Research on Industrial and Commercial Capital in the Rural with Perspective of Space Injustice and Spatial Economy: The Case Study in Suzhou

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Abstract. Lacking capital has become one of the reasons of the under-development of rural area in developing countries. However, as property of capital is profit-seeking, while agriculture as well as agro-manufacture and agro-service produces profit too slowly, investors can't easily determine to bring capital to the countryside. The local governments should make policies to steer capital flow to the rural. This article analyzes the utilization status of industrial and commercial capital in the rural with the perspective of space injustice and spatial economy. The urban-rural dual structure of China and the uneven development situation as an aspect of space injustice has deepened the unjust distribution of capital not only between urban and rural but also among the industries. Through the case study in Suzhou, this research finds that in a single-center economy, a further rural area from the urban center attracts more industrial and commercial capital contrarily due to land supply reason.

Keywords: Industrial and commercial capital; rural investment; space injustice; spatial economy.

1. Introduction

Researchers have found the uneven allocation and distribution of capital could make an uneven growth in the rural. A survey indicates that capital, power and their interaction produce significant effects on the uneven urbanization process in Jiangsu Province of China. (Ye, et al., 2017).

Sustainable development is another challenge to rural economics, as a worldwide problem, also in the settler states like Canada, Australia and New Zealand. The agriculturally-dependent regions and localities were found (Plummer, Tonts and Argent, 2018) that rely on the ability of local leaders and entrepreneurs to provide for local conditions such as capital steering to continue over the economic development. Besides, land fragmentation would be a limitation of capital use in rural development. The infrastructure condition in rural calls for investment in Europe. Spanish researchers (E. Gonzales, S. Nogues, 2018) made a long-term survey in the rural, and reveal that investment inflows to the rural, especially to transport infrastructure, is crucial for EU cohesion, as well as for balancing differential development in areas.

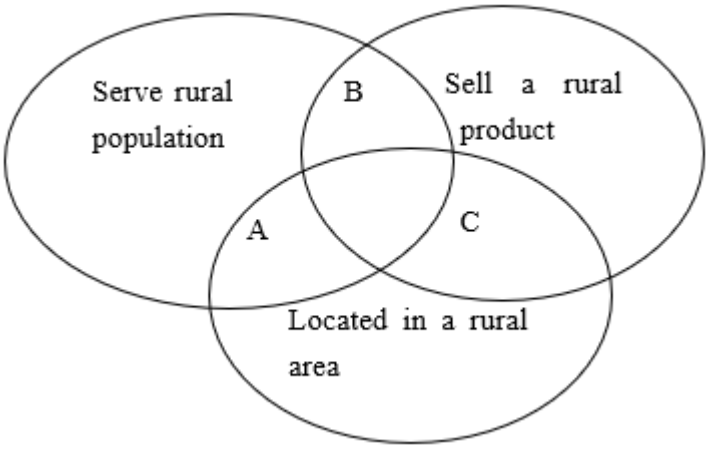
China is encountering similar issues in the rural, and the central government has been aware of that. At end of 2016, the General Office of the State Council of China issues "Some Opinions on Perfecting Support Policies to Promote Farmers' Sustained Income Increase", that encourages industrial and commercial capital going to the countryside to participate in the developing process of rural areas. In 2017, the local governments in different levels try to steer capitals to flow into rural areas especially to agriculture. Then "industrial and commercial capital going to the rural" has become part of rural revitalization as a basic policy again.

In fact, the research towards rural capital and private investment has already developed in academia, as in the recent years, the urbanization and industrialization process in developing countries has made great progress. As development of the rural areas has been leaded to two directions, to be urbanized or to be transformed as modern rurality, the public policies and research of urban-rural integration or rural revitalization has formed in accordance.

However, issues might inevitably occur against rural development in either direction, besides the dilemma of uneven situation and sustainable development. The lack of capitals in countryside is evidently agreed to become one of the limitations. As Laura German and her colleagues (German et al., 2016) say: private investment could be an engine of rural development. Meanwhile, in the period

of economic resilience, rural enterprises play an important role (A. Steiner, J. Atterton, 2015). Private enterprises create employment, develop collaboration (with local farmers) and build up service networks, which helps economic recovery.

Therefore, some possible reviews and summaries upon rural capital has become absolutely necessary. Bosworth and Turner (2018) summarize the forms of rural capital from the basic (Castle, 1998) which includes Man-Created, Human, Natural, Social and the other rural capital. Meanwhile, he defines three indicators of rural capital as the follow figure shows.



Sourced from Gary Bosworth: Interrogating the meaning of a rural business through a rural capital framework

Fig. 1 Rural capital indicators

In his figure, at least two conditions should be met at same time to become a rural capital as marked with A, B, and C, which could simply cover the primary industries, the secondary industries and the tertiary industries in the rural. Based on the research from Castle (1998), Bristol Accord (2005), Svendsen and Sorensen (2007), and Floras (2008), Bosworth summaries the types of rural capitals as physical capital (infrastructure), natural capital (environment and landscape), financial capital (market size, income, investment), human capital (people and skill, entrepreneurial capabilities), social capital (networks, trust and reciprocity), organizational capital (governance, power, representation), cultural capital (heritage, rituals, events, stories and traditions).

The fields where rural capitals exist, include normally (F. Chatzitheodoridis et al, 2014) farm investment, processing of agriculture/forestry/fishery, services and trade, tourism. The form of capital (Bryden et al., 2004) comprises a wide range of different factors which should include productivity, employment, investment, infrastructures, telecommunications and enterprises. All these factors were identified previously that influences the process of change in rural areas (Pedro et al., 2014).

According to general office of State Council of China, the industrial and commercial capital shall be from industrial enterprises and commercial enterprises in the urban area. It could be private investment, and possibly state investment. The reason of emphasis on industrial and commercial is that the origin of the investment should come from the urban but not from the agricultural (primary) industry. The purpose to steer this capital flow to the countryside is, to utilize the money as well as the investment experience including modern technology and management, as the supplement of rural inhabitant's investment, that government in China is aware of lacking capital in the rural area especially in agriculture.

Brian Garrod (B. Garrod et al, 2006) re-conceptualizes rural resources to country capital when he took rural tour as case study. He combines all economic resources in the rural including physical capital, natural capital and social capital into country capital, which affects tourism industry and tourist behavior as well. Svendsen and Sorensen (2007) analyze rural capitals including physical, economic, human, cultural, organizational, social and differentiate them with characteristics of tangible, less tangible and intangible. Obviously physical, economic or human capital is tangible.

During a survey on relationship among rural investment, energy consumption and economy growth in the rural, the authors (Y. Hao et al, 2018) found that ROI value in primary industry is generally too small, hence to call for a policy design from the governments, especially the banks should be guided to facilitate farmers or rural investors to get loans. Chaudhuri's research (S. Chaudhuri, D. Banerjee, 2010) reveals that when capital inflow to a new area, the consequence depends on the efficiency of the experienced workers. This model could explain more or less the reason why capital has little interest to go into the rural.

Analytical framework

The theoretical and methodological framework adopted in this article comprises a sociological approach, namely space production theory and an approach from economic school, namely spatial economy, or, is a coupling of both mentioned theories. Such an analytical framework explains the characteristics of the industrial and commercial capitals and the relationship of its factors.

1.1 Space Production: The View of Spatial Injustice

The uneven development between the urban and the rural is one the aspects of space injustice. It's clear that cities, or the urban districts play always dominant role in the general space development. Soja (2011) explains the definition "right to the city" by Lefebvre to "right to the commons" with that "things do not just happen in cities, they happen to a significant extent because of cities". The rights and power of cities bring them also the advantages and priorities in resource distribution.

The other aspect of spatial injustice is the expansion of industry as the juxtaposition of urbanization, that supporting plunder of secondary industries and tertiary industries towards primary industries, and deepen the uneven development of rural industries, as Shields (1991) says, "spatial control is an essential constituent of modern technologies of discipline and power".

These unjust aspects result appearance of capital concentration and privacy, and then become a repetition, which explained as "repetition has everywhere defeated uniqueness" by Lefebvre (1991).

In summary, the capital mode of production and urbanization are mutually and systematically reinforcing, as well as injustice of space. Gardiner (2000) agrees on Lefebvre that domination of space by bureaucratic state through the application of technocratic rationality. While space has become a product of capital, in which the abstract labor develops (Merrifield, 2011).

1.2 Spatial Economy: About Product Price, Land Rental, Employment and Wage

Fujita and Krugman (1999) developed a function based on the classic mathematic model which were created by J. H.von Thunen to explain the equilibrium balance of a single-center economy. Von Thunen set a hypothesis of an isolated state that the single city in the middle while the rural land surrounded with same fertility. The agricultural products deliver to the city from the rural while industrial product sell to the rural in accordance. Such a hypothesis provides a linear product price, land rental and wage in the model. If the agricultural product sells in city center with price P^A, the price in area r should be,

$$P^A(r) = P^A e^{-\tau r} \tag{1}$$

$e^{-\tau r}$ refers to the quantity of agricultural products delivered to area r. Assuming R(r) as the rental of area r, W(r) as the wage, and C the number of workers, then

$$\mathrm{R(r)} = P^A(r) - C^A W^A(r) = P^A e^{-\tau r} - C^A W^A(r) \tag{2}$$

If the distance of an area to city is f, the average wage in these areas should be,

$$W^A(f) = P^A e^{-\tau f} / C^A \tag{3}$$

This above three functions explain the relation of price, wage and rental in the rural. However, Fujita and Krugman didn't count profit in this calculation, because in this hypothesis, profit of

agricultural production should belong to the benefit of land, and be comprised into the rental. As an outcoming private capital, it might search for highest profit as its nature. In the rural, the investors might look for business which can produce profit with the same rate of investment in secondary industries or tertiary industries in the city, or even a higher ROI rate. Therefore, based on Fujita and Krugman's research upon single-center economy, we can separate profit from the rental and develop a function as following,

$$P' = P^A(r) - R(r) - W^A(f) \quad (4)$$

FUNC (4) tells that profit as the return of capital depends on product price, the rental and the wage. And this FUNC also decides the direction of capital inflow, as well as the quantity.

2. Data Collection

2.1 Uneven Investment Status in Suzhou

This research chose Suzhou as the observation object and case study. Located in the Yangtze River Delta, as the most advanced-developed municipality in Jiangsu Province, the population of Suzhou has exceeded 10 million, and it has become one of the key municipalities and economic entity that receives most attention and interest in China. Suzhou covers an area of 8488.42 square km and divides into 4 counties (Kunshan, Zhangjiagang, Changshu, and Taicang) and 5 urban districts (Gusu, Wuzhong, Wujiang, Xiangcheng and Hi-Tech Zone). The rural population of Suzhou is 2.8323 million (2016), some 26.5% from the gross. And there are 55 townships leading 1,034 villages (2016). The GDP in Suzhou was 1,547.5 billion Yuan while the gross output value of agriculture was 42.5 billion Yuan (2016).

Today there is never isolated state as hypothesis of Von Thunen's model. However, Suzhou, with the urban area in the middle, and outside all the counties and districts got developed to a certain similar level, is a form of a single-center economy as Fujita and Krugman described in their work and might be able to be adopted in this research.

This research observes the industrial and commercial capital inflow in Rural Suzhou, which involves in all the counties and districts except Gusu as the urban district where the municipal government settles in.

Table 1. Total fixed assets investment by region (2016) (Unit: 10,000 RMB)

F.A. Investment Grouped by Industry	Whole Municipality	Urban Area	#Wujiang District	Changshu	Zhangjiagang	Kunshan	Taicang
Primary Industry	9,110	9,110	910	-	-	-	-
Secondary Industry	19,873,097	8,255,103	2,305,823	2,437,263	3,856,723	2,725,515	2,598,493
Tertiary Industry	36,602,657	23,299,692	4,503,497	3,011,802	3,390,933	4,848,723	2,051,507
Total	**56,484,864**	**31,563,905**	**6,810,230**	**5,449,065**	**7,247,656**	**7,574,238**	**4,650,000**

Table 1 shows that there is a big gap of fixed assets investments between agriculture (primary industry) and industry (secondary industry). Some districts even lack in statistics of agricultural fixed assets investment, which reflects the indifference from the government office. The direct influence from this situation is the uneven investment output from the industries. The gross domestic product

of Suzhou in 2016 was 1,547,509 Million Yuan, while the gross output value from primary industry was 42,467 Million Yuan, only some 2.74% in the total. The income between urban and rural residents has a large gap in accordance. The Per Capita Disposable Income in Suzhou 2016 was 46,595 Yuan, while only 27,691 Yuan in the rural. Meanwhile, 23,085 Million Yuan (40.87%) inflowed to real estate industry, that results an increase of property price, which intensifies the unbalance of industrial structure.

2.2 Industrial and Commercial Capital Inflow in Rural Suzhou

Obviously, Suzhou municipal government has realized this situation and tried to search for a measure towards the uneven capital distribution status. Steering industrial and commercial capitals from the urban to the rural was one of the key measure items. The statistics reveals a great result from this policy in Suzhou 2017. A gross amount of 4,562.96 million Yuan industrial and commercial capital inflows to the rural. 661 enterprises have involved in this investment tide. However, this research observes that the uneven distribution occurs equally to the industrial and commercial capitals as well.

Table 2. Industrial and commercial capital distribution to districts

District	I&C Capital (Million Yuan)	Rural Population (Thousand People)	Average by Person (Yuan/Person)
Zhangjiagang	1,034.01	740.636	1,396.11
Changshu	836.49	785.161	1,065.37
Taicang	177.85	319.816	556.10
Kunshan	787.13	386.049	2,038.94
Wujiang	593.62	565.068	1,050.53
Wuzhong	324.26	465.068	697.23
Xiangcheng	454.9	333.066	1,365.80
Hi-Tech Zone	35.47	198.176	178.98
Mean	530.47		1,043.63
VAR.P	104,332.79		290,560.50
STD	323.01		475.57

The rural population in table 2 refers to the rural inhabitants who involve in the collective economic organizations. In the dual-economic system, most of rural properties especially the land and some rural enterprises belong to the collective organization. Those people who possess the citizenship (hukou) in the according rural areas might own the shares of the collective organization. This article uses this definition, for it much more relevant to rural capitals.

The above table shows that the amount of industrial and commercial capital inflows to the rural resulted an uneven distribution situation. And this result is related to the population size, but not reliant. Zhangjiagang got the first place of the total industrial and commercial capital amount, while Kunshan achieved the larges average by person. The Hi-Tech zone had the lest gross and average as well. The standard deviation of the average was less than 50% from the mean.

Table 3. Industrial and commercial capital distribution to industries

District	I&C Capital (Million Yuan)	Primary Industry(Million Yuan)	Secondary Industry(Million Yuan)	Tertiary Industry(Million Yuan)	Average
Zhangjiagang	1,034.01	576.05	389.52	68.44	344.67
Changshu	836.49	300.00	253.17	283.32	278.83
Taicang	177.85	109.85	10.00	58.00	59.28
Kunshan	787.13	178.03	35.97	573.13	262.38
Wujiang	593.62	256.20	309.42	28.00	197.87
Wuzhong	324.26	124.40	117.02	82.84	108.09
Xiangcheng	454.90	438.30	0.00	16.60	151.63
Hi-Tech Zone	35.47	0.51	0.00	34.96	11.82
Mean	530.47	247.92	139.39	143.16	176.82
STD	323.01	175.75	146.30	180.96	107.67

In Table 3, industrial and commercial capital flowed mostly to agriculture in Zhangjiagang, Taicang and Xiangcheng. More industrial and commercial capital went to secondary industry in Wuzhong, while Changshu was more equal. In Kunshan and Hi-Tech zone, the first place for capital inflow was tertiary industry. In general, the distribution of industrial and commercial capital in the rural was not even in industries. (Mu is a Chinese unit of area, which is equal to 666.666667 square meters or 6.66667 acres.)

Table 4. Application of Industrial and commercial capital

District	I&C capital (Million Yuan)	Leasing Land from inhabitants (Mu)	Using Land in Total (Mu)	Offer jobs to rural inbabitants	Capital Concentration (Yuan/Mu	Land/Job (Mu/Job)	Capital/Job (Yuan/Job)
Zhangjiagang	1,034.01	15,100.00	15,900.00	1,300	65,032	11.62	795,392.31
Changshu	836.49	10,175.00	13,790.00	5,940	60,659	1.71	140,823.23
Taicang	177.85	3,618.00	4,661.00	290	38,157	12.48	613,275.86
Kunshan	787.13	7,174.00	11,187.00	4,260	70,361	1.68	184,772.30
Wujiang	593.62	11,078.00	13,802.00	14,730	43,010	0.75	40,300.07
Wuzhong	324.26	10,377.00	12,101.00	1,098	26,796	9.45	295,318.76
Xiangcheng	454.90	17,943.00	24,699.00	1,239	18,418	14.48	367,150.93
Hi-Tech Zone	35.47	589.00	611.00	N/A	58,052	N/A	N/A
Mean	530.47	9,506.75	12,093.88	4,122.43	47,560.67	7.45	348,147.64
STD	323.01	5,312.40	6,774.00	4,720.14	17,664.84	5.44	250,119.35

Table 4 reveals that Kunshan had the largest capital concentration while Xiangcheng had the smallest. A job in rural Zhangjiagang was the most "expensive" which cost some 800 thousand Yuan capital. In Wuzhong, about 300 thousand Yuan could create one job. Job concentration in Taicang was the least, while Wuzhong was the largest. The standard deviation shows the uneven use of industrial and commercial capital in rural Suzhou.

Table 5. Capital amount and distance to the urban area

District	Zhangjiagang	Changshu	Taicang	Kunshan	Wujiang	Wuzhong	Xiangcheng	Hi-Tech Zone
I&C Capital (Million Yuan)	1,034.01	836.49	177.85	787.13	593.62	324.26	454.9	35.47
Distance from the urban (Km)	80.3	60.3	80.4	49.3	23.9	9.1	16.1	17.5

Table 5 shows the industrial and commercial capital amount flowing to the rural areas was in direct proportion to the distance to the urban center, except District Taicang and Hi-Tech zone. Zhangjiagang has got a largest capital amount, and its distance to the center is 80.3 km as the furthest. Wuzhong and Hi-Tech Zone are the closest from the urban, and their capital amounts were the least.

3. Findings and Discussion

The data shows that capital still intends to flow to the urban instead of countryside. In the urban, capital is able to materialize the space and lead a productive relation to benefit itself. To protect and enhance such spatial status, capital might aggregate in the city and gather labors and resources from the country. In an urban-rural duel economic structure, spatial justice is always missing in the rural. Capital injustice is both the cause and the affect, which was reflected in the unbalanced result of fixed assets investment, as well the uneven status of industrial and commercial capital. The application of capital represents capital's tendency of industrialization, even when capital flows to the rural. Mass production can obscure capital's exploitation nature, also maximize its marginal benefit. Capital never expects to create job opportunities, either in the urban, nor in the rural.

Basically, industrial and commercial capitals are private investments whose owners are searching for a higher ROI rate. The equilibrium balance of the investment between urban and rural should the critical point of marginal benefit. Such property decides the flow of those capitals. Through FUNC 4, the distribution of capital is influenced with agricultural product price, the land rental and the area average wage. Nowadays, due to the development of e-commerce and logistics, the product price gap become more and more smaller. Meanwhile, because of the convenience and efficiency provided by the modern transportation network, younger generation doesn't care about which location to work, thus the salary level in Suzhou area within same industry, has become closer and closer. So, land, with certain fertility and natural resources, and priced with certain rental, has become most significant factor in the model.

In an "isolated state", the rental range, should depend on the distance from city center due to iceberg costs. A shorter transportation radius costs less in transportation and raise a higher differential land rent, either attracts more private investment. However, Rural Suzhou emerges a contrary result. The explanation exists in the land supply. In an area which is close to the city, or even considered as part of the urban, like Hi-Tech zone or Wuzhong, the stock agricultural land is very little, and the collective economic organization expects an extra-high rent which is beyond the equilibrium balance. Meanwhile, the approval process of land use by the government is very strict. Most of the collective

economic inhabitants in the suburban area prefer to keep the land and expect for the compensation of resettlement. Oppositely, in Zhangjiagang and Changshu, the resettlement expectation is reduced, the inhabitants want to increase their income, and the governmental attitude upon agricultural capital is more positive.

In general, local governments in China have too much impact in steering capital inflowing to the rural. Recently the European cases reveal that differs from traditional top-down governmental mode, the forms of horizontal and vertical coordination keep increasing, though a self-governance mechanism is still difficult to develop because it challenges the well-established (traditional) routines and roles, which supports an early research (Wellbrock et al., 2013) that supposes a collaborative mode of governance is necessary with some collective agencies and influenced by some favorable political, economic and demographic situations.

4. Conclusion

The initial intention to steer industrial and commercial capital to the rural is to reduce spatial injustice on the countryside. Through this study, it is revealed that in some districts, rural spatial injustice of capital has become smaller, but in some districts, the uneven situation has got even more serious. However, generally speaking, these investment does help the rural and the rural inhabitants, since the collective economic organization earns the rental, or even the share of agricultural enterprises. This study finds that distance is the key index of the model through case study. The result reveals that a further distance attracts more investment as a contrary.

The survey covers the rural areas in Suzhou, however, impossible to be complete. Meanwhile, the period that the case study took was one year, that no further survey organized to support the result about relation between rural-urban distance and investment amount. Suzhou is a municipality which is settled between Shanghai and Wuxi. As a hypothesis of single-center economy, Suzhou does not extremely fit all the conditions, and the influence from other center upon investment is not discovered.

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