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*Policy Evaluation in Performance Regimes: A Comparative
Perspective*

***Granting Urban Residency to Rural Migrant Workers in
China: Who Wins and Who Loses?***

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Abstract: The policy of granting urban residency to 100 million migrant workers is highlighted in China's National Plan on New Urbanization (2014-2020). By employing a framework of benefit-cost analysis, total benefits and costs of the policy are calculated and the former can cover the latter as a whole. While the central government gains profits from launching the policy, local governments bear losses in China. A serious problem of incentive incompatibility hence exists. Better arrangements on intergovernmental fiscal responsibilities, especially on benefit sharing as well as cost bearing need to be made.

Key words: Migrant workers, China's new urbanization, benefit-cost analysis, intergovernmental fiscal responsibilities, incentive incompatibility

I. Introduction

China is experiencing a rapid development of urbanization. The urbanization rate has risen from 17.9% in 1978 to 56.1% in 2015. There are 277 million rural migrant workers who have made great contributions to China's urbanization, while many of them have worked and lived in cities and towns for a long time but can still hardly enjoy the same basic public services as urban residencies. In 2014, China issued the "National Plan on New Urbanization (2014-2020)" which aims to improve the quality of urbanization by taking "people-oriented"

an essential value. The plan has set a goal of granting urban residency to around 100 million people with rural household registration living in urban areas and other sorts of permanent urban residents (hereafter “the goal of 100 million people”). A new round of household registration system reform has been carried out shortly after in order to adjust household registration transfer policies. Many have pointed out that the household registration system was the main obstacle of the new urbanization process. Behind this, the equalization of basic public services and its underlying fiscal guarantee are the key issues.

What are the costs and benefits of the policy of granting urban residency to rural migrant workers? Who bears those costs and who shares the benefits? Will the total benefits cover all the costs? Answers to these questions are important for realizing the goal of 100 million people.

Existing literature are keen on calculating the costs of migrant workers to receive urban residency. Different studies show very different results of calculation due to different definition of the costs (see Table 1).

Table1: Recent Estimation on Costs of Citizenization

Research Groups	Contents included in Citizenization Costs	Results of per capita Cost
Zhang et al. (2013)	The expenditures which must be assumed and added by the government in process of rural population transferred substantially integrating with cities specifically included four aspects: Education expenditure, social security expenditure, affordable housing expenditure and employment service expenditure of the children along with transfer.	11400 per capita (calculated based on constant price in 2011)
Chinese Academy of Social Sciences (2013)	Financial expenditures added by the government in aspect of public service, social security and new construction and expansion of infrastructures so as to guarantee citizenization of agricultural transfer population	National average expenditure: 131,000; coastal regions: 176,000, central region: 104,000, western region: 106,000
Qu and Cheng (2013)	Core indexes to evaluate value of household register include: education, employment, social security, health care and minimum living allowance; exclude include infrastructures, public management, cultural entertainment and other generalized prospective public goods project; the value of household register of a city is evaluated with financial investments into these core projects divided by the registered population.	Average value of household register of prefecture level cities was 2211 yuan (2010); average value of household register of cities with permanent population reaching up to more than 8 million and GDP ranking top ten was 4500 yuan, equivalent to 6% of per capita GDP
Development Research Center of the State Council (2014)	For costs of endowment insurance, the lowest life guarantee, health care of outgoing migrant workers assumed by government finance and education costs of children transferred with the migrant workers, it only takes incremental costs borne by the government into account	Per capita 300 yuan (2013)
Liu et al. (2015)	Recurrent expenditures and facilities construction expenditures required for provision of basic public service and other urban infrastructure construction expenditures	National average expenditure: 152000 yuan: recurrent expenditures of basic public service accounting for 8%, facilities construction expenditures of basic public service accounting for 35% and other urban infrastructure construction expenditures accounting for 57%

Data source: Sorted in accordance with related research results.

Fewer researches concentrate on economic returns from citizenization of migrant workers, which argue that it promotes regional economic growth and brings fiscal revenues to both central and local governments in China through improving residential consumption, advancing fixed assets investment and optimizing urban industrial structure (Shi, 2015; Hu et al., 2013). Empirical results of Shi et al. (2015) show that, for Shanghai, 1 percentage point increase of citizenization brings 0.75 percentage point increase of GDP. For social returns, related researches point out that, in addition to economic returns, citizenization could also propelled opportunity equality and social justice, and then produce social returns because of relieving social risks caused by income distribution (such as Lu and Zhang, 2016). Bahl et al. (2014) believe that short-term citizenization would produce added burden to public finance, whether citizenization income would cover its costs depends on development of the service industry and local officers' suppression on impulse of building urban industries, and constant expansion of cities would generate higher costs. But relevant quantitative researches have not been carried out yet.

As a matter of fact, between migrant worker inflow and outflow places, there are different appeals in aspect of responsibility sharing and finance transfer payment rights of citizenry costs, and local governments lack enthusiasm to settle citizenization of migrant workers (Hu and Gao, 2015; Wei and Zhang,

2016). From the aspect of different levels of governments, Lu and Zhang (2016) pointed out that the central government hoped to promote optimal allocation of labor resources with household registration reform, while local governments were unwilling to liberalize the household system considering from economic development status and financial revenues and expenditures.

In the second part of this paper, a model of benefit-cost analysis on the policy of granting urban residency to rural migrant workers is set up and the benefit items and cost items are derived from the model. The third part makes a quantitative analyze on the policy. Quantitative benefits, costs and the net benefits are calculated separately. Fiscal responsibilities between central and local governments as well as immigrant receiving and outflow governments are discussed in this part. Finally, conclusions and policy suggestions are given based on the empirical study in order to promote China's new urbanization.

II. Benefit-cost Analysis Framework for Granting Urban Residency to Migrant Workers

(i) Construction of the Model

Benefit-cost analysis is also called as social benefit-cost analysis, which was an economic evaluation method to carry out quantitative judgments on implementation value of public policies from the perspective of social and public welfare (Xu and Wei, 2014). According to basic model of benefit-cost analysis, change (ΔW) of social welfare arising from a policy, i.e. net benefit is the sum of residual variation of consumers and producers, governmental income change and value change of external effects (Zerbe & Dively, 1994).

Supposing that the labor market supply curve is complete without any elasticity, and the migrant workers and household labor could be replaced. In process of migrant workers transferring from rural areas to cities, the labor supply is increased by $(q_1 - q_0)$, the supply curve moved to S_1 , the wage level of labor market is reduced to w_1 , the change of consumer and producer surplus is the delta-shaped region abc (also called as the Immigration Surplus), which is called economic benefits (IS) produced by agricultural transfer population in this paper. Change of external effects is 0.

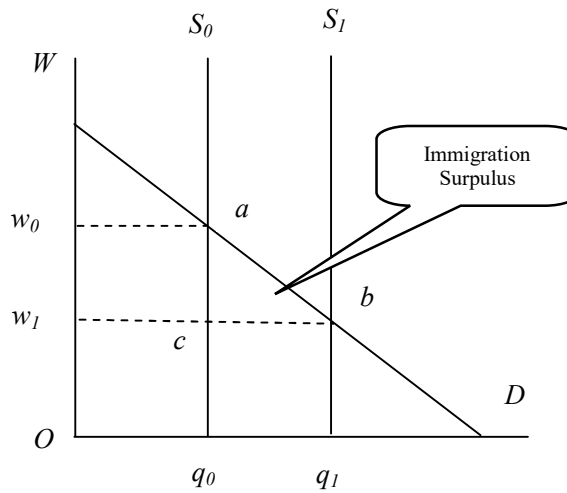


Fig. 1 Influence of citizenization of agricultural transfer population

Source: Borjas (2013).

The transfer of migrant workers from rural to urban areas increases the supply of total (equivalent skill) labor and reduces the equilibrium price level of the (equivalent skill) labor market^①, which reduces the labor costs of the enterprise (employ migrant workers) and improves the profits of the enterprise, bring the producer surplus, while the local population also benefit from the consumption of more affordable goods and services, resulting in consumer surplus; on the other hand, the reduction in wage levels also reduces the income of local workers with similar skill levels with migrant workers. The net increase in the gross national income generated by the population transfer, or the sum of the gains and losses received by different stakeholders, is the immigration surplus in the economic theory (Borjas, 2013).

^① Raise the wage level of local workers who have different skill levels (perfect competition, complements) from migrant workers.

This paper will consider the immigration surplus, which because the change in the labor market caused by the transfer of rural surplus labor forces to towns leads to an increase in the net income of enterprises and residents, or a net increase in gross national income, as the economic benefits of migrant workers' settlement (IS)^②.

In addition to economic benefits, migrant workers settled in urban areas will also bring the increment and reduction impact on the government revenue. On the one hand, the rural surplus labor force transferred to the urban to work and live, due to the increase in income will increase the government's personal income tax revenue, due to the changes in consumption levels and consumption structure, the turnover tax corresponding paid will also be improved. On the other hand, migrant workers enjoy the same public service treatment as urban resident during the process of settlement, the increased government public service expenditure due to the differences between urban and rural public service, and the new infrastructure investment because the government wants to meet the requirements of transport, water and electricity of the migrant population.

Comparing the migrant workers who work and live in the urban with assuming

^② On the economic benefits, regardless of whether migrant workers are urban registration or permanent residents, their work life in the urban will produce economic benefits.

the (rural residents) who not come to urban, consider tax, turnover tax, government funds and other taxes and fees according to the changes in the level and structure of income and consumption, as the financial revenue produced by migrant workers' settlement(IS). Comparing the settled migrant workers who enjoy the same public goods and services such as public services and infrastructure as urban citizens, with the unsettled (rural residents), and the additional financial and public services and infrastructure investment are considered as the financial costs produced by migrant workers' settlement (GE).

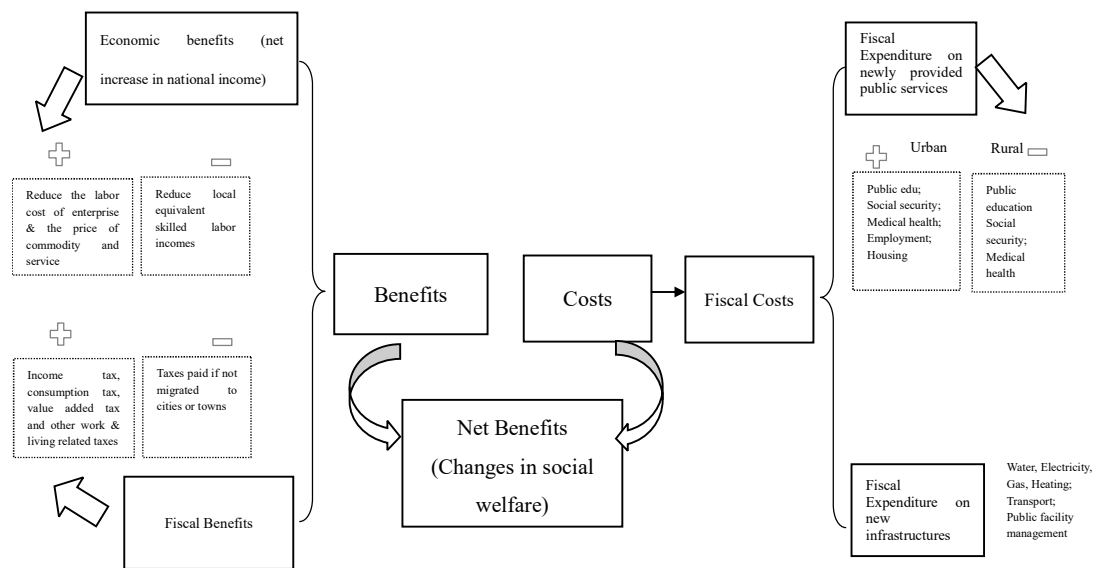


Fig. 2 Cost-benefit analysis model for migrant workers settled in towns

Source: The authors' design.

In summary, the changes in social welfare resulting from migrant workers' settlements can be expressed as the sum of resettlement and government

income changes, or the net income of citizenization of migrant workers is the sum of economic and financial benefits:

$$\begin{aligned}\Delta W &= IS + (GR - GE) \\ &= (IS + GR) - GE\end{aligned}$$

(ii) Definition of the benefits of the settlement in town

The benefits arising from citizenization of migrant workers are composed of two parts. First is the impact on economic growth, that is, economic benefit, and second is the impact on government benefit, that is, financial benefit.

1. Economic benefit (IS)

According to Figure 1, the proportion of the economic benefits arising from agricultural transfer population in GDP can be expressed as:

$$\begin{aligned}\frac{IS}{GDP} &= \frac{\frac{1}{2} \times (w_0 - w_1) \times (q_1 - q_0)}{GDP} \\ &= \frac{1}{2} \times \frac{w_0 - w_1}{w_1} \times \frac{w_1 q_1}{GDP} \times \frac{q_1 - q_0}{q_1} \\ &= \frac{1}{2} \times \frac{\frac{w_0 - w_1}{w_1}}{\frac{q_1 - q_0}{q_1}} \times \frac{w_1 q_1}{GDP} \times \left(\frac{q_1 - q_0}{q_1}\right)^2\end{aligned}$$

That is, $1/2$ of the product of wage elasticity, square of the proportion of

migrant workers in labor supply and the proportion of labor remuneration in GDP.

The above formula shows that the migration surplus arising from settlement in towns of migrant workers, which may be called economic benefit, depends on the impact of migrant workers on the wages of local labor force with equivalent skills. The greater the decrease degree of wage levels caused by the increase in labor supply of agricultural transfer population, the more the local citizens (enterprises) will benefit as a whole. The research result of Liu and Zhao (2009) shows that the wage of urban labor is reduced by 0.65% for every 10% increase in the number of migrant labor, of which the wage of the local labor force with middle and low education levels is reduced by 3.2%; taking into account the fact that in recent years, the crack of the dual labor market segmentation situation based on household identification in cities is accelerating, and the impact of the agricultural transfer population on urban wage levels is significantly increased, this paper determines wage elasticity as -0.13.

2. Financial benefit (GR)

The positive impact of agricultural transfer population on government income includes both the impact on tax income and the impact on non-tax income.

Compared with no rural-urban labor migration, the transfer of rural surplus labor to cities creates more personal income tax due to increased income, more consumption tax, value added tax (business tax), the corresponding city maintenance and construction tax, education surtax and local education surtax and other government funds incomes due to consumer spending and the change of consumption structure, as well as deed tax paid due to house purchase in cities (second-hand housing transactions also produce personal income tax, value-added tax, urban construction, education surtax and local education surtax, etc.), which all belongs to financial income arising from the settlement of migrant workers in cities.

It should be noted that in case that there is no transfer to the cities, migrant workers shall also need to pay the corresponding taxes due to living, production and operation in rural areas. The financial benefit of the settlement of migrant workers in cities is the difference of tax amount paid in cities and towns and the tax paid in rural areas under the assumption that migrant workers still live in rural areas, that is, incremental financial income. The settlement of migrant workers in cities and towns is also accompanied by financial benefit from the population outflow government to the population inflow government.

(iii) Definition of the cost of settlement in cities and towns

The financial costs of the settlement of migrant workers in cities and towns include the additional financial expenditure (GE) due to enjoying the same employment services, social security, compulsory education of their children, public health, affordable housing and other public services with urban residents, the cost of the production and supply of electricity, heat, gas and water for newly added urban population, the cost of urban infrastructure construction and operation including transportation and public facilities management, that is, the sum of public service costs and infrastructure costs.

It is important to note that even if migrant workers do not settle in urban areas, they also enjoy basic public services such as education, social security and medical treatment and public health (enjoyed by rural residents or holders of urban residence permit). However, some public services are only for urban household residents and rural household residents do not enjoy, such as urban affordable housing, employment subsidies, etc.. Though some public services can be enjoyed by rural household residents, the service standards and treatment are different with those enjoyed by urban household residents, such as the basic cost of living allowances, etc. This study defines the cost of public services for the settlement of migrant workers in cities and towns as a new financial expenditure to compensate for the difference in public services between urban and non-urban household residence. The settlement of migrant

workers in cities and towns reduces the public service burden of the outflow areas, while increasing the financial costs including public service and infrastructure, etc.

III. Cost-benefit Calculation of the Settlement of Migrant Workers in Cities and Towns

(i) Calculation methods and data sources

The calculation of costs and benefits is based on the following assumptions:

(1) During the "13th Five-Year Plan" period, the total number of migrant workers remains at around 300 million, and the proportion of outgoing migrant workers is 60%^③, and the proportions of the distribution in inflow areas and outflow areas remain unchanged, that is, the eastern region is the population net inflow areas, the central and western regions are the population net outflow areas, and 60% of the net inflow migrant workers come from the central region and 40% from the western region.

(2) Since 2014, there are 14 million migrant workers settled in the town every year and by 2020, there will be a total of about 100 million migrant

^③ In 2015, among 277 migrant workers, there are 160 million of outgoing migrant workers, accounting for 61%.

workers settled down. For simplicity, in the calculation of different types of local government, the distribution of migrant workers settled in the town is deemed to be 60% settled in the eastern areas from the central areas, and 40% settled in the eastern areas from the western areas.

Table 1 Distribution of the flow direction of migrant workers (in 2015, unit: 10 thousand persons)

	Inflow areas	Accounting for	Outflow areas	Accounting for	Net inflow
East	16489	59%	10760	39%	5729
Central region	5977	22%	9609	35%	-3632
West	5209	19%	7378	27%	-2169

Source: National Bureau of Statistics, *Monitoring Survey of Migrant Workers in 2016*.

(3) During the "13th Five-Year", tax distribution and transfer payment mechanism of the central and local government remains unchanged, and the expenditure responsibility of public service and the division of powers between the central and local government is consistent with the current situation.

(4) In the case of migrant workers who have not been settled in the town, the public service, the financial costs of various public services and the taxes paid shall be regarded as consistent with those of the rural residents.

1. Calculation of income

$$GR_t = \sum_{i=1}^k \left(\sum_{n=1}^N revu_{int} - \sum_{n=1}^N revr_{int} \right)$$

The financial income of each category is measured by the difference between the amount of taxes generated by the actual income or consumption of the migrant workers and the taxed paid on the assumption migrant workers do not enter in the town throwing in labor force. The economic benefits of migrant workers settled in the town is measured by 1/2 of the arithmetic product of three parts, namely, wage elasticity, square of proportion of migrant workers in the labor supply, and the proportion of labor compensation in GDP.

2. Calculation of costs

For pure public goods, the marginal cost is 0, for quasi public goods, the average cost (AC) is taken approximately as the marginal cost (MC).

$$\begin{aligned} GE_t &= \sum_{i=1}^k \sum_{j=1}^h (MC_k \times KH_{ht}) \\ &= \sum_{i=1}^k \sum_{j=1}^h (AC_k \times KH_{ht}) \end{aligned}$$

(1) Public education

The cost of public education of migrant workers settled in the town includes three parts: the new increase in education funding cost due to the public funds

difference between the ^④urban and rural areas (inflow with outflow places), the cost of teachers generated by new increase in teachers^⑤, and the new school construction cost to meet the needs of migrant workers' children entering school.

The average wage of urban teachers is estimated as the average wage of employed persons in urban collective units, the cost of school construction is estimated as the cost of building completed, and the average annual growth rate of these above-mentioned indicators is in sync with GDP. The student and teacher ratio in primary and middle schools, and the school area per student in urban primary and middle schools adopt the national average level, and assuming that they remain unchanged during the "13th Five-Year" period. Assuming that during the "13th Five-Year" the funding standard quota difference per student in the eastern, central and western areas remains unchanged.

(2) Social security

From a national perspective, due to the integration of the basic old-age insurance and medical insurance system of the urban and rural residents, and

^④ In November 2015, the State Council issued *Notice on Further Perfection of Safeguard Mechanism of the Urban and Rural Compulsory Education Funds*, which clearly specified that from the beginning of the spring semester of 2016, the public funding standard quota for urban and rural compulsory education students was unified.

^⑤ Considering that the establishment ratio of students to teachers in urban areas is higher than in rural areas and many other factors, it is assumed that the migrant workers' settling in the town will not reduce the establishment of rural teachers.

the full coverage of the system has been basically achieved, on the whole, new financial subsidy cost of citizenization of migrant workers is negligible, but with the existence of financial subsidy burden transferring from the population outflow place to the local government of the inflow place. But considering the financial subsidies of health insurance and pension insurance are mainly undertaken by the central government, here is not to do further study.

The cost of social security for migrant workers to settle in cities and towns is mainly reflected in the new cost of subsistence allowances caused by the different standard and coverage of urban and rural residents. In 2014, the proportion of low income people in the urban and rural residents were 3.8% and 6% respectively, urban financial subsidy per capita was 3845 yuan and 1671 yuan. Assuming that after migrant workers settled in the town, the proportion of low income people is consistent with the current proportion of low income people in city household population and it remains unchanged during the 13th Five-Year, and the growth rate of standard of urban and rural lowest insurance is consistent with the growth rate in 2015.

(3) Public health

Considering the basic public health services has achieved the equalization of urban and rural areas and between urban and rural household population, there is no difference in funding standard, the cost of public health service of

migrant workers settling in the town is 0.

Although on the whole, there is no new additional financial costs in public health services for migrant workers settling in the town, but with the existence of cost transfer of public health service between the government of the migrant workers inflow place and the government of migrant workers outflow place, between the central government and local government.

(4) Employment services

The employment service cost of migrant workers settling in the town is mainly the financial expenditure of employment skills training, job skills training, entrepreneurship training and other financial expenditure of migrant workers. Employment service costs is expressed in finance through employment subsidy per capita used for the household population from the finance government multiplied by the number of migrant workers settled in the town.

(5) Indemnificatory housing

The indemnificatory housing cost for migrant workers' settling in the town refers to the new fiscal expenditure for providing the indemnificatory housing, and it is measured by finance for public rental housing, indemnificatory housing rental subsidies and infrastructure construction expenditures divided

by urban household population, then multiplied by the number of migrant workers settled in the town.

(6) Infrastructure construction and operation

Infrastructure costs include: production and supply of electricity, heat, gas and water; transportation, storage and postal industry; construction and operation costs for the management of public facilities.

The per capita cost of infrastructure is measured by the ratio of the "new and expanded" part in the corresponding industry in urban fixed asset investment[®] to the urban resident population, and adopts the ratio of urban fixed asset investment for "reconstruction and technical transformation" in the corresponding industry to the urban resident population as the per capita infrastructure operation and maintenance costs. Assuming that the infrastructure investment needed for 100 million migrant workers settling in the town is completed in the first four years (in 2014 and 2015, 30% was completed respectively, in 2016 and 2017, 20% was completed respectively), during the period of 2018-2020 the cost contains only infrastructure operation and maintenance costs.

[®] Since 2011, the national statistical yearbook replaced urban fixed asset investment caliber with fixed asset investment (excluding farmers), which refers to the investment in construction projects and real estate development with the planned total investment of 5 million yuan and above conducted by enterprises, institutions, construction projects, administrative units and the urban self-employed persons of various types of registration in cities and towns, including urban fixed asset investment of original caliber plus the project investment of rural enterprises and institutions. This article adopts this indicator as the urban fixed asset investment index approximately.

3. Social discount rate

The *Economic Evaluation Methods and Parameters of Construction Project* (3rd Edition) issued by the Development and Reform Commission and the Ministry of Construction in 2006 suggested that the construction project in China adopt the social discount rate of 8%, and for the construction with long period of benefits, bigger long-term benefits, less risk of benefit realization, the social discount rate can be appropriately reduced, adopting the rate of 6%-8%. In this article, the rate of 8% is the reference value.

4. Share of benefit and cost

(1) The central government and the local governments

According to the relevant provisions of the tax distribution system, on the tax distribution, the consumption tax is a central tax, business tax and urban maintenance & construction tax (excluding the part paid uniformly by the railway department, the bank, the head office of each insurance company), contract tax, local non-tax revenue (local education surcharge) belongs to the local tax, the value-added tax is divided by 75:25 before replacing business tax with value-added tax (VAT) in the central government and the local governments, divided in accordance with 50:50, and the income tax is divided

in accordance with 60:40.

(2) Inflow and outflow places of migrant workers (local governments in the eastern, central and western regions)

On the financial revenue, the obtained financial benefits in the inflow places (eastern regions) are equal to the tax paid by migrant workers working and living in the town, the loss of fiscal revenue in the outflow places (central and western areas) is expressed by the various taxes paid on the assumption that migrant workers are not working in cities and towns (i.e. rural residents).

In terms of financial costs, the costs of public services the inflow places (eastern regions) bears are equal to the needed local financial input excluding the part borne by the central finance for the purpose of providing equal public services same with household population for migrant workers, the reduced public service costs in the outflows places (central and western regions) use the needed local financial input excluding the part borne by the central finance for the public services enjoyed by migrant workers in the case that they are not settled in the town to express. Infrastructure costs, excluding the central inputs, are all included in the inflow (eastern) local government financial costs.

The relevant data are from *China Statistical Yearbook, Monitoring Survey*

Report on migrant workers, Finance Statistics Yearbook, Statistics Bulletin of National Education Development, and Statistic Bulletin of Social Service Development over the years.

(ii) The results of the calculation

1. Benefit of migrant workers' citizenship

According to the planning period of *National New Urbanization Planning*, the number of migrant workers who settled in city 2014-2020 is estimated to be 100 million, and the average annual citizenization economic benefits (resettlement) is more than 76 billion yuan, accumulated more than 530 billion yuan of the citizenization economic benefits over the past seven years (according to 2014 constant price, the same below). The citizenization of the agricultural population transfer will increase the personal income tax, value added tax (business tax), deed tax, urban construction tax, education surcharge and local education surcharges and other financial income, and will reduce the consumption tax revenue.

Table 2: The return of 100 million migrant workers settled (100 million yuan, according to 2014 constant price)

Year	Financial benefit	Economic income
2014-2020 average	239	763
2014-2020 in total	1671	5344

Data source: Calculation by the authors.

Increased part in fiscal revenue minus the reduced portions is referring to "the citizenization financial income." The total number of migrant workers who settle in city during 2014-2020 is estimated to be 100 million, and the average annual citizenization financial income is more nearly 24 billion yuan, accumulated more than 160 billion yuan of the citizenization financial income over the past seven years.

2. Cost of migrant workers' citizenship

The actual financial cost of migrant workers settled in 100 million in 2014-2020 is accumulated about more than 680 billion yuan, with an annual average of about 98 billion yuan (only 0.7% of the total fiscal revenue in 2014).

Table 3: The cost of 100 million migrant workers settled (100 million yuan, according to 2014 constant price)

Year	Children education	Social security	Employment services	Indemnificatory housing	Infrastructure	Total cost
2014-2020 average	547	8	77	77	270	979
2014-2020 in total	3831	53	541	542	1887	6854

Data source: Calculation by the authors.

From the view of the per capita level, the actual financial cost of transferring a migrant worker is only about more than 6800 yuan. The prime cost is for public

service facilities and infrastructure such as the construction of infrastructure, new school buildings, affordable housing and ancillary facilities. In recent years, the promotion of equalization of urban and rural public services has largely reduced the cost of settlement of migrant workers.

3. Net income

(1) Social overall benefits

Use the citizenization financial income measured above minus the actual financial cost, which can get the net fiscal benefits of 100 million migrant workers settled in 2014-2020, accumulated nearly -520 billion yuan, an annual average of about -62 billion yuan (absolute size is only equivalent to 4.6% of the national fiscal deficits in 2014). Because the citizenization brings “immigration surplus” to the economic development, resulting in economic benefits, so although at the beginning the total income of the citizenization is lower than the total cost, but soon it will exceed the total cost. Total net income of 100 million migrant workers settled in 2014-2020, accumulated nearly more than 16 billion yuan, an annual average of more than 2 billion yuan. It can be seen, promoting citizenization, and the incremental cost are affordable in general, and the total income is slightly larger than the total cost.

Table 4: Net income of 100 million migrant workers settled in 2014-2020

(2014-2020, according to 2014 constant price, 100 million yuan)

Year	Financial net income	Economic income	Total net income
2014-2020 average	-740	763	23
2014-2020 in total	-5183	5344	161

Data source: Calculation by the authors.

(2) The fiscal costs and benefits of the central government and local government

Under the changeless circumstances of the current tax distribution system and the proportion of the distribution of liability of public service expenditure, the vast majority of the fiscal costs of migrant workers settled born by the local, and a considerable part of the financial benefits brought by the citizenization is turned over from the local.

Table 5: The central and local government fiscal costs and benefits of 100 million migrant workers settled (100 million yuan, according to 2014 constant price)

Year	fiscal benefit		fiscal cost		fiscal net income	
	Central Government	Local Government	Central	Local	Central	Local
2014-2020 average	78	161	26	953	52	-792
2014-2020 in total	543	1127	184	6670	360	-5543

Data source: Calculation by the authors.

The results show that from 2014 to 2020, the local will bear 97% of the actual citizenization financial cost, while the local only share 67% of the citizenization fiscal benefits, there is a clear mismatching problem between responsibility and rights. After income against expenditure, the central government received a net profit of 36 billion yuan, an annual average of more than 5 billion yuan; local government received net income accumulated to -550 billion yuan, an annual average of about -80 billion yuan. Local government can get fiscal benefits of more than 1100 yuan per capita, but it will pay the financial cost more than 6600 yuan, the net loss is more than 5500 yuan.

(3) The fiscal costs and benefits of the eastern and western (migrant workers inflow and outflow) governments

Local governments of eastern region as the inflow place of population relocation, gain fiscal benefits from the citizenization , but also bear the actual costs of the citizenization fisacl costs. Local governments of the central and western region as a net outflow place of population relocation, although ease the pressure on the actual fiscal costs, but also lose individual income tax, business tax, value added tax and other fiscal benefits.

Table 6: The regional fiscal costs and benefits of 100 million migrant workers settled (100 million yuan, according to 2014 constant price)

Year	fiscal benefit			fical cost			fiscal net income		
	East	Central region	West	East	Central region	West	East	Central region	West
2014-2020 average	316	-93	-62	987	-23	-11	-671	-70	-51
2014-2020 in total	2211	-650	-434	6912	-162	-79	-4701	-488	-354

Data source: Calculation by the authors.

The fiscal costs of the eastern, central and western governments from the citizenization are larger than the benefits, that is, there will be a net loss of local finance. Among them, the eastern region bears the vast majority of net financial losses, accounting for as much as 85% of the total net loss in the eastern, central and western parts; central and western region respectively bears about 9% and 6%.

IV. Conclusions and Policy Proposals

(i) Main conclusions

1. Granting urban residency to migrant workers has significantly positive effect

Encouraging migrant workers to settle in urban areas could enhance the efficiency of resource allocation, improve the overall social welfare. Urbanizing

the migrant workers would, to some extent, increase the costs, yet it can also bring about handsome profits. At the same time, it shall have positive influence to the local economic and their fiscal revenue. The total urbanization revenue are added by the urbanization economic revenue and the urbanization fiscal revenue. The annual average revenue is over 100 billion yuan, and the total revenue is up to 700 billion yuan brought by 100 million migrant workers who settle in the town during 2014-2020. In addition, except the monetized economic revenue (economic revenue and fiscal revenue), migrant workers settled in town would also bring additional social benefits that could not be measured by money, such as promoting the social integrity and further contributing to enhance social stability and social governance capacity. With these factors taken into consideration, the urbanization of agricultural migrants would have remarkably positive effect in the long run.

2. The costs of migrant workers' citizenization are overstated

From the existing research results, the per capita cost of urbanization is quite different, ranging from hundreds, thousands, tens of thousands to more than a hundred thousand. The past research overestimates the costs that migrant workers settled in town.

One is to mistakenly regard the value of urban household as a full cost, ignoring the value of rural household, without deducting the original costs of

public service and social welfare in rural areas. Related researches tend to regard the added value of urban public service as the settlement cost, without taking into account the reduced cost due to the corresponding reduction of rural public service after migrant workers settled in town. The costs are actually the difference between value of urban household and value of rural household, rather than the urban household value itself. As basic public services promote equalization in recent years, the gap of urban and rural household value is reduced dramatically, which is a significant reason that the costs of migrant workers settled in town in this research is lower than that in many other related research.

The other is to mistakenly calculate fiscal costs that include social and personal costs without reducing the costs charged by market and social subject for infrastructure construction. For example, infrastructure accounts for most of government costs and always is measured by urban fixed-asset investment in relevant industries in the existing research. However, the actual public revenue only accounts for 5% of the total urban fixed-asset investment. Meanwhile, under 15% of the total urban fixed asset is invested in industries relating with infrastructure.

3. Financial incentives of local governments are inadequate

Whereas studied longitudinally, according to the current tax sharing system

and the responsibility distribution of public service expenditure, the local governments are the main contributors to the financial costs of migrant workers. As the central government gives more public service subsidies to the migrant-sending area than to migrant-flowing area between local regions, therefore, when migrant workers settle in inflow area from outflow areas, the actual costs subsidized by central government in the process has been decreased. Although local governments could acquire more benefits owing to migrant workers settled in the town, they also contribute the main part of costs that cannot be made up by the benefits. Whereas studied horizontally, no matter in migrant-sending area or migrant-flowing area, it is impossible to avoid the fiscal revenue decrease in the process of agricultural population transfer. Especially for governments in the eastern areas, as the main battlefield of the 100 million people settled in the town, they gain benefits from the public revenue yet also contribute the large costs of urbanization. In this case, it is difficult to form an effective incentive, if too much emphasis is given to the responsibility to promote the urbanization of transferred population without giving appropriate financial support.

(ii) Policy Recommendations

1. Deepening the research and propaganda of cost and benefit of citizenization

First, cost calculation shall be more accurate. Calculate the total urbanization

costs in accordance with the difference between the increase in urban expenditure and the reduction in rural expenditure; calculate the actual financial burden after reducing the inputs by market, society and individuals; and then further calculate the incremental costs owing to the transfer from the urban residence permit to the urban household, at the same time, improve people's understanding of the overall affordability relating to net increase in citizenization.

Second, research on benefit calculation should be improved. We could not ignore that agricultural population transfer has made direct or indirect contributions to the fiscal revenue and tax; optimizing the labor market creates "migrants surplus" and also improves the overall welfare of the local economy as well as supports urban construction and industrial development. We should comprehensively calculate urbanization benefits, clearly classify the share of benefit to the related bodies from the above-mentioned aspects, so that the local government could see the benefits by absorbing population transferred to the town or regularly settled in the town for a long time.

Third, "benefit side" propaganda should be well done. Strengthen the publicity of urbanization benefits. With relying on the calculated data and typical cases, take advantage of traditional newspapers, preaching, training, etc. as well as new media that is influential and easy to accept; indicate the benefits created

by transferred population to the migrant-flowing area; and make the public realize comprehensively and objectively that urbanization brought about costs yet benefits.

2. Coordinating urban residency reform and citizenization

In such areas as the pilot of early residence permit or with nature conditions, more emphases should be given to guide people lived there to settle in towns directly. Such guidance should be given to emphasize that the children of migrant workers could have access to non-compulsory education more smoothly and conveniently than ever, and aged parents of migrant workers could share social welfare. The household registration requirements of migrant workers who worked, migrated, and lived in the town shall be met in priority.

For areas featured by population transfer within the province and prefecture-level city, further relax requirements for household registration in towns. Speed up to eliminate such limitations in housing purchase, investment and tax payment; duly decrease the requirements of social insurance and continuous residential year; improve public service facility and housing security measures.

For areas featured by cross-province or cross-city population transfer and with the residence permit on initial stage, much emphasis should be given to the expansion and implementation of residence permit system. On the basis of six services and seven conveniences issued by China, notify and implement the public service projects and standard shared by local residence permit holder, at the same time, formulate the time table and route to narrow the gap between household population and residence permit holder.

3. Further clarifying the details of central and provincial incentive mechanisms

According to the requirements of Notification of the State Council about the Implementation of Several Fiscal Policies Supporting Citizenization of Transferred Rural Population (GF No.44〔2016〕), incentive mechanism of citizenization of transferred rural population at the central and provincial levels should be set up. In order to give full play to the incentive mechanism to promote the local people's work, suggestions are made:

First, in the principle of reward, the idea of "inflow should be awarded and no punishment for outflow" should be adopted. Key awards should be given to areas where the absorption and transfer of population is positive, especially those cities and counties where residence permit holders enjoy real public service there are a large urbanization population; it should be guaranteed that

there is no reduction in the level of transfer payments in areas where there is a net outflow of transferred population.

Second, in the direction of reward, more attention should be given to central areas of trans-administrative region and less developed areas. On the reward of central fiscal policy, more attention should be focused on areas that attract a large number of inter-province population, as well as middle and western areas where intra-province population is concentrated; provincial-level fiscal reward should be mainly focused on intra-city transfer within a province, as well as intra-county transfer in relatively less developed areas.

Third, different policies should be implemented in the way of rewards. For middle and western regions and relatively underdeveloped eastern regions, direct financial rewards are suggested to be carried out, collecting a part of rights and increasing general transfer payments and central infrastructure construction investment; for relatively developed eastern regions, especially those that have strong fiscal sustainability, decentralizing some of the fiscal power and increasing the insurance of local debts stage by stage could be used.

4. Improving supervision, inspection, monitoring and assessment

Sharing the cost of citizenization in a scientific way is a complicated systematic project, thus it is necessary to conduct supervision and evaluation.

On one hand, special supervision and inspection should be organized. Supervisions on local governments should be made to promote them to actively explore the mechanism of people's contribution, actively implement the residence permit system, absorb and transfer population, and narrow the gap between urbanization rate of household registration and urbanization rate of permanent residents. Measures should be taken to avoid the problem that provincial and municipal governments pass on or transfer spending responsibility, prevent and curb the problem of "only handling certificate, no service" and against the will of the individual.

On the other hand, regular monitoring and evaluation should be conducted. Keep a dynamic eye on the situation of local promoting citizenization of rural population, especially establish and improve the cost sharing mechanism, accurately identify and solve real problems item by item, constantly summarize, share and popularize advanced experience, and timely refine and optimize macro policies.

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