Social networks and rural-urban migration in China

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Outline

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Introduction

1) Background

Rural-urban migration:

- China has been experiencing a rapid process of rural-urban migration since the beginning of the 1990s (Meng, 2012).
- Rural-urban migrants account for 30% of total rural labor in China (NBS, 2021).
- More than 300 million rural-urban migrants in the coming decades (Meng,2012)

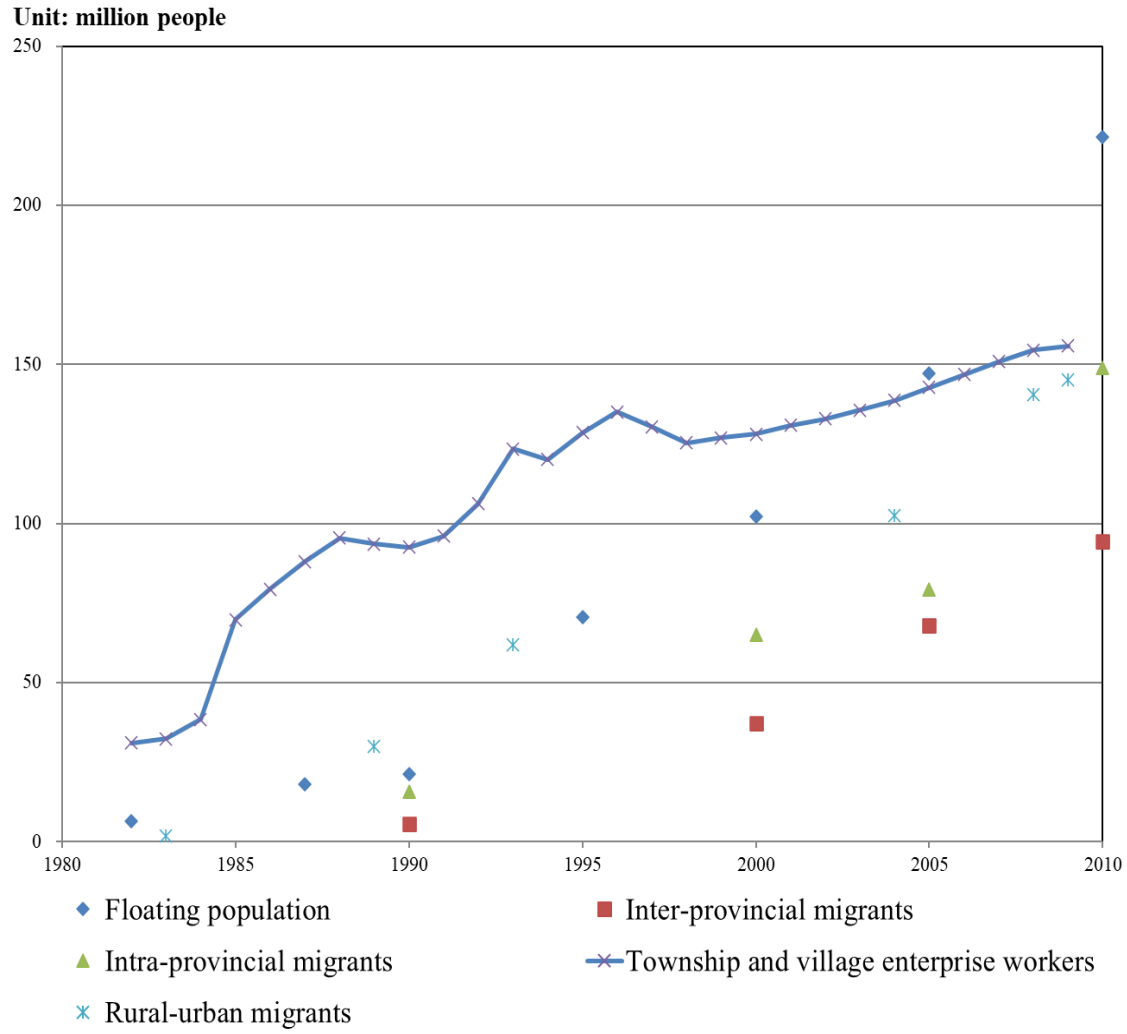


Fig. 1. Internal migration in China, 1982–2010.

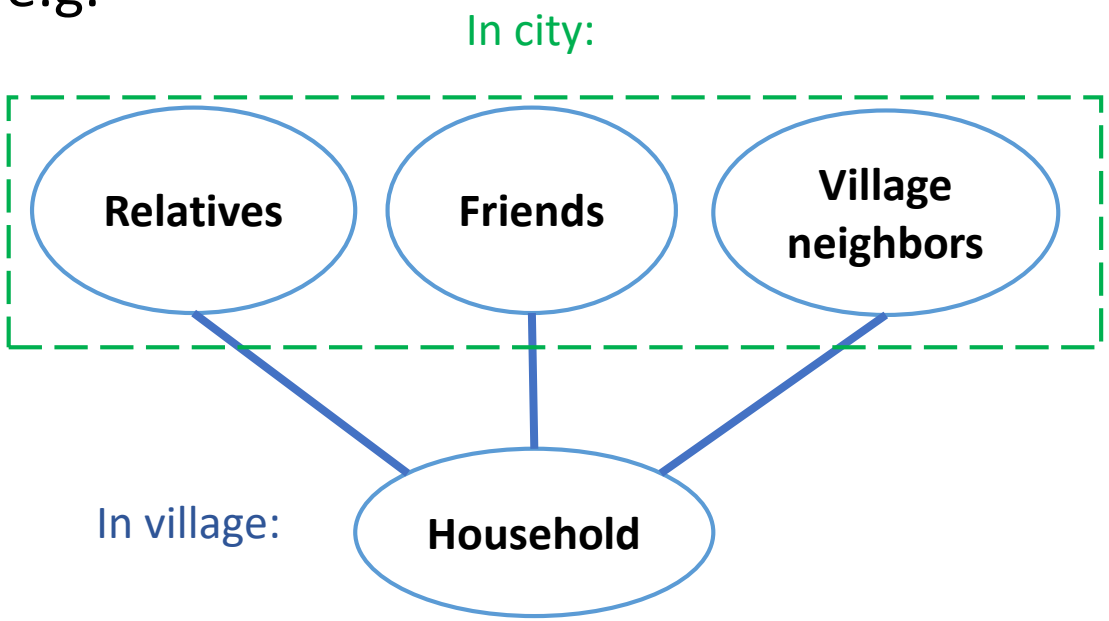
Source: Wang (2008); NBS (2009); NHC (2018); China Township Enterprise Yearbook Editorial Committee (1983-2010)

1) Background

Social networks:

Definition: Interpersonal relations of kinship, friendship, and common community ties, which match migrants and non-migrants in origin and destination (Hiwatari, 2016).

e.g.



Why important?

Migrants and return migrants simplify the migration process and job searching:

- Provide information to reduce uncertainty about job opportunities
- Reduce the costs of leaving home and starting a new life (Hiwatari, 2016)

Table 1. Job seeking methods used by rural-urban migrants in China.

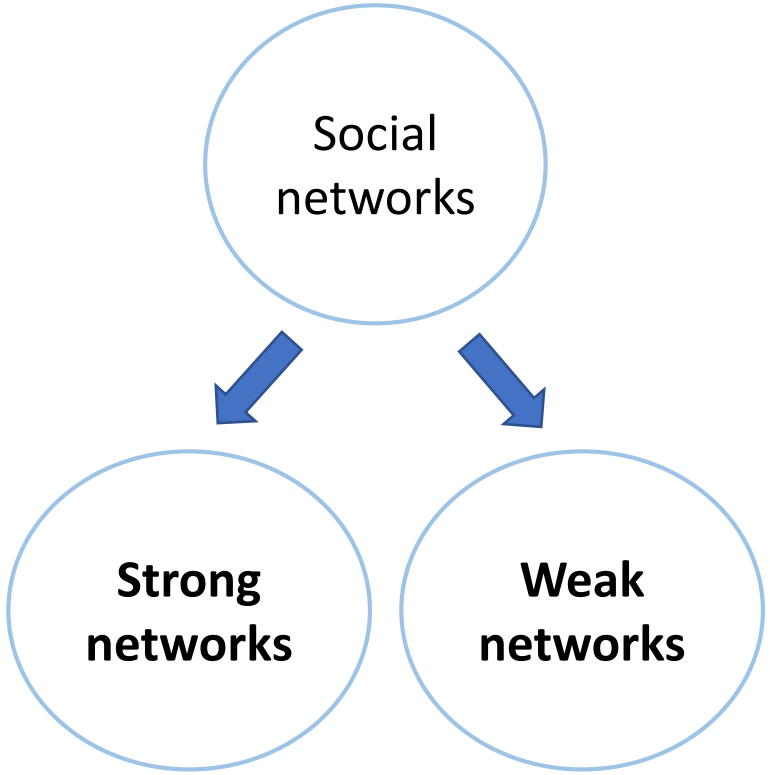
Job seeking methods	Number	Percentage
Introduced by friends/acquaintance	2,432	42.9
Introduced by family members/relatives	1,995	35.2
Advertisement	251	4.4
Applied directly	331	5.8
Employment agency	89	1.6
Assigned by the government	314	5.5
Others	254	4.5
Sample size	5,666	100.0

Source: The RUMiC (Rural-Urban Migration in China) survey in 2009 (CIID, 2014)

2) Literature review

The literature distinguishes the role of household-based **strong networks** and community-based **weak networks**.

- Garip (2008) : Weakly tied prior migrants have a larger effect on migration than strong tied prior migrants in the household.
- Winters et al. (2001) : Community and family networks are substitutes in assisting migration.
- Zhao and Qu (2021) : Strong networks have a positive effect on first-time migration, while weak networks promote migration after people have migration experience.



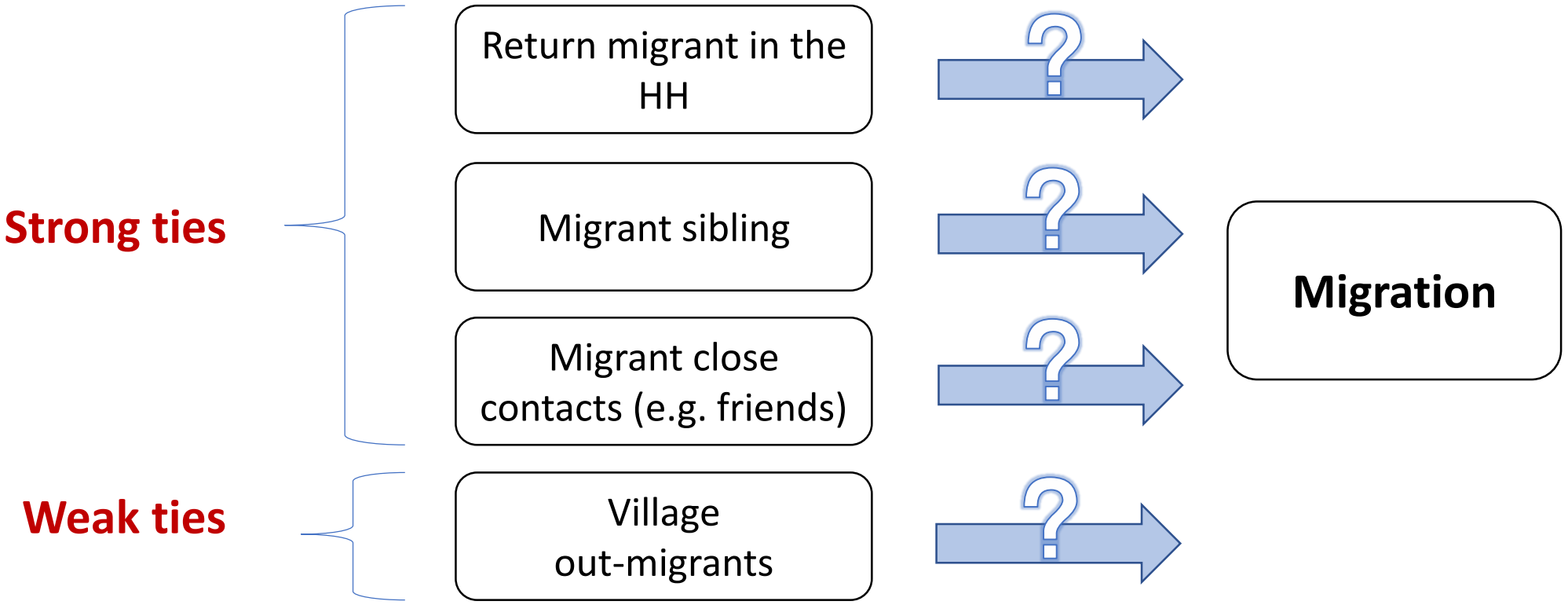
e.g.
prior migrants in the household

e.g.
local members who have worked outside their home village

3) This study:

- Research Question 1:

How do strong and weak social networks affect rural households' migration decisions?



3) This study:

- Research Question 2:

How do strong and weak social networks affect short-distance migration and long-distance migration?

Short-distance migration: migration within receiving provinces of migrants (Jiangsu, Zhejiang, Guangdong).

Long-distance migration: migration from sending provinces of migrants (Anhui, Henan, Hebei, Hubei, Sichuan, and Chongqing)

(See page 10)

- Research Question 3:

How do strong and weak social networks affect rural household heads' time allocation for migration, farming, and local wage work?

Contribution to the literature:

1. Provide empirical insights into the source of household-level migration.

- *Why household-level?*

Because the decision of migration is normally based on “household” rather than individual.

- *How?*

Convert the raw data from individual units into household units by using the household IDs.

2. Take into account the different layers of social networks: strong ties and weak ties.

3. Distinguish the impact of social networks on short-distance migration and long-distance migration.

Data

- **Rural-Urban Migration in China (RUMiC) Rural Household Survey (2008, 2009)**

- A longitudinal survey since 2008

6 **sending provinces** of migrants

(Anhui, Henan, Hebei, Hubei, Sichuan, and Chongqing)

3 **receiving provinces** of migrants

(Jiangsu, Zhejiang, Guangdong).

the inland → the coast

82 counties, 800 villages, and 8,000 rural households

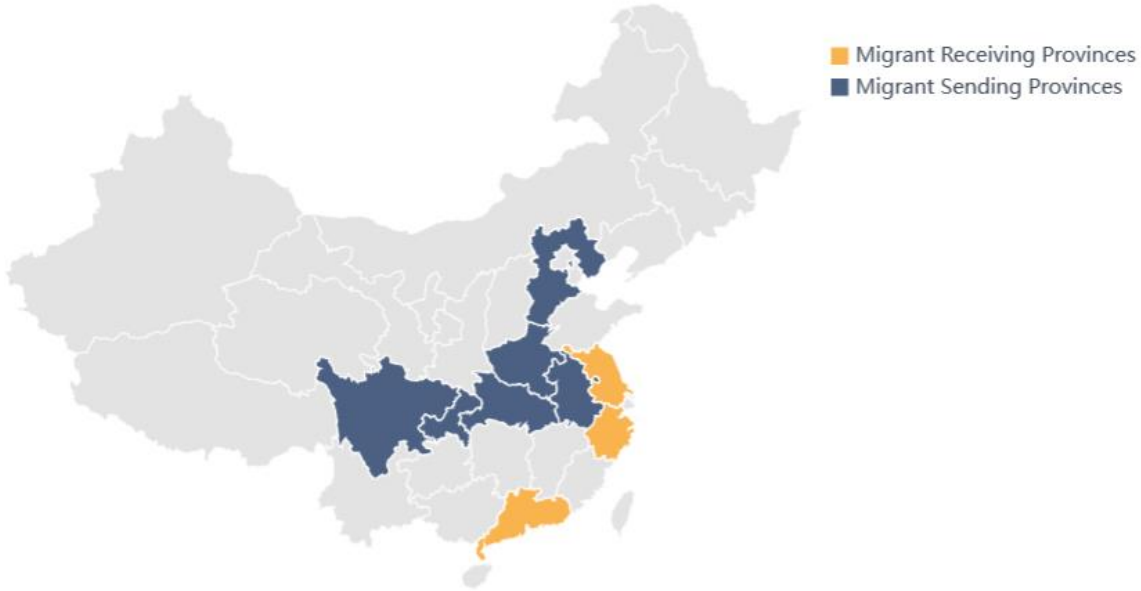


Fig. 2. Geographic distribution of the surveyed provinces in RUMiC data.
Source: CIID (2014)

- Short-distance migration: migration within migrant receiving provinces
- Long-distance migration: migration from migrant sending provinces

How to measure household-level migration decisions?

- **Migrant:** an individual who has worked outside his/her home village for more than three months in one year (RUMiC 2008, 2009).
- **Non-migrant:** an individual who lives outside his/her home village for less than three months in one year (RUMiC 2008, 2009).

In this study,

- **Migrant household**: a household with at least one migrant in 2008.
- **Non-migrant household/staying household:** a household without any migrant.
- **Returnee/return migrant**: an individual who once migrated out before, but lives outside his/her home village for less than three months in 2008.

Estimation model

- Main analysis:

$$y_{hvc} = \alpha + \beta_1 RETURN_{hvc} + \beta_2 SIB_{hvc} + \beta_3 CTC_{hvc} + \beta_4 WEAK_{hvc} + \theta' X_{vc} + \delta' X_{hvc} + \mu_c + \varepsilon_{hvc}$$

$\boldsymbol{y_{hvc}}$: =1 if the household is a migrant household (there is at least one migrant in the household) in 2008.

- Strong ties

$\boldsymbol{RETURN_{hvc}}$ **:** =1 if there is a returnee in the household *h* from village *v* of county *c* in 2008, and 0 otherwise.

$\boldsymbol{SIB_{hvc}}$**:** =1 if household *h* from village *v* of county *c* has at least one migrant sibling in 2008, and 0 otherwise.

$\boldsymbol{CTC_{hvc}}$: =1 if household *h* from village *v* of county *c* has a close contact (friends/acquiesces) migrating out in 2007, and 0 otherwise.

- Weak ties

$\boldsymbol{WEAK_{hvc}}$**:** the proportion of out-migrants to the village population in which household *h* resides in 2007.

X_{vc}: village characteristics.
X_{hvc}: household characteristics.
μ_c: the county fixed effect
ε_{hvc}: the household-specific error term.

Results

- 1) Main result:

Positive strong and weak network effects on migration

Consistent with Giulietti, Wahba, & Zenou (2018).

Table 3. Probit estimates for the determinants of households' migration (average marginal effects).

Dependent variable	Average marginal effects Migration
Strong ties	
At least one return migrant in the household (1=yes,0=no): RETURN	0.069***(3.91)
Siblings' migration (1=yes ,0=no): SIB	-0.001(-0.05)
The closest contacts' migration (1=yes,0=no): CTC	-0.012(-0.68)
Weak ties	
The proportion of out-migrants to the village population (%): WEAK	0.003***(3.74)
Household characteristics	Yes
Village characteristics	Yes
County fixed effects	Yes
Pseudo R^2	0.203
Number of observations	3,419

Note: Robust z-statistics are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Results

2) Network effects on short- and long-distance migration:

1. Positive weak network effects on long-distance migration
2. Positive strong network effects on short-distance migration

Why?

- Strong ties: more reliable; sometimes out-of-date (RETURN)
- Weak ties: less reliable; diverse, broader in scope (Garip, 2008)

Table 4. Network effects on households' migration decisions by migration distance.

	(1) Long-distance migration (From sending provinces)	(2) Short-distance migration (From receiving provinces)
	Average marginal effects	Average marginal effects
Strong ties		
At least one return migrant in the household: RETURN	0.031(1.59)	0.206***(5.27)
Siblings' migration: SIB	-0.005(-0.24)	-0.017(-0.49)
The closest contacts' migration: CTC	-0.003(-0.16)	-0.037(-0.98)
Weak ties		
The proportion of out-migrants to the village population (%): WEAK	0.003***(2.97)	0.002(1.29)
Household characteristics	Yes	Yes
Village characteristics	Yes	Yes
County fixed effects	Yes	Yes
Number of observations	2,525	894

Note: Robust z-statistics are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Results

3) Network effects

on time allocation :

Positive strong and weak networks effects on time allocation for migration

Seemingly unrelated regression (SUR) method (Zellner, 1962)

Table 5. Network effects on time reallocation of household heads.

Dependent variable	(1) Days of migration (%)	(2) Days of farming (%)	(3) Days of local wage work (%)
Strong ties			
At least one return migrant in the household: RETURN	3.012(1.40)	-0.849(-0.37)	-2.164(-0.99)
Siblings' migration: SIB	2.536*(1.79)	-3.567**(-2.33)	1.031(0.71)
The closest contacts' migration: CTC	-2.554*(-1.78)	-1.383(-0.89)	3.936*** (2.69)
Weak ties			
The proportion of out-migrants to the village population (%): WEAK	0.110*(1.84)	-0.051(-0.79)	-0.059(-0.97)
Individual characteristics	Yes	Yes	Yes
Household characteristics	Yes	Yes	Yes
Village characteristics	Yes	Yes	Yes
County fixed effects	Yes	Yes	Yes
Number of observations	2,565	2,565	
R^2	0.218	0.443	

Note: Numbers in parentheses denote z-values. Days of migration (%) is the proportion of household head's migration days to his/her total working days in 2008. The calculations of days of farming (%) and local non-farming work (%) are done likewise. Note that household heads who are not return migrants are used for estimation. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Conclusion

01 Both strong and weak social ties have positive and significant effects on migration.

02 Strong ties appear to encourage short-distance migration, while weak ties tend to encourage long-distance migration.

03 Both strong ties and co-village weak ties have a positive influence on time allocation for migration.

References

China Township Enterprise Yearbook Editorial Committee (1983-2010), *China township and village-owned enterprises statistical yearbook*, China Agriculture Press.

CIID (2014), *The Longitudinal Survey on Rural Urban Migration in China, RUMiC 2009*, China Institute for Income Distribution, Accessed on 10 November 2021, from: http://112.124.46.92/chip/chips.asp?year=2008

Garip, F. (2008), "Social capital and migration: How do similar resources lead to divergent outcomes?" *Demography*, 45(3): 591-617.

Giulietti, C., Wahba, J., & Zenou, Y. (2018), "Strong versus weak ties in migration," *European Economic Review*, 104: 111-137.

Hiwatari, M. (2016), "Social networks and migration decisions: The influence of peer effects in rural households in Central Asia," *Journal of Comparative Economics*, 44(4): 1115-1131.

Meng, X. (2012), "Labor market outcomes and reforms in China," *Journal of Economic Perspectives*, 26 (4): 75-102.

NBS (2009), *Monitor and survey report of rural migrant labor in 2009*, National Bureau of Statistics of the People's Republic of China. (in Chinese).

NBS (2021), *Monitor and survey report of rural migrant labor in 2020*, National Bureau of Statistics of the People's Republic of China. (in Chinese).

NHC (2018), *Report on China's migrant population development 2018*, National Health Commission of the People's Republic of China. (in Chinese).

Wang, D. (2008), "Rural urban migration and policy response in China: Challenges and options," Working paper no.15, International Labor Office Regional Office for Asia and the Pacific. Accessed on 30 January 2022, from: https://www.ilo.org/asia/publications/ WCMS_160569/lang--en/index.htm

Winters, P., De Janvry, A., & Sadoulet, E. (2001), "Family and community networks in Mexico-U.S. migration," *The Journal of Human Resources*, 36(1): 159-184.

Yan, X., Bauer, S., & Huo, X. (2014), "Farm size, land reallocation, and labor migration in rural China," *Population, Space and Place*, 20(4): 303-315.

Zellner, A. (1962), "An efficient method of estimating seemingly unrelated regressions and tests for aggregation bias," *Journal of the American Statistical Association*, 57(298): 348-368.

Zhao, C., & Qu, X. (2021), "Social networks and internal migration in China: A spatial autoregressive model," *Review of Development Economics*, 00: 1-32.

Zhong, Z. (2004), "Rural-urban migration in China——What do we know and what do we need to know?" *China Economic Quarterly*, 2: 517-536.