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ECONOMIC REFORM AND THE CHANGE OF EMPLOYMENT STRUCTURE IN CHINA

Abstract. *China's employment structure has changed enormously in the 40-year reform and opening-up, and it is not only a result of economic reform, but also a driving force for economic growth. The paper summarizes main features of this changing process in four stages by employment quantity and proportion. Its achievement includes insisting on positive employment promotion policy, continuing urban employment priority, promoting non-state economy, and developing market mechanism. This is the process of optimizing human capital allocation and increasing labour productivity through transferring labour from low to high productivity areas. Meanwhile, China is facing some new challenges for further development in decreasing working age population and aging society, structural employment difficulty and youth unemployment, imbalance of employment structure, and institutional obstacles. Government needs to reform hukou system, encourage 2nd and 3rd industries and small-medium sized firms, and reforming tertiary education and vocational training systems.*

Keywords: *employment structure, economic reform, population.*

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ЕКОНОМІЧНА РЕФОРМА І ЗМІНА СТРУКТУРИ ЗАЙНЯТОСТІ В КИТАЇ

Анотація. *Є багато причин для економічного дива Китаю, але більшість дослідників сходяться на думці, що довгострокове високе економічне зростання є результатом реформ та відкритості. Зміна структури є сильною рушійною силою економічного зростання Китаю. Злиття епохи реформ і зміна структури населення створили велику кількість робочої сили. У поєднанні з масовими робочими місцями, створеними реформою, вони надають додаткове джерело для економіки. Великим досягненням є вирішення проблеми зайнятості мільярдного населення в аспектах економічного зростання, соціального розвитку, скорочення бідності та людського капіталу.*

Як правило, це називається дивідендом населення і сприяє економіці Китаю в чотирьох аспектах. Надлишкове сільське населення стає майже нескінченною пропозицією робочої сили, що підвищує конкуренцію на ринку праці у містах і зберігає заробітну плату на дуже низькому рівні. Загальний коефіцієнт залежності є низьким, тому зростання робочої сили знижує коефіцієнт капіталу і праці і, як наслідок, затримує ступінь зменшення граничного прибутку капіталу. Низький коефіцієнт залежності означає низький економічний тягар та високий економічний надлишок, який підтримує високу ставку заощаджень і, як наслідок, збільшує інвестиції.

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У статті узагальнено основні риси цього процесу зміни в чотири етапи за кількістю і пропорцією зайнятості. Його досягнення включають наполягання на позитивній політиці заохочення зайнятості, пріоритеті постійної зайнятості у містах, сприянні недержавній економіці та розвитку ринку. Це процес оптимізації розподілу людського капіталу та підвищення продуктивності праці за рахунок перенесення праці з низьких до високопродуктивних районів. Тим часом Китай стикається з деякими новими викликами для подальшого розвитку в скороченні чисельності населення та старіння суспільства, структурних труднощів зайнятості та безробіття серед молоді, дисбалансу структури зайнятості та інституційних переешкод.

Зайнятість є важливим ресурсом для економічного зростання і важливим питанням для управління та соціального розвитку. Проблема зайнятості в Китаї змінилася від кількості, створення якомога більше робочих місць, до якості, де структурний дисбаланс є основною складністю. Її часто описують як «труднощі у працевлаштуванні під великим попитом і труднощі підбору персоналу під час високої пропозиції робочої сили».

Зміна структури зайнятості є не тільки результатом економічних реформ, але й рушійною силою економічного зростання. Відтік працюючого населення від сільськогосподарського та сільського виробництва з низькою продуктивністю до вищої продуктивності в несільськогосподарських та міських районах підтримував велику дешеву робочу силу для індустріалізації та модернізації Китаю за останні 40 років. Проте подальший економічний розвиток потребує подолання певних глибоких трудових структурних труднощів у кількох сферах.

Ключові слова: структура зайнятості, економічні реформи, населення.

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ЭКОНОМИЧЕСКАЯ РЕФОРМА И ИЗМЕНЕНИЕ СТРУКТУРЫ ЗАНЯТОСТИ В КИТАЕ

Аннотация. Есть много причин для экономического чуда Китая, но большинство исследователей сходятся во мнении, что долгосрочный высокий экономический рост является результатом реформ и открытости. Изменение структуры является сильной движущей силой экономического роста Китая. Слияние эпохи реформ и изменение структуры населения создали большое количество рабочей силы. В сочетании с массовыми рабочими местами, созданными реформой, они предоставляют дополнительный источник для экономики. Большим достижением является решение проблемы занятости миллиардного населения в аспектах экономического роста, социального развития, сокращения бедности и человеческого капитала.

Как правило, это называется дивидендом населения и способствует экономике Китая в четырех аспектах. Избыточное сельское население становится почти бесконечным предложением рабочей силы, повышает конкуренцию на рынке труда в городах и сохраняет заработную плату на очень низком уровне. Общій

коэффициент зависимости низкий, поэтому рост рабочей силы снижает коэффициент капитала и труда и, как следствие, задерживает степень уменьшения предельного дохода капитала. Низкий коэффициент зависимости означает низкое экономическое бремя и высокий экономический излишек, который поддерживает высокую ставку сбережений и, как следствие, увеличивает инвестиции.

В статье обобщены основные черты этого процесса изменения в четыре этапа по количеству и пропорции занятости. Его достижения включают настаивание на положительной политике поощрения занятости, приоритете постоянной занятости в городах, содействию негосударственной экономике и развития рынка. Это процесс оптимизации распределения человеческого капитала и повышение производительности труда за счет переноса труда с низких до высокопроизводительных районов. Между тем Китай сталкивается с некоторыми новыми вызовами для дальнейшего развития в сокращении численности населения и старения общества, структурных трудностей занятости и безработицы среди молодежи, дисбаланса структуры занятости и институциональных препятствий. Занятость является важным ресурсом для экономического роста и важным вопросом для управления и социального развития. Проблема занятости в Китае изменилась от количества, создание как можно больше рабочих мест, к качеству, где структурный дисбаланс является основной сложностью. Ее часто описывают как «трудности в трудоустройстве под большим спросом и трудности подбора персонала во время высокого предложения рабочей силы».

Изменение структуры занятости является не только результатом экономических реформ, но и движущей силой экономического роста. Отток работающего населения от сельскохозяйственного и сельского производства с низкой производительностью до высокой производительности в несельскохозяйственных и городских районах поддерживал большую дешевую рабочую силу для индустриализации и модернизации Китая за последние 40 лет. Однако дальнейшее экономическое развитие требует преодоления определенных глубоких трудовых структурных трудностей в нескольких сферах.

Ключевые слова: структура занятости, экономическая реформа, население.

1. FOUR STAGES OF EMPLOYMENT DEVELOPMENT

Before 1978, China was planned economy and a big agricultural country with strict rural-urban dichotomy and weak foundation of manufacturing and service industries. The combination of people's commune, hukou and voucher systems retained rural labour in agriculture production without sectoral and regional migration. For developing urban industries, peasants were restricted

to their limited land (every household with average of 0,6-0,7 hectare) for farming. In 1978, China's total employment was 401,52 million and GDP was 367,87 billion RMB, while the agriculture separately accounted for 70,5 % and 27,7 %. The productivity was very low and it was economically inefficient.

1.1. The first stage: 1979 to 1993

Things began to change in a village – Xiaogang, Anhui Province, on November 1978.

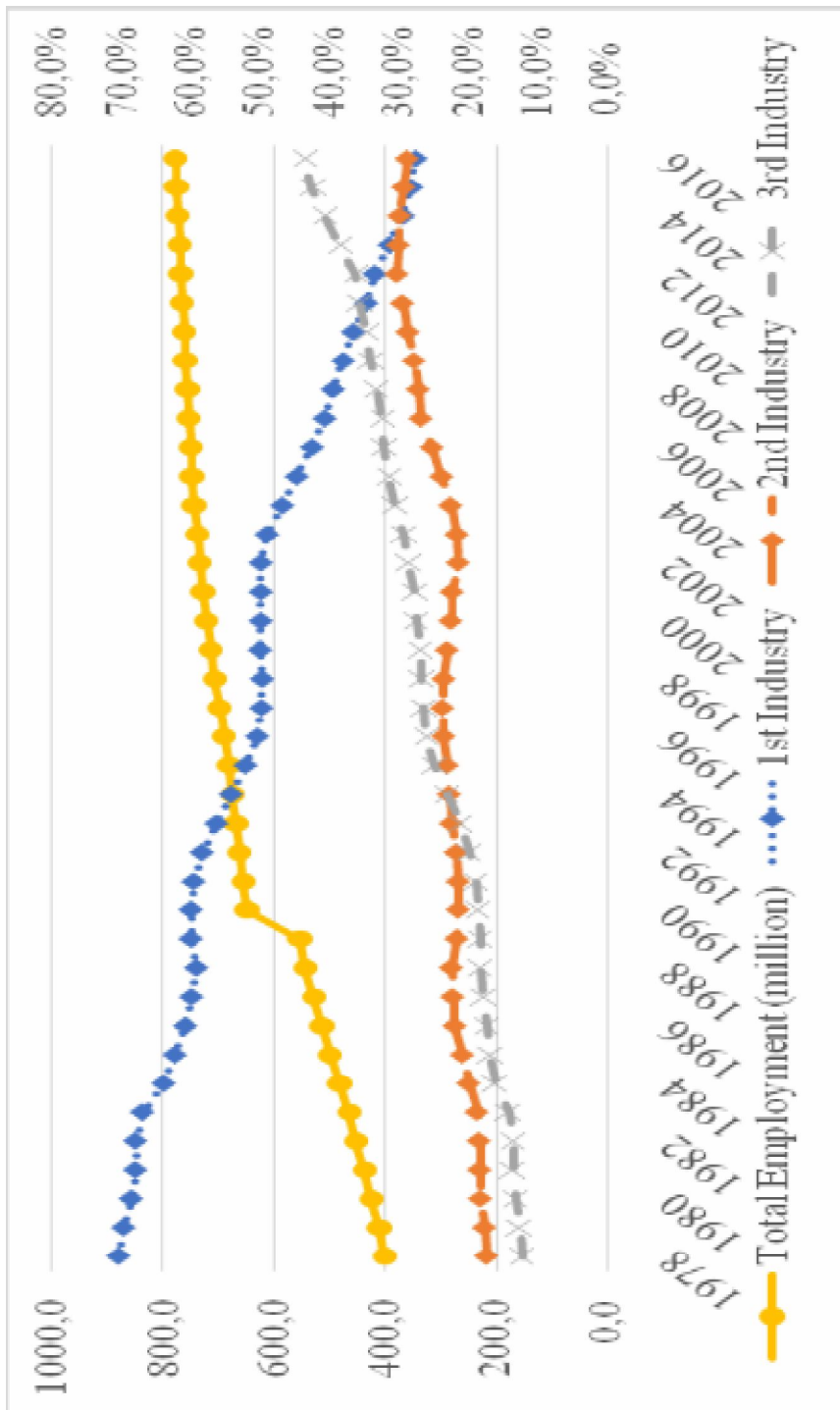


Fig. 1. Employment status and proportion by three industries (million, %)

Several peasants signed a contract to start «household contract responsibility system» where the majority incomes were given to individuals, replacing the people's commune system. On December, Chinese government decided to refocus on economic development and start the economic reform. In rural area, the house-hold contract responsibility system soon prevailed over 98 % of rural household in 1984, while peasants were motivated to increase labour productivity for in-creasing compensation and large amount of surplus labour was saved from agriculture production and ready to transfer. Meanwhile, government allowed rural surplus labour to work at domestic firm, so township and village owned firms firstly developed, where the employment number quickly increased from 28,27 million in 1978 to 123,45 million in 1993, over 4 times more, and continuously to 155,88 million in 2008. In 1992, the 14th CCP Congress purposed to establish socialist market economy system and many policies were made to invigorate the economy, such as relieving control over private firms and self-employment, experimenting to rent out State-Owned Enterprises and Collective Owned Enterprises to individuals, and establishing special economic zones and opening-up cities in the southeast coasts, which increased foreign invested companies and manufacturing companies. The boundary of rural and urban started to melt down and rural migrants were allowed to work and live at towns and small cities. In this stage, the employment of all three industries grew quickly from 283,14 million, 69,45 million and 48,9 million in 1978 to 376,8 million, 149,65 million and 141,63 million in 1993. The growth rate of non-agriculture employ-

ment was much faster agricultural employment, so the percentage of the 1st industry employment dropped from 70,5 % to 56,4 %.

1.2. The Second Stage 1994-2002

From 1994, government started to accelerate reforms in areas of finance, international trade, foreign currency, housing, medical and other major sectors; promoted urbanization through city construction, town development and establishment of economic zone; urban catering, sales, and other service industries grew quickly. Facing globalization and division of labour, China undertook labour intensified industries transferred from Asian Newly Industrial Economies (Singapore, South Korea, Hong Kong and Taiwan). The southeast coast of China attracted lots of foreign investment, while township-village and private companies took the opportunity and created large amount of employment.

On the other hand, for Southeast Asia financial crisis, less exporting demand and macro economy regression, the economic growth rate decreased, which caused less demand for labour on later 1990s. Meanwhile, the large scale of SOE reform laid off over 60 million redundant workers in the urban area, so the 2nd industry employment dropped and the 3rd industry slowed after 1998. Facing serious unemployment problem, government made a series of policies in re-employment, unemployment insurance, pension and minimum life security, and hastened labour market reform to better fit with market demand. In this stage, the growth of 1st industry employment started to stop with only 0,004 % growth rate, while the 3rd industry received more labourer (6,8 million per year)

than the 2nd industry (0,46 million per year), as shown in Table 1. The east coast became the top destination for rural migrant workers from middle-west

regions, the yearly migration wave came into form that peasant workers moved between home at rural area to workplace at urban area.

Table 1

The change of employment by three industries (million, %)

Year	Average Employment (million)				Average Growth Rate (%)			
	Total	1 st Indus	2 nd Indus	3 rd Indus	Total	1 st Indus	2 nd Indus	3 rd Indus
1978-1993	17.77	6.24	5.35	6.18	3.45	1.92	5.25	7.35
1994-2002	7.28	0.02	0.46	6.80	1.04	0.004	0.3	3.83
2003-2011	3.36	-12.01	8.27	7.10	0.45	-3.78	4.44	2.96
2012-2016	2.25	-10.69	-2.23	15.17	0.29	-4.43	-0.97	5.08
1978-2016	9.86	-1.8	4.05	7.6	1.75	-0.72	3.12	5.22

Source: <China Labour Statistic Yearbook>.

1.3. The Third Stage: 2003-2011

In 2001, China entered WTO and was further integrated into international trade system. Government encouraged exporting industries, such as, toys, garment, clothing, furniture, shoes and other labour-intensified industries. All-level governments enthusiastically focused on urban construction, which encouraged construction, real estate, metal industries and urban services and the need for labour was enormous. To solve problem of urban labour shortage, central government ceased agricultural tax, slowly removed institutional barriers for rural-urban migration, and the hukou system began to reform that small towns conditionally allowed people with rural hukou transferred to urban hukou. Young people, mostly born in 1980s, started to enter labour market. They

have better education and legal consciousness than their parents and wanted to have same opportunities to urban youth. Most export-leading labour-intensified factories were in manufacturing industries, so the employment in the 2nd industries increased largely with 4.44 % rate and 8,27 million per year.

To relieve the massive unemployment pressure caused by SOE Reform, government proposed many policies to encourage self-employment and re-employment, such as tax reduction, business registration benefits. Majority of laid-off workers entered service industries, which became the largest industry for employment in urban area. While the growth rate of the 1st industry was -3,78 %, which meant nearly 12 million agriculture labour transferred out every year. This transferring process

is important for a country to develop its economy. China achieve such big leap for the expansion of private owned companies and change of worldwide industrial structure.

1.4. The Fourth Stage: 2012 to now

After 2012, President Xi Jinping, leading the Central Committee and CCP, dedicated to deepen reform, for example: promote innovation driven strategy, and mass entrepreneurship; implement supply side structural reform, industry upgrading; phase out labour intensified industries, support high technology industries, internet plus economy; boost urbanization and allow urban residence with rural hukou to have citizenship. The 3rd industry had huge enhancement. In 2016, the 3rd industry was 51,6 % of national GDP and 43,5 % of total employment. There were over 44 million new registered market entities, among which new firms were 13,62 million, which was 30 % average annual increase rate from 2012.

The employment structure drastically changed in this stage. Firstly, the 2nd industry employment became to decrease for the first time in history that 2,23 million workers left every year, while the demand for low-skilled labour was still high in labour-intensified industries. The 3rd industry has higher employment elasticity and its requirement for skill levels has wider range, so government is more eager to encourage its development. Secondly, the transferring-out of rural labour continued with average 10,69 million per year, so the urban employment was finally higher than the rural land reached 53,4 % in 2016 with contribution of accelerating urbanization.

2. CHARACTERISTICS OF EMPLOYMENT STRUCTURE CHANGE

Employment is an important resource for economic growth and a critical issue for governance and social development. Ever since the Economic Reform, the employment structure was continuously changed to support great energy for China's economic growth miracle.

2.1. Insisting on positive employment promotion policy

There are many reasons for China's economic miracle, but majority researchers agree that the long-term high economic growth is the result of reform and opening-up, which includes: improving micro-level motivation to confirm individual compensation, rectifying price signal that supply and demand decide price, creating commodity market to allow market exchange and competition, breaking down institutional obstacles of production factors, capitalizing resources, and opening-up for capital, technology and management (Cai, 2017). The population condition, labour resource input and employment structure change are strong driving forces for China's economic growth. The merge of reform era and population structure change have created a large amount of working force. Combining with massive jobs created by the reform, they provide additional source for economy. Some scholars estimate that the contribution of population dividend to economic growth is around 15 % to 26,8 % (Wang and Mason, 2008; Cai and Wang, 2005). It is a great achievement of CCP to solve the employment problem of a billion population in aspects of economic growth, social

development, poverty reduction, and human capital.

Usually, this is called population dividend and contributes to China's economy in four aspects. Firstly, transferred rural surplus population becomes nearly infinite labour supply, which raises the urban labour market competition and keeps the wage at very low level where companies still have profits with low product price. The working age population increased from 625,17 million in 1982 to the highest 1005,82 million in 2013. Secondly, the employment participation rate is high that reaches over 80 % for most years, so the economically active population still increases to 806,94 million while the working wage population decreases. Thirdly, the total dependence ratio is low, so the labour force growth decreases the capital-labour ratio and consequently delays the extent of diminishing marginal return of capital. Low dependence ratio means low economic burden and high economic surplus, which maintains high saving rate and consequently increases investment. Fourthly, the transferring of labour from low productivity to high productivity, mainly from 1st industry to 2nd and 3rd industries, has not only changed the employment structure, but also increased average labour productivity through relocating human resources, which becomes a key part of total factor productivity.

2.2. Continuing urban employment priority and optimizing employment structure

The urbanization and urban employment are positively correlated and the change of industry-employment structure has strong influences on urbanization process. In a long term, rural

employment was the main form and was 306.38 million in 1978 and reached the highest 490,39 in 1997. The hukou system and lack of social security caused rural-urban dichotomy and restricted free labour movement. Also, the domestic employment policy encouraged rural surplus labour force to find a job in rural area. In early stage of reform, the urbanization rate was lower than urban employment, separately 17,9 % and 23,7 % in 1978, and soon the accelerating urbanization created large amount of new jobs in urban area. Government decided to speed up urbanization in the middle of 1990s and started to rectify hukou system that rural migrants were allowed to have hukou at small cities and towns, but large cities remained high restriction.

The agglomeration of capital, human resource and technology has granted cities more power to achieve scale economy where more jobs are created. However, Chinese definite urbanization rate is not very high at 57,35 % in 2016, which is lower than the 64 % of OECD average and much lower than 80 % of advanced countries, and hindered further optimization of employment structure. There are several reasons for this problem: the over emphasis on heavy industries than service industries, absolute agriculture surplus labour, land scarcity and very low farm scale. After 2012, government paid more attention to urbanization rate that increases 1,2 % every year till 2016 and this will become higher demand for labour.

Besides the employment increase, the economy has experienced long-term two digits growth rate and the industrial upgrading is accompanied with industry-employment structure optimization, which can be evaluated through

coordination coefficient. It can be calculated in the following equation

$$H_{xy} = \frac{\sum_{i=1}^n (X_i Y_i)}{\sqrt{(\sum_{i=1}^n X_i^2 \sum_{i=1}^n Y_i^2)}}$$

H_{xy} is industry-employment structure coordination coefficient ranging between 0 and 1, X refers to GDP percentage, and Y refers to employment percentage. The higher the coefficient is, the better the industry and employment are matched. The overall coefficient increased waved between 0,7 and 0,8 from 1978 to 2003 for the slow transferring of agricultural surplus labour. In this stage, the 1st industry GDP drop from 27,7 % to 12,3 %, but its employment was still over 50 %, which caused imbalance of industry-employment structure. The development of exporting industries, non-state economies and urban labour market reform has cleared barriers for labour mobility, so the coefficient increases quickly from 0,73 in 2004 to 0,93 in 2016.

2.3. Promoting non-state economy while maintaining SOE employment

The State-Owner Enterprises (SOE) and Collective-Owner Enterprises (COE) employment were nearly the only forms of employment in urban area. In 1978, the percentage of both forms were 99,8 % and this status continued to 1997 SOE reforms, where many companies were privatized and around 60 million workers were laid off. The SOE employment dropped from 112 million to 61,7 million at the moment, while COEs died out for lack of competence. SOE and government configuration of resources are the key factors for planned economy and this system has been gra-

dually destroyed and replaced by market priority and government guidance. Meanwhile, the labour market developed to deploy employment and non-state firms became the new attraction for workers.

Since middle 1980s, the non-state economy was recognized by the government. The 1988 «PRC Constitution Amendment» legalized non-state economy. Self-employment firstly developed and reached 22,59 million in 1998 and became the second largest urban employment form. After joining WTO in 2001, exporting economy accelerated private companies and soon became the large employment form. In 1990, there were only 570 thousand workers in private firms, but it increased to 15,27 million in 2002 and to 69,12 million in 2011 that was more than SOE employment in urban area. In 2016, employment in private firms is 32 %, 22 % in self-employed, 17 % in limited liability, and 16 % in SOE of urban employment. The foreign invested, share-holding and other forms of ownership employment contributes to 13 % of urban employment.

2.4. Developing market mechanism and keeping agricultural labour transfer

China's economy reform is a double «dual economic transition» process, including the transition from planned economy to market economy where government distributing resources becomes market distribution, and the transition of surplus labour from agriculture to non-agriculture and from rural to urban areas. The employment system of planned economy has three main components: the first is urban exclusive total employment system where urban resi-

dents are allocated to certain firms and positions based on national economic plans with hardly possibility to move out; the second is hukou system, which separates rural and urban population and blocks their mobility, so that the fast-industrialized urban economy does not contain surplus labour from rural areas; the third is the coupon system of basic consumption and exclusive social welfare further hinders the transfer of resources among regions, sectors and ownerships. The economic reform has broken most barriers that the non-agriculture and urban economic entities has achieved higher productivity and more employment. The transferring of agricultural labour to non-agricultural sectors is the process of increasing labour productivity and consequently economic growth. The labour productivity of the 2nd and 3rd industries were 2572 RMB per capita and 1851 RMB per capita, which were 7 time and 5 time of the 1st industry in 1978. This gap means higher wage and better condition in non-agricultural and urban areas, so rural surplus labour was attracted and moved to such areas. For example, the increase of employment in non-agricultural sectors was 11,65 million per year from 1978 to 2016, while the flowing-out of agricultural employment was 1,8 million as shown in Table 1. This process not only increased the overall average labour productivity of all industries, but also contributed to economy through Pareto improvement. In 2016, the labour productivity of three industries are 29,62 thousand per capita, 132,54 thousand per capita and 113,82 thousand per capita. There is still a huge gap among them, so further reform will focus on the increase of agriculture productivity and flowing-out of surplus labour, which can become

continuous drive for China's economic growth.

3. CHALLENGES FOR FUTURE DEVELOPMENT

The change of population structure and employment structure has enormously contributed to China's economic growth in last 40 years, but there are some new challenges for CCP and government.

3.1. Decreasing working age population and aging society

By influences of birth control policy and social economic development, China's population has reached the stage of super low growth rate after 40-year fast population increase. The birth rate, death rate and growth rate changed from 18,25 %, 6,25 %, 12 % in 1978 to 12,95 %, 7,09 %, 5,86 % in 2016. Meanwhile, the total dependency rate declined from 62,6 % in 1982 to the lowest 34,2 % in 2010 (Figure 2), which becomes limitless supply of population dividend. However, the change of population has two effects on employment: the decrease of young workforce and increase of aging population. As the result of population change, the number of working age population reached highest 1005,82 million in 2013 and dropped to 1002,6 million in 2016. While this decreasing tendency accelerates, the increase of aging population reduces labour force and enhance the pressure of social welfare. In 2016, the 65-year old and above population is 10,8 %, which is above the international standard of 7 %. China has reaching an aging society before its economy becomes an advanced country.

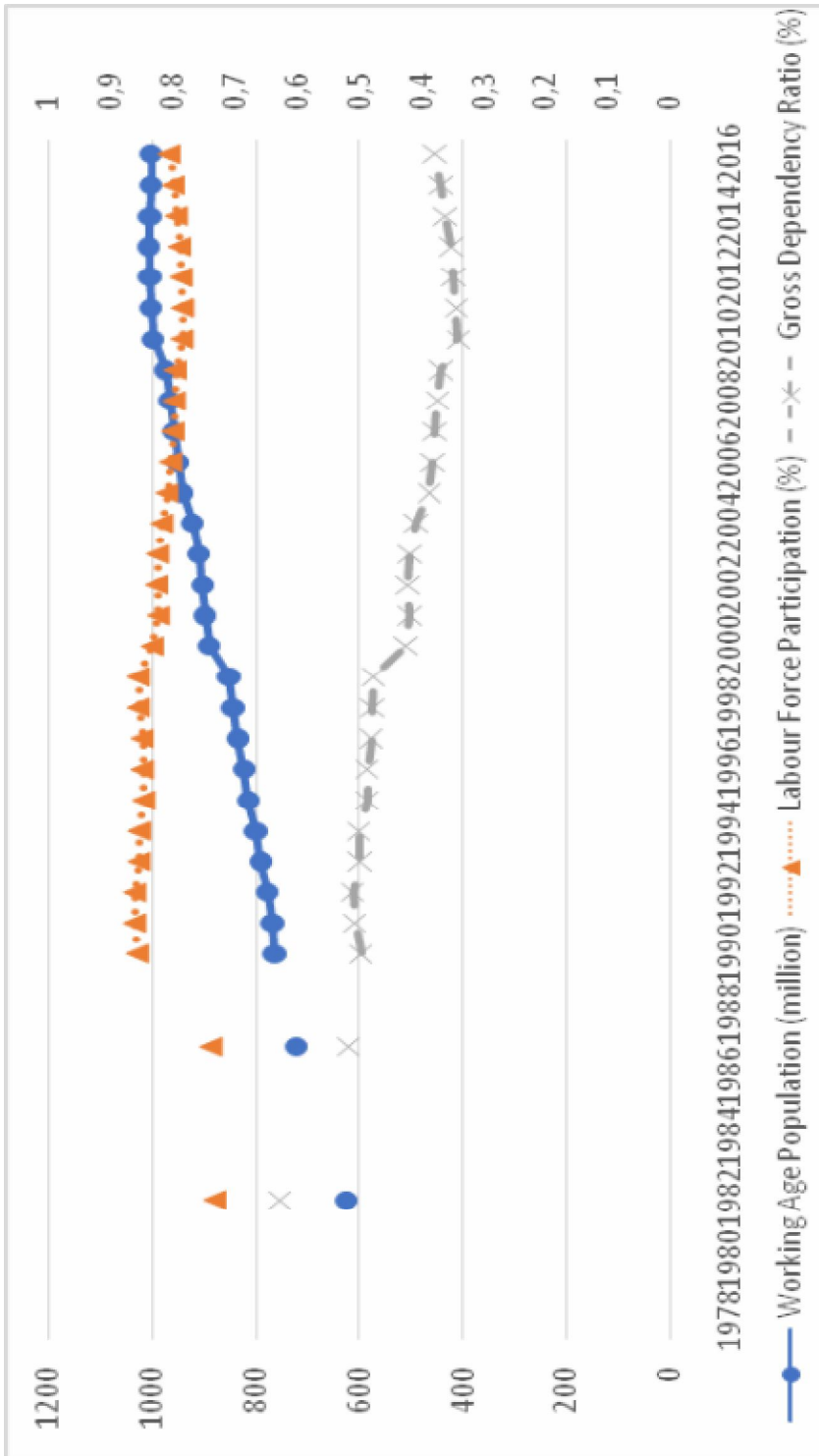


Fig. 2. Population and labour force change (million, %)

Source: <China Statistic Yearbook>.

Furthermore, the rural surplus workforce is vanishing too. Though there are still 26,7 % employment in agriculture and 46,62 % in rural area in 2016, the potentiality for further flowing-out workforce is disappearing for the change of rural population structure (Fang and Han, 2013). Among rural population, age group 0-19 and 20-39 are 25,19 % and 25,32 %, dropped from 33,63 % and 33,95 % in 2001, while 40-60 and above 61 raised from 21,75 % and 10,67 % to 30,33 % and 19,15 % in the same period. The current workforce and future workforce are all decreasing, so the absolute amount of transferred workforce reduces. Though the potentially transferred workforce of rural surplus has not reached the bottom, its percentage is decreasing and older population is increasing, which means few rural surplus labour that will be transferred from rural. The chance for rural labour aged over 40 to flow out is extremely low, because they have less willingness to work unpredictably in cities and majority urban enterprises require younger workers.

3.2. Structural employment difficulty and youth unemployment

China's employment problem has changed from quantity, creating jobs as much as possible, to quality that structural imbalance is the main difficulty now. It is often described as «employment difficulty under high demand and recruitment difficulty under high labour supply». The labour demand can be measure by demand-supply ratio that is lower than for a long time before 2005, which means there are labour supply than demand in the market and it can be explained as population dividend. Then,

as the result of population structure change and economic development, the demand for cheap labour continues to climb while the ratio arrives as high as 1,39 in 2011. Though it drops a bit in recent years, it remains at high level of 1,29 in 2016. However, this high demand does not necessary turn into full employment and unemployment becomes more obvious.

The increasing youth unemployment is a new challenge in the next ten years. Youth population is defined as 16 to 24 by OECD and World Bank, while it is 16 to 34 in Chinese statistic standard. The decreasing birth rate and population growth rate means the declining tendency of young population. For example, the proportion of 16-24 and 16-34 decreases from 15,9 % and 35,6 % in 2000 to 12,2 % and 28,9 % in 2016. On the other hand, the youth unemployment rate grows. Age group 16-24 unemployment is 4,99 million and 16 to 34 is 11,16 million in 2016, while unemployment rate correspondingly is 11,81 % and 6,42 % that are much higher than the urban survey unemployment rate 5 % announced by National Bureau of Statistics.

The key reason for unemployment problem is that the development of education system is not appropriately accompanied with industry structure. The overall education level increases by enforcement of 9-year compulsory education and promotion of tertiary education. Among all employment, 18,5 % have senior middle school and above in 2006, 24 % in 2010, and 31,7 % in 2016, so the young rural migrants have more education than their parents and want better jobs comparable to their urban counterparts. Meanwhile, university graduate increases dramatically that is 760

million in 2016 and 795 million in 2017, but the design of university programmes and courses lags behind the fast market change. The current education system that focuses more on qualification but not on skills, which has caused graduate's expectation higher than available market requirement. Then, university graduates have to find a job lower than their qualification and expectation, while rural young migrant worker also increases and they want better jobs than their parents on the market. Thus, the upward pressure of rural migrant worker and downward pressure of university graduates leads to the rising unemployment rate and the structural difficulty of employment.

3.3. Imbalance of Employment Structure

The transferring of surplus labour from agriculture to non-agriculture and from rural to urban has enhanced the coordination coefficient of industry and employment and contributed to economic growth. The unbalancing process of industry upgrading and employment structure change has caused new problems of industry-employment structure imbalance, which can be measured by structure deviation.

$$D = \frac{\frac{G_i}{L_i}}{\frac{G}{L}} - 1$$

D refers to structure deviation, G is national GDP, L is total employment, G_i ($i=1, 2, 3$) is GDP of i industry, and L_i is employment of industry. If structure deviation is above 0, the proportion of GDP is higher than that of

employment in certain industry so that there is potentiality for labour flowing-in; vice versa. The international experiences show that the structure deviation of the 1st industry is usually negative and that of the 2nd and 3rd industries are positive (Kuznets, 1971; Chenery and Syrquin, 1975). With increasing GDP per capita, the deviation tends to be 0 that means workforce moves from low-productivity sector – the 1st industry to high-productivity and the industry-employment structure become balanced.

As shown in Figure 3, The 2nd and 3rd industries have better improvement that their deviation declined from 1,76 and 1,02 in 1978 to 0,38 and 0,19 in 2016. However, the 1st industry structure deviation is negative and has dropped in the whole reform era, so the workforce is much higher than GDP and necessary to be transferred out. Reasons for this imbalance include institutional barriers of hukou system and social welfare, the aging tendency of rural workforce, their skill shortage and high social costs for settling down in cities. Though rural employment dropped from 76,3 % in 1978 to 46,6 % in 2016, there are still 361,8 million working in rural area, among which 59,42 % are in the 1st industry. Majority of current rural workforce are over 40 years old and hard to move to urban and work in nonagricultural sectors for less willingness and incompetent skills. Meanwhile, large amount of the new generation of rural workforce are born in urban areas and have no agricultural skills, so they cannot go back to rural area as their parents do when there are not proper jobs and are hardly integrated into urban life for institutional and educational obstacles. It becomes the new rural-urban employment dichotomy within large cities.

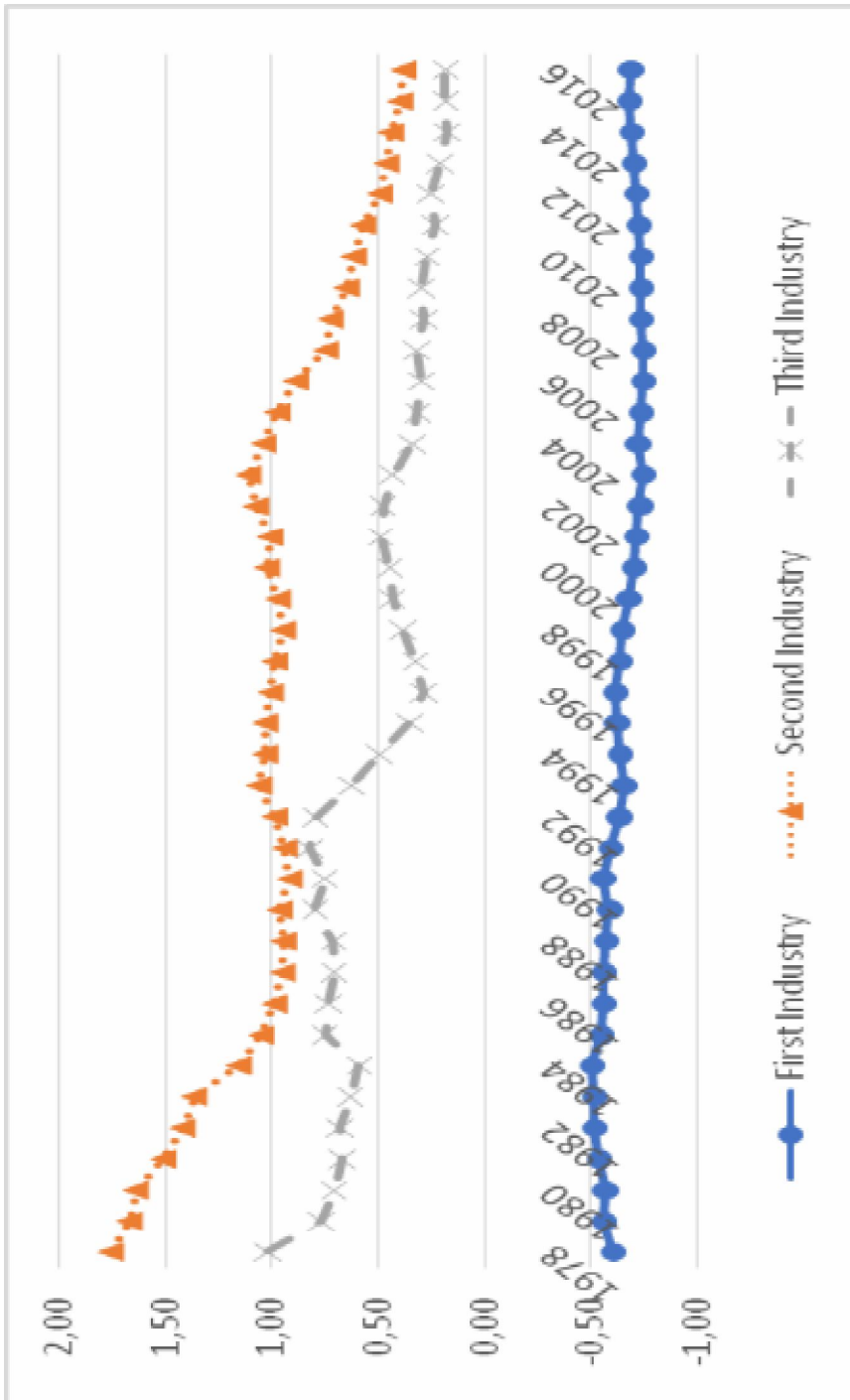


Fig. 3. Industry-employment structure deviation

Source: calculated by author.

3.4. The Institutional Obstacles of Labour Market

Free labour movement is an essential goal for economic reform and government has broken down many barriers to achieve such aim, such as development of non-state ownership firms, removal of food quota, house and job allocation system, medical system and insurances. Hukou system has become the most critical institutional obstacles for furthering economic and social reform. Different local governments have experimented new forms of hukou registration that small cities allow applicants to urban hukou with stable income and legal residence in urban areas, medium cities lower the requirements for settlement and large cities remains high restriction to rural migrants.

There are over 280 million rural migrant workers, who have worked and lived in urban areas for a long time, but they are still waiting for urban hukou to settle down and join in urban society.

The economic development is also a process of labour force moving from low productivity sectors to high productivity sectors, but the 2nd industry with the highest labour productivity does not take most employment. There are several reasons. Firstly, the government's emphasis on developing 3rd industry has drawn most part of migrant workforce, because government believes the high percentage of 3rd industry in GDP and employment is the standard of modern society and the 3rd industry is more flexible and elastic in employment. Secondly, the government focuses more on heavy industries and large companies to accelerate industrialization, so they take advantages of government support in merge and acquisition, financing, tax

reduction and so on. However, small and medium sized enterprises, which have benefits of low capital utilization and high employment capacity, suffers from institutional discrimination in aspects of market access limitation, financial difficulty and strict supervision and their ability to contain workforce is undermined.

4. CONCLUSION

The change of employment structure is not only a result of economic reform, but also a driving force for economic growth. The flowing-out of working population from low-productivity agricultural and rural production to higher productivity ones in non-agricultural and urban areas has supported abundant cheap labour for China's industrialization and modernization in the past 40 years. However, further economic development needs to overcome some deep employment structural difficulties in several areas.

Firstly, it is necessary to speed up hukou system reform to break down labour market free movement barrier through enhancing motivation for rural workforce transferring among rural-urban, regional and sectoral areas, developing market service and price direction system, and achieving equal conditions of employment, social security, education and medical care for urban workers and rural migrants.

Secondly, it needs to encourage the 3rd industry expansion and to accelerate the 2nd industry upgrading. The 3rd industry has high employment elasticity with wide range of skill requirement from low-skill labour intensified manual jobs to capital-and technology-intensified jobs. For example, the IT,

computer, software, culture and finance industries have characteristics of high knowledge density, low energy consumption and pollution, and high value added, so they are better choice for university graduates to find a job and starting new business. Meanwhile, it is necessary to promote small and medium sized companies, especially those private economy, through financing support, tax reduction, removing industry entry restraint, simplifying government administrative procedure and reducing costs.

Thirdly, the reform of tertiary education and vocational training prog-

rammes is critical for rectifying industry-employment imbalance and increasing skill level of workforces. To solve the disjoint problem of university course design and actual skill demand of market, it is necessary to improve university's autonomy in programme and course design, student recruitment amount, career guidance and entrepreneur promotion. Government should encourage enterprise-school cooperation in vocational education and skill training to increase skill level of current employees and those who want to move up in the industry chain.

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