to the findings from studies of immigrants and self-employed in the United States, close friends and family members from the same rural area moved to urban areas together and began small businesses in the same neighborhood, taking over various parts of the production process in Taiwan (Ka 1993; see also Aldrich and Waldinger 1990; Waldinger 1986, 1989). Strong ties also allow small establishments to mobilize labor with a high level of flexibility, which reduces costs and helps cope with economic fluctuations. Previous research shows that the exploitation of family labor is usually a key to survival for small businesses (Ka 1993; Kao 1999; Li and Ka 1994; Lu 2001). The capability of mobilizing family labor implies social capital and is demanded by many types of self-employment, particularly those that involve low skills.

Following existing literature, this chapter stresses the importance of family-based social capital on entry and retention in self-employment. Social capital is defined as the strong ties that have the potential to increase one's access to either information or cheap labor for self-employment activity. We hypothesize that workers who have strong ties to self-employment activity are more likely to become self-employed themselves and to succeed in this activity. Even though previous research also suggests that weak ties from previous work experience and acquaintances in the same business increase the survival rate for self-employment by reducing uncertainty and smoothing information flows (Yu 2001b), we will not emphasize this aspect of social capital, as we do not have the necessary network data to examine this hypothesis in this chapter.

GROWING HETEROGENEITY AND GENDER DIFFERENCES

Heterogeneity is one feature that has been noted frequently by researchers on self-employment (e.g., Arum 1997; Yu 1999). Unlike dependent employment, self-employment exists in environments with much greater uncertainty. Job schedules, returns to labor, as well as work content are all less standardized for self-employment than for dependent employment. Just as there are differences in worker characteristics and labor outcomes for wage or salaried employees across occupations and

industries, there are differences among the self-employed. In fact, self-employed workers are likely to be an even more heterogeneous group, given their job characteristics and work conditions: a dentist operating his or her own clinic and a street vendor selling hot dogs are both considered self-employed.

With respect to this heterogeneous feature of self-employment, existing research shows that Taiwan is no exception. Studies on Taiwan demonstrate that there are great variations in skill levels, work orientations, and motivations for labor force participation among self-employed women (Simon 2000; Yu 1999, 2001b). Yu (1999, 2001b) also shows that the usual determinants for earnings for dependent employment, such as work experience, on-the-job tenure, and occupations, do not predict the earnings of the self-employed well, and that there is greater variation in earnings within the self-employed than within wage or salaried employees. The diversity within this group makes it difficult to determine earnings based on human capital characteristics. Taking this into account, we divide self-employed workers by the skill level of their occupations (i.e., professional, skilled, and unskilled self-employment) and examine the different dynamics within self-employment activity. If the heterogeneity hypothesis holds, we should find great differences in the determinants for entering and exiting professional, skilled, and unskilled types of self-employment.

With respect to differences in self-employment processes, many studies show that men's and women's paths to and experiences of self-employment differ (e.g., Arum 1997; Carr 1996; Loscocco and Leight 1993; Yu 2001a). Hence, gender also determines self-employment experiences. Previous studies on Taiwan show that upon separation from wage or salaried employment, men are much more likely to turn to self-employment than women; a good proportion of women become family enterprise employees rather than self-employed workers (Yu 1999). Among those who become self-employed, men are much more likely than women to employ workers in their establishment, and a good number of self-employed men have their spouse participating in their business as an unpaid or irregularly paid family enterprise worker. This is rarely the case for self-employed women (Kao 1999; Li and Ka 1994; Lu 2001; Yu 1999). Female self-employment also yields lower financial returns than male self-employment in Taiwan, after controlling for human capital and job characteristics (Yu 2000). Self-employed women, however, are more likely to remain in the labor force than their counterparts in dependent employment, despite marriage, childbearing, and child rearing (Yu 2001a, 2001b). "Being one's own boss" apparently permits married women to cope with family-work conflicts much better than dependent employment. Family cycles, in contrast, do not affect Taiwanese men's decision

to participate in dependent or self-employment (Yu 2001a). All of these findings indicate that gender is a major determinant of self-employment experiences and outcomes, just as it is for dependent employment.

DATA AND METHODS

Data for the analyses in this chapter are drawn from part 2 of the 1996 Taiwan Social Change Survey, which included a nationally representative sample of 2,831 respondents aged 25–60, based on a multistage cluster sampling design.² Each respondent was asked to provide retrospective work histories for up to fifteen jobs, all of which had to be the primary ones of the time, and to have lasted at least one month. However, the survey requested detailed information only on respondents' most recent seven jobs and the first job. Within the sample, less than 1 percent of the respondents reported more than eight jobs. We are therefore able to reconstruct complete work histories for the vast majority in the sample, despite the missing information for those respondents who had more than eight jobs. We exclude the 105 respondents who have never worked and 21 respondents with incomplete job spells or missing demographic information. Because we are primarily interested in nonfarm job transition, we also exclude all employment spells in agricultural occupations or industries. This procedure yields 2,570 respondents; all individuals in the final sample had at least some working experiences in nonfarm sectors prior to 1996. The average number of jobs reported is 2.8 per respondent, with a standard deviation of 1.6 jobs. Based on the starting and ending age of each job spell, we construct a person-year file that extends from 1980 to 1996. For each respondent in the sample, the person-year file begins when the respondent turns 18 years old. The final sample consists of 37,427 person-year spells, with an average of 14.86 spells per respondent.

The survey asked respondents to identify for each job spell its employed or self-employed status. We believe that these self-reported results are consistent with the legal definition of self-employment provided by the state. For example, both measurements would consider owners of incorporated enterprises as self-employed. Nonetheless, the percentage of the self-employed in the labor force in the data is greater than the percentage in the labor statistics published by the government of the same year (DGBAS 1997, 31.4% for the former, 22.3% for the latter). One reason for this discrepancy is the wider age range in the government labor statistics (from age 15 onward), and the underrepresentation of self-employed among the relatively young and relatively old. The other reason is that our survey data, as compared to government reports, are

better at capturing informal self-employment activity, which is believed to contain a sizeable proportion of the labor force in Taiwan (Yu 2001b).

The measurement of our dependent variables and all independent variables in the baseline models follows the research design specified in chapter 1 of this volume. Hence, educational qualification is measured on the CASMIN scale with five categories (Müller et al. 1989; Shavit and Müller 1998): (1ab) completed up to nine years of compulsory education; (2c vocational) high school graduates with a vocational emphasis; (2c general) completed senior high school; (3a) completed junior college; (3b) four-year university graduates. Two-digit Taiwanese Standard Industrial Codes were converted into the six categories of NACE industrial coding (Eurostat 1996): (1) manufacturing, mining, water/gas/electricity (C/D/E); (2) construction (F); (3) wholesale, retail (G/H); (4) transportation and communication (I); (5) finance, business service (J/K); (6) public administration, personal/domestic service (L-Q). We use the EGP class schema to classify father's and respondent's occupations into three major categories: professional/managerial (EGP I, II), skilled (EGP IIIa, V, or VI), and unskilled (EGP IIIb, VIIa) (Erikson, Goldthorpe, and Portocarero 1979; Erikson and Goldthorpe 1992). Due to a lack of detailed information, respondent's education and spouse's employment status are presumed to be constant, estimated by those reported at the time of interview. Respondent's age is measured as of the starting date of each spell. We use father's occupation and employment status when the respondent was 15 years old as a measure of socioeconomic background.

In addition to the starting and ending age of each job spell, our survey data consist of detailed information on individual work experiences and work conditions, including employment status, industry, occupation, and employer characteristics. We are therefore able to include several time-varying, work-related covariates in our extensive models. Our variable "number of job spells," which reflects one's labor force experiences, is measured by the number of job episodes that one had experienced since the first job. "Self-employment experiences" measures cumulative years in self-employment prior to the current job spell. In addition to the measure of firm size, we introduce a few variables representing career opportunities and job stability in order to test our hypothesis that blocked mobility leads to self-employment. The measures of work characteristics are: (1) opportunities for promotions ("Do people of a similar rank to yours still have chances for promotion?"); (2) whether the work place is unionized ("Was there a union in your workplace?"); (3) job security ("If you wanted to, could you stay at your job for as long as you like?"); (4) the existence of internal labor markets ("Was it more likely for your company to hire a person of your rank from within or outside of the company?"); and (5) business group affiliation ("Was your organization

an affiliate of a large-scale business group?”). All of the above are dummy variables except for “promotion opportunities,” which is measured on a Likert scale from one to four. All extended models also control for two macroeconomic time-varying covariates: change in unemployment rate and percentage of the service sector. Unemployment rate is measured as a gender-, education-, and industry-specific annual national rate. Percentage of the service sector, which estimates interindustry differences in labor demand, is simply the share of employment in the service sector of a given year.

Following the research design of this cross-national comparative project (chapter 1), we first use logistic regression in an event-history approach to estimate the effects of various independent variables on the likelihood of transition to self-employment, treating all types of self-employment as a single category. We then adopt discrete competing-risk models to examine the processes by which individuals move into the three different types of self-employment. Respondents who are considered at risk for transition to self-employment must have been at least 20 years old, not self-employed, and not in agricultural industries or occupations as of 1979. With respect to the analyses of separation from self-employment, we use only logistic regression analyses because the total number of exits from each category of self-employment is too small to model competing risks.

DESCRIPTIVE FINDINGS

To properly describe self-employed workers in Taiwan, we first compare the characteristics of the self-employed to dependent-employed workers in our sample (table 12.1). The unit for the descriptive statistics is the person-year, not the individual, so these results are weighted by the number of spells that a respondent had in our sample. In general, self-employment was highly concentrated in establishments with less than ten employees, while dependent employees were more evenly distributed across medium- and large-sized firms. Skilled and unskilled self-employment consisted of mostly small-sized, family-owned businesses. Some 80 to 95 percent of these spells involved establishments employing fewer than five employees, mostly irregularly paid family members.³

Moreover, the industrial distribution of nonfarm self-employment differs for men and women. For men, professional self-employment is concentrated highly in manufacturing; skilled self-employment in construction; and unskilled self-employment in traditional services and transportation. For women, we find more than 85 percent of unskilled self-employment spells and nearly 60 percent of professional self-

employment spells in traditional service industries. The largest group of skilled self-employed workers was in personal services.

The most common occupations for male professional self-employed were executives and directors (55.5%) and managers and administrators (11.5%). In contrast, skilled self-employment for men consisted mainly of construction contractors (23.5%), construction and maintenance painters (11.3%), and machinery mechanics or fitters (9.0%). Furthermore, the mostly likely occupations for unskilled self-employment among men were shop salespersons and demonstrators (37.5%), motor-vehicle drivers (15.7%), street vendors, stall and other market salespersons (12.4%), and housekeeping or restaurant service workers (11.3%). For women, the largest groups for professional self-employment are executives and directors (29.8%), followed by managers and administrators (19.1%), while skilled self-employment included occupations such as hairdressers, beauticians, and workers providing other personal services (45.9%); tailors, dressmakers, and garment trade workers (22.7%); and accounting, bookkeeping clerks, and security brokers (7.5%). As for female unskilled self-employment, the main categories are shop salespersons and demonstrators (37.2%), housekeeping and restaurant service worker (25.6%), and street vendors, stall or other market salespersons (12.4%).

With respect to educational attainment, professional self-employed workers had higher education on average than dependent employees, while unskilled self-employed workers had less education than dependent employees. This is to some extent consistent with the skills required for these different types of employment. However, both professional and unskilled self-employed workers had somewhat less educational attainment compared with their counterparts in dependent employment. The results are consistent with our arguments that self-employment provides an alternative route of upward mobility for those whose opportunities are relatively limited as wage or salaried employees in the private sector. Surprisingly, educational attainment among the skilled self-employed was not higher than among the unskilled self-employed: over 70 percent of skilled self-employment spells in our sample were associated with more than nine years of compulsory education. The government statistics in the same year revealed a similar pattern: 69.1 percent of male own-account workers and 71.3 percent of female own-account workers had received only minimum education (DGBAS 1997). This result suggests that many of the skills needed for skilled self-employment are acquired from previous work experiences rather than in school.

Despite the prevalence of family business in Taiwan, the rate of family inheritance was not particularly high, as far as the descriptive statistics are concerned. Compared with dependent employees, self-employed men

TABLE 12.1
 Characteristics of Self-Employed and Dependent Employed in Taiwan, Pooled Data, 1980-96 (in percent)

| Industry | Male | | | | | | Female | | | | | | Number in row % | | | |
|-------------------------------|---------------|-------|-----------|-----------|-------|-----------|---------------|-------|-------|-----------|-------|-------|-----------------------|-------|-----------|-------|
| | Self-employed | | | Dependent | | | Self-employed | | | Dependent | | | | | | |
| | Prof. | Skill | Unskilled | Prof. | Skill | Unskilled | Total | Prof. | Skill | Unskilled | Total | Prof. | | Skill | Unskilled | Total |
| Manufacturing (C/D/E) | 41.5 | 28.9 | 15.4 | 38.0 | 41.5 | 49.9 | 38.0 | 23.4 | 23.8 | 6.0 | 15.3 | 49.6 | 56.9 | 41.0 | 10,786 | 39.2 |
| Construction (F) | 7.6 | 43.1 | 0.1 | 4.6 | 32.2 | 5.2 | 16.8 | 5.3 | 3.6 | 0.0 | 1.4 | 6.4 | 3.8 | 3.9 | 3,224 | 11.7 |
| Traditional service (G/H) | 21.4 | 10.4 | 63.9 | 5.8 | 5.7 | 8.6 | 14.6 | 59.6 | 4.7 | 85.3 | 8.4 | 12.3 | 15.4 | 19.3 | 4,532 | 16.5 |
| Transport/communication (I) | 2.4 | 0.4 | 16.4 | 5.8 | 7.0 | 16.7 | 9.0 | 0.0 | 0.9 | 1.3 | 1.8 | 3.7 | 5.3 | 3.6 | 1,889 | 6.9 |
| Business service (J/K) | 11.8 | 2.9 | 0.0 | 10.5 | 3.1 | 2.5 | 4.5 | 0.0 | 6.1 | 1.1 | 8.4 | 6.6 | 4.1 | 5.4 | 1,333 | 4.8 |
| Other service (L-Q) | 15.2 | 14.4 | 4.3 | 35.3 | 10.5 | 17.0 | 17.1 | 11.7 | 61.0 | 6.2 | 64.7 | 21.3 | 14.5 | 26.8 | 5,765 | 20.9 |
| Education lab 2c (vocational) | 23.9 | 71.8 | 68.3 | 5.0 | 53.0 | 61.7 | 47.7 | 19.1 | 75.0 | 72.8 | 6.0 | 35.3 | 66.0 | 47.4 | 13,116 | 47.6 |
| | 16.1 | 17.5 | 17.7 | 20.4 | 24.0 | 25.9 | 21.7 | 5.3 | 17.4 | 19.0 | 20.6 | 35.5 | 23.6 | 25.8 | 6,439 | 23.4 |

| | | | | | | | | | | | | | | | | |
|----------------------|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|-------|-------|-------|--------|------|
| 2c (academic) | 8.4 | 4.5 | 7.3 | 4.3 | 6.0 | 3.8 | 5.2 | 17.0 | 2.5 | 4.0 | 3.9 | 6.0 | 3.5 | 4.4 | 1,356 | 4.9 |
| 3a | 30.0 | 4.2 | 5.4 | 27.7 | 11.4 | 6.1 | 12.9 | 40.4 | 2.8 | 3.4 | 35.6 | 13.8 | 5.5 | 13.0 | 3,557 | 12.9 |
| 3b | 21.6 | 2.0 | 1.3 | 42.6 | 5.6 | 2.5 | 12.4 | 18.1 | 2.3 | 0.8 | 33.9 | 9.4 | 1.4 | 9.3 | 3,083 | 11.2 |
| Father self-employed | 28.2 | 28.0 | 24.0 | 20.2 | 17.4 | 17.5 | 20.6 | 67.0 | 19.8 | 21.6 | 29.9 | 22.9 | 20.5 | 23.2 | 5,960 | 21.6 |
| Annual Income | | | | | | | | | | | | | | | | |
| Mean | 1,057 | 567 | 582 | 583 | 353 | 299 | 446 | 717 | 394 | 415 | 419 | 257 | 201 | 275 | 3,800 | |
| Median | 600 | 420 | 400 | 500 | 300 | 265 | 360 | 600 | 300 | 360 | 380 | 207 | 180 | 216 | 3,800 | |
| Weekly work hours | 52.1 | 52.5 | 61.7 | 48.6 | 49.4 | 51.4 | 51.4 | 58.7 | 55.2 | 61.3 | 45.2 | 48.6 | 50.0 | 50.2 | 4,052 | |
| Employer Size | | | | | | | | | | | | | | | | |
| 1 person | 13.2 | 38.0 | 55.9 | 0.0 | 2.2 | 1.5 | 12.8 | 1.1 | 49.9 | 40.9 | 0.1 | 1.8 | 1.5 | 7.9 | 2,771 | 10.9 |
| 2-4 | 15.5 | 39.1 | 31.0 | 2.8 | 16.0 | 8.3 | 15.9 | 13.8 | 33.0 | 53.6 | 2.4 | 9.2 | 8.4 | 13.4 | 3,802 | 14.9 |
| 5-9 | 18.2 | 14.3 | 10.0 | 4.0 | 14.2 | 12.7 | 11.3 | 51.1 | 11.6 | 3.0 | 8.1 | 13.8 | 10.5 | 10.8 | 2,836 | 11.1 |
| 10-29 | 36.5 | 7.6 | 2.2 | 10.3 | 18.5 | 17.4 | 14.0 | 5.3 | 4.6 | 2.5 | 14.1 | 22.1 | 17.1 | 15.9 | 3,763 | 14.7 |
| 30-99 | 15.1 | 1.0 | 1.0 | 14.3 | 11.0 | 18.2 | 11.1 | 8.5 | 0.8 | 0.0 | 18.7 | 16.4 | 16.7 | 14.3 | 3,159 | 12.4 |
| 100-499 | 1.6 | 0.0 | 0.0 | 21.8 | 11.4 | 14.3 | 11.2 | 20.2 | 0.0 | 0.0 | 21.3 | 16.9 | 23.1 | 17.3 | 3,476 | 13.6 |
| 500+ | 0.0 | 0.0 | 0.0 | 46.8 | 26.7 | 27.5 | 23.8 | 0.0 | 0.0 | 0.0 | 35.4 | 19.8 | 22.7 | 20.3 | 5,708 | 22.4 |
| Column N | 740 | 2,048 | 1,984 | 3,478 | 4,679 | 3,697 | 1,662 | 94 | 643 | 979 | 1,790 | 3,377 | 4,042 | 1,092 | 27,551 | |
| % | 2.7 | 7.4 | 7.2 | 12.6 | 17.0 | 13.4 | 60.3 | 0.3 | 2.3 | 3.6 | 6.5 | 12.3 | 14.7 | 39.7 | | |

Source: 1996 Social Change Survey, Taiwan

Note: The units of analysis for industries, education, father's self-employment and occupation, and firm size are "person-year." The units of analysis for weekly work hour and wage are "person-job."

had a slightly higher proportion of fathers who were also self-employed, but the difference was not significant. Self-employed women in professional occupations, however, were somewhat unique in this perspective, as 67 percent of female professional employment spells were linked to fathers who were self-employed. This finding indicates that women's entry into professional self-employment is closely tied to their family conditions. Facing relatively high entry barriers, women who entered professional self-employment were likely to have done so through the direct inheritance of a family business.⁴

Across all three occupational types, the earnings for the self-employed were, on average, higher than their counterparts in wage or salaried employment. But this is not without a sacrifice: self-employed workers worked longer weekly hours than dependent employees. The differences were particularly large for unskilled occupations. The average hours of work per week for the unskilled self-employed exceeded sixty hours, which was ten hours more than the dependent employees in unskilled occupations worked. Gender differences in hours worked also reveal an interesting pattern. While female dependent employees generally worked fewer hours than their male counterparts, self-employed women in professional and skilled occupations worked longer hours than self-employed men in the same occupations.

The previous discussion has described the characteristics of self-employed workers in Taiwan. To further our understanding of self-employment processes in Taiwan, we use the Product-Limit method developed by Kaplan and Meier to estimate the survivorship functions for different types of self-employment (Blossfeld, Hamerle, and Mayer 1989). The survival function gives the probability of "surviving" (remaining in self-employment) during a specific time period $t_{(j)}$, given that a self-employed person has not yet left his or her status by time $t_{(j-1)}$. The slope of the survival curves thus indicates an approximate rate of separation from self-employment at different time points.

Figure 12.2 plots the survival functions of self-employment by gender and by types of self-employment. Compared with the other countries examined in this volume, self-employment in Taiwan is relatively stable. The five-year survival rate was 86 percent for men and 80 percent for women. Nevertheless, the fact that we have been making use of retrospective data, where short unsuccessful spells are often not reported, is also likely to contribute to the stability in our estimates. The comparison between male and female survival curves shows that self-employed men were less likely to exit than self-employed women (logrank test $\chi^2 = 16.51$, $p < .000$). While men still had an 80 percent survival rate after ten years in self-employment, the survival rate for women dropped to 64.1 percent. The pattern of the Kaplan-Meier curves among different

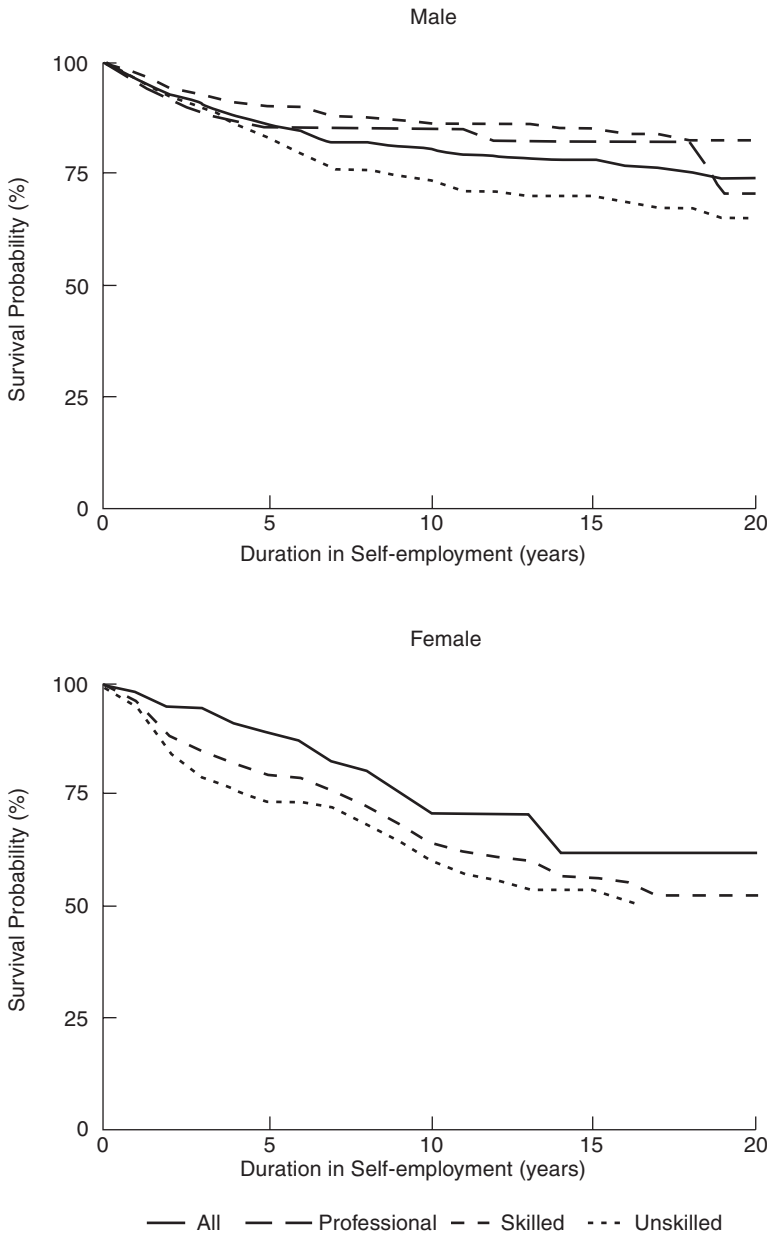


Figure 12.2: Kaplan-Meier Survival Function for Exit from Self-Employment in Taiwan

types of self-employment is also interesting. Skilled self-employment is more stable than unskilled, for both men and women. Furthermore, for self-employed men in professional and skilled occupations, most exits occurred during the first five years, whereas the downward part of the step function continues for at least ten years in self-employment for females.

In summary, the descriptive findings show that the self-employed differ from wage and salaried employees in a number of respects. Self-employed workers are generally less educated and more likely to be engaged in small-scale, family-owned businesses with their spouses. They also work longer hours but with higher earnings and are more concentrated in a few industries and occupations. Father's employment status is correlated with one's choice of self-employment, but a closer examination is required to determine the impact. Moreover, among those in self-employment, the highest exit rate was observed among unskilled workers. Our explanation is that the higher resource requirement and sunk-cost investment among skilled and professional self-employed create a greater propensity for retention, compared to unskilled self-employment. Finally, the descriptive findings indicate that not only do women encounter greater obstacles upon entering self-employment, but they are also less likely to succeed in self-employment than their male counterparts.

MULTIVARIATE ANALYSES

Tables 12.2–12.4 show the results from the logistic and multinomial logit models; we examine both entry into and exit from self-employment for all respondents, as well as for male and female respondents separately, with an event-history approach. Tables 12.2 and 12.4 include both baseline and extensive models, with the latter including additional variables concerning mostly one's previous work conditions. It is important to note that for the entry models (tables 12.2 and 12.3), we examine entry into self-employment without regard to original status (including unemployment and being in school), within the period 1980–96. Such job movement also has to occur after a respondent turned age 18 to be taken into account, since our person-year data excluded time periods before age 18 for each respondent. Those who were self-employed before or at age 18, or before 1980 and remained so throughout our examination period, would not be considered at risk of entering self-employment because they were already self-employed in our selected person-year sample. As a result, our analyses on the entry into self-employment censor 208 respondents. Thus, discrepancies between the descriptive statistics in table 12.1 and the results of the following analyses may exist, because the two samples are not exactly the same.

Table 12.2 predicts entry into self-employment among all respondents during the period of 1980–96. There is an interesting contrast in table 12.2 between the logistic models that predict one's movement into self-employment, which treat self-employment as a single category, and the multinomial models that estimate competing risks of turning into professional, skilled, and unskilled self-employment. The findings are consistent with our argument that self-employment is a category of great heterogeneity, and that the paths to self-employment vary for different types of self-employment. For example, in the baseline logistic model, the coefficients for the effect of education suggest that highly educated people are less likely to become self-employed (panel 1). The multinomial logit model (baseline), however, shows that educational attainment is *positively* associated with entry into professional self-employment but has a negative effect on entry into unskilled self-employment.

Comparison between the single-event and competing-risk models also shows that the contribution of family-based social capital with self-employment activity varies across different types of self-employment. Father's self-employment status serves as a good predictor *only* for entry into unskilled self-employment, even though the effect in the former model is positive and significant. Likewise, while having a spouse in family employment, usually working for one's own business, has positive effects on entry into self-employment in the single-event logistic model, the competing-risk multinomial logit model shows that this is the case only for professional and unskilled self-employment, but not for skilled self-employment. We argue that it is because unskilled self-employment tends to use exploitation of family labor as a way to reduce costs and increase labor flexibility. Hence, having a spouse working for the enterprise increases one's chance of being self-employed in unskilled occupations. In contrast, professional self-employed may not need the spouse's labor. But, since this type of self-employment tends to yield high returns, provides relatively great time flexibility, and renders relatively high status for family members in the enterprise, it attracts one's spouse to the enterprise. For skilled self-employment, whether the spouse works for the family enterprise may be neither necessary for the business nor beneficial for the spouse and therefore has no significant effect.

The baseline models in table 12.2 also show strong gender effects on entry into self-employment, particularly with professional self-employment. The gender effects remain in the extensive models. Women are less likely than men to become self-employed, after controlling for social background, human capital, previous job characteristics, and macro-level economic changes. Despite an increase in female self-employment in the service industries (figure 12.1A), men continue to predominate in the self-employment sector in Taiwan. Women are even more unlikely to

TABLE 12.2
Logistic and Multinomial Logit Coefficients on Entry to Self-Employment in Taiwan

| | All | Prof. | Skilled | Unskilled | All | Prof. | Skilled | Unskilled |
|--|--------------------|-------------------|-------------------|-----------|-------------------|--------------------|--------------------|--------------------|
| Education | | | | | | | | |
| 2a | 0.18 | 0.79 ⁺ | 0.37 | 0.04 | 0.21 | 0.91 | 0.69* | -0.10 |
| 2b | 0.39 ⁺ | 1.55** | 0.31 | 0.25 | 0.34 | 1.47* | 0.63 | 0.09 |
| 3a | -0.04 | 1.91** | -0.05 | -0.95** | 0.08 | 2.23** | 0.39 | -0.99** |
| 3b | -0.60* | 1.28* | -0.68 | -1.31** | -0.42 | 1.80** | -0.17 | -1.31** |
| Female | -0.98** | -2.27** | -0.74** | -0.81** | -0.97** | -2.15** | -0.69** | -0.83** |
| Age | 0.12** | 0.25** | 0.09 ⁺ | 0.11** | 0.12** | 0.23* | 0.05 | 0.11** |
| Age squared | -0.00** | -0.01** | -0.00* | -0.00** | -0.00** | -0.01** | -0.00* | -0.00** |
| Father's employment (<i>ref: unskilled</i>) | | | | | | | | |
| Professional/managerial | 0.14 | 0.66 ⁺ | -0.14 | 0.02 | 0.13 | 0.74* | -0.16 | 0.04 |
| Skilled | -0.02 | 0.30 | -0.03 | -0.13 | -0.08 | 0.23 | -0.08 | -0.20 |
| Farmer | 0.14 | -0.21 | 0.17 | 0.23 | 0.12 | -0.05 | 0.17 | 0.21 |
| Family worker | 0.44 | 0.20 | 0.85 | 0.29 | 0.23 | -0.21 | 0.76 | 0.15 |
| No job/no information | -0.18 | -0.52 | 0.22 | -0.36 | -0.27 | -0.26 | 0.07 | -0.44 |
| Father self-employed | 0.34* | -0.01 | -0.04 | 0.63** | 0.26 ⁺ | -0.04 | -0.19 | 0.58** |
| Employment status in origin state (<i>ref: unskilled</i>) | | | | | | | | |
| Professional/managerial | 0.06 | 0.41 | 0.21 | -0.33 | 0.10 | 0.52 | 0.28 | -0.25 |
| Skilled | 0.02 | -0.31 | 1.14** | -0.40* | 0.03 | -0.21 | 1.17** | -0.36 ⁺ |
| Not working | 0.38* | 0.33 | 1.15** | 0.24 | -0.17 | 0.47 | 0.51 | -0.31 |
| Industrial sector in origin state (<i>ref: manufacture</i>) | | | | | | | | |
| Construction (F) | -0.38 ⁺ | -0.40 | -0.31 | -0.39 | -0.59* | -0.85 | -0.68 ⁺ | -0.52 |
| Traditional service (G/H) | 0.26 | 0.71 ⁺ | 0.41 | 0.08 | -0.02 | 0.19 | 0.07 | -0.07 |
| Transport, communication (I) | 0.08 | -1.20 | 0.34 | 0.35 | 0.19 | -1.35 ⁺ | 0.62 | 0.41 |
| Finance, business service (J/K) | 0.06 | -0.15 | -0.05 | 0.26 | -0.09 | -0.18 | -0.18 | 0.12 |
| Other service (L-Q) | -0.43* | -1.53** | 0.19 | -0.27 | -0.32 | -1.48** | 0.38 | -0.20 |

Employment of spouse (*ref: no partner*)

| | | | | | | | | |
|---|---------|---------|---------|---------|-------------------|--------------------|--------------------|---------|
| Employee | -0.35* | -0.04 | -1.11** | -0.15 | -0.27 | 0.10 | -1.13** | -0.07 |
| Self-employed | 0.50** | 1.41** | -0.68 | 0.62** | 0.53** | 1.45** | -0.78 ⁺ | 0.70** |
| Family worker | 1.62** | 2.68** | 0.90 | 1.62** | 1.58** | 2.73** | 0.61 | 1.68** |
| Not working | -0.14 | -0.07 | 0.16 | -0.34 | -0.02 | -0.12 | 0.24 | -0.21 |
| Number of job spells | | | | | 0.00 | 0.07 | 0.04 | -0.01 |
| Self-employment experience (in years) | | | | | 0.26** | 0.49* | 0.22* | 0.25** |
| (Self-employment experience) ² | | | | | -0.02** | -0.05 | -0.01 | -0.02* |
| Unemployment rate | | | | | 0.08 | 0.14 | 0.03 | 0.12 |
| % service sector | | | | | 2.43 ⁺ | 0.92 | 0.54 | 4.49* |
| Firm size (under 5) | | | | | | | | |
| 5-9 | | | | | -0.04 | 0.10 | -0.60 | 0.19 |
| 10-29 | | | | | -0.19 | -0.10 | -0.82* | 0.03 |
| 30-99 | | | | | -0.39 | -0.73 | -1.24** | 0.12 |
| 100-499 | | | | | -0.58* | -0.80 | -1.25** | -0.23 |
| 500 + or government | | | | | -1.30** | -1.94** | -2.36** | -0.52 |
| No information | | | | | -0.27 | -1.09 | -0.86 ⁺ | -0.22 |
| Union | | | | | -0.33* | -0.19 | -0.69* | -0.20 |
| Possibility of promotion | | | | | 0.14* | 0.37** | 0.12 | 0.05 |
| Job security | | | | | -0.49** | -0.11 | -0.28 | -0.68** |
| Promotion from within | | | | | -0.24 | -0.61 ⁺ | 0.03 | -0.25 |
| Business group affiliation | | | | | 0.45** | 0.06 | 1.16** | 0.20 |
| Number of children under 5 | | | | | 0.05 | -0.16 | 0.11 | 0.07 |
| Intercept | -4.66** | -8.21** | -6.29** | -5.01** | -5.40** | -9.46** | -6.19** | -6.64** |
| Number of observations | 30,939 | 30,939 | 30,939 | 30,939 | 30,939 | 30,939 | 30,939 | 30,939 |
| Number of events | 386 | 67 | 103 | 216 | 386 | 67 | 103 | 216 |
| Log likelihood | -1962.2 | | -2242.1 | | -1914.2 | | -2173.7 | |
| Pseudo R ² | 0.055 | | 0.087 | | 0.078 | | 0.114 | |

Source: 1996 Social Change Survey, Taiwan

⁺ $p < 0.10$ * $p < 0.05$, ** $p < 0.01$

enter professional or managerial self-employment. These effects are consistent with our descriptive findings.

The extensive models in table 12.2 have not changed the effects of the variables in the baseline models much. We still observe considerable differences in determinants for entry into the three types of self-employment. Moreover, the expansion of the service (and sales) sector since 1980 has increased the likelihood of entering only unskilled self-employment, which included a disproportionate number of low-skilled service and sales occupations, but not the other two types. The characteristics of previous jobs and their relevant opportunities for upward mobility also affect the odds of entering professional, skilled, and unskilled self-employment differently, but we will discuss these variables in the analysis by gender, as their effects are gender-specific. Likewise, we will discuss the variable that signifies family responsibilities and number of children under age 5 in a later section.

There are still several results worth mentioning in the extensive models in table 12.2. First, the coefficients in the extensive models further show that previous experience with self-employment has positive effects on entry into all three types of self-employment, even though the magnitude varies. We argue that previous exposure to self-employment activity reduces one's fears of the risk and uncertainty involved in self-employment, not to mention increasing one's knowledge and information base for succeeding in self-employment. Moreover, those who have had experience in self-employment may have established the "right" social networks that increase information flow and lower the cost of self-employment activity. For example, previous experience as a dependently employed hairstylist familiarizes one with certain customers and suppliers of relevant products for the business. Thus, one can establish one's own hair salon based on these social networks. Nonetheless, our lack of network data makes this connection between previous self-employment experience and social capital mainly suggestive.

Second, father's self-employment affects only entry into unskilled self-employment, while father's employment in professional or managerial occupations, self-employed or not, positively affects one's entry into professional self-employment. We argue that these effects are consistent with our social capital hypothesis, where the different characteristics of professional, skilled, and unskilled self-employment need to be taken into account. For unskilled self-employment, having close family ties, including father and wife, in self-employment increases one's exposure to this activity and allows the possibility of mobilizing family labor at low cost. However, for professional self-employment, access to cheap labor is less important. Father's employment in professional or managerial occupations helps movement into professional self-employment because it en-

hances one's access to the professional and managerial networks necessary for successful professional self-employment. The results also reveal that family-based social capital does not have significant impact on entry into skilled self-employment in Taiwan.

Table 12.3 displays results from the extended models in table 12.2, while separating the analyses for male and female respondents to obtain a more specific picture of the gender effects in self-employment. The differences in the self-employment dynamics for professional, skilled, and unskilled self-employment remain in the analyses among male respondents. The model that estimates competing risks of entry into the three types of self-employment for men also finds that not only does education have opposite effects for entry into professional and unskilled self-employment, but alternative career opportunities also have similar results. Opportunities rendered by previous jobs are positively associated with entry into professional self-employment, yet negatively connected with entry into unskilled self-employment. For example, the self-reported possibility of being promoted at the previous job positively contributes to one's movement into professional self-employment, whereas poor previous work conditions such as a non-unionized workplace and low job security increase the likelihood for entering skilled and unskilled self-employment. This shows that professional self-employment is for those men who possess relatively great human capital and promising careers and choose to take risks in search of greater returns. This somewhat fits our usual image of business entrepreneurs.

The story for men in unskilled and skilled self-employment, in contrast to professional self-employment, is completely different. Generally, those men who have less education and undesirable jobs that permit little security and union protection, and yet have been exposed to self-employment through either a father or a spouse, are most likely to shift into unskilled self-employment. The case is less extreme for entry into skilled self-employment. However, it is also true that those men whose previous jobs were in smaller firms and unprotected by labor unions were likely to move into skilled self-employment. Along with the descriptive finding that the percentage of unskilled and skilled self-employment is exceptionally high compared with other economies examined in this volume, these results support our argument that the relatively large proportion of self-employed workers in Taiwan should be considered a response to an unregulated private sector and low protection for dependent employment in an economy composed of mostly small- to medium-sized enterprises.

Previously working at a business-group affiliate has a strong positive effect on men's entry into skilled self-employment, but not on other types of self-employment (table 12.3). This is somewhat surprising because a job at a unit affiliated with a large business group may mean

TABLE 12.3
Logistic and Multinomial Logit Coefficients on Entry into Self-Employment in Taiwan by Gender

| | Male | | | | Female | | |
|-----------------------------------|---------|-------------------|--------------------|-------------------|--------------------|--------------------|--------------------|
| | All | Prof. | Skilled | Unskilled | All | Prof./ Skilled | Unskilled |
| | | | | | | | |
| Education (1ab) | | | | | | | |
| 2a | 0.31 | 0.93 | 0.69 ⁺ | 0.07 | 0.03 | 0.87 | -0.26 |
| 2b | 0.42 | 1.41 ⁺ | 0.62 | 0.31 | 0.20 | 1.03 | -0.02 |
| 3a | 0.31 | 2.17** | 0.51 | -0.87* | -0.68 | 0.38 | -1.18 ⁺ |
| 3b | -0.40 | 1.36 ⁺ | 0.04 | -1.41** | -0.35 | 0.82 | -1.06 |
| Age | 0.15** | 0.14 | 0.09 | 0.18** | 0.08 ⁺ | 0.15 | 0.06 |
| (Age) ² | -0.01** | -0.01* | -0.00 ⁺ | -0.01** | -0.00 ⁺ | -0.01 ⁺ | -0.00 |
| Father's employment | | | | | | | |
| Professional/managerial | 0.31 | 0.50 | -0.05 | 0.41 | -0.26 | 0.26 | -0.53 |
| Skilled | 0.15 | -0.01 | 0.12 | 0.16 | -0.38 | 0.17 | -0.59 ⁺ |
| Farmer | 0.18 | -0.07 | 0.21 | 0.39 | 0.09 | 0.20 | 0.06 |
| Family workers | 0.11 | -0.22 | -0.19 | 0.64 | 0.49 | 1.52* | -0.19 |
| No job/no information | -0.01 | -0.35 | -0.00 | 0.17 | -0.83 ⁺ | 0.23 | -1.50* |
| Father self-employed | 0.25 | -0.37 | -0.16 | 0.81** | 0.35 | 0.07 | 0.45 ⁺ |
| Employment status in origin state | | | | | | | |
| Professional/managerial | 0.14 | 0.70 | -0.09 | -0.07 | -0.27 | 0.60 | -0.55 |
| Skilled | -0.18 | -0.19 | 0.89* | -0.67* | 0.53* | 1.36* | 0.24 |
| Not working | 0.09 | -0.02 | 0.54 | 0.15 | 0.13 | 0.52 | 0.19 |
| Industrial sector in origin state | | | | | | | |
| Construction (F) | -0.60* | -0.87 | -0.48 | -0.66 | -0.08 | -34.16 | 0.45 |
| Traditional Service (G/H) | -0.07 | 0.31 | 0.16 | -0.36 | 0.15 | -0.11 | 0.30 |
| Transport, communication | 0.24 | -1.21 | 0.46 | 0.55 ⁺ | -0.21 | 0.38 | -0.56 |
| Finance, business service | -0.02 | -0.03 | -0.11 | 0.28 | -0.19 | -0.69 | -0.03 |
| Other service (L-Q) | -0.97** | -2.08** | -0.98 | -0.36 | 0.33 | 0.76 | -0.07 |

| | | | | | | | | | | | |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--|--|--|--|
| Employment of spouse (no partner) | | | | | | | | | | | |
| Employee | 0.00 | 0.14 | -0.92 ⁺ | 0.29 | -0.52 ⁺ | -1.02 [*] | -0.22 | | | | |
| Self-employed | 1.30 ^{**} | 1.71 ^{**} | 0.25 | 1.37 ^{**} | 0.15 | -0.75 | 0.56 ⁺ | | | | |
| Family worker | 1.79 ^{**} | 2.92 ^{**} | 0.84 | 1.77 ^{**} | 1.51 ^{**} | 0.57 | 1.97 ^{**} | | | | |
| Not working | 0.26 | 0.29 | 0.58 | 0.01 | -0.51 | -0.68 | -0.31 | | | | |
| Number of job spells | 0.04 ⁺ | 0.08 | 0.01 | 0.05 | -0.03 | 0.01 | -0.04 | | | | |
| Self-employment experience (in years) | 0.35 ^{**} | 0.52 [*] | 0.50 ^{**} | 0.17 | 0.15 ⁺ | 0.09 | 0.29 [*] | | | | |
| (Self-employment experience) ² | -0.03 ^{**} | -0.05 | -0.04 [*] | -0.02 | -0.01 | 0.00 | -0.02 | | | | |
| Unemployment rate | 0.02 | 0.07 | -0.02 | 0.02 | 0.12 | -0.02 | 0.18 | | | | |
| % service sector | 2.29 | 0.29 | 0.39 | 4.25 ⁺ | 3.43 | -0.30 | 4.50 | | | | |
| Firm size (under 5) | 0.04 ⁺ | 0.08 | 0.01 | 0.05 | 0.06 | -0.35 | 0.25 | | | | |
| 5-9 | -0.16 | -0.13 | -0.91 ⁺ | 0.18 | 0.06 | -0.35 | 0.25 | | | | |
| 10-29 | -0.14 | -0.05 | -0.80 ⁺ | 0.06 | -0.40 | -1.22 ⁺ | -0.06 | | | | |
| 30-99 | -0.58 ⁺ | -0.97 | -1.53 [*] | -0.00 | 0.01 | -0.71 | 0.36 | | | | |
| 100-499 | -0.55 ⁺ | -0.57 | -1.37 [*] | -0.29 | -0.67 | -1.81 [*] | -0.09 | | | | |
| 500 + or government | -1.52 ^{**} | -1.71 [*] | -2.91 ^{**} | -0.76 | -0.65 | -1.93 [*] | 0.04 | | | | |
| No information | -0.25 | -1.04 | -0.60 | 0.22 | -0.50 | -34.78 | 0.21 | | | | |
| Union | -0.56 ^{**} | -0.38 | -0.92 [*] | -0.47 ⁺ | 0.12 | -0.19 | 0.21 | | | | |
| Possibility of promotion | 0.14 ⁺ | 0.32 [*] | 0.21 | 0.02 | 0.17 | 0.16 | 0.17 | | | | |
| Job security | -0.63 ^{**} | -0.09 | -0.50 | -0.95 ^{**} | -0.25 | 0.06 | -0.36 | | | | |
| Promotion from within | -0.21 | -0.59 | 0.12 | -0.21 | -0.26 | -0.41 | -0.22 | | | | |
| Business group affiliation | 0.49 [*] | -0.04 | 1.38 ^{**} | 0.31 | 0.18 | 0.65 | -0.09 | | | | |
| Number of children under 5 | -0.10 | -0.26 | 0.00 | -0.07 | 0.25 [*] | 0.33 | 0.22 ⁺ | | | | |
| Intercept | -5.73 ^{**} | -8.01 ^{**} | -6.12 ^{**} | -7.22 ^{**} | -6.79 ^{**} | -7.14 ^{**} | -7.74 ^{**} | | | | |
| Number of observations | 14,073 | 14,073 | | | 16,866 | 16,866 | | | | | |
| Number of events | 240 | 58 | 67 | 115 | 146 | 45 | 101 | | | | |
| Log likelihood | -1081.9 | | -1255.6 | | -794.8 | | -857.9 | | | | |
| Pseudo R ² | 0.110 | | 0.144 | | 0.052 | | 0.077 | | | | |

Source: 1996 Social Change Survey, Taiwan

⁺ $p < 0.10$ * $p < 0.05$ ** $p < 0.01$

better pay and better chance of promotion, compared with a job at an independent firm that is likely to be very small. It seems contradictory to our other result that men who enter skilled employment are those who had experienced bad jobs in the private sector. However, we argue that large business groups are particularly likely to outsource skilled work. Previous affiliation increases the odds for a skilled self-employed worker to subcontract such work from a large business group. Hence, previous affiliation with a large business group enhances the survival chances for a skilled worker in self-employment, as well as lowering entry barriers.

To answer why this is not the case for entry into professional self-employment, we need to keep in mind that only those who possess relatively high human capital are likely to enter professional self-employment. Highly educated men with abundant skills at an affiliated unit of a large business group have great opportunities for moving up within the business group, unlike midlevel workers with modest skills. Given that large business groups are the only kind of organizations that adopt internal labor markets and have high enough ceilings for upward mobility in Taiwan, where small- and medium-sized enterprises prevail, those men who are capable of taking advantages of internal labor markets become less likely to leave.

Panels 5–7 in table 12.3 are the results of applying similar models to the female sample. Because women are still less likely than men to become self-employed, the number of cases in our female sample who had shifted into self-employment is rather small. This leads to less robust results than those for the male sample. We also have to combine professional and skilled self-employment in the analyses because there are not enough cases of women who entered professional self-employment in the given period to provide stable results. Nevertheless, some of the coefficients are in similar directions as those for the male sample. For example, previous work experience in skilled occupations increases the chance of entering skilled self-employment. Father's self-employment also contributes to a woman's entry into unskilled self-employment, although the effect is not very significant. It is worth noting that even though the descriptive findings suggest that a high percentage of women in professional self-employment were from self-employed families (see table 12.1), there is no significant effect of father's self-employment on entry into professional or skilled self-employment. This is partly because the number of women moving into professional employment is quite small.

It is interesting that husbands who are contributing family workers have a positive effect on entry into unskilled self-employment, but not into skilled self-employment. Even though there is no direct evidence that husbands in family employment were contributing to their wife's business, there were a good number of cases in which the husband was

reported as a family worker when the wife identified herself as the owner of the business, despite the fact that in the national statistics, the percentage of men in family employment was extremely small (see fig. 12.1A). Thus, gender relations in small, low-skilled, family-owned establishments are not fixed: either the husband or the wife may be reported as the owner, with the spouse reported as a family worker, depending on who is classifying the self-reported status, while in reality the couple runs the business as a partnership. Lu's (2001) ethnographic work on the "boss's wife" and small family businesses supports this observation. For women's entry into skilled self-employment, however, whether the husband is self-employed or in family employment has no effect, but previous experience in skilled occupations does have a large and positive effect. These findings are similar to the findings for men.

Few of the work-related variables in table 12.3 show meaningful effects for women. Whether a woman had great opportunities for upward mobility with the previous job, how secure the previous job was, or whether the previous workplace was unionized all have insignificant effects. Nonetheless, we would like to mention that the effects for the number of children under age 5 appear positive for entering self-employment, though the effects become less stable when looking at entry into the different types of self-employment separately. These are consistent with previous findings that women's self-employment is less likely a decision based on career concerns, but more likely one related to family responsibilities, as compared to their male counterparts.

The last table for our multivariate analyses, table 12.4, provides results for predicting separation from self-employment. In the baseline model on all respondents, we observe that women are far more likely to leave self-employment than their male counterparts. The effect remains in the extensive model for all respondents. It is worth noting that these models do not set any limit on the destinations after leaving self-employment, so a large proportion of women may leave self-employment upon withdrawal from the labor force. In addition, for married women, the gender roles that assume that husbands are the major income provider for the household, and that female earnings are supplementary, allow women to quit even when there is no other job opportunity. Despite such gender effects, relatively successful women, namely, women in professional self-employment, are much less likely to leave self-employment than their male counterparts.

It is worth noting that having a father or a spouse in self-employment or a spouse in family employment makes exit from self-employment less likely. This supports our social network argument that strong ties in self-employment, regardless of whether they serve as contributing family workers, increase the survival rates of self-employment. Furthermore,

TABLE 12.4
Logistic Regressions on Exit from Self-Employment in Taiwan

| | <i>All</i> | <i>Male</i> | <i>Female</i> | <i>All</i> | <i>Male</i> | <i>Female</i> |
|-----------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|
| Education (1ab) | | | | | | |
| 2a | 0.38 ⁺ | 0.28 | 0.75* | 0.21 | 0.24 | 0.13 |
| 2b | 0.48 | 0.53 | 0.81 | 0.34 | 0.52 | -0.02 |
| 3a | 0.45 | 0.21 | 1.01 ⁺ | 0.21 | -0.06 | 0.33 |
| 3b | 0.24 | 0.08 | 0.81 | 0.09 | -0.09 | -0.24 |
| Female | 0.75** | | | 0.76** | | |
| Age | -0.05 | 0.09 | -0.17** | -0.05 | 0.09 | -0.15* |
| Age squared | 0.00 | -0.00 | 0.01** | 0.00 | -0.00 | 0.01** |
| Father's employment (unskilled) | | | | | | |
| Professional/ manager | -0.40 | -0.54 | -0.34 | -0.39 | -0.59 | 0.11 |
| Skilled | 0.14 | 0.23 | 0.07 | 0.09 | 0.24 | -0.00 |
| Farmer | -0.67** | -0.51 ⁺ | -0.88* | -0.71** | -0.64* | -1.09** |
| Family worker | -0.40 | -0.92 | -0.13 | -0.42 | -0.92 | 0.66 |
| No job/no information | -0.59 | -0.77 | 0.26 | -0.54 | -0.72 | 0.27 |
| Father self- employed | -0.31 | -0.55 ⁺ | 0.12 | -0.34 | -0.62* | 0.02 |
| Employment status in origin state | | | | | | |
| Professional/ managerial | -0.44 | -0.20 | -2.21* | -0.51 | -0.35 | -1.86 |
| Skilled occupation | -0.27 | -0.14 | -0.42 | -0.30 | -0.23 | -0.32 |
| Industrial sector in origin state | | | | | | |
| Construction (F) | -0.76 ⁺ | -0.89* | 0.24 | -0.68 ⁺ | -0.84 ⁺ | 1.86 |
| Traditional service (G/H) | 0.13 | 0.21 | -0.12 | 0.17 | 0.28 | -0.34 |
| Transport, communication (I) | 0.39 | 0.55 | 0.47 | 0.70 ⁺ | | |
| Finance, business service (J/K) | -1.81 ⁺ | -1.24 | -1.79 ⁺ | -1.22 | | |
| Other service (L-Q) | -0.46 | -0.32 | -0.74 | -0.40 | -0.14 | -1.00* |
| Employment of spouse (no partner) | | | | | | |
| Employee | 0.05 | -0.01 | 0.04 | 0.03 | -0.04 | 0.10 |
| Self-employed | -1.12** | -1.16** | -1.14** | —** | —* | -1.09** |

TABLE 12.4 (continued)

| | <i>All</i> | <i>Male</i> | <i>Female</i> | <i>All</i> | <i>Male</i> | <i>Female</i> |
|--|------------|--------------------|--------------------|--------------------|-------------|--------------------|
| Family worker | -2.72** | -3.25** | -1.76 ⁺ | —** | —** | -1.87 ⁺ |
| Not working | -0.51* | -0.55 ⁺ | -0.77 | -0.45 ⁺ | -0.48 | -0.59 |
| Duration in s.-e. spell | -0.12** | -0.25** | 0.02 | -0.12** | -0.27** | 0.02 |
| (Duration in s.-e. spell) ² | 0.00** | 0.01** | -0.00 | 0.00** | 0.01** | -0.00 |
| Labor market experience (in years) | | | | -0.02 | -0.05 | -0.04 |
| Self-employment experience (in years) | | | | -0.00 | 0.00 | -0.07 |
| Unemployment rate | | | | 0.01 | -0.26 | 0.24 |
| % service sector | | | | 5.07* | 4.60 | 4.43 |
| Firm size (under 5) | | | | | | |
| 5-9 | | | | 0.40 | 0.84** | -0.57 |
| 10-29 | | | | 0.08 | 0.40 | -2.72* |
| 30-99 | | | | 0.26 | 0.16 | 0.69 |
| No information | | | | -0.27 | -0.16 | -0.42 |
| Intercept | -2.09** | -2.65** | -1.07 ⁺ | -4.13** | -3.97** | -2.93 |
| Number of observations | 6,488 | 4,772 | 1,716 | 6,488 | 4,772 | 1,716 |
| Number of events | 171 | 98 | 73 | 171 | 98 | 73 |
| Log likelihood | -709.9 | -425.7 | -265.5 | -704.8 | -418.2 | -259.5 |
| Pseudo R ² | 0.102 | 0.109 | 0.112 | 0.108 | 0.124 | 0.129 |

* $p < 0.05$, ** $p < 0.01$

one's own duration in self-employment also helps male self-employment survival. The longer a man has been self-employed, the less likely he is to leave this employment status. Our explanation is that self-employment experience by itself increases one's skills and social connections in a business and increases the survival rate. However, this variable does not determine women's exits from self-employment. We suggest that this gender difference may be affected by the generally greater odds for women to exit self-employment than for men.

The coefficients for firm size on departure from self-employment are also worthy of note. Among self-employed men, those who own firms of five to nine employees are more likely to exit from self-employment than owners of very small establishments with fewer than five employees who are usually all family members. For the other categories of firm size, the

signs of the effects are also positive, but not statistically significant, for predicting men's exits from self-employment.⁵ These findings show that owners of enterprises that hire people outside of the family have to bear greater and more regular labor cost than those who do not, and therefore they would need to end the business when the profits are insufficient. In contrast, the very small businesses that employ close family members can survive for a relatively long time as the labor cost can be reduced to zero if necessary. It is also possible that exits from self-employment for men who hire five to nine employees are the consequences of acquisitions by larger firms, when establishments of this size are successful.⁶ Moreover, many establishments with five to nine employees are in retail sales or personal services (e.g., coffee shops, convenience stores, beauty salons), where large franchises prevail, so the exits may also result from quitting one's own enterprise to join a franchise of a similar kind.

DISCUSSION

This chapter unfolds the story of self-employment in Taiwan in three perspectives: macro-level opportunity structures, influences of individual social networks, and heterogeneity within self-employment activity. In an earlier section we presented the macro-level economic structure in Taiwan and argued that we need to understand self-employment activity in this context. The state-led economic development in the postwar era, the concentration of light and labor-intensive industries, and the unique arrangements of production all contributed to an economic structure that consists of a large number of small to medium-sized establishments and subcontracting systems that help perpetuate small-scale establishments. These economic settings have consequently lowered the threshold for entry into self-employment. However, we argue that it is the other side of this economic structure that causes the majority of self-employed to choose this path.

The economic and legal context in Taiwan leads to relatively low gains from dependent employment in comparison with self-employment. As stated previously, over half of the labor force in Taiwan worked in firms with fewer than thirty employees in 1996. Small enterprises fail easily, permit little upward mobility from within, and cannot afford adequate fringe benefits or long-term pension plans for employees. It is also difficult for the state to force the majority of small firms to provide employment benefits because such action could induce bankruptcy, not to mention that these firms are usually small enough to absent themselves from state regulations. As a result, the poor work conditions that low-skilled workers encounter in the weakly regulated private sector push them into self-employment. Our multivariate analyses support this argument. The

results show that poorly educated workers, particularly male workers who were employed in nonunionized workplaces and not offered long-term employment, are likely to move into low-status self-employment. Even though our analyses also show that the profile for self-employed workers in professional occupations is remarkably different, we should keep in mind that what makes self-employment activity unique in Taiwan is the large percentage of low-skilled self-employment. Thus, our argument that an unregulated private sector causes the unusually large proportion of self-employed in the labor force in Taiwan is validated.

Regarding the relevance of social capital to self-employment activity, our results support the hypothesis that strong ties in self-employment are important in determining paths to self-employment, despite different dynamics for professional, skilled, and unskilled types of self-employment. Close family ties in self-employment also help retention. In addition, strong ties smooth the entry into professional self-employment in a somewhat different way: father's employment in professional and managerial occupations helps promote access to social networks in high-power positions and therefore makes it easier to survive this type of self-employment.

Our analyses also show that heterogeneity is indeed one of the major features of self-employment in Taiwan. While nonprofessional self-employment is a response to poor alternatives in the labor market for those individuals who possess relatively few resources, professional self-employment is a result of utilizing high-quality human and social capital in search of great financial returns. There are also considerable differences between male and female self-employment dynamics. Our comparisons between male and female self-employment dynamics show that the former are highly affected by variables that estimate work conditions and career opportunities, whereas the latter are much less sensitive to these variables, yet modestly influenced by child-rearing responsibility.

Furthermore, women are much less likely to become self-employed, all else held constant, but much more likely to exit self-employment than men. This is to say that self-employment is still to a great extent a male-dominated economic activity. However, it is important to note that when women have entered professional self-employment, however difficult this process was, they are likely to be exceptionally persistent in continuing such businesses. All these findings indicate that gender is an important determinant of self-employment dynamics.

CONCLUSION

The persistence of self-employment points to the importance of studying this economic activity. One's involvement in self-employment is deter-

mined by both individual attributes and macro-level opportunity structures, which could either propagate or suppress this activity. Using the Taiwanese case, we have created an alternative framework for understanding the effects of macro-level opportunity structures on individual level decisions around self-employment. While it is often noted that self-employment activity flourishes when state regulations are strong, the case of Taiwan shows the opposite to be the case. When state regulations are *too weak*, there are not sufficient protections for low-skilled workers in the private sector, and this lowers the incentives for remaining dependently employed. Meanwhile, the small-scale economy of Taiwan has lowered the capital requirement and made entry into self-employment relatively easy. A low-skilled worker whose opportunities of finding a decent, well-paid, stable job as a wage employee are so poor that there is little risk involved in moving into self-employment. Thus, we argue that self-employment activity also flourishes in economies that are full of small to medium-sized establishments, which the state finds difficult to regulate.

Furthermore, once the economic settings create a niche for self-employment activity, the existing number of self-employed would further perpetuate this activity in the economy because individuals in the existing enterprises can deliver social capital to the next generation and smooth entry into self-employment for the latter. We have shown that the kinship networks and personal ties connected to self-employment activity are important for entry into self-employment. The relevance of social networks to self-employment increases the likelihood that this activity will persist in the economy. The macro-level trends for the last two decades have proved this to be true (figs. 12.1A and 12.1B).

In addition to the persistence of self-employment activity, the growth of heterogeneity within self-employment is foreseeable in Taiwan. We have shown considerable differences in self-employment dynamics between professional and nonprofessional, as well as between male and female, self-employment. Recent economic development in Taiwan has been characterized by a shift from labor-intensive to skill-intensive industries and the expansion of service and sales industries. On the one hand, the increasing share of skill-intensive industries is likely to lead to the growth of highly educated entrepreneurs who establish enterprises with their knowledge and professional skills. On the other hand, our analyses show that the expansion of the service sector since the 1980s has increased only the odds of entering unskilled self-employment. This is because many unskilled occupations in self-employment, by definition, are for the purpose of providing personal services at a rather low skill level. Given these two consequences of the economic transformation, we expect further polarization within self-employment activity. Therefore,

while self-employment as an economic activity is likely to persist in the economy, the direction of economic development will have an effect on self-employment activity by enlarging the gap in worker characteristics and outcomes within it.

Finally, this study provides an insight into self-employment activity and gender equality at work. Even though self-employment activity in Taiwan is still dominated by men, and the number of women entering professional self-employment is extremely small, our results suggest that those women who are in professional self-employment are more likely to succeed and remain in this status than women in nonprofessional self-employment. Thus, while Simon (2000) argues, based on his ethnographic study, that any type of self-employment has the potential to empower women by creating their social identities outside of marriage, career opportunities for women in professional self-employment are particularly good.

This different propensity of women to remain in different types of self-employment calls for further studies that include a larger sample of self-employed women. We will then be able to better examine the different meanings and implications of professional and nonprofessional self-employment for women. It is unfortunate that we have neither enough cases to examine the obstacles for women entering professional self-employment, nor sufficient information on gender discrimination in professional and nonprofessional self-employment. It is also unknown whether the barriers to professional and managerial positions are equally high for women in dependent employment and self-employment. These are all important issues for further research on gender and self-employment. Finally, future studies also need to pay special attention to how the types of self-employment activity interact with women's work commitment, family roles, and status attainment in society.

NOTES

1. Legal protection for dependent employment was virtually absent until the late 1990s. For example, it was not until 1999 that the law for compensation for involuntary unemployment was enacted.

2. This survey is also part of the 1997 East Asia Social Survey, a three-society (Taiwan, South Korea, and coastal China) comparative project conducted in 1996–97. We acknowledge Academia Sinica for providing us with the survey data.

3. Self-employed workers in our data, in particular male ones, were much more likely than their counterparts in dependent employment to have spouses who were reported as family enterprise workers. Thus, we infer that many of these self-employed workers in very small establishments have their spouses work

with them. Within the sample, 23.5 percent of the respondents did not have a spouse at the survey time, 34.8 percent had dependently employed spouses, 11.8 percent had self-employed spouses, 3.5 percent had spouses that were family enterprise workers, and 26.4 percent reported that their spouses did not have a job at the time.

4. The descriptive findings show that father's occupation was weakly associated with entry into self-employment for men, but the association was stronger for women. Overall, 27.2 percent of the person-year samples had an unskilled father, 12.3 percent professional, 16.3% skilled, 35.0 percent agricultural, and 9.3% other (family workers, no job, no information, etc.).

5. The firm size effects differ on women's exits from self-employment: the ones who own enterprises with 10–29 employees are extremely unlikely to leave self-employment. As this firm size effect shows in the extensive model, the negative effect of being in professional or managerial occupations on women's separation from self-employment, however, becomes smaller and insignificant. In fact, women in professional self-employment in our sample were mostly owners of small- to medium-sized firms, firms with 10–29 employees. A likely explanation is that these women are exceptional in the way that they have been capable of resisting gender discrimination and reaching their positions. Consequently, they are more likely to survive than other women in self-employment, and less willing to move into dependent employment, which rarely promotes women to equivalent status. However, as the number of women in this category is quite small ($N = 8$), we are uneasy about conclusions drawn from these results.

6. We suspect however that the acquisition explanation is less likely in this case. Until the late 1980s, the state-controlled banking systems and inactive capital market made it difficult to mobilize enough funds for acquisitions. Thus, acquisitions have been rather uncommon in Taiwan.

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