Uncovering the "Black Children"
--- An Analysis of Infants' Household Registration Status in China

Introduction:

The Household Registration System (namely, the Hukou system) was a pivotal institution of political and social control in Maoist China. It requires all Chinese citizens to register their household address and personal information in the household registry at their township office. And since it differentiates agriculture versus non-agriculture hukou, which makes transfers from rural residents to urban residents extremely hard, it is perceived as the primary barrier for population mobility in China even today. Moreover, it is also an important instrument for family planning regulation and management. The Household Registration Regulations require each new born into the household to be registered within the first month of birth at the residence registration organ at the infant's place of permanent residence, usually, the mother's permanent residence, and a certificate of permission to give birth has to be presented at the application for registration. In this way, the birth registration facilitates the implementation of the birth control programs while controls population migration at the same time. Avoiding registration, therefore, becomes somewhat a way to circumvent the family planning regulations. Meanwhile, migrant mothers may also fail in registering their babies since they are not returning to their original places.

The issue of unregistered children has been noted since the late 1980s when the one-child policy has taken its effect across the nation, and the market economy has seen surging rural-urban migration flow. Reports on unregistered children surfaced in the national media, which suggested that there were more than a million such unregistered children as of the end of 1980s. Results from census reports also show a considerable number of people (both children and adults) unregistered (see table below). And bear in mind that the census by no means covers all the unregistered population. The actual number of unregistered children could only be larger.

Table 1 Number un-registered and total enumerated in three censuses: China 1982, 1990, and 2000

Year	*Number unregistered*	*Total enumerated population*	*% Unregistered*
1982	4,754,602	1,002,044,685	0.47
1990	8,535,536	1,130,510,638	0.76
2000	8,052,484	1,242,612,226	0.65

Source: 1982 figure is from Zhou, Guangsheng "On the Role Played by Household Reisters in China's 1982 Population Census", in Li Chengrui et al. A census of One Billion People: Papers for International seminar on China's 1982 Census, Hong Kong, 1987. 1990 figure is from the State Bureau of Statistics, "1990 Census Tabulation", Beijing, 1992. 2000 figure is from the State Bureau of Statistics, "2000 Census Tabulation", Beijing, 2002.

While being an institution of social control, the household registration system is also linked to the social insurance system. The birth registration serves as legal proof of the citizen's identity, and functions to protect the rights of the citizen, securing their social

welfare received. Thus, these unregistered children, having no legal identity, are not entitled to receive any public support, and tend to suffer from adverse social well being.

However, given the significance of the problem of unregistered children, not many studies address it. There are only remained, in the limited literatures attempting to address the issue, some untested estimations, mostly based on some anecdotal reports or scattered qualitative data, that many of these unregistered children may be out-of plan births, female children, or children of migrants (Greenhalgh 2003, Chen and Wang, 1997). Yet there exist few academic studies based on data analysis examining the issue of un-registration. Therefore, it is the task of this paper to contribute to a better understanding of this special group of unregistered children.

Analytical Framework and Estimations on Un-registration

Analysis specifically focusing on "black children", or in another word, unregistered children, as introduced above, attributed un-registration mainly to out-of-plan births (Zhang 1988, Fan and Huang 1989). According to the two reports by Zhang and Fan et al. respectively, largely three situations shaped the un-registration: firstly, in order to avoid punishment, parents of higher-order births intentionally refused to apply for registration for their out-of-plan children; secondly, surging rural-urban migration results in a large number of floating population left unattended by the state system of both family planning and household registration. They usually have multiple births, and unintentionally failed in reporting of their births; and thirdly, given the much room of flexibility can be played by local governments in terms of family planning policy, many rejected applications of registration from out-of-plan births, either as a way of punishment or to show their feat of family planning work.

Following the line of previous findings, I identify two forces that might deter the hukou registration of infants: one is related to the birth control policy, the other comes from the hukou policy itself. Under the first hypothesis, which is that birth control policy is what mainly shapes the parental registration behavior, it is expected that:
1) At the child characteristic level: unregistered infants are more likely to be girls, due to strong son preference in China, and they tend to be higher-order births, due to the family planning regulations. Parents may avoid registration to hide the girl infants so that they can have chance to give another birth to a boy. This is especially true if these female infants are of higher-parity children, and if they do not have a male sibling.
2) At the maternal characteristics level: infants born to rural mothers and mothers have less education are more likely to be unregistered, since rural women or less educated women tend to want more children, especially more boys.
3) At the community level: similarly, the rural community might see more unregistered infants due to desire for children. And more directly, a community where has more relaxed birth planning policy tends to have more incidence of un-registration, since there will be more out of plan births due to lack of regulation.

On the other hand, if mainly the hukou policy matters, --- here referring specifically to the regulations requiring returning to mother's permanent residence for registration and

the registration reporting practice of local governments, we may see a different pattern. Those effects of child characteristics may not play an important role. A distinctive feature would be that mother's migration status would account for a large percent of un-registration. And at the community level, the pattern might be that urban communities show higher un-registration rates, because of the larger migrant population in cities and the worse registration reporting practice in rural areas.

Data and Method

The analysis of this current study is mostly based on the China 1990 census 1% sample of administrative villages, also referred to as the 1% clustered sample data, which is one of two micro-sample of the 1990 Chinese census (Mason and Lavely, 2001). Manipulation of the data enables us to link each child under 18 months old to his or her mother as well. A new data set of 332,724 live 0 – 18 month old infants was therefore created, that provides child information, mother's and household's information, as well as certain community features. This data set on infants under 18 months old is what I use for this current study. A preliminary look at this under-18-month-old 1990 1% clustered sample data shows 38,232 infants with registration status unsettled, accounting for about 11.49% of the total population of living infants in the data set, which provides enough cases for analysis that examines all the variations.

One concern for using census data to study infant registration status, however, lies in the possible underreport of unregistered children in the census. It is estimated that those who have out-of-plan births and really want to hide their children will also circumvent from the census enumeration. And the census enumeration is also largely based on the household registration information in the first place (Sun 1997, Fincher 1991). But the fact that population census makes use of household registration does not mean simply copying the household registration records. Great efforts were made in the census to make detailed investigation so that all the households would be enumerated in each census areas. The method of house visit to collect information for filling the questionnaire on the spot was adopted for the 1990 census. Advance enumeration was made in particular to include the growing floating population (Sun 1997). Therefore, other than passively depending on individual volition in reporting as so in the household registration, the census took the initiative to go to individuals to ask about needed information, and is usually able to count more people than those captured under the registration system. In addition, population census is a large-scale scientific social investigation at a reference time with less administrative purpose, while the household registration is an administrative system that involves more complicated procedures, and is more connected to the implementation of local birth planning programs. Thus, people might also be more willing to report during the census than for household registration. In this way, census data is able to enumerate people left out of the household registration system, in particular to my interests, those children left unregistered. But also note that there are surely large amount of unregistered population still not covered in the census.

The census data classifies the registration status of each individual into five categories, which identify permanent residents, migrants, and unregistered people respectively. They

are made into a dummy variable that identifies un-registration as 1, and the rest as 0. This becomes the dependent variable of the study. As for explanatory variables, they are grouped into three blocks --- child, maternal and community characteristics, including child age, sex, sib set, and ethnicity; mother's marital status, working status, migration status, education, and occupational prestige; and community residential type (rural or urban), local birth planning policy enforcement, percent women illiterate and percent Han population, respectively. Logistic regression is applied for analysis, after a presentation of some cross-tabulation results. Since overwhelming effects of residential type and migration are identified in cross-tabulations, separate group logistic regression analysis by rural and urban, migrants and non-migrants is also conducted, to further examine the interactions by residential type and migration status.

Findings and Discussions (detailed discussion and analysis will be shown in the paper)

Table 2 Logistic regression results on infant un-registration determinants (0=registered, 1=unregistered)

Variable	Logit	Odds	Z score	Significance
Child age (reference: <1month)				
1-6 months old	-.891	.410	-44.30	.000
6-12 months old	-1.621	.198	-79.30	.000
12-18 months old	-1.952	.142	-89.80	.000
Child sex (reference: male)				
Female	.088	1.092	8.06	.000
Sib set (reference: 1st child)				
0 male, 1+ female	.011	1.011	0.81	.000
1+ male, 0 female	-.115	.891	-7.63	.000
1+ male, 1+ female	-.139	.870	-6.70	.000
Child ethnicity (reference: Han)				
Northern minority	.239	1.270	7.88	.000
Southern minority	-.807	.446	-27.92	.000
Mother's age	-.011	.989	-8.63	.000
Marital status (reference: married)				
Not married	.200	1.222	2.04	.042
Registration status (reference: permanent residents)				
Migrant mother	2.315	10.128	118.13	.000
Mother's education (reference:<6 yrs)				
Middle school (6-12 years)	.305	1.357	27.93	.000
Middle school & over (>12 years)	-.370	.691	-5.56	.000
Working status (reference: not working)				
Working mother	-1.180	.307	-87.39	.000
Occupation prestige	.008	1.008	11.24	.000
Residential type (reference: rural)				
Urban	.801	2.228	67.74	.000
Parity progression	.157	1.170	26.75	.000
Stop at one son	-.080	.923	-10.37	.000
% female illiterate	-.013	.987	-35.45	.000
% Han	.006	1.006	23.26	.000

As the above bivariate logistic regression results show, all the considered factors have statistically significant effects on infants' registration status, which is due to the large sample size dealt with here. The coefficients seem to tell that what makes big difference on infants' registration status are infants' age, mother's registration status or say, migration status, mother's working status (whether working or not), and the residential type (whether urban or rural). Infants of older age group (by month) are obviously more likely to be registered than those younger ones. Whether mother is a permanent resident in the registration place or is a migrant has the most significant effect on the baby child's registration status. Mothers who have unstable or transitional registration/residential status are far less likely to register their children than those non-migrants. The effect of mother's work status sort of goes in the same line: mothers who are currently not working, for various reasons though, are much less likely to register their children than those who are working. So, it seems that a stable status of the mother plays a really import role in children's registration. The effect of the residential type is somewhat out of the expectation: it is in rural areas that infants are more likely to be registered, comparing with in urban places. Such results can very likely be explained by migration though. It is usually in urban cities that there are more people migrating into, and there are more people in transient status or having unsettled status.

The following tables present the results of logistic regression examining the impact of child, maternal and community characteristics on un-registration respectively. For examining the interaction effects of residential type and migration status, we did the analysis in four separate groups, looking at infants in rural areas with non-migrant mothers, urban infants with non-migrant mothers, infants with migrant mothers in rural settings, and infants in urban areas with migrant mothers respectively.

Table 3 Logistic-regression coefficients by residential type and migration for the impact of child characteristics on the likelihood of infant un-registration

Variable	Rural non-migrants	Urban non-migrants	Rural migrants	Urban migrants
Child age2	-.845**	-1.358**	-.393**	-.833**
Child age3	-1.652**	-2.208**	-.693**	-1.212**
Child age4	-1.936**	-2.563**	-1.123**	-2.383**
Child sex	.105**	.128**	.046	.188**
Sib set 1	.123**	.596**	.352**	.019
Sib set 2	-.011	.557**	.184*	-.165
Sib set 3	.113**	.631**	.623**	.394*
NE minority	.257**	-.111	.782**	.293
SW minority	-.941**	-.188*	.509**	.868**
Constant	-.1.023**	-1.116**	.113	2.010**
LR Chi2	7997.89	4360.41	227.72	617.90
N	259756	61484	5812	5672
Log likelihood	-73786	-23624	-3820	-3355
BIC	7949.16	4317.31	193.84	584.12

Table 4 Logistic-regression coefficients by residential type and migration for the impact of maternal characteristics on the likelihood of infant un-registration

Variable	Rural non-migrants	Urban non-migrants	Rural migrants	Urban migrants
Mother's age	.006**	-.014**	.029**	-.020
Currently unmarried	.123	.229	-.510	.697
Middle school	.224**	-.144**	.298**	.150
Middle school & over	.326	-.592**	-1.880	-.124
Occupation prestige	.017**	-.015**	.031**	-.014**
Constant	-3.048**	-1.025**	-2.148**	1.234**
N	237405	52119	4360	2742
LR Chi2	467.11	398.14	71.97	24.49
Log likelihood	-66698.7	-19158.5	-2785.6	-1826.6
BIC	440.23	374.56	53.77	7.30

Table 5 Logistic-regression coefficients by residential type and migration for the impact of community features on the likelihood of infant un-registration:

Variable	Rural non-migrants	Urban non-migrants	Rural migrants	Urban migrants
Parity progression	.122**	.223**	.029	-.067*
Progress at one son	-.106**	-.039	-.203**	.088
Proportion of boys	.079	2.225**	-.548	-1.629*
Illiterate women %	-.007**	.001	.001	.003
Han population %	.005**	.001	-.012**	-.007**
Constant	-2.684**	-2.541**	.778*	1.932**
N	259756	61480	5812	5666
LR Chi2	1727.95	422.74	191.83	28.73
Log likelihood	-76920.9	-25592.2	-3838.01	-3647.1
BIC	1700.88	398.80	173.01	9.96

*: Significant at .05 level **: Significant at .01 level

Generally, as the results shown above, and some other models that look into the effects of out-plan-birth, migration, local registration practice in more details, migration has an overwhelming effect on infant registration status, but which seems more to do with the objective or physical barriers to migrant mothers, other than due to the higher chance of out-of-plan births for migrant mothers. Meanwhile, the rural/urban differentials are also distinct, showing higher rates of registration in rural areas. And even the more remote the area is, the higher the registration rates. And this cannot simply be explained away by the larger percent of migrant population in urban areas. This can only suggest that the variation in local registration practice. As some literature show, in remote rural areas in particular, registration is more by administrative enforcement, rather than individual parental volition. Local governments do the registration for couples following the birth planning rules, and those out-of-plan births are simply not processed to registration organs, neither are they covered in the census enumeration.

Conclusion

As the above findings suggest, in general, the community level characteristics really shape the social context of infants' registration status. The local administrative practice of registration plays a key role in infant household registration status. The barrier caused by mother's migration status is also important. And most other maternal characteristics are actually shaped by the community level features. Out-of-plan births, however, do not have such overwhelming effects as expected. This can be due to underreport of unregistered out-of-plan children in this census data set. Local communities have bad registration practice, and family planning enforcement, also tend to have more underreporting problem for the census.

The study result rings to public policy planners that, for ensuring the registration of each new born infants, improvement of the social environment, the local registration practice is the key. The regulation requires migrant mothers to return to their original permanent residence for registering their babies need to be improved. Local governments need some monitoring system ensuring the registration of out-of-plan births. And census enumeration process needs to be further improved to cover the children hidden from the household registration system.

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