

‘ONE HOUSEHOLD/TWO SYSTEMS’ AND THE TRANSITION TO PRIVATE EMPLOYMENT IN CHINA

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Abstract. Under China’s dual-track approach to reform, ‘one household/two systems’, or combining state and private employment within a family, connotes having the best of both worlds. Drawing upon work history data for 5000 households, the present study looks at who is employed in the private sector. Findings are that marriage to a state-employed spouse actually reduces the probability of one’s holding a private sector job and that the effects of living with a state-connected parent are mixed. Were households more actively pursuing a one-household/two-systems strategy, the transition from state dependence would be expedited.

1. CHINA’S EMPLOYMENT TRANSITION

China has pursued a gradual path of reform, preserving the state sector while encouraging a private sector to develop along side. Jobs in the state sector have remained relatively secure, and even through the 1990s with the acceleration of furloughing and early retirement, job-related benefits have to some degree generally been maintained for those no longer actively working. In addition to their security, state jobs carry with them a host of in-kind benefits including subsidised housing, pensions, medical coverage, and personal connections within a system where connections count for a great deal. Jobs being generated in the private sector, by contrast, typically offer higher cash wages but less security and a smaller accoutrement of in-kind benefits.¹

In this dual-track environment, ‘one household/two systems’² by the late 1980s came to epitomise the savvy household’s strategy for extracting the best of both worlds.³ A parent or one spouse would hold down a job in the state

¹ See Fan et al. (1998) for a description of state versus private employment circumstances and Zhao (2001) on the value of in-kind benefits.

² ‘Yi jia, liang zhi.’

³ The first time I heard the term was in 1989 being used by an academic economist to talk about his live-in daughter and son-in-law who had just opened a butcher shop. This paper had its genesis during the period 1994–1998 when I lived in Beijing. During that time I had occasion to discuss the idea with people spanning the range from academics and government officials to cab drivers and nannies and finally survey researchers.

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sector while a grown child or the other spouse 'jumped into the sea' (*xia hai*), bearing the risk of private sector employment yet still tethered safely to the state pier. Households could diversify their job 'portfolios', increasing expected returns while keeping risk in check.

If this system worked effectively as a transition vehicle, over time the urban population as a whole would become less dependent on the state, and the phaseout of unproductive state jobs would become less traumatic. A social safety net cut from the fabric of state jobs would remain intact despite shrinking state employment as the webbing of the net became sparser yet still as broadly supportive. Each state job, by providing a fallback against risk-taking for the household, would leverage entry into the private sector. A maintained base of state sector jobs would thus, paradoxically, foster opting out of the state system because those opting out would indirectly retain a foundation with the state.

To investigate who is entering private sector employment and the role of countervailing state employment within the household, survey data were collected from just over 5000 households, half each at year end 1995 and 1996.⁴ Each year, sampling was spread evenly over five cities: Beijing, Shanghai, Shenyang, Chongqing and Guangzhou in 1995, with Chengdu substituted for Chongqing in 1996 due to difficulties encountered in sampling in Chongqing in the first year.⁵ These are all very large cities. Beijing, Shanghai, and Guangzhou have benefited from a great deal of foreign investment stimulating private sector job creation. Guangzhou has a burgeoning domestic private sector as well. Shenyang, Chongqing, and Chengdu have economies historically dominated by state heavy industry which has not fared well under the competitive pressures of reform. The survey collected 5-year retrospective work histories on all household members. The data thus allow examination not only of those currently employed in the private sector but also those who have newly entered private sector employment within the preceding 5 years.

The present study finds that, controlling for demographic characteristics, an individual is more likely to hold a job or take a new job in the private sector if his or her spouse is also employed in the private sector. This result is contrary to the notion that households are actively pursuing a one-household/two-systems strategy. Rather, it suggests that birds of a feather flock together: those who have access to state jobs pair with mates who are similarly privileged and/or risk averse. The findings regarding employment choice if a parent is connected to the state sector are mixed, the likelihood of entering a domestic firm being lower but that of entering a foreign-invested firm higher.

⁴ Survey work was carried out by the private Horizon Survey Research Company headquartered in Beijing. In other cities Horizon either relied on its own branch offices or partnered with local survey companies.

⁵ Chongqing is a city of winding hilly streets with unsystematic and poorly marked addresses. The survey company did not have a history of work in this city and found it difficult to identify and direct surveyors to a random sample of households, hence they requested substitution of Chengdu in the second year.

Overall, the results suggest that the state remains the sector of choice, although for many people this may be a matter of default to the familiar. Although private sector jobs pay higher wages on average, the pecuniary rewards have not been enough to induce a significant voluntary exodus from state employment even for second earners. The unemployed, the furloughed, the retired, those with little education and lacking official urban residence status turn in greater numbers to the domestic private sector. The foreign-invested sector captures a strong contingent of well-educated young people, especially among women and those of non-Han ethnicity, but in cities other than Beijing, Shanghai, and Guangzhou opportunities are very limited. The mass of ordinary households remained thoroughly lodged in state and collective employment as of 1996.

In section 2 the sample data are used in conjunction with national statistics to depict the setting in which household employment decisions are made. Section 3 describes the model to be estimated for predicting private sector employment probabilities and presents summary statistics for the model variables. Results of the econometric estimation are presented in section 4. Finally, implications for China's transition to private employment are discussed in section 5.

2. THE SETTING: EMPLOYMENT, HOUSEHOLDS, AND COMPENSATION

Private employment by 1996 still accounted for a relatively small share of the urban total. Furlough and early retirement, however, were increasingly pushing prospective workers off state wage rolls into an employment limbo from which entry into the private sector came to appear more enticing. Nevertheless with most households made up of multiple adults and one or no under-age children, the family is often able to provide for those who suffer loss of wages. Ultimately however, the generally higher cash wages of the private sector would be expected to have a pull effect, drawing even those with viable employment options in the state sector.

Nationwide, official statistics show domestic private and individual firms accounting for 3.5 percent and 9.7 percent respectively of urban employment in 1996, as illustrated in Table 1.⁶ Share holding firms accounted for another 2.1 percent having only first gained recognition in the statistical accounts in 1993. Although share holding firms generally originate from state enterprises and the shares remain largely in the possession of government entities, the intent of the restructuring process is to make them more market responsive. Inclusive of shareholding firms, domestic private employment amounted altogether to 15.3 percent of the urban labour force in 1996, up from 13.6 percent in 1995.

⁶ The distinction between private and individual firms (*geti hu*) relates to firm size, although increasingly loosely so. Chinese Communist ideology at one time held that large private firms were unacceptably exploitive of labour while individual businesses could escape this condemnation, and the dividing line between the two was set at eight employees. Individual firms now routinely exceed this threshold and non-individual private firms have themselves gained official acceptance, yet a distinction between private and individual firms is still preserved in the business registration system.

Table 1. *Employment and unemployment patterns*

	1995		1996						
	<i>China</i> ^a	<i>Sample</i>	<i>China</i> ^a	<i>Sample</i>	<i>Beijing</i>	<i>Shanghai</i>	<i>Shenyang</i>	<i>Chengdu</i>	<i>Guangzhou</i>
No. persons	173mil	4280	175mil	4319	890	901	814	804	910
State	64.9%	75.3%	64.1%	70.0%	81.7%	67.8%	72.0%	66.0%	62.4%
Collective	18.1	11.4	17.2	13.6	8.0	14.8	17.2	17.3	11.8
Dom. joint	0.3	0.9	0.3	0.8	0.8	1.0	0.7	0.7	1.0
Share holding	1.8	1.9	2.1	2.2	1.7	3.8	1.1	1.9	2.0
Foreign	1.4	2.5	1.6	2.2	2.3	4.4	1.0	0.3	2.7
HK/T/M	1.6	2.4	1.5	2.5	2.5	2.6	1.3	0.9	2.8
Private	2.8	2.2	3.5	3.4	1.8	2.4	3.7	2.7	6.4
Individual	9.0	4.6	9.7	6.1	1.5	3.7	3.4	10.8	11.6
Total	99.9	101.0	100.0	100.5	100.4	100.6	100.4	100.3	100.8
Furlougees		4.5		4.8	2.5	5.2	6.4	6.6	3.6
Casual labor	–	NA	–	3.0	2.0	1.6	3.5	6.1	2.2
Unemployed									
Yearbook ^b	3.0		3.0		0.6	2.6	2.9	2.2	2.4
Survey		4.2		2.9	1.4	2.4	2.5	3.5	4.6
Retirees	17.8 ^c	32.6	18.4 ^c	32.0	35.1	28.7	38.4	32.1	26.7

Note: Furlougees are included in the employed ownership shares. Persons actively working in more than one job are counted more than once in the ownership shares resulting in totals exceeding 100 percent. Casual labor and unemployed workers are included in the labor force relative to which rates of casual work, unemployment and retirement are calculated.

^a *China Labour Statistical Yearbook* (National Bureau of Statistics, 1996, p. 9; 1997, p. 7).

^b *Ibid.*, 1996, pp. 100–113; 1997, pp. 8, 99–109.

^c *Ibid.*, 1996, p. 441; 1997, p. 439.

NA, The “casual labor” category was not included in the 1995 survey.

Official statistics distinguish between two types of outside investment, that coming from Hong Kong, Macao, and Taiwan, and that from the rest of the world. Together such foreign-invested firms accounted for 3.1 percent of employment in 1996 with each component representing about half of the total, and this share was little changed from 1995.⁷

Sample employment is more concentrated in the state sector than urban employment is generally, apparently due to choice of sample cities.⁸ The bulk of the difference is accounted for by lower collective employment, although private and individual employment are also lower in the sample.⁹ Employment in foreign funded ventures, including those funded from Hong Kong, Taiwan, or Macao, is generally higher in the sample, although not for Shenyang and Chengdu.¹⁰ The change in composition of the aggregate sample between 1995 and 1996 is primarily due to the substitution in 1996 of Chengdu for Chongqing. Chongqing had a state employment rate in 1995 of 81.6 percent as opposed to Chengdu's 1996 rate of 66.0 percent.

The lower panel of table 1 presents figures on furlough, casual work, unemployment, and retirement. The survey captures an unemployed proportion nearly identical to that given in the official statistics for 1996. Sample unemployment rates vary substantially across cities from a low of 1.4 percent in Beijing to a high of 4.6 percent in Guangzhou. Not counted in sample unemployment are a total of 14 persons for the two sample years combined who are registered as unemployed even though they are actually

⁷ In the 2 years subsequent to our sampling, private sector employment expanded rapidly. Official statistics show that by 1998 the employment count for private and individual firms was up 39 percent and that for foreign invested firms by 9 percent. But the most dramatic change was in the emergence of categories that had not existed in the statistics in 1996, limited liability corporations and share holding corporations. Along with share holding 'units', such new organisational forms employed 5.3 percent of the urban labour force (*National Bureau of Statistics*, 1999; p. 7)

⁸ City specific employment shares for state, collective, and other industry may be inferred from output and labour productivity statistics for 1991 (*National Bureau of Statistics*, 1992; pp. 202–212, 323–333, 345–355, 356, 366, 376). These data indicate that Beijing, Shanghai, and Chongqing, as in the present sample, all had state employment shares well above the national norm and collective shares below it. Shenyang and Chengdu had collective shares close to the norm, which is also the case for the present sample. Guangzhou had a state share similar to the norm but a low collective share offset by higher shares for other ownership types, again true for the present sample as well.

⁹ For individual businesses, city specific employment figures are available for 1995 and 1996 from *Urban Statistical Yearbook of China* (*National Bureau of Statistics*, 1996, pp. 99–116 and 1997, pp. 111–130). The national shares from this source, at 4.5 percent for 1995 and 5.5 percent for 1996, are much lower than the *China Labour Statistical Yearbook* figures reported in table 1 (*National Bureau of Statistics*, 1996, 1997) and accord more closely with the shares found in our sample. The *Urban Statistical Yearbook* shares by city for 1996 are: Beijing, 5.0%; Shanghai, 1.2%; Shenyang, 12.0%; Chengdu, 5.9%; Guangzhou, 10.3% (*National Bureau of Statistics*, 1996).

¹⁰ For foreign invested firms, the most recently available *Urban Statistical Yearbook* employment figures are for 1994 (*National Bureau of Statistics*, 1995, pp. 388–403, 68–83). The national share from this source of 2.9 percent, inclusive of Hong Kong, Taiwan, and Macao invested firms, is very close to that shown in table 1. The corresponding city specific shares follow a roughly similar pattern to that in the present sample: Beijing, 4.2%; Shanghai, missing; Shenyang, 3.4%; Chongqing, 4.4%; Chengdu, 1.8%; Guangzhou, 7.3%.

working. Additionally, many who identified themselves as unemployed received income from casual work, and these are grouped separately in the table for 1996. The 1995 survey did not inquire about casual work so those captured in this category in 1996 would have been absorbed variously as unemployed (explaining the higher sample unemployment rate in 1995), retired, or out of the labour force.

The survey shows 4.8 percent of the sample labour force on furlough from jobs in connection with which they still receive benefits in varying measure and sometimes the prospect of a return to normal work in the future, although perhaps in subsidiaries or 'service companies' (*fuwu gongsi*) established by the original enterprise. In the context of our survey, furlough encompasses leave without pay (*tingxin liuzhi*), lay-off (*xiagang*), and extended sick leave. A worker on furlough from one job but working in another job is not counted as a furlougher in the table. Such cases number 126 in the combined 2-year sample from a total of 594 who have ever entered furlough status. Another 41 furloughers have retired and are classified in such a manner. By city, furlough rates as a percentage of the sample labour force range as high as 6.4 percent for Shenyang and 6.6 percent for Chengdu. These figures add substantially to measured unemployment. Taken together, formal unemployment, furlough, and casual employment claim more than 10.7 percent of the sample labour force with this proportion rising to as high as 16.2 percent in Chengdu.

Early retirement can also act as a smokescreen for unemployment. Official national figures give the ratio of retirees to employed labour force as 18.4 percent in 1996. Our survey figure is nearly twice that. The principal explanation for our high retirement rate is evidently the advanced age of the sample, the median being 38 years in contrast to a median age of 31 years given for urban China in the national 1 percent survey of 1995 (*1995 National 1% Population Sample Investigation Materials*, National Bureau of Statistics, pp. 14–16). The bias in the sample toward older aged respondents may be due to older people being more frequently at home and willing to participate in surveys when a knock comes at the door. Also, young adults living in dormitory quarters of universities or factories have been systematically excluded from the sample selection. In addition to the retirees counted in the table, these numbering 2880 for the 2 years taken together, there are another 193 individuals who are working after retirement. Given the early ages at which retirement takes place in China (officially, 60 for men and 55 for women, but in practice very often younger), subsequent employment at a higher rate than this might have been expected.

The combination of unemployment, furlough, and early retirement yields a substantial pool of people seemingly desirous of jobs and capable of working but with little or no prospect in the state sector. The private sector offers their best hope of work but structured opportunities are less than adequate to absorb all those displaced from the state sector and only some have the entrepreneurial talent to succeed in self-employment. Those in the inactive pool rely for their support either on continued benefits from the state due to former employment or on the incomes of working household members.

Table 2. Household size and composition

<i>t</i>	<i>% of Households with n members</i>	<i>% of Households with n children^a</i>	<i>% of Households with n generations</i>
0	NA	38.6	NA
1	3.4	56.4	17.7
2	16.8	4.6	59.7
3	46.3	0.3	22.6
4	19.0	0.1	NA
5	10.4	0.0	NA
6	2.2	0.0	NA
7+	1.9	0.0	NA

Note: The combined 1995 and 1996 sample of 5004 households is represented in this table. Households sampled in 1996 are attributed their 1995 characteristics by adjusting backward for changes in household membership that occurred during 1996. Twenty-nine households came into existence in 1996, or about half a percent of the combined 1995–1996 sample. Given household formation greater than dissolution, a slightly smaller percentage of households that dissolved should in principle be added to rebuild the sample. Statistically, the impact of failing to make this adjustment is negligible.

^aChildren are defined as household members under the age of 18 who are not employed.

NA, no. generations not counted beyond 3.

Most urban Chinese households have more than one person working or receiving post-employment benefits. The typical urban Chinese household consists of multiple adults and one or no under-age children. As shown in table 2, 80 percent of sample households have three or more members. Fifty-six percent have one minor child, and only 5 percent have more than one minor child with this number including non-siblings in extended family homes. In nearly a quarter of all households three generations coexist. Grown children often live with parents well into their working lives. Among the 20–29-year-olds in our sample, fully three-quarters still live with parents.

There is variation in household size and composition across the six cities surveyed. The average number of household members ranges from a low of 2.8 in Chongqing to a high of 3.6 in Guangzhou. The average number of minor children follows suit from 0.41 in Chongqing to 0.76 in Guangzhou, as does proportion of three generation households with the range from 15.3 percent to 26.8 percent.

Multiple-adult households, often involving grown children living with parents, create an environment conducive to diversification of cash and in-kind income sources. The lower cash wages and greater benefits of the state sector find a complement in the higher cash incomes but heavier risk of the private sector. Table 3 illustrates the disparity. For state workers in the 1996 five-city sample, average annual compensation was ¥9231 (including bonuses and cash subsidies), and 30.3 percent of these workers received subsidised housing. The best paid workers were found in foreign-invested enterprises, this group received average annual compensation of ¥26 741 but benefited from housing subsidies in only 9.9 percent of cases. Next ranked in compensation were workers in individual firms at ¥17 693 per year¹¹ who received housing

¹¹This high level of income for what is broadly self-employment reflects returns to both labour and capital which are inseparable in the data.

Table 3. Compensation and housing benefits by employer ownership type

	Annual Compensation (Rmb)				Housing Benefits (%)	
	1995		1996		1995	1996
	China ^a	5 Cities	China ^a	5 Cities	5 Cities	5 Cities
Sample Size		4060		4110	4086	4119
State	5553	7909	6207	9231	29.6	30.3
Collective	3934	6704	4312	8045	11.8	16.8
Dom. Joint	6074	7360	6879	14332	11.4	17.2
Share Holding	7260	13404	7620	14755	20.3	10.7
Foreign	8812	15513	10084	26741	9.5	9.9
HK/T/M	7711	14830	8557	15839	7.1	12.9
Private		14395		12706	2.3	5.9
Individual		16091		17693	0.6	4.0
Casual		NA		5516	NA	0.0
Overall		8716		10213	24.6	24.1

^a *China Labour Statistical Yearbook* (National Bureau of Statistics, 1996, pp. 217, 303, 357; 1997, pp. 217, 299, 353).

NA, the 'casual labor' category was not included in the 1995 survey.

subsidies in only 4.0 percent of cases. Workers in firms with investment from Hong Kong, Taiwan, and Macao and those in domestic private firms received compensation in between that of state workers and the highest paid private sector groups, and low housing benefits commensurate with their private sector peers. Collective workers were paid somewhat less than those in the state sector at ¥8045 per year and received housing subsidies at a moderate 16.8 percent rate. Compensation in domestic joint ventures and shareholding firms was on par with that of the private sector in 1996, and housing benefits were at an intermediate level. As expected, casual workers fell at the bottom of the compensation and housing ranking.

Given the small samples for some ownership types and the sometimes large changes in average compensation between the 1995 and 1996 samples, the impact of outliers on the compensation averages might be suspected. Dropping the highest compensation figure from each ownership group and recalculating the rank order results in only one pairwise reversal for each year – between fourth and fifth ranked shareholding and private firms in 1995 and between fifth and sixth ranked private firms and domestic joint ventures in 1996. The impact of this exercise is most notable on the 1996 compensation in domestic joint ventures, the average dropping from ¥14 332 to ¥10 474. Overall then, the pattern that emerges is one of high compensation for foreign-invested and domestic private firms relative to state and collective firms, with domestic joint ventures aligned more closely with the state sector and shareholding firms with the private sector. The pattern for housing benefits cleaves along similar lines in 1996, although it is less clearcut in 1995.

The econometric analysis of the present study distinguishes three ownership groupings for purposes of interpreting household choice among job benefits packages. The 'state sector' includes collectives and domestic joint ventures in addition to state enterprises and is characterised by low wages but generous

in-kind benefits and a high degree of security, if not any longer by the mid-1990s in the form of an iron-clad guarantee of full-time work, at least in the expectation of continued sustenance. The 'private sector' includes shareholding firms that in principle have been restructured with the aim of engendering market-orientated behaviour and in practice do exhibit the higher wages and lower housing benefits characteristic of the private sector. Casual labourers are excluded from the analysis because most of these classify themselves foremost as unemployed, retired, or otherwise out of the labour force and the extremely low incomes associated with such work make it an uneasy fit with the rest of the private sector group. Within the private sector, a further distinction is drawn between domestic and foreign-invested firms. Although compensation and benefits do not differ systematically across this divide, there is divergence in the skill sets demanded of workers and this must be accounted for in the analysis.

The growth of the private sector by the mid-1990s had fostered the emergence of 'two system' households to a degree, as shown in Table 4. Just under 17 percent of sample households received income from a combination of state and private sources. Only about 5 percent received income from private sources alone by 1996. That leaves about three-quarters of households who were dependent entirely on the state for their livelihoods. The proportion was over 80 percent in Beijing and Shenyang and dropped to a low of 60 percent in Guangzhou. This of course represents a big break from the near complete dependency on the state that existed in the early 1980s. But economic pressures are building for the trend away from state dependency to accelerate.

3. MODEL AND SUMMARY STATISTICS

The objective of the present study is to consider an individual's entry into the private sector as a member of a household decision-making unit. The household is implicitly assumed to optimise a utility function defined over a variety of job attributes including cash wages, in-kind benefits, income security, social connections, career development prospects, and work stress. Jobs in the state sector, the domestic private sector, and the foreign-invested sector differ systematically in their manifestation of these attributes. The key proposition to be tested is that one household member's sectoral employment choice depends on the sectoral employment status of other members as the household on the whole seeks to diversify its job holdings across sectors in pursuit of a balanced

Table 4. Within household employer ownership patterns (in percent)

	1995		1996				
	5 Cities	5 Cities	Beijing	Shanghai	Shenyang	Chengdu	Guangzhou
No. households	2525	2506	502	501	500	502	501
State only	78.2	74.4	83.4	71.7	80.6	75.9	60.5
Mixed	16.4	16.9	13.4	23.7	10.8	12.1	24.2
Private only	2.9	4.9	1.6	3.2	2.8	6.4	10.4
Unknown/casual	2.6	3.8	1.6	1.4	5.8	5.6	4.6

package of attributes. If someone else within the household is employed in the state sector, a given individual will be more likely to pursue employment opportunities featuring other attributes in the private sector.

Ideally, we would further like to estimate an individual's employment choice as a function of the specific terms of employment offered in each sector. In practice, however, the full set of alternative employment packages is not observable. In sectors other than that in which the individual is actually employed, terms of employment have never been consummated. But even with respect to the job actually held, the full range of job attributes in which we are interested is not amenable to observation and quantification. To some extent, we can control for differences in job seekers' expected terms of employment indirectly through reference to observable characteristics of the individual such as age, education, gender, ethnicity, and urban household registration. These characteristics will then affect employment choice in the model both through their connection to an individual's preferences among job attributes and through their influence on the employment terms offered by an employer, and the two effects will be indiscernible one from the other.

Macroeconomic circumstances will also have a bearing on the probability of an individual's gaining private sector employment. We control for variation in such circumstances by including survey year and city among the explanatory variables of the model.

The model posited is of a multinomial logit form. A multinomial logit model is, in general, used to estimate response functions for populations having given characteristics, the response functions determining the probability of various outcomes obtaining (Maddala, 1983). The outcomes, in this case, are employment in either the private domestic sector or the private foreign sector, with the state and collective sector accounting for the residual probability. The characteristics that influence employment sector likelihoods in the model are laid out in Table 5. Each value for a characteristic is represented in the model by a dummy variable with the sum of the coefficient estimates for each exhaustive set of dummies constrained to sum to 1.

Let the vector of characteristic dummies be denoted by x and the coefficient vectors by β_i where i indexes sectors PD for private domestic and PF for private foreign. The probabilities of employment by sector are given as:

$$\text{Prob}(\text{Sector} = \text{PD}) = \exp(\beta'_{\text{PD}}x) / (1 + \exp(\beta'_{\text{PD}}x) + \exp(\beta'_{\text{PF}}x))$$

$$\text{Prob}(\text{Sector} = \text{PF}) = \exp(\beta'_{\text{PF}}x) / (1 + \exp(\beta'_{\text{PD}}x) + \exp(\beta'_{\text{PF}}x)).$$

Estimates of the β_i vectors are obtained using a maximum likelihood technique.

Because private sector growth in China has occurred very rapidly from a small base within the career span of most people still working by the mid-1990s and because job change occurs only with a great deal of friction and often in response to some trigger, we examine not only the full set of all employed persons but a separate subset containing those who have entered new jobs in the preceding 5 years. Frequency distributions on the characteristic variables

Table 5. Summary statistics for all and newly employed samples (in percent)

<i>Characteristic</i>	<i>All employed</i>	<i>Newly employed</i>
Sample size (persons)	8076	1051
Employed sector		
State	85.4	62.0
Private domestic	9.9	24.8
Private foreign	4.7	13.2
Age		
≤25	10.7	47.7
26–35	27.9	24.1
36–45	37.3	17.1
46–55	16.8	5.8
56+	7.3	5.3
Education		
Elementary	6.2	0.0
Lower middle	30.6	20.7
Upper middle	37.8	41.0
Technical school	12.2	18.0
University	13.2	20.3
Male	54.4	52.0
Han	96.7	96.4
Hukou	98.9	97.0
Adults in Household		
1	1.7	2.0
2	41.8	30.4
3	23.0	25.8
4+	33.5	41.8
State affiliation in household		
Spouse	59.7	28.8
of whom, housed	30.0	30.4
Parent ^a	25.4	47.8
of whom, housed	58.3	59.0
Not spouse/parent housed	67.6	63.4
of whom, own home	32.8	32.9
Prior status		
Employed, state		22.9
private domestic		2.1
private foreign		1.0
Unemployed		8.6
Furloughed		13.5
Retired		2.2
In school		49.7

^a Includes parents-in-law and grandparents.

for each of these sample groups are presented in table 5. Of all those employed, 9.9 percent held jobs in private domestic firms and 4.7 percent held jobs in foreign-invested firms. For new jobs, these percentages were much higher at 24.8 percent and 13.2 percent, respectively.

Those entering new jobs tend to be young. Nearly half are aged 25 or under, and another quarter are between 26 and 35 years of age. The sample of all

working individuals is distributed more normally in age around a mode group of 36–45. Recent job takers are on the whole better educated than the full sample of working persons. More than three-quarters have at least an upper middle school degree while more than one-third have advanced technical or university degrees. But even of the broad working group, nearly two-thirds have completed upper middle school. Only slightly more than half of both samples are male, indicative of the high female labour force participation rate in urban China. Nearly all members of the sample group are of Han ethnicity and nearly all have an urban hukou (residency permit).¹²

On the premise that the safety net provided by the household lays a foundation for risk taking on the part of individual family members, someone from a household with more adult members would arguably be more prone to enter private sector employment. A count of the number of adults in a person's household is therefore included as an explanatory variable in the model. One-third of all individuals are from households with four or more adult members and nearly another quarter from households with three adult members. New job takers, who are often young people still living with parents, tend to an even greater degree to be from households with many adults present.

The presence of state employees or retirees in the household would also be expected to provide a counterweight conducive to taking the private sector plunge, especially when a state-connected household member receives housing benefits. Nearly 60 percent of the full working contingent are married to a state-employed spouse, and one-quarter live with a state-connected (employed or retired) parent (or parent-in-law or grandparent). The younger age profile of new job takers makes them much less likely to be married to a state employee but much more likely to be living with a state-connected parent. Uniformly across the two sample groups, state-connected spouses are state housed about 30 percent of the time and state-connected parents about 59 percent of the time. Roughly two-thirds of sample workers do not receive housing benefits through a state-connected spouse or parent, and of these about one-third belong to households that own their own homes.¹³

In the new employment model, one's status prior to taking the job serves as an explanatory variable. Only a few percent of sample individuals have moved from other private sector jobs. Nearly a quarter come from state jobs. Coming from an unemployment background are 8.6 percent, from furlough 13.5 percent, and from retirement 2.2 percent. That leaves nearly half who have taken jobs directly out of school. This categorisation fully accounts for all new job

¹² Survey households were selected randomly from housing maps developed by the survey companies rather than from registration records, so in principle households without formal registration status were included in the sample frame.

¹³ A variable that was included for trial purposes but found not to have any explanatory power was the average wage rate of an individual's state-employed family members. The hypothesis was that higher wages would indicate a more secure base from which the given individual could launch a private sector career. This hypothesis was not supported.

takers; no one in the sample was previously out of the labour force for reasons other than school or retirement.

4. FINDINGS

The coefficient estimates yielded by the multinomial regression model do not have ready intuitive interpretation. The change in the predicted probability of employment associated with a change in a particular characteristic is a function not only of that characteristic's coefficient but of all other coefficients and characteristic values as well. Thus the impact of changes in characteristic values is most readily assessed with reference to some constant baseline set of values. This is the approach utilised in table 6. The estimated response functions are applied to a set of referent characteristic values to generate the predicted sectoral employment probabilities shown in the top line of the table. The referent value for each characteristic is given in the first column of the table. These referent values are then altered one by one to yield new predicted probabilities of employment for each sector. Entries in the table represent the change in the predicted probability of being employed in the sector due to the change in the relevant characteristic value. The test statistic for the hypothesis that the change in the predicted probability is zero has a chi-squared distribution.

The referent case is an individual living in Beijing in 1995, aged 25 or under with an upper middle school education, a man of Han ethnicity with an urban hukou. He is one of two adults in the household, but the other adult is neither a working spouse nor a state-connected parent, and the family does not own its own home. This profile gives our referent individual a 14.2 percent probability of being employed in a domestic private firm and a 9.5 percent probability of being employed in a foreign-invested firm. If the referent individual took his current job in the preceding 5-year period, he is assumed to have come from an employment background in the state sector. With this background, his probability of having taken a new job in the domestic private sector is 32.4 percent and in the foreign-invested sector 26.6 percent. Thus the odds of his holding a job in the private sector if he has left the state sector for new employment in the last 5 years are better than half.

The factor having the biggest effect on raising the expectation of existing employment in the domestic private sector is the absence of an urban hukou which propels it upward by 21.1 percentage points. Reduced levels of education also increase this probability, by 5.5 percentage points when education drops to the lower middle school level and by 18.5 percentage points when education is as low as the elementary level. Conversely, higher levels of education reduce the probability of being employed in the domestic private sector, by 1.8 percentage points if education is at the technical post-secondary level and by 7.0 percentage points if at the university level. For employment in the foreign-invested sector, higher education has the opposite effect of increasing the probability of employment. A university degree raises the expectation of employment in a foreign-invested firm by 6.6 percentage points while an elementary school education lowers it by 3.8 percentage points. Lack of an urban

Table 6. Predicted Probabilities^a of Private Sector Employment (referent case in percent; all other figures percentage point changes to referent prediction)

Variable and referent		Contrasting values		All employment ^b		New employment ^c	
				Domestic 14.2 [†]	Foreign 9.5 [†]	Domestic 32.4 [†]	Foreign 26.6 [†]
Year [*] 1995	1996			3.4 ^{**}	-1.2	2.1	-5.6
City ^{**§§} Beijing	Shanghai			2.7 [*]	6.3 ^{**}	-8.5	17.9 ^{§§}
	Shenyang			2.2	-4.5 ^{**}	21.8 [§]	-15.7 [§]
	Chengdu			5.7 [*]	-5.5 ^{**}	9.1	-14.9
	Chongqing			10.4 ^{**}	-6.9 ^{**}	17.7	-13.3
	Guangzhou			15.9 ^{**}	0.6 [*]	17.2 [§]	-9.6
Age ^{**§} ≤ 25	26-35			-3.5 ^{**}	-3.0 ^{**}	4.1	-1.1
	36-45			-7.3 ^{**}	-5.4 ^{**}	13.8	-10.9
	46-55			-10.8 ^{**}	-6.5 ^{**}	8.8	-14.2
	56+			-9.9 ^{**}	-7.7 ^{**}	-17.1 [§]	-15.8 [§]
Education ^{**§§} Upper middle	Elementary			18.5 ^{**}	-3.8	NA	NA
	Lower middle			5.5 ^{**}	-2.6 [*]	12.7	-14.6 [§]
	Tech. Post-secondary			-1.8	6.1 ^{**}	0.7	-0.8 ^{§§}
	University			-7.0 ^{**}	6.6 ^{**}	-15.8 [§]	14.2
Male ^{**§}	Female			-2.4 [*]	1.2	-6.0	9.9 [§]
Han	Non-Han			-2.2	4.1	-9.1 [§]	7.7 [§]
Hukou ^{**§}	No Hukou			21.1 ^{**}	-1.0	-7.7	-19.2
No. adults [*] 2	1			5.7	-5.9	0.7	8.6
	3			-0.9	0.9	-1.1	1.4
	4+			2.3	-0.8	5.6	-4.6
Working spouse No	Yes	State	No	14.6 ^{**}	5.0 ^{**}	11.6 ^{§§}	7.3 ^{§§}
	Yes	Spouse ^{**§§}	Yes	-8.5	-4.3	-17.0	-4.9
State parent ^{**§} No	Yes	State	Yes	-9.0	-5.2	-11.5	-9.1
	Yes	Housed ^{**}	No	-2.2 ^{**}	5.8 ^{**}	-7.4 [§]	14.3 [§]
Own home No	Yes			-5.2	1.8	-5.2	-18.7
				0.2	0.9	3.5	-2.6

Prior status ^{§§}	Private domestic employed	37.4 ^{§§}	-5.9
<i>State employed</i>	Private foreign employed	0.9	31.6 ^{§§}
	Unemployed	32.3 ^{§§}	-10.5
	Furloughed	34.5 ^{§§}	-16.2
	Retired	30.1 [§]	-6.7
	In school	-5.5	-9.8 [§]

^a Predictions derived from multinomial logit coefficient estimates where the alternative to domestic and foreign private sector employment is employment in state and collective enterprises.

^b The likelihood ratio statistic for the multinomial logit regression in the all-employment model is 4838 with degrees of freedom 8956.

^c The likelihood ratio statistic for the multinomial logit regression in the new-employment model is 1390 with degrees of freedom 1736.

* Chi-square significance at 10% in the all-employment model.

** Chi-square significance at 1% in the all-employment model.

§ Chi-square significance at 10% in the new-employment model.

§§ Chi-square significance at 1% in the new-employment model.

† Predictions for referent case.

NA, too few observations to estimate.

hukou only slightly, and not statistically significantly, reduces the expectation of employment in the foreign-invested sector.

Both domestic and foreign-based private employment are the province of the young. In general, the older one gets, the less likely one is to be employed in the private sector, with the exception of those in their retirement years being marginally more likely to work in domestic private jobs. People in their 50s are often pushed out of state-sector jobs to find employment elsewhere, with middle-aged workers still being accorded employment preference when firms come under pressure to cut labour costs. Han ethnicity does not play a statistically significant role in explaining existing private sector employment rates. Gender does register as significant, with women slightly less likely to be employed in domestic private firms.

Pronounced differences in private sector employment probabilities emerge by city. Guangzhou shows a domestic private employment probability higher than that of Beijing by 15.9 percentage points, and indeed no other city has a lower expectation for employment in domestic private jobs than Beijing. For foreign-invested jobs, the expectation ranges from 6.3 percentage points higher than Beijing in Shanghai to 6.9 percentage points lower in Chongqing. The sampling year being 1996 as opposed to 1995 raises the expectation of private sector employment by 3.4 percentage points.

Because the presence of more adults in the household increases income security, we might expect that households with more grown members would be more apt to field a private-sector job holder. But the empirical evidence does not support this hypothesis.

Similar security-based arguments might give rise to a conjecture that someone living with a state-connected spouse or parent would be in a better position to assume the risks and responsibilities of private sector employment. At the first level of differentiation, having a working spouse versus not having a working spouse, there is no significant effect on the expectation of private sector employment. But conditional on having a working spouse, the sector of that spouse's employment has a highly significant impact on the probability of an individual's being privately employed, just not in the direction that our hypothesis predicted. In fact, we find that individuals with state-employed spouses are significantly *less* likely to be employed in the private sector than those without – by 8.5 percentage points relative to the case of no working spouse if the state connected spouse has no housing benefits. By contrast, individuals with a privately employed spouse have an expectation of themselves being privately employed of 14.6 percentage points *more* than those with a not-employed spouse. The same pattern holds for foreign-invested employment although at reduced magnitude. Having a privately employed as opposed to a state-employed (but unhoused) spouse raises the expectation of employment in a foreign funded firm by 9.3 percentage points. The distinction between state spouses who are housed and those who are not has no significant bearing on the expectation of private employment.

The explanation for people with state connected spouses to also gravitate toward the bosom of state employment may well be simply that they too are

well-connected enough to have the option. People tend to choose marriage partners from their own social class where a defining element of social class in China is access to a state job. For all the touting of the one-household/two-systems ideal, the prevailing reality seems to be a uniformity of employment sector within the household. Likes attract, it would appear, a finding in keeping with Becker's notion (Becker, 1973) of positive assortive mating based on complementarity of spousal traits in household production.

Living with a state-connected parent (or parent-in-law or grandparent) decreases the probability of employment in the domestic private sector but increases it in the foreign-invested sector. The endogeneity of the choice to live with a parent or, complicating matters still further, to have a parent reside in the home of a grown child, causes difficulty in the interpretation of the state parent variable. Nor does recourse to the parent housing situation clarify the issue. Employment in either branch of the private sector is actually less likely if the state-connected parent with whom the child resides receives state housing. Again, endogeneity problems seem likely. It may be that children who succeed in the private sector can afford sufficient housing, and with their busy schedules have need of parental assistance in homemaking and childcare, such that they invite their parents to forego state housing and live with them. For those not availing themselves of the state housing of a spouse or parent, home ownership is not a significant factor in determining sector of employment.

The findings, first, that being married to a state-employed spouse significantly lowers the odds of one's being employed in the private sector and second, that living with a state-connected and state-housed parent does not significantly raise the likelihood of one's holding a private sector job, suggest that active pursuit of a one-household/two-systems lifestyle has not taken hold on a widespread basis. Focusing the analysis on new job taking during the preceding 5-year period is revealing as to the true stimulus for employment in the private sector. Entry into the domestic private sector is shown to be heavily motivated by unemployment, furlough, and retirement. Compared to those who have directly left the state sector to take up new jobs, workers who pass through any of these states of job dislocation are about one-third more likely to end up in domestic private employment. Once in the domestic private sector an individual tends to stay there. The probability of taking a new job with a domestic private firm if one is leaving a previous job with such a firm is 69.8 percent.

In contrast to the ready entree they find in the domestic private sector, those who have been displaced from previous employment find the foreign-invested sector difficult to access. Relative to persons who move directly from state employment, those who are unemployed face a reduction in the probability of obtaining a job in the foreign-invested sector of 10.5 percentage points and those who are furloughed of 16.2 percentage points. The greatest promise of landing a new foreign firm job is claimed by those who have already held such jobs. The probability of taking a foreign firm job for this group is 58.2 percent.

Those entering employment directly from school have a reduced likelihood of going into either domestic or foreign-invested private employment relative

to state sector employment, although only in the latter case is the difference statistically significant. The ease of entering state employment for those entitled to it upon finishing school, the security and the knownness of it, are probably very appealing to young people taking their first jobs.

The smaller sample size and the introduction of the dominating prior status variable in the new jobs model tends to reduce the statistical significance of the other explanatory variables. Even so, the effect of the state spouse variable in influencing employment probabilities remains strong. Marriage to a state-employed spouse as opposed to one who is privately employed substantially and statistically significantly reduces the probability of private sector employment, by 28.8 percentage points for domestic jobs and by 12.2 percentage points for jobs with foreign firms. Spousal housing remains statistically insignificant in its effect. Residing with a state-connected parent again has mixed impact, but not statistically significantly so separate from the housing effect. If the parent is state housed, the child is slightly more likely to be employed in the domestic private sector but less likely by a large margin to be employed in the foreign-invested sector. This latter effect is opposite that found in the model for all existing employment, and is difficult to interpret, suggesting a more complicated interaction between housing and sector of employment than is captured in this model.

As in the existing jobs model, more education raises the prospect of new employment in the foreign-invested sector and lowers it in the domestic private sector. Shanghai has given rise to less new employment in the domestic private sector than Beijing and more in the foreign-invested sector. For all other cities in the sample, the reverse is true. Young people are much more likely than older people to take new jobs with foreign firms. By contrast, for new jobs with domestic private firms there is a peak in middle-aged years.

One of the more interesting findings in the new jobs model is the 9.9 percentage point higher probability for women than men to take new positions in the foreign-invested sector. One explanation for this might be that women receive better relative compensation packages compared to their male counterparts in foreign versus domestic firms (which is not to say that women are better compensated in absolute terms in foreign-invested firms). In state enterprises men are typically given preference in the allocation of housing and other perquisites. In addition, women may believe that their prospects for career advancement are better in the foreign-invested sector where merit-based promotion is more the norm. There may also be more of the types of jobs in the foreign sector that tend to draw women, clerical positions for example.

The tendency for individuals to marry those of like employment sector is brought into focus in Table 7. The state sector still so dominated in the mid-1990s that people from every type of employment were more likely to have a spouse who if employed was in the state than in the private sector. However, the chance of having one's employed partner at work in the state sector was 93.4 percent if one worked in the state sector, versus only 56.8 percent if one worked in the domestic private sector and 68.1 percent if one was in the foreign-invested sector. Conversely, while a state-employed person had only a

Table 7. Spouse job pairings

<i>Spouse's employment</i>	<i>Subject's employment</i>		
	<i>State</i>	<i>Private domestic</i>	<i>Private foreign</i>
State	4479 (92.9%)	214 (53.0%)	126 (68.1%)
Private domestic	213 (4.4)	179 (44.3)	10 (5.4)
Private foreign	127 (2.6)	11 (2.7)	49 (26.5)
Subtotal	4819 (100%)	404 (100%)	185 (100%)
No employed spouse	2076 (30.1%)	397 (49.6%)	195 (51.3%)
Total	6895 (100%)	801 (100%)	380 (100%)

Note: Matrix is not symmetrical because three spouse observations were dropped from the regression sample due to incomplete data.

4.0 percent chance of having a working spouse in private domestic employment, another private domestic worker had a 39.8 percent chance of this. Likewise, a state employee had only a 2.6 percent chance of a working partner being with a foreign firm while for another foreign firm employee the probability was 25.5 percent. The table further reveals that privately employed individuals are far more likely not to have working spouses at all due largely to their relative youth. In fact, more than 50 percent of private sector workers do not have employed spouses as opposed to only 30 percent of state workers.

5. IMPLICATIONS

The hypothesis that a more secure household situation (as characterised by more adult members being present and among those adults there existing ties to the state sector) would raise the likelihood of an individual's entering private employment, has not found support in the empirical work reported herein. On the contrary, marriage to a state-employed spouse significantly reduces the probability that an individual will be employed in or take a new job in the private sector. Living with a state-connected parent has ambiguous effects, the obscurity likely due to the endogeneity of the decision to live with parents.

One household/two systems has widespread popular regard as a winning strategy within China's dual-track reform environment. Were it realised in actual behaviour, a favourable transition dynamic could result. State job security and benefits, particularly basic housing and pension benefits, would provide the foundation through sharing of risk and reward within the household for an individual member of the family to pursue private sector employment with its higher expected cash wages. Over time, the private sector career would develop, and rising cash income would motivate greater reliance on market sources for housing, insurance, and other formerly enterprise-based services. The greater degree of choice and control afforded by market alternatives would increase in appeal as income rose. The family would also be in a position to accumulate a pool of savings from a higher cash income furthering its sense of security independent of the state job. Reliance on the state would thus be lessened and a basis for transferring other household members to private sector employment would be built.

Such a dynamic has not come into play as effectively as it might have. Although the number of jobs in the private sector has shown healthy expansion from a starting point of virtual non-existence in the early 1980s and from very small numbers as late as 1992, private employment has not tended to disperse broadly across households. Why not? If people fancy the idea of one household/two systems and are envious of those who achieve it, why are not more households actively pursuing it? Perhaps, to some extent, it is a matter of time and the private sector growing to a critical mass capable of providing jobs to those who have been waiting for good opportunities. Since our second sample was drawn at the end of 1996, further rapid growth in private employment has taken place and it would be interesting even now to examine again the pattern of private and state employment within households. Maybe with a better established private sector base, the transition dynamic latent in one household/two systems would begin to take hold.

But perhaps in other ways, circumstances are not ideal to foster this dynamic. The appeal of one household/two systems depends on there being stark differences between what a household derives from the private sector and what it derives from the state sector. If state wages are rising competitively with those in the private sector, then diversification of the household's earnings across sectors is less compelling. State wages rising commensurately with those in the private sector appears to have been the trend through the 1990s despite declining profitability in the state sector. Fan et al. (1998) attribute this problem in the state-owned enterprise (SOE) to a 'combination of expanded discretionary power of SOE managers, increased bargaining power of SOE workers, and incomplete commercialisation of the SOE sector'. They argue that a hardening of the SOE budget constraint would alleviate the problem.

Paradoxically, less stability in state employment may also undermine the one-household/two-systems transition dynamic. A household that is uncertain about its state-employed members remaining employed would be inclined to hold on precautionarily to every state job in its grasp, waiting to see who got discharged and ultimately letting that person pursue private employment when the issue was forced.

Improvement of a non-enterprise-based social welfare system would presumably serve as an inducement for individuals to leave the state sector. Municipality-based pension systems are now being established to facilitate worker mobility. Development of market-based housing, medical care, and insurance also frees workers from dependence on state jobs.

State enterprises traditionally formed the backbone of China's urban social welfare system. The family played a supporting role, which was implicit in housing and other benefits being assigned preferentially to mature male individuals. The nexus of responsibility for pensions, housing, medical care, and the like is gradually being shifted to rest along new lines of state/private organisation. The redesign of institutions has proceeded with great caution arising from real trepidation with regard to the social consequences of disrupting the lives of urban workers. Any dynamic that fosters voluntary withdrawal from dependence on the state in favour of private alternatives, as in

principle does the one-household/two-systems approach to the labour market transition, is to be cultivated and examined carefully in its evolution.

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