

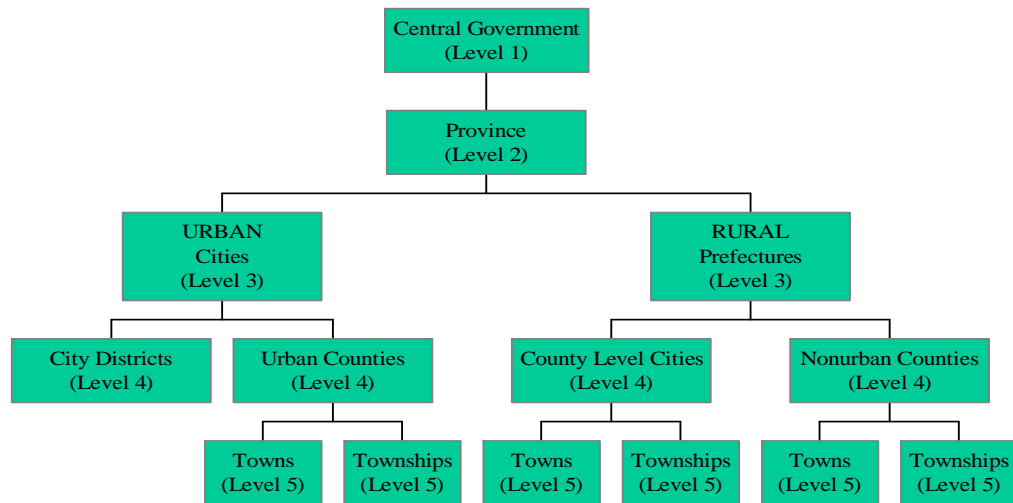
Appendix A: Fiscal Decentralization, Local Economic Development, and Labour Migration in China (1982-87)

The 1980s laid down the foundations for the debate on fiscal decentralization and labour mobility. Some related policies will be reviewed here. First, I will go through the transition of the commune system before reform in 1983, the sub-provincial restructuring, and fiscal decentralization. Second, I will discuss the relations between local government budgets and TVE development. Third, the political economy of disparity of TVEs' development and labour mobility will be reviewed. Forth, I will review the emergence of labour mobility during this period; finally I will highlight the blockages of undocumented rural-rural migration at the end of this section.

A1. Changing sub-provincial-level governments:

The rural reform in China began with the Household Responsibility System (HRS), which replaced the old 'communal system' and redistributed a portion of the farmland to the peasants according to household unit (Riskin, 1987). In return, the government obtained a certain amount of agricultural production with predetermined (low) prices as a tax collected from the peasants (Perkins 1988, p. 607). Closely related to the HRS is the restructuring of rural governmental structure. The post-Mao leadership stressed the withdrawal of the party from daily micro-management and administration, and the separation of governmental and economic administration (*zhenshe fenkai*) (White, 1990 p. 38).

Fig. A1: Government Structure in the People's Republic of China after the 1983 Reform



Source: Cited from Wong et al (1995: 82-3)

Note:

"Sub-provincial government" = Governments below level 2.

(level 2) Includes 27 provinces and 3 municipalities including Beijing, Shanghai and Tianjin.

(level 3) with 151 prefectures and 185 prefectural level cities. some prefectures has been eliminated, and rural counties are directly under city administration.

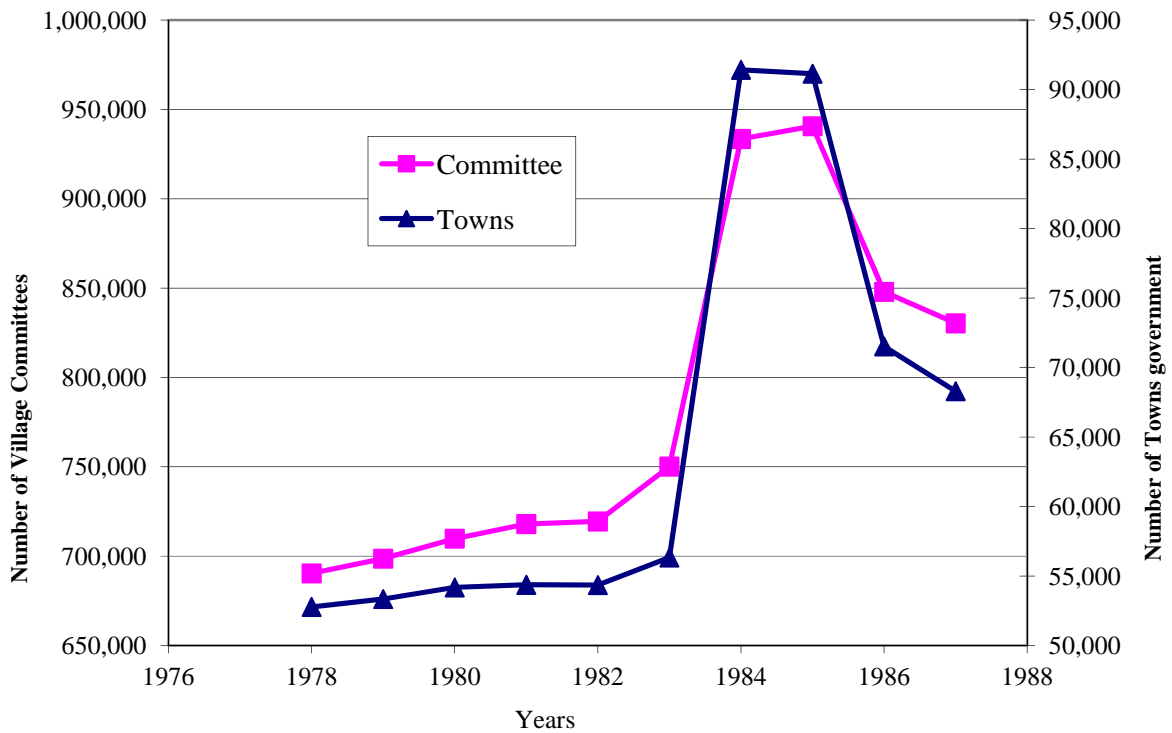
For example, Guangdong, Hainan, Jiangsu, and Liaoning Provinces.

(level 4) with 1903 counties and 279 county-level cities.

(level 5) with 56000 townships and towns, and city districts.

Restructuring of the different levels of rural government began after the reform. Between 1982 and 1985, rural people's communes were converted to township (*xiang*) and town (*zhen*) governments, with economic functions transferred to subordinate economic management committees (*jingji guanli weiyuanhui*). Similarly, production brigades were converted to administrative villages (*xingzhen cun*) led by villagers' committees (*cunmin wei yuanhui*), and production teams to village small groups (*cun xiaozu*) (White, 1990, p. 39) (For the historical definitions and development of sub-provincial-level governments, see Alpermann (2009), Li and An (2009), and Zweig (1992).

Figure A2: Number of Town Government and Village Committees (1978-1987)



Source: China Urban Statistical yearbok 1990

As shown in Fig. A2, the organizational change in 1984-5 resulted in an increase of nearly two-thirds in the number of commune-level units, a 30% increase in the number of brigade-level units, and a 20% decline in the number of team-level units. While no comprehensive account of the change of government at the provincial-level during 1983 to 1984 is available, White (1990, table 1) demonstrates that the overall change was finished within the two year period. By 1986, however, the number of towns and townships had declined by nearly 20,000 and the number of administrative villages by nearly 100,000. This structural shock, together with fiscal decentralization, created new local governance and local fiscal needs at the sub-provincial-level. Perhaps, the ups-and-downs of the number of sub-provincial-level governments may contribute to understanding the governance structures and its implications. Because, first, the local governments' numbers can be controlled by the central government, the central government has a certain extent of control over the local governance structure. This move resulted in a precipitous drop in the number of township and village-level units nationwide and a sudden increase in the number of towns. Second, fiscal decentralization, with changing of the number of

local governments, should be viewed as the qualitative change of governance due to changing financial considerations. Third, everything being equal, as setting up a government body requires basic fixed costs, the increase in numbers at one level of government will reduce the resource available to pay for the public expenditures at localities. For example, the village committee consists of at least three members (one officer, one deputy officer, and one committee member) and up to seven members (one officer, one deputy officer, and with several committee members), according to Hu (2010) article 6. Although these members are not considered as official government officers *per se*, their expenditures can count towards village administration expenses. In other words, this structural change of sub-provincial-level government creates a set of new the local government budget relations.

A2. Fiscal decentralization arrangements, Rural (Town/Village) governmental budgets, and the TVEs' development:

Two fiscal decentralization arrangements have also been developed. First, the inter-governmental levels' revenue-sharing contract is an important instrument to determine the form of sharing in this inter-governmental fiscal relation at the rural-level. The rural sharing contracts closely mirror the form of central-provincial contracts. There are three basic variations: fixed rate remittance, fixed quota remittance, and incremental contracting, in which the remittance is set to grow at a fixed rate (Li, 2002). Second, above-quota arrangements have also been set for the extra income- sharing between levels.

The immediate effect of the two reforms is that the rural-level government, facing increasing local expenditure burdens, such as increasing personnel in office, as well as education and medical expenditures, has to generate local financial sources. There can be two main sources of income, promoting local business, such as TVEs for income taxation, or increasing the agricultural 'fee' for covering expenses (Li, 2002). While both can occur together in a sub-provincial-level administration system, the former usually happens in places that can be more easily industrialized, such as coastal and eastern areas. The latter, due to no other possible sources of income, usually takes place in poorer areas, such as the western part of China.

Oi (1990) argued that the fate of the collective is linked not to structural reform as such, but rather to the 'source of income' in a village. In particular, villages that rely primarily on

agriculture are most likely to have experienced a decline of the collective in both fiscal and organizational terms; whereas, those with non-agricultural enterprises, in contrast, are able to exert considerable administrative and fiscal control (p. 18). She added that, 'to assess fully the impact of the reforms, one must look at what has happened to the industrial sector of the rural economy as well' (p. 19). In fact, research during the late 1990s also demonstrates that county government policy has been playing an important role in guiding the TVEs' development in areas, such as ownership, labour allocation, and mobility (Svejnar and Woo, 1990).

TVEs have been growing very rapidly and become the key money-makers during the 1980s (See Oi, 1990, table 1, for dropping share of agriculture in total rural income; and table 2 for a breakdown of non-agricultural production as a percentage of total rural income from 1980 to 1987). The number of township enterprises increased from 1.346 million to 6.065 million in just one year, an increase of 3.5 times; simultaneously, employment in TVEs rose from 3224.6 million to 5208.1 million, an increase of 61%. The growth of TVEs employment has been increasing; from 1984 to 1988, there was an average annual growth rate of over 24% (Duan and Ye, 2009). However, the TVEs have been drastically reduced as the fiscal recentralization after the Third Plenum in September 1988. By early 1990, three million enterprises were closed and 13 million farmers returned to the land, found new jobs, or joined the 50–60 million migrant workers (Zweig, 1992). This is why the period of 1982 to 1987 could be arguably be a good time period to study the relationship between TVEs development and labour mobility. In 1984, *xiang* (township) and *cun* (village) government commanded an overall 43.9% of after-tax profits from TVEs (Oi, 1990 p. 24). Meanwhile, TVEs are sometimes vulnerable to uncontrollable tax hikes and proliferations in fees (See Oi (1990 p. 26-7) for village and township government corporatism during the reform period).

A3. Disparity of TVEs' development and labour mobility:

It is worth noting that the disparity in TVEs' development has been huge since the beginning of reforms. According to the World Bank, the nominal value of TVEs' industrial output rose by 415% in Zhejiang province, but only by 37% in Inner Mongolia. Eight of China's provinces had an increase of less than 120%. The reason behind this interesting different may be because that rural resident at coastal areas are inclined to work at urban areas where higher expected income

could be found, while TVEs works at their localities are largely taken up by in-migrants. However, at the highly developed villages, relatively high income jobs could be found and more local rural labour force at their local TVEs. While the remittance burden from TVEs to local level governments may be very high, to sustain the captioned taxation pattern, certain input factor optimization in either the well or the less developed village/ townships has to be put in place for profitability. For example, labour has to be relocated in order to promote local economic development and, hence, the local tax burden for counties/towns in less developed provinces. Zweig (1992) shows cases in western provinces in which peasant migration could make county-town governments less dependent on county financial assistance. That implies that labour mobility is urged at the local level.

On the other hand, in some well-developed provinces, once the TVE development is relatively advanced and local labour shortages have emerged, a functioning local labour market facilitates excessively rapid increases in wages. This occurred in Nanhai, a county in Guangdong province, which was opened up to interregional labour flows in 1986 (Byrd and Lin, 1990: 278).

The interesting point is that labour mobility has gone beyond the nearby towns within the provincial limits that set by the state (Fei, 1985). Liang et al. (2002), using the 1990 China Population Census, also demonstrate no statistically significant effect of TVE on intra-provincial labour migration that casts serious doubt on the efficacy of using TVEs as a strategy to stem the flow of (intra-provincial) migration at the national level (Liang et al., 2002: 2185). A local survey at that time also demonstrates that labour markets are already freer in the towns of southern China (Nanhai and Jieshou), where industries are well developed, than those in the east (Wuxi and Shangrao), where workers are less likely to have been allocated to their firm (Siu, 1990: 72). That means the strategy's effects to restraint labour could be very different from place to place, depending on the TVEs development.

A4. Labour migration during the period of 1982-87:

Perhaps the puzzle that Liang et al. (2002: 2185) posted is laid in the pattern and type of labour migration. Following the direction of labour migration policy, researches in China has also been focusing on rural-to-urban migration, partly due to the importance of the urban sector. Since the reform in 1978, labour migration has re-emerged as the government has instituted policy changes, such as the Household Responsibility System (HRS), that relaxes labour control rights

from communes back to peasants' households (Chen, 2012). I will, however, demonstrate rural-to-rural labour migration is also an important subject to study due to its size and growth since the reform.

Table A1: Comparison of Changing Hukou Attainment by Village, Town, and Total In-migrant (1982-87)

Year	1982-3	1983-4	1984-5	1985-6	1986-7	Total
Intra-provincial In-migration						
<u>Village in-migrant</u>						
<i>hukou</i>	535	687	862	795	568	3447
column%	77.54	73.01	66.62	56.62	48.63	62.71
<i>non-hukou</i>	155	254	432	609	600	2050
column%	22.46	26.99	33.38	43.38	51.37	37.29
Total No.	690	941	1294	1404	1168	5497
<u>Town in-migrant</u>						
<i>hukou</i>	155	180	200	190	170	895
column%	85.16	73.47	72.99	65.07	62.73	70.81
<i>non-hukou</i>	27	65	74	102	101	369
column%	14.84	26.53	27.01	34.93	37.27	29.19
Total No.	182	245	274	292	271	1264
<u>All Intra-provincial in-migrant</u>						
<i>hukou</i>	849	1067	1235	1139	892	5182
column%	80.09	75.14	68.65	59.14	53.25	65.76
<i>non-hukou</i>	211	353	564	787	783	2698

column%	19.91	24.86	31.35	40.86	46.75	34.24
Total No.	1060	1420	1799	1926	1675	7880

**Inter-provincial In-
migration**

Village in-

migrant

<i>hukou</i>	121	132	165	162	116	696
column%	71.18	61.97	53.23	41.33	33.05	48.47
<i>non-hukou</i>	49	81	145	230	235	740
column%	28.82	38.03	46.77	58.67	66.95	51.53
Total No.	170	213	310	392	351	1436

Town in-

migrant

<i>hukou</i>	12	13	18	9	9	61
column%	75.00	100.00	85.71	37.50	10.71	38.61
<i>non-hukou</i>	4	0	3	15	75	97
column%	25.00	0.00	14.29	62.50	89.29	61.39
Total No.	16	13	21	24	84	158

All Inter-

provincial

in-migrant

<i>hukou</i>	217	229	297	275	236	1254
column%	76.68	68.56	63.06	50.74	38.50	55.91
<i>non-hukou</i>	66	105	174	267	377	989
column%	23.32	31.44	36.94	49.26	61.50	44.09
Total No.	283	334	471	542	613	2243

Source: 5% random sample of 1% 1987 Chinese Population Census

RE: All in-migrant = in-migrant from village, town, and urban.

Table A1 shows intra-provincial and inter-provincial migration by *hukou* status. The number of ‘*hukou* migrants’ is steady over the period; whereas, both intra- and inter-provincial non-*hukou* migration grew substantially from around 20% in 1982-3 to over half of the total number of migrants in 1986-7. In addition, the proportion of non-*hukou* in-migrant in the village and town category has been increasing from 28.82% and 25% in 1982-3 to 66.95% and 89.29% in 1986-7, respectively. In particular, in the first column of the last section of Table A1, when comparing the different *hukou* migrations in the inter-provincial migrant section in 1986-7, a stunning pattern of steadily growing non-*hukou* migration emerges in all of the accounts -- over 60% of the total are non-*hukou* migrants.

Table A2: Comparing Village and Town In-migration by Types of Destination (1982-87)

Village in-migration

year	1982-3	1983-4	1984-5	1985-6	1986-7	Row Total	Column %
Intra-provincial in-migration							
<u>Hukou village in-migrant</u>							
To urban (row %)	15.00	19.13	24.25	24.00	17.63	800	23.21
To town (row %)	13.48	20.18	27.86	23.64	14.83	1328	38.53
To village (row %)	17.89	20.17	22.59	21.91	17.44	1319	38.27
Total (row %)	15.52	19.93	25.01	23.06	16.48	3447	100.00
<u>Non-<i>hukou</i> village in-migrant</u>							
To urban (row %)	7.72	10.62	20.75	27.14	33.78	829	40.44
To town (row %)	6.88	12.27	20.53	35.79	24.53	799	38.98
To village (row %)	8.53	16.11	22.75	23.22	29.38	422	20.59
Total (row %)	7.56	12.39	21.07	29.71	29.27	2050	100.00
Inter-provincial in-							

migrationHukou village in-migrant

To urban (row %)	18.21	19.29	21.07	20.00	21.43	280	40.23
To town (row %)	17.76	19.63	34.58	18.69	9.35	107	15.37
To village (row %)	16.50	18.45	22.33	27.83	14.89	309	44.40
Total (row %)	17.39	18.97	23.71	23.28	16.67	696	100.00

Non-hukou village in-migrant

To urban (row %)	5.78	10.64	21.58	26.75	35.26	329	44.46
To town (row %)	7.81	14.06	17.19	39.84	21.09	128	17.30
To village (row %)	7.07	9.89	18.37	32.16	32.51	283	38.24
Total (row %)	6.62	10.95	19.59	31.08	31.76	740	100.00

Town in-migration

year	1982-3	1983-4	1984-5	1985-6	1986-7	Row Total	Column %
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Intra-provincial in-migrationHukou town in-migrant

To urban (row %)	18.52	22.22	18.52	19.14	21.60	162	18.10
To town (row %)	15.09	19.10	25.94	22.88	16.98	424	47.37
To village (row %)	19.74	20.39	19.42	20.06	20.39	309	34.53
Total (row %)	17.32	20.11	22.35	21.23	18.99	895	100.00

Non-hukou town in-migrant

To urban (row %)	11.29	14.52	22.58	22.58	29.03	62	16.80
To town (row %)	4.32	18.71	18.71	30.22	28.06	139	37.67
To village (row %)	8.33	17.86	20.24	27.38	26.19	168	45.53
Total (row %)	7.32	17.62	20.05	27.64	27.37	369	100.00

Inter-provincial

**in-
migration**

<u>Hukou town in-migrant</u>							
To urban (row %)	15.38	34.62	30.77	15.38	3.85	26	42.62
To town (row %)	27.78	11.11	22.22	11.11	27.78	18	29.51
To village (row %)	17.65	11.76	35.29	17.65	17.65	17	27.87
Total (row %)	19.67	21.31	29.51	14.75	14.75	61	100.00
<u>Non-hukou town in-migrant</u>							
To urban (row %)	1.33	0.00	0.00	10.67	88.00	75	77.32
To town (row %)	18.18	0.00	9.09	18.18	54.55	11	11.34
To village (row %)	9.09	0.00	18.18	45.45	27.27	11	11.34
Total (row %)	4.12	0.00	3.09	15.46	77.32	97	100.00

Source: 5% random sample of 1% 1987 Chinese Population

Census

The next question is where these rural in-migrants are likely to go. This is related to the importance of rural-to-rural inter-provincial non-*hukou* migration? Table A2 shows the breakdown of rural in-migration by area of destination -- urban, town, and village. While row percentages across years demonstrate that all of the *hukou* in-migration rates in all destinations are steady, the last column of Table A2 shows that village and town non-*hukou* in-migrant constitutes a significant portion of the total in-migrants in both of the intra- and inter-provincial migrant categories. For example, the percentage of non-*hukou* village in-migrant in total intra-provincial in-migrants and inter-provincial in-migrants are 37.29 percent and 51.53 percent, respectively. While the total number of town migrants is much smaller than the village migrants, the inter-provincial non-*hukou* in-migrant percentage is high, at 61.39 percent of the total migrants. Another interesting observation is that, when focusing only on non-*hukou* in-migrants to towns and villages, their proportions are high. Also, from the column % in Table A2, the sum of non-*hukou* village in-migrants to towns and villages is 59.56 percent and 55.54 percent of the total non-*hukou* intra-provincial village in-migrants and total inter-provincial village in-migrants, respectively. These observations suggest, besides the well-reported rural-urban non-*hukou* migration, that rural-to-rural non-*hukou* migrations, indeed, contribute substantially to the largest

labour migration wave in human history. Moreover, while the self-supporting village-town (*Zililiang hu*) migration policy, that allows peasants to look for jobs in nearby townships within their provinces, was launched in 1983 (Fei, 1985), no significant increase is found in intra-provincial village/town *hukou* migration, as shown in the first section of Table A1. In fact, the total number of inter-provincial *hukou* town-town in-migrant is just only 18 in this period, a sharp contrast with the intra-provincial *hukou* town-town in-migrant number, 424. This suggests that the *Zililiang hu* only work within the province to restrain labour mobility.

However, a substantial rise in inter-provincial village-village migration is found, although its absolute amount is still smaller than intra-provincial migration. In addition, within the inter-provincial village-village categories, the amounts of *hukou* and non-*hukou* in-migrants are very close and are 309 and 283, respectively. This kind of migration is interesting to study not only because of its growing size, but also because it was considered as a challenge of the existing *hukou* system. During the mid-1980s, labour mobility was only restricted to intra-provincial village/town *hukou* migration (State Council's Document No. 1 in 1985) (Fei, 1985). Nevertheless, non-*hukou* inter-provincial labour migration flourished, and triumphed over rural police administrations, provincial administration barriers, and eventually the macro-institutional constraints imposed by the central government (Roberts, 1997).

A5. Limited supplies of local public goods under fiscal decentralization and the measures that rural governments employed to block labour migration:

As mentioned previously, even though the non-*hukou* labour mobility has been emerging, migrants are not free to move as they wish because of institutional barriers. In particular, migrants may increase the potential of the so-called *public goods crowding* effects that local residents' welfare might have been affected. Two of the major concerns in local public goods in rural areas are health services (Liu, et al, 1995; Li, 1993) and rural education (Brown and Park, 2002).

Furthermore, West and Wong (1995) demonstrate that fiscal decentralization has an effect on the low quality and quantity of public services, after examining a number of education and health status indicators. As a result, on the one hand, as some areas were benefiting from the reform and TVEs development more than others, regional disparities in rural local public goods have been increasing (Dabla-Norris, 2005: 3-4). On the other hand, rural governments with low TVEs

development are forced to search for other funding sources, other than the budget, such as imposing a variety of fees and levies. Following this logic, as local public goods have been undersupplied, even for local resident, a sense of exclusion for migrants to further dilute these services could be a possible outcome (Liu, et al, 1995). Therefore, measures have been introduced to control the flow and block 'unwanted' migration (Mallee, 2000; Roberts, 1997; Solinger, 1999; Zweg, 1992). In particular, there are cases from Guangdong and Sichuan in which migrants have been rejected from entering towns (Zweg, 1992). While *hukou* was still the major instrument to restrict migrants' welfare, even some migrations were not restricted, County/town officials still maintain serious controls over migration into town and responded passively, if not reluctantly, although restraints on migration are breaking down year by year. Zweg (1992) also recorded in his fieldwork in Jiangpu town that, until May 1986, only 268 peasants had moved into Zhujiang town and none of them had changed their residence status, receiving only 'residence permits' (*chang zhu hukou*); this means that they are all 'undocumented migrants.' Another obstacle to in-migrants is from the social pressure from local residents to prevent 'potential crowding.' Migrants in Chinese could be labelled as 'People from the outside' (*wailai renkou*, or outsiders) or 'floating population' (Li and An, 2009). The negative images of rural migrants have been developed since the mid-1950s before the *hukou* system. For example, the government regards migrants as 'rootless' people and are inclined towards being 'antisocial' or engaging in criminal activities because their mobility is perceived to be 'blind' (*mianlou*) 'spontaneous' (*zifa*), 'disorderly' (*wuxu*), or 'chaotic' (*luan*) by the public security department in China (Mallee, 2000). In addition, under the pressure of higher inflation, employment, traffic congestion, and a series of inconveniences that potentially come along with in-migration, although much work of migrant workers in the non-state sector has not been substantially eroded from the majority of the public welfare privileges, they can still be regarded as 'invaders' (Tian, 2011). In Guangdong province, town officials kept peasants from the surrounding countryside out of county-town-owned enterprises, which paid higher wages, pressuring them instead to work in township-owned factories. The numbers of outsiders in county-town-owned factories was under 3 percent, and peasants had internalized the idea that county-town enterprises were part of a system that was beyond their reach (Siu, 1990).

Siu (1990) also found that only rural residents with immediate *family members in town could register*, and only as *zili kouliang hu* (households who supply their own grain) since 1983.

During that period, limited free labour mobility was allowed until the policy of self-sufficient peasants (*zili kouliang hu*) was extended to allow village peasants to migrate to nearby towns within the province in 1983 (Perkins, 1990). In this sense, native place identity (*tongxiang*) is a 'critical component of personal identity' and social network in China; intra-provincial migrants are far more likely to benefit from the effect of *tongxiang* than inter-provincial migrants (Roberts, 1997). However, inter-provincial migrants who do not have work unit or permits would be subject to deportation at their own expense (Lu, 2000).

For undocumented migrants to stay in the destinations, they often have to endure unfair treatment, such as fees, fines, and permits, from local carders and related people in-charge. For example, Roberts (1997) has shown some cases regarding this issue; for example, in a 'Sichuan Village' outside Guangzhou, migrants who do not pay the police a fee of five *yuan* per month are 'either driven out or beaten up and sent to the 'blind migrants' repatriation centre. The repatriation centre demands a fine of 300 *yuan*. Those who could not pay the fee were beaten up before repatriation' (Zhou and Zhang, 1995:59). To raise their expected earnings and lower their risk, they pay the local police for a residence permit and the rural government for a work permit (Zhou and Zhang, 1995). Another response to the unfair treatment in some destinations, undocumented migrant workers may become 'seasonal workers' or 'temporary workers' who migrate according to job availability and work environment, where local governments might be more accommodating, due to labour shortages (Roberts, 1997; Solinger, 1999).

Appendix B: Modified gravity model and the method dealing with zero observation problems in gravity model

B1. Modified gravity model:

This paper uses a modified gravity model to capture the reduced form supply and demand relationships of rural-rural non-*hukou* migration. This is an extended version of the Sjaastad (1962) and Greenwood (1975) model that explicitly considers political and institutional factors of the reduced supply and demand function at receiving and sending provinces (Greenwood, 1975; Schultz, 1982). The observed number of migrants is a result of the supply of sending and receiving provinces.

Denoting the origin province i and destination province j , the migrant flow from i to j will depend on potential supply factors, S_i .

$Y_{i(t-1)}$ and $Y_{j(t-1)}$ are lag variables and are functions of GDP per capita, population size, and other variables that represent the factor endowments at time $t-1$. Therefore,

$$S_{it} = Y_{i(t-1)}' b_1$$

Potential demand factors D_{jt} are representing the pull factors in the receiving province. Thus,

$$D_{jt} = Y_{j(t-1)}' c_1$$

Where $Y_{i(t-1)}$, $Y_{j(t-1)}$ and b_1 , c_1 are column vectors; and t = timing of the variable belonging to year of movers.

Combining $S_{i(t-1)}$ and $D_{j(t-1)}$ yields a migrant flow equation as:

$$F_{ijt} = A * \left(\frac{Y_{i(t-1)}' Y_{j(t-1)}}{R_{ij(t-1)}} \right)$$

F_{ijt} = resultant migrant flow from i province to j province at time t .

A = constant

There are 28 provinces included in the present study, excluding Tibet, and Hainan province was previously a part of Guangdong province.

$i = 1, \dots, 28$ sending provinces

$j = 1, \dots, 28$ receiving provinces

$R_{ij(t-1)}$ = factors aiding or restraining migrant flows from i to j , such as transport costs. The specification in the equation F_{ijt} implies a constant elasticity of the size of migrant flows with respect to supply and demand factors rather than a constant propensity. Taking logs of both sides of the migrant flow equation, and replacing terms by their equivalents, yields the migration model as:

$$\begin{aligned}
RUM_{ijt} = & \beta_0 \\
& + [\beta_{1i}TVE_{i(t-1)} + \beta_{2i}Vill_{i(t-1)} + \beta_{3i}Town_{i(t-1)} + \beta_{4i}villpop_{i(t-1)} \\
& + \beta_{5i}HRS_{i(t-1)} + \beta_{6i}FD_{i(t-1)} + \beta_{7i}Party_{i(t-1)} + \beta_{8i}Road_{i(t-1)} \\
& + \beta_{9i}Inktraur_{i(t)} + \beta_{10i}inktratwru_{i(t)} + \beta_{11i}ihutraur_{i(t)} \\
& + \beta_{12i}ihutratwru_{i(t)} + \beta_{13i}inkterur_{i(t)} + \beta_{14i}ihuterall_{i(t)}] \\
& + [\beta_{1j}TVE_{j(t-1)} + \beta_{2j}Vill_{j(t-1)} + \beta_{3j}Town_{j(t-1)} + \beta_{4j}villpop_{j(t-1)} \\
& + \beta_{5j}HRS_{j(t-1)} + \beta_{6j}FD_{j(t-1)} + \beta_{7j}Party_{j(t-1)} + \beta_{8j}Road_{j(t-1)} \\
& + \beta_{9j}Inktraur_{i(t)} + \beta_{10j}inktratwru_{i(t)} + \beta_{11j}ihutraur_{i(t)} \\
& + \beta_{12j}ihutratwru_{i(t)} + \beta_{13j}inkterur_{i(t)} + \beta_{14j}ihuterall_{i(t)}] \\
& - [\beta_{9ij}RD_{ij(t-1)} + \beta_{10ij}GDPD_{ij(t-1)}] + u_{1ijt}
\end{aligned}$$

More specifically, the dependent variable RUM_{ij} , ‘number of inter-provincial rural-rural non-*hukou* migrants,’ is a result of a provincial supply and demand function. A group of lagged independent variables is specified in this model (see Appendix C and Table 2 for measures and detailed description of variables). *TVE* measures the local economic development effect; *Vill* and *Town* measures the jurisdictions’ effects at two different levels of rural government; *Villpop* measures the crowding effect in the rural area; HRS measures the Household Responsibility Reform effect; *FD* measures the Fiscal Decentralization effect; and *Party* measures the political decentralization effect.

For measuring the transaction cost of migration, in addition to use the *RD*, distance between the origin and destination, as proxies for transportation cost, I also employ the difference in GDP per capita between the origin and destination as proxies for incentive to migrate and use the density of road/square mile, *Road*, to define the concept of accessibility, similar to Fafchamps and Shilpi (2013).

As migration is a decision that migrants compare with possible alternative migration types and destinations, other types of migration could be very influential to the dependent variable, the inter-provincial rural-rural undocumented migration flows and magnitudes (Davanzo, 1980). To resemble this trade-off of migration decision, I also includes all inter- and intra- provincial rural in-migrant who migrate with and without their *hukou* changes at the same year, excluding the dependent variable, in the model to control over their possible effects to the inter-provincial rural-rural undocumented migration (Note that the last in-migrant flow variable that I use is: $I_{huterall} = \text{ALL Inter-provincial } hukou \text{ rural in-migrant of the year } t$. I use this aggregated destination variable because the Heckman Maximum Likelihood Model does not converge with further decomposition of in-migration flow variables by more detailed destinations, such as Inter-provincial *hukou* rural in-migrant to urban and Inter-provincial *hukou* rural in-migrant to rural).

To further ensure the proper estimation outcomes from the gravity models, this study controls for the omitted year-specific and province-specific variables, by using yearly dummies and a group of seven dummies of these 28 provinces that ranks them according to their per capita GDP, as Mátyás (1997) suggested. Ranking the GDP per capita from low to high, we have seven provincial groups in this analysis. Anhui, Guangxi, Guizhou, Yunnan = 1; Fujian, Jiangxi, Henan, Sichuan = 2, Inner Mongolia, Hunan, Shannxi, Gansu = 3; Shanxi, Shandong, Ningxia, Xinjiang = 4; Hebei, Hubei, Guangdong, Qinghai = 5; Jilin, Heilongjiang, Jiangsu, Zhejiang = 6; Beijing, Tianjing, Liaoning, Shanghai = 7 (Table B1). This can help reduce the incidental parameter problem and increase the power of the test.

Table B1: Rank of Province's Group by Per Capita Social Output in 1980

Ranking (Lowest=1)	province
1	Anhui
1	Guangxi
1	Guizhou
1	Yunnan
2	Fujian
2	Jiangxi
2	Henan
2	Sichuan
3	Inner Mongolia
3	Hunan
3	Shaanxi
3	Gansu
4	Shanxi
4	Shandong
4	Ningxia
4	Xinjiang
5	Hebei
5	Hubei
5	Guangdong
5	Qinghai
6	Jilin
6	Heilongjiang
6	Jiangsu
6	Zhejiang
7	Beijing
7	Tianjing
7	Liaoning
7	Shanghai

Source: 1% random sample of 1987 Chinese Population Census

B2. Dealing with zero observation problems in gravity model:

While our data captures the important initial period of the development in fiscal decentralization and undocumented labour mobility in China, as it is at the beginning of the dynamic, our data only have 221 pair of provinces record non-zero undocumented rural-rural labour migration out of 3780 observations for the panel data. Perhaps, one of the most important concerns is zero observations in the log-log gravity models. . I therefore reviewed the possible method to deal with this issue in gravity models as follows.

In fact, zero flow is one of the common issues in aggregated data for trade between small or distant countries when the expected trade is small (Frankel, 1997; Haq, Meilke, and Cranfield, 2011). Since the missing values or the zero observations may be due to some unobservable reasons; that is, the zero values are the outcomes of the choices of some localities. Missing this part of information may be resulted in biased estimations (Haq, Meilke, and Cranfield, 2011).

Recently literature about the zero trade in gravity models has developed some measures to deal with this problem. The measures includes: first, the traditional way, to delete the zero trade information if it is randomly selected or to add a small constant in the double-log gravity model (Brakman et al., 2010). Second, use alternative estimation methods, such as the Tobit model (Brakman et al., 2010) or Poisson fixed-effects model (Martijn, Oort, and Linders, 2009) to capture the truncated information due to zero trade (For detailed discussions about this issue and alternative methods, see Gómez-Herrera (2013), Martínez-Zarzoso (2013), Silva and Tenreyro (2006), and Tran, Wilson, and Hite (2012)). Third, use Heckman Selection Model to formalize the selection process at the first stage of regression (Helpman et al. 2008). There are advantages and caveats among these models. While the first method is simple, it has a high potential of bias, as selection processes are not likely to be randomly selected. The second method, while it can capture the zero trade information, does not provide much understanding as to the reason behind the zero trade. The literature has suggested using the Heckman Maximum Likelihood Selection model to deal with the zero trade problems because it provides cleaner information as to the reasons behind the zero trade and the potential biases due to missing the selection model (Martin and Pham, 2008; Tran, Wilson, and Hite, 2012). I, therefore, employ the Heckman Models in my analyses as shown in the main text.

Appendix C: Measure of Variables

C1. Rural-rural undocumented (non-hukou) labour flows:

The dependent variable *RUM_{ij}*, ‘number of inter-provincial rural-rural non-*hukou* migrants,’ is a result of a provincial supply and demand function. The data document the last move of each migrant. The Census defines inter-provincial rural-rural non-*hukou* migrants, by their rural *hukou* status, i.e., whether they have been away from their hometown for over half a year, and whether they are inter-provincial migrants.

I chose this dependent variable because non-*hukou* in-migrants are not entitled to any welfare programs provided by local authorities, such as land, schooling, and hospitals. ‘Public goods provisions crowding’ can be *anonymous* when just the membership size enters the production or utility function, because all members are no different, having no identifiable individual composition or characteristics. This is called *non-anonymous* when composition or characteristics of members enter the production or utility function individually when individuals are identified by their individual composition or characteristics (Epple and Nechyba, 2002: 4). In this sense, undocumented labour can be considered to be those visitors who are *non-anonymous*; in-migrants can be identified as ‘outsiders’ by local residents of rural communities (Bardhan, 2002: 188). Undocumented in-migrants may enter negatively into the utility function of local governments in terms of public goods provision to local residents, since undocumented migrants are not formally tax payers. Although they may not directly affect some local public goods, such as some discriminative local public goods, they and their family members might impose pressures to other local public goods, such as migrant children schooling (Chen and Liang, 2007; Liang and Chen, 2005), health, housing, and social welfare (Lu, 2008). Even though migrants may be asked to pay extra fees for some of the local public goods, such as hospitals, the limited capacity of local community services may still congest the services and affect the quality of life of local residents. Furthermore, as mentioned in Appendix A, section A3, even though these undocumented migrants may contribute to the local economies, they are often not welcomed by local residents and not expected to settle the localities by local governments (Roberts, 1997; Solinger, 1999). Instead, they are more likely to be exploited by factories and deported by local government institutions when the labour demand reduces, e.g., the 2008 financial crisis (Huang

et al., 2011). This is consistent with local public goods and club goods literature that asserts that public goods are provided to local residents in the jurisdiction indiscriminately.

C2. Estimating the jurisdiction effects:

To measure 'jurisdiction effects' on labour mobility, I use the number of 'village administrative committees' and 'number of towns and townships.' This indexing directly addresses the heart of the 'jurisdiction effects,' by regarding the township governments and village committees as real agents in the empirical analysis.

One of the highlights of this paper is exploiting one of the most important institutional changes during the early reform era, i.e., the re-establishment of town and villages local government structure from the old commune system. This change can be regarded as a quasi-natural experimental environment of jurisdiction effects (Fig. A2). While no comprehensive account of the change of government at the provincial-level during 1983 to 1984 is available, White (1990, table 1) shows that the overall change was completed within the two-year period. In this sense, it is a considerable structural shock at the sub-provincial-level, both in terms of local governance and local fiscal needs due to fiscal decentralization.

Under the hierarchical structure, the number of sub-provincial-level governments is inversely related to average budget. Given that the unit size at the rural government level is moderately homogenous (Zhang, 2006: 722), the fixed cost to set up the government unit in a given level are similar, because the basic government functions have been pre-defined. Because of the limited provision of local public goods, depending on whether a rural government is in a labour-sending or labour-receiving area, it will either tend to block labour inflow in the first case, and to send out labour in the second. Consider the case of the Philippines, in which a large diaspora contributes a large portion of national income. Similarly in China, provincial governments' officers in such provinces as Sichuan, a large labour-sending province, openly admit the important contribution of out-migrants to their hometown and their province (Bruce, 1996).

The notion of 'jurisdiction effects' in this paper is that at a labour destination, in order for the local resident's interest to be protected, an increase in the number of village committees per county will negatively affect in-migration to the province. Despite some bad news about rural cadres' (mis)behaviours usually appearing in the media, in a comparative study between Indian

and Chinese villages, Drèze and Saran (1995) show that local communist officers have been quite responsive to local needs.

C3. Local expenditure as an alternative to measuring local public good provision:

Scotchmer (2002) suggests that in local public goods economies, for institutional reasons, budgets within local jurisdictions might have to be balanced. With a balanced budget in mind, migration to or from a jurisdiction will make it necessary to change the jurisdiction's taxes or expenditures because the labour mobility will affect tax income and expenditure of public goods. In this sense, lagged government expenditure could be an alternative variable that measures the local public goods effect on undocumented labour mobility since that labour is not exactly paying the cost of local welfare.

Given this cost consideration, I will utilize an alternative index, the expected expenditure of rural government, which is the appropriate value when using log of the provincial-level government total expenditure regress on the log of number of village committees per town and log of number of town per province. Ideally we should use actual local expenditures as a measure. Unfortunately, public finance data has been incompletely recorded, if not missing, at sub-provincial-levels (Wong et al., 1995:102-3). The thesis is that if fiscal decentralization establishes a stable share of public finance at different levels of government, a portion of provincial total expenditure should be shared by the rural government. The expected government expenditure should be a function of local taxation which is financed by local residents.

C4. Local economic development effect:

The rural governments in sending and receiving provinces behave differently depending on whether they are capital- or labour-abundant. Under fiscal decentralization, sending and receiving provinces should exhibit sharply contrasting behaviour, both in terms of factor mobility and their own benefit. Rural governments may compete for scarce resources, such as inputs for TVEs for their economic development. Each village or township would, if possible, 'sell' the resource in which it is relatively abundant. I shall then interpret the results by labour-receiving and labour-sending provinces, respectively.

I use the lagged TVEs output to measure local economic development effects. If the province is a labour-receiving province, increase in the last year's TVE output may be likely to increase

labour demand, and vice versa. In order to affirm that this is an investment effect, I will use an alternative approach, i.e., a production argument approach, which consists of lagged input variables, TVE investment, TVE labour, and rural land.

Table C1. Provincial Fiscal Decentralization Index and other Interest Variables in 1985

Province	MRR (%)	MRR Group	Sharing Scheme	TVE villtown (0,000)	output TVE capita	per Party index	
Shanghai	23.54	1	a	13.85	1667982.0	3788.11	3
Tianjin	39.45	1	a	17.93	591399.3	1646.85	4
Jiangsu	40.00	1	a	18.78	871527.9	167.61	1
Beijing	49.55	1	a	11.64	767966.6	1944.22	3
Liaoning	51.08	1	a	12.93	940167.3	430.54	1
Zhejiang	55.00	1	a	13.35	466246.8	137.32	1
Shandong	59.00	2	a	33.24	380339.2	56.98	2
Hebei	69.00	2	a	13.73	287805.4	60.07	3
Henan	80.00	2	a	22.27	191027.9	27.50	2
Anhui	80.10	2	a	9.24	139752.3	31.53	1
Hunan	88.00	2	a	14.18	158274.1	32.80	1
Shanxi	97.50	3	a	16.82	196654.0	92.04	2
Guizhou	100.00	3	f	6.65	25728.1	9.86	4
Guangdong	100.00	3	c	6.71	515842.2	115.72	1
Hubei	100.00	3	a	6.89	305993.4	78.03	1
Yunnan	100.00	3	f	7.73	35456.2	11.73	1
Ningxia	100.00	3	f	8.58	15277.3	46.16	1
Qinghai	100.00	3	f	8.68	11606.2	39.85	1
Sichuan	100.00	3	a	8.86	245746.4	28.23	1
Inner							
Mongolia	100.00	3	f	8.89	66605.3	46.22	2
Xinjiang	100.00	3	f	9.82	52089.6	56.50	2
Jilin	100.00	3	e	11.04	224517.7	153.67	1

Jiangxi	100.00	3	e	11.50	91537.8	31.73	1
Gansu	100.00	3	e	11.56	29321.6	16.85	1
Guangxi	100.00	3	f	11.58	40413.0	11.88	1
Shaanxi	100.00	3	e	12.48	109250.2	44.37	1
Heilongjiang	100.00	3	c	12.53	296355.5	147.96	1
Fujian	100.00	3	e	16.12	138558.5	61.15	3

Notes: 1. All variables are measure as of 1985. Villtown is in #, TVEs output (10 thousand, current price)., TVE per capita in yuan

2. Please see the data description table attached for all other variables description.

3. Sharing schemes: a = remitting a share of the local revenues; b = remitting a share of local revenue in the case year and the total remittance increases at a predetermined rate in the subsequent years; c = remitting a fixed amount of the revenues to the central government; d = remitting a fixed amount in the base year and the total remittance increases at a predetermined rate in subsequent years; e =receiving a fixed amount of subsidy from the central government; and f = receiving a fixed amount of subsidy in the base year and the total subsidy increases at a predetermined rate in subsequent years.

Sources: --- Sharing scheme, 1985-87 = Dangdai Zhongguo Caizheng Huiban Weiyuanhui, *Dangdai Zhongguo Caizheng* (Public finance in modern China) (Beijing: China Social Science, 1988), pp. 376-77; Provincial level Fiscal Index: MRR and Sharing Scheme are extracted and cited from Lin and Liu (2000)

C5. The provincial level fiscal decentralization and political decentralization effects:

Following the study by Lin and Liu (2000), the Marginal Retention Rate (MRR) -- the percentage of locally collected budgetary revenue retained for local utilization at the provincial level -- is used as an index of provincial-level fiscal decentralization. As they argued, the marginal retention rate is a better measure for provincial-level incentives to promote GDP growth. To construct a complete package of the provincial decentralization index, in addition to the use of the central-to-provincial sharing scheme, I shall employ this MRR and sharing scheme to examine how the provincial-level fiscal decentralization affects migration flow in the model.

The political decentralization index at the provincial level is a comprehensive indexing of the 'closeness' of a province to the central government. It is composed and provided by Professor Yasheng Huang (1996) at MIT. The index is scored as follows for Party secretary integration: 4 = Concurrently serving in a central position while holding a provincial post; 3 = An outsider defined as one with significant service in central ministries; 2 = An outsider defined as one with significant service in other provinces; 1 = An insider, defined as one with significant service in that one province.

The data for the Marginal Retention Rate (MRR) sharing scheme index and other socio-economic variables are extracted from the China statistical yearbook in relevant years, and the HRS data are provided by Professor Justin Lin (see the data description in Table 2 for details).

Lin and Liu (2000, footnote 36) pointed out that there is no strong correlation between growth of per capita TVE investment and MRR at the provincial level. I also found that the growth of TVE output has little correlation with MRR. However, some researchers have shown a positive relationship between MRR and TVEs' employment. For example, Jin, Qian, and Weingast (2001) reveal that such incentive effects do exist and are significant. An increase in the marginal fiscal revenue retention rate in a province by 10 percentage points is associated with an increase of 1 percentage point in the growth rate of employment by non-state enterprises in that province. This result holds when 'non-state enterprises' are measured by TVEs only and by all non-agriculture-non-state enterprises, rural and urban. Quantitatively, these numbers are quite significant because the mean of the growth rates of TVEs' employment is 6 percent, and that of all non-agriculture-non-state employment is 9 percent (Qian, 2002).

Indeed, Table C1 also shows that the MRR and subsidy-receiving scheme might have some relationships with the TVE output level in 1985. Low-level TVE output provinces usually have 100% MRR and have a 'fixed subsidy receiving scheme' e and f; whereas, scheme 'a,' the share-remitting scheme, is widely separated into different categories of MRR. These are usually less developed provinces, or provinces that receive subsidies from the central government. However, provincial political influence also seems to have some influence over the scheme-making process. Three provinces (Heilongjiang, Jilin, and Hubei), receiving 100 percent MRR, are traditionally industrialized provinces. Only Guangdong and Heilongjiang receive the same package of MRR and scheme despite their good TVE output level, which shows their distinguished position. To answer the question fully, I also have constructed a set of interaction

terms on MRR interacts with the sharing scheme dummies in the regression models (see also Table C1).

C6. Effects from other types of in-migrants and competing destinations:

While the amount of rural-rural undocumented labour migration from the provincial i to j may be affected from the above variables, other types of migrants could also be very conducive to the outcomes (Pellegrini and Fotheringham, 2002); I define two major but contending effects: *migration substitution effects* at the origin and *labour market complementary effects* in both origin and destinations (Davanzo, 1980; Fafchamps and Shilpi, 2008;). The *migration substitution effects* may occur when better migration choices, or alternatives, would be more easily available than being an rural-rural undocumented migrant. For example, if an origin i would have a higher chance for their residents to be become *hukou* migrants legally or migrate to higher wage regions (Stark and Taylor, 1991), such as urban areas, the amount of undocumented migration to rural areas may be reduced because legal migration with *hukou* status change is always preferable as that means that the migrants could enjoy the local public goods in urban areas (Fafchamps and Shilpi, 2008). Other type of undocumented migrants could have *Labour market enhancement effects* for rural-rural undocumented migrant; when other types of undocumented migration such as rural-urban undocumented migration is active in a province may means the local institutions to control undocumented migration is less restrictive, or the local economy is more accommodated to undocumented migration and these migrants could serve as migrant stock and network for potential in-migrant to come to the province; therefore, rural-rural undocumented migration could be encouraged at the localities (Stark and Taylor, 1991). In order to test the above observations, I have specified different types of in-migration, such as in-migrants from intra- and inter-provincial, from urban and rural, and from *hukou* and non-*hukou* status.

Appendix D: Robustness check using Heckman Models with clustered corrected standard error

Although results of Table 3 in the main text also corrected for heteroskedasticity with robust standard errors, the regressions still rely on the normality assumption for the proper identification of the selection effect in the model. Since there is no direct test for the normality assumption, and as Winship and Mare (1992) suggest the Heckman model is very sensitive to bivariate normality, I alternatively evaluate the robustness of the normality assumptions by clustering the regressions. The intuition is that if the normality assumptions do not hold in the model, the estimates will likely be sensitive to alternative error distribution assumptions. Of course, this is a very weak test of normality when absent of real exclusion criterion, but it can at least identify some problems and when I do other checks, the results hold.

Table D1 clustered two models used previously, the original production function model and the full model with all of the alternative in-migrant flow. Table D1's model 1 and model 3 show the Heckman Models with clustered corrected standard error at the labour receiving provinces' side; whereas, model 2 and model 4 are with clustered corrected standard error at the labour sending provinces' side. When looking across the models, I found every consistent pattern as in the original model. As has been shown in the first stage of the Heckman Model at the model specification section, I use the variable 'gdp per capita' at the labour sending and receiving provinces to identify the regression, but do not have strictly exclusion restrictions. The significant signs of Rhos also show that there are selection biases when clustering at the labour-sending provinces at model 2 and model 4. Perhaps this have produced two side-effects on these models: the land variable turns no significance at the labour-receiving side and the party index at the labour-sending province is significant now. However, the main results preserved as selection biases did not affect the original results.

Table D1. Heckman Regression on Production Function with Clustered Standard Errors

	Model 1	Model 2	Model 3	Model 4				
Second Stage Model	receiving	sending	receiving	sending	receiving	sending	receiving	sending
Dependent variable: Irumij	Coef.	Coef.	Coef.	Coef.	Coef.	Coef.	Coef.	Coef.
log(TVE Investment)	0.62***	-0.37*	0.62***	-	0.53***	-0.40***	0.53**	-0.40***
				0.37***				
	(0.26)	(0.20)	(0.24)	(0.14)	(0.23)	(0.17)	(0.25)	(0.16)
log(TVE labour)	-0.15	0.09	-0.15	0.09	-0.30	0.14	-0.30	0.14
	(0.19)	(0.18)	(0.18)	(0.14)	(0.21)	(0.16)	(0.22)	(0.15)
log(land)	0.17	-0.17	0.17	-0.17	0.26***	0.00	0.26*	0.00
	(0.14)	(0.15)	(0.15)	(0.16)	(0.11)	(0.15)	(0.14)	(0.17)
log(Expected Rural Govt. Expenditure)	-2.58***	1.51***	-2.58***	1.51***	-1.98***	1.10***	-1.98***	1.10***
	(0.69)	(0.47)	(0.59)	(0.44)	(0.60)	(0.41)	(0.58)	(0.44)
Party index	-0.03	-0.06	-0.03	-0.06	-0.06	0.05	-0.06	0.05
	(0.05)	(0.06)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)
Household Responsibility	0.00	0.00	0.00	0.00	0.00	-0.00	0.00	-0.00
Farm Ratio								
	(0.00)	(0.01)	(0.00)	(0.01)	(0.00)	(0.01)	(0.00)	(0.01)
(MRR X scheme a)	-0.01***	0.00	-0.01***	0.00	-0.01***	-0.00	-0.01**	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
(MRR X scheme c)	-0.01**	0.00	-0.01***	0.00	-0.01***	-0.00	-0.01***	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
(MRR X scheme e)	-0.00	-0.00	-0.00	-0.00	-0.00**	-0.00	-0.00	-0.00*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
(MRR X scheme f)	-0.00	0.00	-0.00	0.00	-0.00	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
log(Road Density)	0.07	-0.28*	0.07	-0.28**	0.24**	-0.16	0.24**	-0.16*
	(0.12)	(0.16)	(0.16)	(0.13)	(0.10)	(0.18)	(0.13)	(0.09)
GDP Per Capita Difference	-0.00		-0.00		-0.00***		-0.00	
	(0.00)		(0.00)		(0.00)		(0.00)	

log(Road Density)	-0.21***	0.25***	-0.21***	0.25**	-0.21***	0.24***	-0.21***	0.24**
	(0.09)	(0.09)	(0.08)	(0.11)	(0.09)	(0.09)	(0.08)	(0.11)
party index	0.18**	-0.11*	0.18***	-0.11	0.18**	-0.11*	0.18***	-0.11
	(0.09)	(0.06)	(0.07)	(0.08)	(0.09)	(0.06)	(0.07)	(0.08)
(MRR X scheme a)	-0.00	0.01***	-0.00	0.01	-0.00	0.01***	-0.00	0.01
	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)
(MRR X scheme c)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
(MRR X scheme e)	-0.00	0.00	-0.00	0.00	-0.00	0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
(MRR X scheme f)	-0.00	0.01**	-0.00	0.01**	-0.00	0.01**	-0.00	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	-1.74***		-1.74***		-1.74***		-1.74***	
	(0.35)		(0.36)		(0.35)		(0.36)	
rho	-0.20		-0.20**		-0.42		-0.42*	
	(0.14)		(0.10)		(0.38)		(0.28)	
sigma	-0.89***		-0.89***		-0.96***		-0.96***	
	(0.09)		(0.07)		(0.16)		(0.13)	
Number of obs.	3780		3780		3780		3780	

Notes: Model 1: Basic Heckman model with Clustered Standard Errors on labour receiving provinces in parentheses.

Model 2: Basic Heckman model with Clustered Standard Errors on labour sending provinces in parentheses.

Model 3: Extended Heckman model with Clustered Standard Errors on labour receiving provinces in parentheses.

Model 4: Extended Heckman model with Clustered Standard Errors on labour sending provinces in parentheses.

and Marginal Retention Schedule and Sharing Scheme dummies

= '* p<0.10', ** p<0.05, *** p<0.01'