

# Can rewards incentives of non-state-owned enterprises realize co-win cooperation of workers, enterprises and the society?

## From the perspective of labor productivity, profit and labor absorption

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### Abstract

**Purpose** – This paper aims to examine whether rewards incentives of non-state-owned enterprises can settle the matters of motivation lack, strained labor relations and frequent labor-capital conflicts and realize co-win cooperation of workers, enterprises and the society.

**Design/methodology/approach** – Based on the data of 1,617 questionnaires in 257 enterprises, this research reveals the total rewards factors that affect the labor motivation of non-stated-owned enterprises in China and improve labor productivity by adopting the hierarchical linear regression analysis and multi-group path analysis, and establishes a new model of win-win cooperation between labor and capital and the society through the incentive function of these elements by stimulating the enthusiasm of workers, improving labor productivity, increasing profits, expanding capital accumulation and absorbing labor force.

**Findings** – The authors have discovered that in general the main incentives that stimulate the enthusiasm of employees are the factors of performance and recognition and development and career opportunity in total rewards. The factor of benefits also has a significant incentive effect on employees in the western area of China, migrant workers with lower education and male employees, but negative effect on the post-1990s employees in non-state-owned enterprises. However, the compensation factor should be used with caution when encouraging employees in eastern region and the post-1980s. The total rewards factors of development and career opportunities and the performance and the recognition and benefits should be used to motivate workers to improve labor productivity, increase corporate profits and absorb more labor force, which is a long-term solution to win-win cooperation between labor and capital and social sustainable development. It is an important way to increase profits and absorb more labor force by increasing employee's human capital investment and improving labor proficiency of employees under age 45. The conclusions provide new effective management methods for non-state-owned enterprises in China.

**Practical implications** – As a consequence, it will encourage employees to improve labor productivity and increase profits and thus absorb more labor force, if we use these factors of performance and recognition, development and career opportunity and benefits integratedly, we will find a permanent solution that the two sides of the labor and management and the society enjoy a win-win cooperation.

**Originality/value** – The research will provide theoretical basis for non-state-owned enterprises to apply a new and effective management style so that we can establish a win-win cooperation between the labor and management. What's more, the research will develop the Dual Economy Theory of Lewis and the employment theory of Keynes and will also provide a theoretical basis for the realization of Taylor's harmonious industrial relations.

**Keywords** Profit, Labour absorption, Non-state-owned enterprises, Total rewards

**Paper type** Research paper

### 1. Introduction

In 2004, in the case of the surplus labor force in the rural areas of China, the non-state-owned enterprises showed a “shortage of migrant workers.” And then in 2007, there was a “black



brick kiln” incident that shocked the world. In 2010, Foxconn’s employees committed suicide by jumping from factory and dormitory buildings in succession. While in 2014, Guangdong Galanz was hit by a smash. At present, many non-state-owned enterprises have problems of labor relations, frequent labor conflicts, low enthusiasm of workers and declining labor productivity. Scholars have analyzed the causes of these problems from different perspectives. The representative scholars include: Cai Fang, from the perspective of population and labor supply, claims that the emergence of “labor shortage” means a shortage of labor (Cai, 2010). Li Shi puts forward that we cannot take the shortage of migrant workers and wage increase phenomenon as the basis for labor shortage from the point of view of income distribution. As data show that there are over 300 million laborers in China who work for agriculture, that these hidden labor force can be released once a company offers a high enough salary (Li and Yang, 2009). From the perspective of financial management, Sun Hongling believes that urban and non-state-owned enterprises use agricultural labor but do not accept their settlement. Even though they have increased fiscal revenue but failed to enjoy the various expenditures that finance uses for urban residents (Sun, 2011).

From the perspective of human resource management, this paper argues that the main reasons for these problems are as follows: China’s non-state-owned enterprise managers have long regarded salary as the cost and pursued the traditional profit model which depress labor remuneration as far as possible to increase profits and expand enterprise scale on the base of capitalization of profits to absorb more labor force.

To solve the problems mentioned above, we must find a new pattern of salary, profit and labor absorption. Based on the Total Reward Theory proposed by the WorldatWork (Rogers and Marcotte, 2010) and our previous studies, this paper reveals the most important rewards factors that affect the labor relations and the enthusiasm of the overall employees and those with different characteristics in China’s non-state-owned enterprises. And we aim to establish a new mode of improving labor relations and stimulating the enthusiasm of laborers through the incentive functions of Total Rewards factors, so that we can boost labor productivity and the profits will increase, and then the enterprises would expand capital accumulation and absorb more labor force. This is a completely new model that enables win-win cooperation between both employers and employees and the society. This research builds theory and put forward countermeasures and suggestions for non-state-owned enterprises to change their management mode and absorb labor force; meanwhile, the issues of tense labor relations, frequent labor conflicts and lack of enthusiasm would be resolved.

## 2. Literature reviews and research hypotheses

### 2.1 Literature reviews

The Nobel Prize winner Lewis has systematically studied wages, profit and labor absorption. He pointed out that, in the entire process of transition from a dual economy to a modern economy, the wage level in modern urban areas in developing countries can be kept at a level that only enables the workers to survive, which is about 30 thirty per cent slightly higher than the living wage of the agricultural labor force. And only in this way will the urban industry departments not only absorb the agricultural laborers but also reduce the laborers’ salaries and increase their capital, absorb more workers until all the surplus agricultural laborers are transferred to the urban modern departments (Lewis, 1954). Thereafter, Fei supplemented and perfected the Lewis model and demonstrated that any obvious increase trend in real wages and the resultant abnormal wage differentials between workers and the agricultural labor will be hindered by the flow of agricultural labor into the

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industrial sector (Ranis and John, 1961). When there is a huge gap difference between urban and rural incomes, the net migration rate will exceed the employment creation rate in urban modern departments, which will result in serious urban unemployment (Todaro, 1969). In general, Fei and others, like Lewis, insist that wages in urban modern departments can hardly rise under the condition of unlimited supply of agricultural surplus labor, which enables modern urban departments to raise their profits through low wages, so that they would accumulate capital and expand their firm size to absorb labor force.

On the contrary, Lawler takes that low wages will lead to a series of negative employee behavior and causes additional costs of enterprises. These additional costs will eventually result in substantial costs, such as significantly higher turnover of employees, as absence from duty will not cause excessive losses to workers and the occupation will be not attractive to employees. Therefore, the companies have to keep a close watch over employees, which is undoubtedly a cost (Lawler, 2010). After nearly 30 years of development, the agricultural labor force is not unlimited supply any more, but there are still a large number of surplus rural labor (Li and Yang, 2009). The migrant workers shortage in non-state-owned enterprises in 2004 and the more prominent problems of labor relations, frequent labor conflicts and the decrease in the enthusiasm of laborers in recent years can be attributed to the traditional low wages and increased profits mode that non-state-owned enterprises have long adopted. Karnes' research shows that employers who are willing to meet the employees' needs are more likely to succeed (Karnes, 2009). And when making decisions of going to the urban non-agricultural sectors, the agricultural laborers are not only simply interested in the satisfaction of the basic needs of life but also pay attention to their future development (Knight and Gunatilaka, 2010). Obviously, Lawler has recognized the detriment of low wages and the multiple needs of labor force, and the incentive function of compensation to employees has been noticed by both Karnes and Knight.

A few Chinese scholars have also done related research. Among them, Yao believes that raising the wages of migrant workers without reducing capital profits, will also shift labor from rural areas to urban industrial sectors (Yao and Lai, 2005). The fundamental driving force behind the transfer of rural labors to cities also comes from higher incomes and more job opportunities in cities (Chen and Li, 2013). Furthermore, in the wage negotiations, laborers are often in a disadvantaged position, and their incomes will be squeezed to the vicinity of subsistence wages, which will fall into the low wages trap with less educated or trained workers, and then low added value of enterprises production and eventually lower total social demand (Hu, 2010). Besides, after comparison of wages of state-owned and non-state-owned enterprises, it is concluded that the former have significantly payed much higher (Lu *et al.*, 2012). Apparently, Chinese scholars have confirmed the exists of low salary and the low wage trap in non-state-owned enterprises, and have been convinced of the motivation function of rewards to the employees. But regrettably, they have not conducted a systematic study on the rewards incentive, labor productivity, profitability and labor absorption.

Using data of Shanxi province and without considering the characteristic differences among employees, Yang has built a theory demonstrating that salaries and pension insurance can encourage workers to improve labor productivity, and at the same time, it will increase profits and enlarge employment to enhances the rate of urbanization (Yang *et al.*, 2014). However, there are many factors that affect the enthusiasm of workers in reality. Just as the Total Rewards proposed by the WordatWork, it specifically defined that all the tangible or intangible things that are valuable to the employees have an incentive effect on them, and as the characteristics of workers vary greatly, their demand for rewards factors would be widely different (Rogers and Marcotte, 2010). To effectively motivate the

enthusiasm of laborers with different characteristics and improve labor productivity, we need to study the demand of overall and different characteristic employees of non-state-owned enterprises and adopt appropriate incentives.

According to the concept of Total Rewards and the five factors of compensation, benefits, work-life balance, performance and recognition, development and career opportunities, we further study the most relevant factors that affect the enthusiasm of overall and different characteristic employees of non-state-owned enterprises in China with survey data from national wide. We attempt to build a new model that can achieve win-win cooperation between both employers and employees and the society, and in the model we motivate employees with these rewards factors, and enhance labor productivity, so as to increase profits and absorb more labor force. We will further develop the classical economic theories such as Lewis, and make theoretical contributions to the sustainable development of non-state-owned enterprises with the notion of innovation, coordination, green, open and sharing.

## 2.2 Conception of new model

2.2.1 *Theoretical basis.* On the basis of Yang's strategic model of the labor absorption and urbanization of non-state-owned enterprises (Yang *et al.*, 2014), and with reference of total rewards theory of the WorldatWork, we put the new model forward.

$$\begin{cases} PL = f(S_1, S_2) + \mu_1 \\ \Pi = g(PL) + \mu_2 \\ L = h(\Pi) + \mu_3 \\ CT = e(L) + \mu_4 \end{cases}$$

The WorldatWork released the second version Total Rewards Model in 2006, and gave the definition that total rewards represent the value proposition for employees and employers, and it includes all of the tools available to an employer to attract, motivate and retain employees (Rogers and Marcotte, 2010). In the context of globalization and the rapid development of Internet technology, the needs of employees have become more diversified and personalized. To attract, motivate, retain employees and achieve the desired performance, enterprises must integrate what all employees value, and the five elements of the total reward – compensation, benefits, work-life balance, performance and recognition, development and career opportunities – should be organically combined into a customized pay package for the staff to choose (Wen, 2011).

The prior classical theory discusses more about the role of labor productivity in determining pay, rather than focusing on the opposite effects of pay on labor productivity. Based on the strategic model above, we continue to study in depth the adverse effects of total rewards on labor productivity in this paper, namely, the total rewards factors will stimulate the enthusiasm of workers and increase labor productivity, and companies that have increased productivity will gain excessive profits. In addition to the incentive costs of total rewards, the surplus excess profits is used to reinvest, so as to expand the scale of enterprises and attract more workers.

Employee characteristics and regional cultural differences will affect the individual's attitude and preference for incentive elements; therefore, it will affect the stimulation level of the rewards factors to its labor productivity (Chen, 1995; Chen *et al.*, 1997). Labor productivity in turn affects the profitability of enterprises and their labor absorption; thus the concrete conception of the new model is obtained.

### 2.2.2 The new model of improving reward – increasing profits – enlarging employment.

According to the above theory, let W, B, WL, PR and DC respectively represent the five elements of the total rewards, namely, compensation, benefits, work-life balance, performance and recognition, development and career opportunities, and  $PL_{ij}$ ,  $\Pi_{ij}$ ,  $L_{ij}$  respectively represent employee perceived labor productivity, profit, and labor absorption of the enterprises, or the perception of labor productivity, profit, and the labor absorption for each of the specific groups. And then the *improving rewards–higher productivity–increasing profits–enlarging employment* model can be expressed as follows:

$$\begin{cases} PL_{ij} = f(W_{ij}, B_{ij}, DC_{ij}, PA_{ij}, JB_{ij}) + \mu_{1ij} \\ \Pi = g(PL_{ij}) + \mu_{2ij} \\ L_{ij} = h(\Pi_{ij}) + \mu_{3ij} \end{cases}$$

We provide that  $i$  represents regions or employee characteristics, and  $j$  stands for the specific groups of the regions or employees. Namely when  $i$  is 1, it is the region of the enterprise, and when  $i$  equals to 2 to 4, it successively represents education, age and gender of the employees. Hence, when  $i = 1$ , then  $j = 0$  denotes the whole country,  $j = 1$  denotes the eastern region,  $j = 2$  denotes the central region,  $j = 3$  denotes the western region. And when  $i = 2$ ,  $j = 1$  denotes the migrant worker, and  $j = 2$  denotes non-migrant workers; when  $i = 3$ , then  $j = 1$  means the post-1990s,  $j = 2$  means the post-1980s, and  $j = 3$  means the post-1970s; and when  $i = 4$ ,  $j = 1$  means male employees and  $j = 2$  represents female employees. As a result, the combinations of  $i$  and  $j$  represent the new model of rewards, profit and labor absorption in different regions and of employees with specific characteristics.

### 2.3 Hypotheses

There are five factors in total rewards model of the second version: compensation, benefits, work-life balance, performance and recognition, development and career opportunities (Rogers and Marcotte, 2010).

However, in the exploratory factor analysis later in this article, the work-life balance factor fails to be a separate factor, but falls on the two factors of welfare, performance and recognition. Therefore, only the four elements of compensation, benefits, performance and recognition, development and career opportunities are included in the total rewards when proposing the following hypothesis, except work-life balance.

#### 2.3.1 Hypotheses for the overall employees of non-state-owned enterprises.

2.3.1.1 Overall employees of the nationwide non-state-owned enterprises. Through the empirical analysis of coal-based resources, Yang has proved that wages and pension insurance have a significant positive impact on labor productivity (Yang *et al.*, 2014). Development and career opportunities will set clear goals for employees and provide a path to this goal, so development and career opportunities can be very rewarding to employees and help them take the initiative to increase their labor productivity. The recognition system based on performance or employee contribution and appraisal system of fair and reasonable will enhance the employees' sense of self-efficacy and improve their creativity, which will bring about the improvement of labor productivity (Zhang and Long, 2013).

In conclusion, the productivity of employees is affected by the rewards factors through different mechanisms. And as employees have disparate preferences for the factors of total rewards, their incentives naturally different. Accordingly, the following hypothesis is proposed:

*H1a.* For overall employees of nationwide non-state-owned enterprises, the four factors among total rewards – compensation, benefits, performance and recognition, development and career opportunities – have different degrees of positive impact on the labor productivity of their enterprises.

The increase of labor productivity means that the company produces more value in use in unit time and shortens the labor time of per unit of value in use, as it still sells its products at the price according to the social necessary labor time, which will bring more profits to the enterprise. Then we have the following hypothesis:

*H1b.* For overall employees of nationwide non-state-owned enterprises, the labor productivity of their enterprises has a positive impact on profit.

In terms of the constant organic composition of capital, the increase of capital accumulation brought by the raise of profits will enlarge the scale of enterprises, which means that the enterprise will have greater demand for labor. As this greater demand is achieved by having met the needs of workers, there will be more labor supply and it will come in reality that the non-state-owned enterprises will absorb more labor. Based on this, the following hypothesis is put forward:

*H1c.* For overall employees of nationwide non-state-owned enterprises, their perceived corporate profit have a positive influence on the absorption of labor force.

2.3.1.2 The regional overall employees of non-state-owned enterprises. The typical manifestation of the unbalanced regional development in China is the income gap among these regions (Gan and Zheng, 2010), the income level in the eastern region is higher than that in the central and western regions (Shi and Gao, 2006). According to the hierarchy of needs theory, the demand and value proposition of employees with different income levels differentiates, that is, the demand and preference of employees should be different across regions. Specifically, employees in the eastern region with higher incomes generally prefer non-material remuneration such as performance and recognition, development and career opportunities, while employees in the lower-income central and west China also prefer material guarantees such as compensation and benefits. Therefore, the total rewards factors which affect the labor productivity of different regional enterprises may be distinct and the influence degree may also vary. Accordingly, the following hypothesis is put forward:

*H2a.* For the overall employees of non-state-owned enterprises in different regions, total rewards will affect the labor productivity of their enterprises, but the rewards factors and the influence degree vary across regions.

The productivity increase of enterprises in different regions that meet the needs of the employees can make them more productive, but unit labor productivity increase creates a different amount of profits for the enterprise. The eastern region has a relatively high level of human capital (Wang and Fan, 2004), and the value created by unit labor is also higher, which means that the increase of unit labor productivity brings more profits. In the western region, economic duality is strong and can be operate at a lower labor cost (Shi and Gao, 2006). Therefore, the western region can also gain more profits by increasing labor productivity at a low cost. However, the central region neither possesses the technological and knowledge-intensive advantages of the eastern region nor the low labor cost advantage of the western region. Therefore, the profitability of the central region for improving labor



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productivity may be lower than that in the eastern and western regions. With the rapid development of science and technology and the gradual replacement of traditional industries by high-tech industries, the higher human capital advantage in enterprises of the eastern region will bring more profits than the low-cost ones in the western region. Therefore, the hypothesis is proposed:

*H2b.* For the overall employees of non-state-owned enterprises in different regions, their labor productivity has a positive impact on corporate earnings, but the degree of impact is different. In other words, compared with the central region, the improvement of labor productivity in eastern and western regions can bring higher profits, while the eastern region is more profitable than the west.

Under the condition of constant organic capital composition, the profits increase and the scale expansion of the enterprises will create more occupations. However, as the differences of the added profits, the amount of profits capitalization and the scale expansion of enterprise in the three regions is also different, which will bring about job enlargement differently. Concretely, compared with the central region, the eastern region has high labor productivity and the tertiary industry is more developed (Shi and Gao, 2006). As a result, the added corporate profits in the eastern region can create more jobs and absorb more labor. However, the process of dual economy transformation in the west is relatively slow, and there are still a large number of rural surplus labor need to be transferred, then the low labor costs will bring about high profits and more capitalization of profits, so that it will create a larger employment. In the case of lower labor costs in the west and the dominance of capital-intensive industries in the east, it will absorb more labor in the west than that in the east while the profit increase by the same unit. Therefore, the following hypothesis is proposed:

*H2c.* For the overall employees of non-state-owned enterprises in different regions, their perceived corporate profits have positive influence on the absorption of labor force, but the degree of influence is different. In other words, compared with the central region, enterprises in the eastern and western regions can absorb more labor force than the central region, while the western region absorbs more than the east.

### *2.3.2 Hypotheses for employees of different characteristics of non-state-owned enterprises.*

To generate the maximum incentive effect under the same labor cost, we must pay attention to the salary preference of employees with different demographic characteristics and then find out the factors that have the greatest incentive effect for employees with different characteristics (Long *et al.*, 2010). Milton *et al.* summarized three main methods of demographic analysis: direct, compositional and relational method. Among them, the direct method focuses on the individual's simple demographic characteristics, such as education, age, gender and so on (Tsui and Gutek, 1999). In this paper, we will analyze the motivation of the total reward elements for employees with different demographic characteristics through direct methods, and then explore the contribution of the total rewards elements to their labor productivity, and the profitability and labor absorption brought by the improvement of labor productivity to the enterprises.

2.3.2.1 For employees with education difference. According to hierarchy of needs theory, less-educated employees have a higher preference for material factors such as salary and welfare (Long *et al.*, 2010). And with the improvement of education level, the employees prefer non-material and long-term oriented factors such as self-actualization to material factors (Long *et al.*, 2010; Lin, 2003). Hence, we have the following hypothesis:

*H3a.* For employees with education difference in non-state-owned enterprises, total rewards will affect their labor productivity, but the rewards factors and their impact degree are different. Compensation and benefits have a stronger stimulating effect on productivity of less-educated employees, while development and career opportunities, performance and recognition have a stronger incentive to more-educated employees.

The productivity increase of enterprises can bring more profits for the enterprise, but unit labor productivity increase creates a different amount of profits for the enterprise as the education degree varies. Because of their high level of human capital, higher-educated employees will increase their profitability by increasing their labor productivity. Then, the following hypothesis is put forward:

*H3b.* For employees with education difference in non-state-owned enterprises, the labor productivity of employees has a positive impact on the profitability of enterprises but with different extent. Compared with less-educated employees, higher labor productivity of more-educated employees can bring more profits to the enterprises.

Under the condition of constant organic capital composition, the profits increase and the scale expansion of the enterprises will create more occupation. However, as the differences of the added profits, the number of capitalization of profits and the scale of business expansion for employees with education difference, it will bring about job enlargement differently. Due to the higher profits created by the more-educated employees for the enterprises and the large number of profits capitalization, the scale of enterprises may expand greatly and more labor force will be absorbed.

*H3c.* For employees with education difference in non-state-owned enterprises, their perceived corporate profits have a positive impact on the absorption of labor force, but the degree of impact is different. Compared with employees with low education level, those with higher education level will bring more profits and enable enterprises to absorb more labor force.

2.3.2.2 For employees with age difference. According to the life cycle theory, young employees have a higher interest in risks and challenges. As young workers are newcomer in the workplace and facing a series of economic problems such as housing and childbirth, they prefer direct economic incentives such as housing fund (Long *et al.*, 2010). At the same time, they also have strong demand for interesting and challenging job, career opportunities and ability enhancement, and they expect to be recognized by the company (Lin, 2003). Senior employees, on the other hand, tend to have relatively stronger risk aversion and have made some achievements. Therefore, they prefer more stable salary arrangements and long-term incentives (Tsui and Gutek, 1999), such as pension, enterprise annuity, seniority pay and profit-sharing plan (He and Long, 2010; Geddes and Heywood, 2003; Lee *et al.*, 2011). As a result, the total rewards factors that affect the labor productivity of employees of different ages and the influence degree may be different. Therefore, the hypothesis is proposed:

*H4a.* For employees with age difference in non-state-owned enterprises, total rewards will affect the labor productivity of these employees, but the rewards factors and their influence degree varies. For the post-1990s, the impact of compensation, development and career opportunities, performance and recognition on their labor



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productivity is greater, while for the post-1970s and post-1980s, the benefits factor have greater impact.

The productivity increase of enterprises can bring more profits for the enterprise, but the increase of unit labor productivity creates a different amount of profits for the enterprise as the age of employees varies. Compared with the post-1990s, the post-1970s and post-1980s employees are more experienced and proficient at work, thus their unit labor productivity increase can bring more profits for enterprises. While at the same time, the post-1970s' work experience is more abundant and the labor proficiency is higher than the post-1980s, and the increase of labor productivity to the enterprise is greater than the post-1980s. Thus, we put forward:

*H4b.* For employees with age difference in non-state-owned enterprises, the labor productivity of employees has a positive impact on the profitability of enterprises but with different extent. Compared with the post-1990s, employees of the post-1970s and post-1980s can bring more profits to the enterprises, while the earnings of post-1970s are more than that of post-1980s.

Under the condition of constant organic capital composition, the profits increase and the scale expansion of the enterprises will create more occupations. However, as the added profits produced by employees of age difference are different, the amount of capitalization of profits and the scale of enterprises expansion will also be different, which will bring about job enlargement differently. Compared with the post-1990s, employees of post-1970s and post-1980s have a higher level of proficiency in labor, while the post-1970s are more proficient than the post-1980s, so they can create higher profits and absorb more labor for the enterprises. Then, we have the following hypothesis:

*H4c.* For employees with age difference in non-state-owned enterprises, their perceived corporate profits have a positive impact on the absorption of labor force, but the degree of impact is different. Compared with the post-1990s, profits brought by the elder post-1970s and will absorb the most labor, and in turn the post-1980s.

2.3.2.3 For employees with gender difference. Generally, in China, men undertake the task of raising a family and have a higher self-actualization need (Niederle and Vesterlund, 2007). They are more optimistic and willing to accept challenges, so as to make an achievement and get corresponding rewards (Sund and Surette, 1998; Yang and Yang, 2015). Therefore, the male have a higher preference for compensation, performance and recognition, development and career opportunities. On the contrary, women bear more responsibility to take care of the family and focus more on family care, and at the same time, they pay more attention to security (Dohmen and Falk, 2011). Therefore, the female prefer benefits elements, such as health care and kindergarten (Baruch *et al.*, 2004). In this way, the total rewards factors that affect the labor productivity and their extent for the male and the female may be different. Then we have the following hypothesis:

*H5a.* For employees with gender difference in non-state-owned enterprises, total rewards will affect the labor productivity of these employees, but the rewards factors and their influence degree vary. Compensation, performance and recognition, development and career opportunities are more effective for male employees' labor productivity, while benefits have stronger impact on the labor productivity of the female.

The productivity increase can bring more profits for the enterprise, but unit labor productivity increase creates a different amount of profits for the enterprise as the gender of employees varies. As a result of more housework, women are less skilled at workplace than men, and thus, the male have higher productivity and bring more profits to enterprises. Then, the following assumption is put forward:

*H5b.* For employees with gender difference in non-state-owned enterprises, total rewards will affect the labor productivity of these employees, but the rewards factors and the influence degree varies. When increasing labor productivity by one unit, male employees can bring more profits to the enterprise compared with the female.

Under the condition of constant organic capital composition, the profits increase and the scale expansion of the enterprises will create more occupations. However, as the added profits produced by employees of gender difference are different, the amount of capitalization of profits and the scale of enterprise expansion will also be different, which will bring about job enlargement differently. Because the labor productivity of the female is lower than that of the male, female employees create less profitable value and less profitable capitalization than that of the male. As a result, the enterprise scale expansion and the number of labor absorption increase due to the female employees will not be as many as that of the male employees. Accordingly, we have the following hypothesis:

*H5c.* For employees with gender difference in non-state-owned enterprises, their perceived corporate profits have a positive impact on the absorption of labor force, but the degree of impact is different. It means that the unit profit created by male employees for the enterprise can absorb more labor.

### 3. Research design

#### 3.1 Scale development and variables measurement

*3.1.1 Total rewards.* We attempt to explore the total rewards factor that is most closely related to the labor productivity of non-state-owned enterprises in China, according to the total rewards theory of the WorldatWork and on the basis of the perceived total rewards items developed by Yang (Rogers and Marcotte, 2010; Yang and Yang, 2015). Yang's perceived total rewards scale, based on the two-factor theory and total rewards theory, is divided into four dimensions of the perception of work-life balance, development and career opportunities, working conditions, and pay level, which can't fully reflect the major dimensions that affect the labor productivity of non-state-owned enterprises in china. Based on the five-factor total rewards model—compensation, benefits, work-life balance, development and career opportunities and performance and recognition, we draw lessons from Yang's initial items of total rewards perception, to reflect the connotation of the five factors of total rewards. It is subjectively evaluated by the overall or certain characteristic employees, and their respective average represents the value of the variable on behalf of the enterprise or employees with certain characteristics.

*3.1.2 Labor productivity, profit and labor absorption.* Similarly, we select measurement items of the three variables – labor productivity, profit and labor absorption – according to total rewards of the WorldatWork (Rogers and Marcotte, 2010). The employees' subjective evaluation and their average represent values of the enterprise or employees of certain type:

*Labor productivity:* As the nature of enterprises, the industry, the occupation of employees, and the nature of the job vary widely among the samples, it is difficult to

measure the labor productivity of employees with objective financial indicators, while the subjective judgments have a much wider range. Therefore, the indicators of subjective evaluation can show the essential attributes of labor productivity and adapt to a variety of works (Wall *et al.*, 2004; Bommer *et al.*, 1995). Thus, we draw on the work performance evaluation scale developed by Tsui *et al.* (1997) and adapted by Li (Li and Yan, 2007), which is evaluated subjectively by employees. The four items are as followings:

- (1) the work efficiency of employees in the company;
- (2) the work initiative of employees in the company;
- (3) the work quality of employees in the company; and
- (4) the willing of employees in the company to do a good job of their own work.

*Profit*: As it has been documented that objective indicators of financial performance do not adequately reflect the long-term competitive advantage and profitability of an enterprise (Wu *et al.*, 2008; Pei *et al.*, 2013), we chose one item the profitability of the company to measure the perceived profitability of the enterprises.

*Labor absorption*: On the basis of Batt and Ni (Batt and Colvin, 2011; Ni *et al.*, 2013), three items are used to measure the labor absorption of an enterprise – personnel stability of the company, attendance of employees in the company and staff growth of the company.

All the variables are measured with five-point Likert scale, where 1 to 5 indicates very poor, poor, general, good, very good. Additionally, the control variables include registration type and the industry of the company, while the types of enterprises include sole proprietorship, partnership, incorporated company, limited liability company and individual business and so on, and these enterprises belong to 17 industries, such as mining, manufacturing and construction.

### 3.2 Research samples and procedures

On the basis of the well-established scale of compensation, benefits, work-life balance, development and career opportunities, performance and recognition, labor productivity, profitability and labor absorption, the enterprises and personal information is added to constitute a formal questionnaire.

In July and August of 2014, the graduate students of Shanxi University of Finance and Economics and undergraduate students of Taiyuan Institute of Technology went to 30 provinces in China to select employees of non-state-owned employees randomly and conduct a questionnaire survey. The investigators instructed how to fill in the questionnaire and took back the anonymous questionnaire on the spot. After the questionnaires were collected, it was found that the number of valid questionnaires in Shaanxi, Xinjiang and Ningxia was small. Therefore, we investigated the three provinces mentioned above again in October.

A total of 3,420 questionnaires were issued in our survey successively, and 2,438 copies were collected with the response rate of 71.29 per cent, and then the valid questionnaire was 1,638 with the efficiency of validity of 67.19 per cent. In the analysis of enterprise level data, the questionnaire with incomplete enterprise information was excluded, and finally, there were 1,617 valid questionnaires from 257 enterprises in 30 provinces in China.

Among the surveyed enterprises, enterprises in the eastern region accounted for 40.65 per cent, and the central and western 35.77 and 23.58 per cent, respectively. For the industry, manufacturing enterprises accounted for 33.6 per cent, wholesale and retail 8 per cent, mining industry 8 per cent, information transmission, computer services and software 6.9 per cent, real estate accounted for 5.2 per cent, and construction accounted for 4.8 per cent. And for the registration type, the sole proprietorship accounted for 7.8 per cent,

partnership 6.4 per cent, limited liability company 45.7 per cent, incorporated company 33.1 per cent, and individual business 5.1 per cent. In the sample of employee level, 61.6 per cent were male and 38.4 per cent female; the average age was 32.63, the post-1990 accounting for 9.3 per cent, and the post-1980 53.9 per cent and the post-1970 36.8 per cent; employees with education level of junior high school and below accounted for 9 per cent, high school or vocational school 21.9 per cent, college 26.2 per cent, undergraduate 34.8 per cent, and graduate and above 7.35 per cent.

### 3.3 Analytical approach

We test the common method bias of the individual level, and conduct exploratory factor analysis (EFA) and examine the correction between the variables and carry out stratified regression analysis of the firm level with the statistical software SPSS 21.0. And another statistical software AMOS 21.0 is used to analyze the validity of the variables and the multi-group path analysis.

The explanatory variables in this paper are the total rewards factors that closely related to the labor productivity after EFA. And then we go on to study the relationship between these explanatory variables and the labor productivity of the enterprises or the labor productivity of employees with specific characteristics, the relationship between labor productivity and the profitability, and at last the relationship between profitability and the labor absorption.

When testing the hypotheses, first, we perform stratified regression and robustness test about the new model of *improving rewards – increasing profits – enlarging employment* of non-state-owned enterprises at the enterprise level. On the basis of this, multi-group path analysis is applied to test the new model of enterprises in different regions and employees with education, age and gender differences. When testing by the two steps above, we take the average of all the samples of an enterprise as the score of the enterprises, or the average of samples with specific characteristic of an enterprise as the score of each group.

## 4. Data analysis

### 4.1 Common method bias

As all the variables in the questionnaires are evaluated by employees at a certain point of time, which may cause common method bias, we conducted common method bias analysis on 1,638 questionnaires at the individual level. In this paper, we draw lessons from Yang (Yang and Yang, 2015) and save the unrotated first factor of exploratory factor analysis as a new variable, then observe the partial correlation between the main variables after controlling the new factor. As Table I shows, the partial correlation coefficient of each predictive variable and its resultant variable is significant, we can believe that the common method bias is not serious and the following empirical test can be carried out.

### 4.2 Exploratory factor analysis

As the following analysis will be at the enterprise level, it is necessary to aggregate the data of individual level to the enterprise level. The one-way ANOVA result in Table II shows that there is significant difference between each groups of total rewards, labor productivity, profitability and the labor absorption, and thus it can be aggregated to the enterprise level.

Exploratory factor analysis is carried out on 257 samples at the enterprise level. The Cronbach's alpha of reliability test is 0.966, which shows high internal consistency of the sample data. The KMO value is 0.957 and Bartlett's Test of Sphericity is significant ( $P = 0.000$ ), indicating that it's suitable for factor analysis. After removing the three items with cross load greater than 0.4, the correlation coefficient between the remaining 26 items

and the total score is greater than 0.5, and the following four factors can be extracted from the remaining 26 items: compensation (W), benefits (B), development and career opportunities (DC), performance and recognition (PR), but work-life balance (WB) cannot be a single factor. These four factors account for 67.93 per cent of the total variance, indicating that these four factors are acceptable (Table III).

It should be explained that the study by Zhang *et al.* finds that Chinese employees follow the work-prioritized code of conduct and tend to choose work priorities when there is a conflict between work and family. Therefore, it is hard to speculate the significant effect of work-life balance on the work-related attitude and behavior (Zhang *et al.*, 2011). However, in the period of economic transition, Chinese employees gradually focus more on the balance of work and life, and the improvement of life quality, and seek to achieve self-realization as their income increases. Therefore, for non-state-owned enterprise employees, even though work-life balance can hardly become an independent factor that affects its labor productivity, it is closely related to the performance of employees and the realization of self-fulfilment (Wang, 2015). And the employees participating in management, the company taking care of the employees' families and paying attention to employees' physical and mental health and their work-life balance can be interpreted as the recognition of the

Control variable	TR	PL	Π
REGR factor score 1 for analysis 1			
TR			
PL	0.575***		
Π	0.382***	0.433***	
L	0.638***	0.56***	0.379***

**Table I.**  
Test of common method bias

**Notes:** TR, PL, Π and L in the table represents total rewards, labor productivity, profit, and labor absorption respectively; \*\*\*indicates  $p < 0.001$

Variables	Sum of squares	df	Mean square	F
<i>TR</i>				
Between group	440.793	256	1.722	15.529***
Within group	148.576	1340	0.111	
Total	589.369	1596		
<i>PL</i>				
Between group	306.599	256	1.198	5.669***
Within group	282.656	1338	0.211	
Total	589.255	1594		
<i>Π</i>				
Between group	513.181	256	2.005	4.191***
Within group	638.982	1336	0.478	
Total	1152.163	1592		
<i>L</i>				
Between group	327.543	256	1.279	4.921***
Within group	347.88	1338	0.26	
Total	675.423	1594		

**Table II.**  
One-way ANOVA of the variables

**Notes:** TR, PL, Π and L in the table represents total rewards, labor productivity, profit, and labor absorption respectively; \*\*\*indicates  $p < 0.001$

**Table III.**  
Exploratory factor  
analysis of total  
rewards

Items	PR	Factor		
		B	DC	W
JB3 Give consideration to work and life	0.688			
PR5 An opportunity to communicate informally with a leader or a colleague	0.675			
PR3 Consistency between company goals and personal goals	0.671			
JB4 The company cares about the family	0.661			
PR4 Opportunities to be praised or rewarded by your leader	0.659			
JB5 Physical and mental health at work	0.646			
PR2 The assessment standard is easy to achieve	0.565			
JB6 Opportunities to participate in management and make suggestions	0.555			
B1 Pay social insurance and house fund for employees in full and in time		0.717		
B4 Ensure employees' holiday time off		0.699		
B3 Ensure employees' break time		0.696		
B6 Holiday gifts and cash payment		0.661		
B2 Pay other social insurance for employees		0.611		
JB1 Implementation of unpaid leave		0.608		
B5 Housing benefit		0.587		
DC3 Company organized training			0.764	
DC4 Promotion opportunities			0.681	
DC2 Rotation or internship at higher positions			0.68	
DC5 The help of work on personal improvement			0.67	
DC1 Corporate supported learning and Training			0.584	
DC6 The future promotion ladder or path provided by the company			0.548	
P2 Compensation levels match with skills				0.751
P5 Bonus based on yearly performance				0.744
P4 Bonus based on monthly performance				0.732
P1 Pay increases year by year				0.636
P3 Pay level matching with other enterprises of the same industry				0.52

**Notes:** The extract method is principal components; and the rotation method is the orthogonal rotation method with Kaiser standardization, the rotation is convergent after iterations of six times

employees and their performance in Chinese culture. Therefore, four items of work-life balance and four items of performance and recognition are combined into one factor which we name as performance and recognition in the remainder of this article.

#### 4.3 Reliability and validity

The reliability test results are shown in Table IV, and the Cronbach's  $\alpha$  of each variable indicates that all variables have high internal consistency. Furthermore, content validity, convergent validity, and discriminant validity are all evaluated.

In terms of content validity, first, the measurement items are all extracted strictly in accordance with the total rewards theory to ensure that these items represent and cover the theoretical boundary of the research object (Tsui *et al.*, 2012). Secondly, several human resource experts are invited to evaluate the items in order to ensure their suitability and representativeness (Zhang and You, 2014). And in our team, graduate students have read the constructs and their measurement indicators one by one to evaluate their matching degree.

As to convergent validity, confirmatory factor analysis (CFA) of the data is carried out, and according to Fornell's recommendations, when the fully standardized factor load is greater than 0.5 and significant, the combination reliability (CR) is greater than 0.8, and the



Latent variable	Observed variables	Factor loading	Cronbach's $\alpha$	CR	AVE
W	P1_1	0.792	0.826	0.865	0.562
	P2_2	0.738			
	P3_3	0.678			
	P4_4	0.751			
	P5_5	0.782			
B	B1_7	0.725	0.910	0.908	0.586
	B2_8	0.787			
	B3_9	0.739			
	B4_10	0.761			
	B5_11	0.811			
	B6_12	0.806			
	Jb1_13	0.725			
PL	PL1_33	0.722	0.824	0.819	0.531
	PL2_34	0.744			
	PL3_35	0.724			
	PL4_37	0.724			
	L3_36	0.761			
PR	JB3_15	0.786	0.914	0.925	0.607
	JB4_16	0.825			
	JB5_17	0.743			
	JB6_18	0.723			
	JB2_20	0.746			
	PR3_21	0.777			
	PR4_22	0.858			
DC	DC1_24	0.84	0.925	0.915	0.643
	DC2_25	0.863			
	DC3_26	0.714			
	DC4_27	0.82			
	DC5_28	0.737			
L	DC6_29	0.826	0.718	0.722	0.466
	L1_31	0.66			
	L2_32	0.618			

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**Table IV.**  
The reliability and  
convergent validity  
analysis

**Notes:** W, B, PR, DC, PL and L in the table represents compensation, benefits, performance and recognition, development and career opportunities, labor productivity and labor absorption, respectively

average extraction variation value (AVE) is greater than 0.5, it is considered that the variable has better convergent validity (Fornell and Larcker, 1981). As is shown in Table IV, apart from the CR and AVE of labor absorption is slightly substandard, all the indicators of other variables are all up to standard, so the latent variables in this paper can be considered as having high convergence validity (Zhang et al., 2015; Lin et al., 2014).

For discriminant validity, CFA in Table V shows that the seven-factor model has the best fitting effect and the smallest AIC. Therefore, it can be considered that each variable has good discriminant validity and it is indeed seven different constructs (Akaike, 1987).

#### 4.4 Correlation analysis

The mean, standard deviation and correlation coefficient of each variable are shown in Table VI. The total rewards factors that are valuable to employees of non-state-owned enterprises – compensation ( $r = 0.469$ ,  $p < 0.01$ ), benefits ( $r = 0.543$ ,  $p < 0.01$ ), performance

Items	$\chi^2$	df	$\chi^2/df$	NNFI	CFI	RMSEA	RMR	AIC
Seven-factor: W, B, PR, DC, PL, $\Pi$ , L	1104.102	507	2.178	0.894	0.904	0.068	0.024	1280.102
Six-factor: W + B, PR, DC, PL, $\Pi$ , L	1282.599	513	2.5	0.871	0.876	0.077	0.026	1446.599
Six-factor: W, B, PR + DC, PL, $\Pi$ , L	1247.151	513	2.413	0.865	0.882	0.075	0.026	1444.151
Five-factor: W + B, PR + DC, PL, $\Pi$ , L	1417.92	518	2.737	0.843	0.855	0.082	0.028	1571.92
Four-factor: W + B + PR + DC, PL, $\Pi$ , L	1529.087	522	2.929	0.826	0.838	0.087	0.029	1675.087
Three-factor: W + B + PR + DC + PL, $\Pi$ , L	1735.249	526	3.299	0.793	0.806	0.095	0.031	1873.249
Six-factor: W + B + PR + DC + $\Pi$ , PL, L	1540.557	524	2.94	0.825	0.837	0.087	0.03	1682.557
Six-factor: W + B + PR + DC + L, PL, $\Pi$	1604.89	525	3.057	0.815	0.827	0.09	0.03	1744.89
Two-factor: W + B + PR + DC, L + PL + $\Pi$	1610.181	528	3.05	0.815	0.826	0.089	0.037	1744.181
One-factor: W + B + PR + DC + L + PL + $\Pi$	1746.088	528	3.307	0.792	0.804	0.095	0.031	1880.088

**Table V.**  
Discriminant validity  
analysis

**Notes:** W, B, PR, DC, PL,  $\Pi$  and L in this table represents compensation, benefits, performance and recognition, development and career opportunities, labor productivity, profit and labor absorption respectively; and “+” represents two factors are combined into one

Variables	MEAN	SE	Type	Indu	1	2	3	4	5	6	Tolerance
Type	3.28	0.93									
Indu	5.68	4.37	0.08								
1.W	4.10	0.52	-0.05	-0.11							0.429
2.B	3.93	0.64	-0.05	-0.01	0.673**						0.303
3.PR	3.95	0.59	-0.01	0.00	0.702**	0.817**					0.241
4.DC	3.99	0.65	-0.05	-0.06	0.716**	0.742**	0.801**				0.301
5.PL	4.13	0.52	0.03	-0.08	0.469**	0.543**	0.614**	0.594**			
6. $\Pi$	4.13	0.68	-0.03	0.04	0.520**	0.617**	0.658**	0.701**	0.557**		
7.L	4.04	0.52	0.05	-0.01	0.594**	0.720**	0.725**	0.694**	0.723**	0.635**	

**Table VI.**  
Descriptive statistics  
of variables

**Notes:** \*\* represents  $p < 0.01$ , and  $N = 257$ ; type and indu in the table represents the type of business and the industry of enterprise respectively; W, B, PR, DC, PL,  $\Pi$  and L in this table represents compensation, benefits, performance and recognition, development and career opportunities, labor productivity, profit, and labor absorption respectively

and recognition ( $r = 0.614$ ,  $p < 0.01$ ), development and career opportunities ( $r = 0.594$ ,  $p < 0.01$ ) – are all positively and significantly correlated with labor productivity, and labor productivity is positively correlated with profit ( $r = 0.557$ ,  $p < 0.01$ ), which in turn positively correlated with the labor absorption ( $r = 0.635$ ,  $p < 0.01$ ). In addition, the tolerance of the four total rewards factors are all greater than 0.1 after collinearity test, indicating that there is no serious multicollinearity problem.

#### 4.5 Hypothesis testing

4.5.1 *The improving rewards – increasing profits – enlarging employment new model test of general employees in non-state-owned enterprises of the nationwide.* We take the average of each items perceived by employees as the value of variables at enterprise level. After controlling the type and industry of enterprises, we take compensation, benefits, performance and recognition, development and career opportunities as independent variables, and observe their influence on labor productivity, and labor productivity on profit, and then profit on labor absorption through regression analysis.

Variables	PL		Π		L	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
C	3.909***	1.899***	3.863***	1.102***	3.835***	1.983***
Secondary industry	0.07	0.019	-0.041	-0.09	0.039	0.058
Tertiary industry	0.02	0.004	0.084	0.07	0.073	0.033
Corporate system	0.233**	0.066	0.351***	0.187*	0.213**	0.045
W		-0.021				
B		0.037				
PR		0.317***				
DC		0.215**				
PL				0.706***		
Π						0.479***
R <sup>2</sup>	0.046	0.41	0.064	0.431	0.035	0.407
ΔR <sup>2</sup>		0.364		0.366		0.035
F	4.078**	24.751***	3.461**	20.78***	3.014*	43.158***
ΔF		38.444***		39.758***		157.978***

**Notes:** \*, \*\*, \*\*\* in the table indicates  $p < 0.05$ ,  $p < 0.01$  and  $p < 0.001$ , respectively; the first industry refers to farming, forestry, animal husbandry and fishery, the second industry includes manufacturing, mining, and construction, and the tertiary industry includes wholesale and retail, accommodation and catering, financial industry, etc.; the corporate system refers to limited liability company and incorporated company, while the non-corporate system includes sole proprietorship, partnership enterprise and individual business; W, B, PR, DC, PL, Π and L represents compensation, benefits, performance and recognition, development and career opportunities, labor productivity, profit and labor absorption, respectively

**Table VII.**  
Regression analysis  
of new model of  
overall employees in  
the nationwide non-  
state-owned  
enterprises

Table VII shows the results of multivariate regression, and we can acquire that development and career opportunities ( $\beta = 0.215$ ,  $p < 0.01$ ) and performance and recognition ( $\beta = 0.317$ ,  $p < 0.001$ ) positively affect labor productivity of the enterprises, but the effect of another two rewards factors – compensation ( $\beta = -0.021$ ,  $p > 0.05$ ) and benefits ( $\beta = 0.037$ ,  $p > 0.05$ ) is not significant. Therefore, *H1a* is partially verified that total rewards have effect on the labor productivity of enterprises of non-state-owned enterprises of the nationwide but the influence degree varies.

Also, the labor productivity of non-state-owned enterprises influence profit ( $\beta = 0.706$ ,  $p < 0.001$ ), and which in turn influence labor absorption ( $\beta = 0.479$ ,  $p < 0.001$ ) positively, indicating that *H1b* and *H1c* are validated. At the same time, the empirical analysis tells that the incorporated enterprises have relatively higher labor productivity ( $\beta = 0.233$ ,  $p < 0.01$ ), higher profit ( $\beta = 0.351$ ,  $p < 0.001$ ) and absorb more labor ( $\beta = 0.213$ ,  $p < 0.01$ ) than unincorporated business.

Without considering the regions of enterprises and the characteristics of employees, non-state-owned enterprises at this stage should motivate their employees with development and career opportunities and performance and recognition – which are the total rewards factors that employees value most, so that the enterprises will enhance productivity and gain more profits, and through the capitalization of profits, they will expand their scale and absorb more labor force.

4.5.2 *The robustness test of the effect of total rewards on labor productivity of overall employees in non-state-owned enterprises of the nationwide.* In the multivariate regression above, only two factors of total rewards – performance and recognition and development and career opportunities – can be predictive to labor productivity, while another two factors – compensation and benefits – are not significant.

To be robust, we have tested the collinearity of each explanatory variable, and the partial correlation coefficient between the independent variables and the dependent variables shows that there is no serious multicollinearity among the explanatory variables. Moreover, we have further tested the relationship between total rewards and labor productivity with the method of hierarchical regression and stepwise regression, and the conclusion is consistent with the result of Model 2 in Table VII.

The stepwise regression result in Table VIII shows that, among all the four factors of total rewards, only performance and recognition ( $\beta = 0.334, p < 0.001$ ) and development and career opportunities ( $\beta = 0.216, p < 0.001$ ) have significant predictive effect on labor productivity. Judging from the explanatory power of each variable, performance and recognition has explained most of the total variation of labor productivity, which is about 38 per cent, then followed by development and career opportunities, whose interpretation up to 2.5 per cent. The robustness test has manifested that performance and recognition and development and career opportunities of total rewards affect the enterprises' labor productivity positively for employees in non-state-owned enterprises of the nationwide, which indicates that *H1a* is verified once again.

*4.5.3 The improving rewards – increasing profits – enlarging employment new model test of non-state-owned enterprises of different regions and employees with specific characteristics.* Multi-group SEM analysis can assess whether the hypothetical model is the same among different samples or whether the parameters are invariant, and it can also analyze the discrepancy of contribution of different variables (Wu, 2010). Therefore, we test and verify the new model of *improving rewards — increasing profits — enlarging employment* for non-state-owned enterprises of different regions and employees with education, age and gender differences through multi-group path analysis. In the analysis, the default model was chosen to analyze the path from total rewards factors to labor productivity, labor productivity to profit and profit to labor absorption of each group. In addition, we inspect the significance of the differences between the parameters through the comparison with critical ratio. As the saturation of the default model, we have Chi-squared,

Variables	Step 1	Step 2	Step3
C	3.909***	1.969	1.882***
Secondary industry	0.07	0.057	0.017
Tertiary industry	0.02	0.029	0.003
Corporate system	0.233**	0.086	0.071
PR		0.52***	0.334***
DC			0.216**
B			
W			
$R^2$	0.046	0.384	0.41
$\Delta R^2$		0.338	0.025
$F$	4.078**	39.313***	34.828***
$\Delta F$		138.374***	10.783**

**Notes:** \*, \*\*, \*\*\*in the table indicates  $p < 0.05, p < 0.01$  and  $p < 0.001$ , respectively; the first industry refers to farming, forestry, animal husbandry and fishery, the second industry includes manufacturing, mining, and construction, and the tertiary industry includes wholesale and retail, accommodation and catering, financial industry, etc.; the corporate system refers to limited liability company and incorporated company, while the non-corporate system includes sole proprietorship, partnership enterprise and individual business; W, B, PR, DC, PL,  $\Pi$  and L represents compensation, benefits, performance and recognition, development and career opportunities, labor productivity, profit and labor absorption, respectively

**Table VIII.**  
The step-wise regression of labor productivity to total rewards

degree of freedom (df), root mean square residual (RMR), goodness of fit index (GFI), comparative fit index (CFI) values zero, zero, zero, one and one respectively. The results of multi-group analysis are shown in Table IX.

4.5.3.1 For non-state-owned enterprises of different regions. As the multi-group path analysis in Table IX shows, both performance and recognition ( $\beta = 0.412, p < 0.01$ ) and development and career opportunities ( $\beta = 0.896, p < 0.001$ ) have significant positive impact on their labor productivity, but the effect of compensation ( $\beta = -0.433, p < 0.001$ ) is negative and significant in eastern China. Benefits ( $\beta = 0.228, p < 0.05$ ) and performance and recognition ( $\beta = 0.513, p < 0.001$ ) have significant positive impact on labor productivity in western China, while the coefficient of total rewards factors in the central region are all not significant.

When inspecting the critical ratio (CR), we come to the conclusion that the impact of compensation on labor productivity in the eastern region is significantly different from that in the middle (CR = 2.99) and the western regions (CR = 3.445), while the effect of benefits in the western region is significantly different from that in the eastern (CR = 2.236) and the middle regions (CR = 2.681), and the impact of development and career opportunities in the eastern region is significantly different from that in the middle (CR = -4.053) and the western regions (CR = -4.948), but there is no significant difference in the impact of performance and recognition on labor productivity in those three regions. Therefore, *H2a* is verified in the eastern and the western except the central region.

The labor productivity can positively predict profit – the coefficients of the eastern, middle and western regions are respectively 0.633 ( $p < 0.001$ ), 0.296 ( $p < 0.01$ ) and 0.639 ( $p < 0.001$ ), and profit can positively predict labor absorption in non-state-owned enterprises in different regions with the coefficients of 0.652 ( $p < 0.001$ ), 0.429 ( $p < 0.001$ ) and 0.743 ( $p < 0.001$ ) in the eastern, middle and western regions, respectively. Moreover, the CR shows that labor productivity affects profit indifferently in these regions, but the impact of profit on labor absorption in the middle region is significantly different from that in the eastern (CR = -2.871) and western region (CR = 4.128). And thus *H2b* is partially validated and *H2c* is verified.

4.5.3.2 For employees with education difference. Similarly, we can learn from the multi-group analysis in Table IX that benefits ( $\beta = 0.271, p < 0.05$ ) and development and career opportunities ( $\beta = 0.352, p < 0.01$ ) positively influence the labor productivity of rural migrant workers in non-state-owned enterprises, but for those highly educated employees the rewards factors that motivate them best are performance and recognition ( $\beta = 0.335, p < 0.01$ ) and development and career opportunities ( $\beta = 0.325, p < 0.001$ ). In addition, we can tell from the CR that the impact of total rewards on labor productivity shows no significant differences among employees with education difference, and *H3a* is partially validated.

The increase of labor productivity of employees with education difference has a significant positive impact on their company's profit level – the coefficient of rural migrant workers and the highly educated employees are respectively 0.452 ( $p < 0.001$ ) and 0.587 ( $p < 0.001$ ), and the improvement of profit level in turn positively influence their enterprises' labor absorption significantly with the coefficient of 0.581 ( $p < 0.001$ ) and 0.636 ( $p < 0.001$ ), respectively. And the CR value shows that the effect of labor productivity on profit is significantly different among employees with education difference (CR = 2.398), while there is no significant difference in the effect of profit on labor absorption, but the highly educated non-migrant workers have a larger path coefficient. And thus *H3b* and *H3c* are partially validated.

4.5.3.3 For employees with age difference. We can learn from the multi-group path analysis in Table IX that, the post-1990s employees perceived development and career opportunities ( $\beta = 0.543, p < 0.001$ ) positively influence their labor productivity, but the effect of benefits ( $\beta = -0.389, p < 0.05$ ) is negative. And for the post-1980s employees, their perception of development and career opportunities ( $\beta = 0.53, p < 0.001$ ) positively influence

**Table IX.**  
Results of multi-  
group path analysis

Paths	Region				CR		Education		CR
	Path coefficients		CR		Path coefficients		CR		
	Eastern (100)	Middle (88)	Western (58)	Eastern vs middle	Eastern vs western	Middle vs western	Rural migrant workers (128)	Non-rural migrant workers (228)	
W → PL	-0.433***	0.064	0.102	2.99	3.445	0.975	-0.07	-0.025	0.327
B → PL	-0.171	0.047	0.228*	1.146	2.236	2.681	0.271*	0.043	-1.613
PR → PL	0.412**	0.105	0.513***	-1.624	0.164	0.184	0.095	0.335**	1.235
DC → PL	0.896***	0.235	0.137	-4.053	-4.948	0.071	0.325***	0.325***	-0.369
PL → Π	0.633***	0.296**	0.639***	-1.469	0.561	1.736	0.452***	0.587***	2.398
Π → L	0.652***	0.429***	0.743***	-2.871	1.807	4.182	0.581***	0.636***	-0.015
	Age				CR		Gender		CR
	Path coefficients		CR		Path coefficients		CR		
	Post-1990s (73)	Post-1980s (183)	Post-1970s (146)	Post-1990s vs Post-1980s	Post-1970s vs Post-1980s	Post-1970s vs Post-1980s	Male (216)	Female (169)	
W → PL	0.235	-0.206*	-0.071	-2.885	-1.762	0.84	-0.152	0.023	1.325
B → PL	-0.389*	0.152	0.219^	2.768	2.897	0.56	0.223*	0.015	-1.466
PR → PL	0.082	0.196	0.414***	0.524	1.537	1.347	0.33**	0.131	-1.376
DC → PL	0.543***	0.53***	0.106	-0.083	-2.375	-2.711	0.328**	0.365***	0.028
PL → Π	0.231*	0.605***	0.609***	2.825	2.908	0.253	0.609***	0.507***	-0.865
Π → L	0.266*	0.66***	0.619***	3.909	3.077	-1.025	0.638***	0.588***	-0.693

**Notes:** It's standardized path coefficient in the table; \*, \*\*, \*\*\* indicates  $p < 0.05$ ,  $p < 0.01$  and  $p < 0.001$ , respectively; W, B, PR, DC, PL, Π and L represents compensation, benefits, performance and recognition, development and career opportunities, labor productivity, profit and labor absorption respectively; and "+" represents two factors are combined into one. An absolute value of CR greater than 1.96 indicates a significant difference between the two parameters, and it has been italicized in the table; According to the location of the enterprise, it is divided into three regions: the eastern, central and western, among which the eastern region includes Beijing, Tianjin, Hebei, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong, Guangxi, Hainan, Heilongjiang, Jilin and Liaoning; Central China includes Shanxi, Anhui, Jiangxi, Henan and Hubei; and the western region includes Chongqing, Sichuan, Guizhou, Yunnan, Shaanxi, Gansu, Inner Mongolia, Ningxia, Qinghai and Xinjiang. According to levels of education, employees of non-state-owned enterprises are divided into migrant workers and non-migrant workers, migrant workers refer to employees with a high school education or below, and non-migrant workers refer to employees with a college education or above; According to age difference, the employees are divided into the post-1990s, post-1980s and post-1970s



their labor productivity, but on the contrary, the effect of compensation ( $\beta = -0.206$ ,  $p < 0.05$ ) is negative. Meanwhile, for the post-1970s, their perception of performance and recognition ( $\beta = 0.414$ ,  $p < 0.001$ ) positively influence their labor productivity. When investigating the CR value, we find that the effect of compensation is significantly different between the post-1980s and the post-1990s (CR = -2.885), while the effect of benefits for the post-1990s is significantly different from that of the post-1980s (CR = 2.768) and the post-1970s (CR = 2.897), and at the same time, the effect of development and career opportunities for the post-1970s is significantly different from that of the post-1990s (CR = -2.375) and the post-1980s (CR = -2.711). And then, *H4a* has been partially validated.

The labor productivity of employees of the post-1990s, post-1980s and post-1970s in the non-state-owned enterprises positively predicts the profit with the coefficient of 0.231 ( $p < 0.05$ ), 0.605 ( $p < 0.001$ ) and 0.609 ( $p < 0.001$ ), respectively, and the profit in turn positively predicts the labor absorption with the coefficient of 0.266 ( $p < 0.05$ ), 0.66 ( $p < 0.001$ ) and 0.619 ( $p < 0.001$ ), respectively. And from the CR, we can believe that, the effect of labor productivity on profit for the post-1990s is significantly different from that of the post-1980s (CR = 2.825) and the post-1990s (CR = 2.908), and furthermore, the effect of profit on labor absorption for the post-1990s is significantly different from that of the post-1980s (CR = 3.909) and the post-1990s (CR = 3.077). Consequently, *H4b* and *H4c* are verified.

4.5.3.4 For employees with gender difference. Similarly, we can learn from the multi-group path analysis in [Table IX](#) that, for the male employees in the non-state-owned enterprises, benefits ( $\beta = 0.223$ ,  $p < 0.05$ ), performance and recognition ( $\beta = 0.33$ ,  $p < 0.01$ ), development and career opportunities ( $\beta = 0.328$ ,  $p < 0.001$ ) all positively affect the labor productivity; however, for the female employees, only development and career opportunities ( $\beta = 0.365$ ,  $p < 0.001$ ) predict their labor productivity significantly. And the CR value shows that there is no difference in the impact of total rewards factors on labor productivity between the male and the female employees, which implies that *H4a* is partially verified.

For the male and the female employees, their labor productivity influence the profit of the enterprises positively with coefficient of 0.609 ( $p < 0.001$ ) and 0.507 ( $p < 0.001$ ), and the profit in turn predict labor absorption positively with the coefficient of 0.638 ( $p < 0.001$ ) and 0.588 ( $p < 0.001$ ). However, when inspecting the CR, there is no significant difference in the impact of labor productivity on profit and profit on the labor absorption between the male and the female employees, which indicates that *H5b* and *H5c* are validated.

## 5. Conclusion and discussion

### 5.1 Conclusion

5.1.1 *Conclusion on the total rewards factors that motivate employees to raise labor productivity in non-state-owned enterprises.* The following conclusions can be drawn through [Table X](#): in general, currently, the main incentive total rewards factors that motivate the enthusiasm and labor productivity of overall employees and those with different characteristics should be development and career opportunity and performance and recognition. And as the existence needs have been basically realized, employees in non-state-owned enterprises have higher-level development demands.

The factor of benefits has a significant positive incentive effect on employees in the western region, rural migrant workers and male employees, but it negatively affects the post-1990 employees. And the causes may be that, compared with the eastern and central regions, employees in the western region enjoy less benefits and have more urgent demand for benefits. For the rural migrant worker in the city, the management of “labor acceptance but life exclusion” has been implemented for a long term – they are engaged in heavy labor but have no right to share urban infrastructure and housing, medical treatment, and urban

**Table X.**  
A summary of the relationship between total rewards factors that employees of the non-state-owned enterprises value most and the labor productivity of employees

Classification of labor productivity	Total rewards factors that can motivate the working enthusiasm of employees and improve their labor productivity			
	Compensation	Benefits	Performance and recognition	Development and career opportunities
Labor productivity of the overall employees			+	+
Labor productivity of employees of different regions		Employees of the central region		
Employees of the western regions	+	+		
Employees of the eastern regions	-		+	
Labor productivity of employees of different education levels		Non-migrant workers		
Migrant workers	+		+	+
Labor productivity of employees of different ages		The post-1970s		
The post-1980s		-	+	
The post-1990s			-	+
Labor productivity of employees of different genders		The male		
The female			+	+

**Notes:** “+” in the table indicates that the specific total rewards factor has a significant positive effect on the labor productivity of the corresponding employees, while “-” indicates a significant negative effect

schooling for their children. So they are more eager to enjoy the same benefits as urban workers, and consequently benefits have positive effect on the labor productivity of migrant workers. And in the traditional culture of China, the male employees may consider more about the housing, which is a main content of benefits. However, owing to the superior family conditions and weak self-discipline, better benefits may not be conducive to the efforts of the post-1990s employees. The compensation factor of the total rewards has a negative impact on employees of the non-state-owned enterprises in the eastern area and employees of post-1980s.

This is mainly due to the generally higher income in the eastern region, and the post-1980s have already been the cadre employees in their positions and thus the income level is also higher, which implies that they have reached the income level corresponding to the inflection point where the individual labor supply curve bent backwards. At this stage, the income effect of increasing wages is greater than the substitution effect, and it will lead to more leisure time and less labor supply, which indicates lower labor efficiency and labor productivity.

*5.1.2 Conclusion about the impact of labor productivity on profit, and profit on labor absorption.* We could draw the following conclusions from [Table XI](#) that, on the whole, the improvement of labor productivity of the overall employees and employees with different

**Table XI.**  
A summary of the  
influence of labor  
productivity on  
profit, and profit on  
labor absorption

The subjects	Subdivision of the subjects	Influence of labor productivity on profit	Influence of profit on labor absorption
The overall employees		0.724***	0.502***
Different regions	The eastern region	0.633***	0.652**
	The central region	0.296**	0.429***
	The western region	0.639***	0.743***
	Significant differences	no	The eastern and the central, the central and the western
Different education levels	Migrant workers	0.452***	0.581***
	Non-migrant workers	0.587***	0.636***
	Significant differences	yes	no
Different ages	The post-1990s	0.231*	0.266*
	The post-1980s	0.605***	0.66***
	The post-1970s	0.69***	0.619***
	Significant differences	The post-1990s and the post-1980s, the post-1990s and the post-1970s	The post-1990s and the post-1990s and the post-1970s
Different genders	The male	0.609***	0.638***
	The female	0.507***	0.588**
	Significant differences	no	no

**Notes:** \*, \*\* and \*\*\* indicates  $p < 0.05$ ;  $p < 0.01$ ; and  $p < 0.001$ , respectively

characteristics in Chinese non-state-owned enterprises can result in an increase in corporate profits, which will in turn bring about expanded employment. This shows that non-state-owned enterprises in China can increase their labor productivity by satisfying the needs of the employees, which enables the enterprises to increase profits, and the profits capitalization will expand their scales and consequently attract more laborers. In this way, the demand of workers for the total rewards factors would be met, and the goal of maximizing profits for enterprises would be achieved, while the society would also share their interests. In other words, the new model we established could realize a win-win cooperation between the labor, the capital and the society.

From the perspective of different regions, it is wise to motivate non-state-owned enterprise employees with total rewards that they value most, so that the labor productivity of the employees and the profits of enterprises will increase, and the employment will consequently be expanded. And in this way, we can realize co-win cooperation between the employers and employees and the society in long run.

Combining Tables X and XI with the actual situation, it can be seen that employees in the western region are at a lower income level and have relatively lower expectation about the income. In the short term, they are in urgent demand of benefits and performance and recognition under the lower income level, and the labor productivity of employees will be greatly improved after satisfying them with benefits and performance and recognition. With higher labor productivity and lower labor costs, there will be greater profits for the enterprises. Under the condition of constant organic composition of capital, the enterprises will expand after the capitalization of profits, so that more workers can be employed. As the increase of labor productivity and profitability is achieved by satisfying the needs of the laborers, the laborers are willing to working in the non-state-owned enterprises, making it more practical for non-state-owned enterprises to absorb more labor. As a result, it will attract the largest number of workers for non-state-owned enterprises in the western region

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if profits increase by one unit. For non-state-owned enterprises in the eastern region, due to their advanced equipment and management, the increase in labor productivity, realized by satisfying their employees' performance and recognition and development and career opportunities, will create the most profits for the enterprises, and the capitalization of profits will enlarge the size of the companies. However, due to the higher capital intensity in the eastern region than that in the western region, the number of employers they absorb will be lower than that in the west region. The central region has neither the comparative advantage of low labor cost in the western region nor the advanced equipment and humanized management in the eastern region. Therefore, profits increase by the promotion of labor productivity, and the employment enlargement owing to the profits increase in the central region ranks the last among the eastern, central, and western region.

The above research shows that increasing the profitability of enterprises and enlarging the employment can be realized through two ways – the low-cost way of lower wages, or the satisfaction for the demand of the total rewards factor most valuable for non-state-owned enterprises' employees, which can simulate worker to improve labor productivity. The former is effective only in the short term, as the long-term implementation of the low labor cost strategy will inevitably lead to a decline in the enthusiasm of workers, and tense labor relations and frequent labor conflicts. And more profoundly, it is also not conducive to improving the quality of employees and not beneficial for companies to recruiting talented workers. And as for the society, it will undermine the driving effect of consumption on the economy and the implementation of innovation-driven strategy. Consequently, in the long run, it's wise to increase profits and absorb labor force by using the total rewards factors that employees value most and motivating them to increase labor productivity.

From the perspective of education background, it is an important way to promote the quality of migrant workers and increase their investment in human capital, so as to improve profits of the enterprises. And [Table XI](#) tells that, as labor productivity increased by one unit, it will bring about much less profits for the enterprises by the less educated migrant workers than that by the highly educated non-migrant workers, which indicates that human capital plays an important role in increasing the profitability of enterprises. As a result, it's of great significance for the enterprises' profits improvement to invest in education, training and medical and health care for migrant workers, and break the barriers such as household registration and other discriminations, so that the migrant worker can move freely in urban and rural areas, different regions and industries.

From the perspective of age, working experience and labor skills are important ways to increase corporate profits. And we can learn from [Table XI](#) that, when labor productivity is increased by one unit, it will bring about more profits for the enterprises by the employers of post-1970s than post-1980s, and the post-1980s create more profits than the post-1990s. This manifests that before age 45, the older the workers grow, the richer working experience they will acquire, which will result in higher labor efficiency and labor productivity, and accordingly greater corporate profits. The findings have also verified the correctness of the learning curve. Therefore, to improve labor productivity, it is recommended for the younger employers not only to improve their cultural quality but also to study diligently and train hard, and pursue craftsmanship, so that they can accumulate working experience and improve labor proficiency.

From the perspective of gender, we infer that physical labor will decrease gradually, and in contrast, the complexity of labor and the consumption of intelligence will gradually increase, and to work is to learn in the future workplace. It is known from [Table XI](#) that, profits increase caused by the promotion of labor productivity and employment enlargement results from profits increase for male is higher than that of the female. The

reason lies in that childbearing and taking care of the family takes much time of the female, which will result in the decline in labor proficiency and poorer labor skill than the male. And when taking this into account, profits increase caused by the promotion of labor productivity and employment enlargement results from profits increase for the female may not be less than that of the male. It demonstrates that physical labor is decreasing, while the complexity of labor is increasing, and to work is to learn in the future workplace.

## 5.2 Theoretical contribution and management enlightenment

*5.2.1 Theoretical contribution.* A theoretical model of the win-win cooperation between labor and capital and the society on the basis of the overall employees and those with different characteristics of the non-state-owned enterprises in China was constructed. Based on our previous research and according to total rewards theory, through investigation, exploratory factor analysis, hierarchical linear regression analysis and multi-group path analysis, this article reveals the total rewards factors preference of employees of non-state-owned enterprises all over the country and in different regions, and also employees with different characteristics. And in the light of these preferences for total rewards factors, the linkage mechanism model will be established, which could motivate the overall employees or those with characteristic differences of non-state-owned enterprises in China to increase their working enthusiasm, and improve labor productivity, increase profits and capitalize the profits, and then expand enterprise size to absorb more labor force.

We have also made theoretical contributions to the development of classical and neoclassical economics. Either classical economists upholding the labor theory of value such as Adam Smith, Ricardo, Lewis, or Keynes on the basis of utility theory of value, they all regard wages as the cost, and wages are determined through the traditional profit model of *as low as possible labor cost - higher profits - capitalization of profits - expanded enterprise scale - employment enlargement*. And in line with this pattern, the transfer of agricultural labor, the transition of dualistic economy structure, and the problem of employment would be settled down. However, it can only be effective in the short run. But in the long term, it will lead to labor-management tensions and frequent labor conflicts, and the reason is that no theory has been explored to establish a co-win cooperation between the two sides. Although Taylor, the father of scientific management, has recognized the importance of harmonious labor relations in increasing labor productivity and expanding new values, he has not proposed ways to motivate the enthusiasm of workers and expand new values. We have constructed a new model, aiming at the needs of employees, *motivating their enthusiasm - higher profits - capitalization of profits - expanded enterprise scale - employment enlargement*. In this way, we have established a win-win cooperation theory between workers, companies and the society. And under the guidance of the win-win cooperation theory, the theory of agricultural labor transfer, the employment theory of Keynes and the scientific management theory of Taylor have been developed.

*5.2.2 Management enlightenment.* The new model of rewards, profits and labor absorption of non-state-owned enterprises we have built in this paper, is of great practical value not only to solving the problems of lack of working enthusiasm, labor-management tensions and frequent labor frictions so as to realize a co-win cooperation between the labor, capital and the society, but also to the management and development of non-state-owned enterprises at or after the Lewis turning point.

Specifically, the non-state-owned enterprises should foster awareness of total rewards and implement total rewards classification management with particular emphasis on the incentive role of non-material rewards such as development and career opportunities, performance and recognition. It is also advised to provide employees with opportunities for

training, advanced studies, job rotations and scientific and reasonable career planning, and focus on improving the personal qualities of employees to achieve better career development. What is more, the companies should pay attention to the physical and mental health of their employees and also care more about the employees' families and encourage them to participate in management and provide opportunities for informal communication.

Moreover, for employees in the western region, migrant workers and male employees, we should also pay attention to the incentive role of benefits, pay social insurance and housing fund and other commercial insurances in full and in time, guarantee the paid and unpaid time off, and try to solve the housing issues of employees. However, the incentive function of compensation should be used with caution for employees of non-state-owned enterprises in the eastern region and the post-1980s, and meanwhile, be cautious when motivating the post-1990s with benefits. In addition, it is recommend for non-state-owned enterprises to increase investment in human capital of employees and improve the labor proficiency of employees before age 45, so as to increase the unit value of labor productivity of employees with characteristics differences, expand enterprise profits and absorb more labor force.

### References

- Akaike, H. (1987), "Factor analysis and AIC", *Psychometrika*, Vol. 52 No. 3, pp. 317-332.
- Baruch, Y., Wheeler, K. and Zhao, X. (2004), "Performance-related pay in Chinese professional sports", *The International Journal of Human Resource Management*, Vol. 15 No. 1, pp. 245-259.
- Batt, R. and Colvin, A.J.S. (2011), "An employment systems approach to turnover: human resources practices, quits, dismissals, and performance", *Academy of Management Journal*, Vol. 54 No. 4, pp. 695-717.
- Bommer, W.H., Johnson, J.L., Rich, G.A., Podsakoff, P.M. and Mackenzie, S.B. (1995), "On the interchangeability of objective and subjective measures of employee performance: a meta-analysis", *Personnel Psychology*, Vol. 48 No. 3, pp. 587-605.
- Cai, F. (2010), "How migrant workers can further contribute to the urbanization: potentials of China's growth in post-crisis era", *Chinese Journal of Population Science*, Vol. 30 No. 1, pp. 2-10.
- Chen, C.C. (1995), "New trends in rewards allocation preferences: a Sino-US comparison", *Academy of Management Journal*, Vol. 38 No. 2, pp. 408-428.
- Chen, C.J. and Li, S. (2013), "The structural changes in the labor market and the wage inequality in urban China between 1989 and 2009", *Management World*, Vol. 29 No. 1, pp. 45-55,187.
- Chen, C.C., Meindl, J.R. and Hunt, R.G. (1997), "Testing the effects of vertical and horizontal collectivism", *a Study of Reward Allocation Preferences in China*, *Journal of Cross-Cultural Psychology*, Vol. 28 No. 1, pp. 44-70.
- Dohmen, T. and Falk, A. (2011), "Performance pay and multidimensional sorting: productivity, preferences, and gender", *The American Economic Review*, Vol. 101 No. 2, pp. 556-590.
- Fornell, C. and Larcker, D.F. (1981), "Structural equation models with unobservable variables and measurement error: algebra and statistics", *Journal of Marketing Research*, Vol. 18 No. 3, pp. 382-388.
- Gan, C.H. and Zheng, R.G. (2010), "The evolution of regional economic disparities in China and its decomposition by industry", *China Industrial Economics*, Vol. 27 No. 6, pp. 25-34.
- Geddes, L.A. and Heywood, J.S. (2003), "Gender and piece rates, commissions, and bonuses", *Industrial Relations: A Journal of Economy and Society*, Vol. 42 No. 3, pp. 419-444.
- He, W. and Long, L.R. (2010), "The empirical research of taxonomy and employee preferences of economic compensation: based on the theory of maslow's hierarchy of needs", *Journal of Business Economics*, Vol. 45 No. 5, pp. 40-48.
- Hu, J.C. (2010), "On the reasonable wage level and labor policy in China", *Journal of Shijiazhuang University of Economics*, Vol. 33 No. 6, pp. 81-86.



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- Karnes, R.E. (2009), "A change in business ethics: the impact on employer–employee relations", *Journal of Business Ethics*, Vol. 87 No. 2, pp. 189-197.
- Knight, J. and Gunatilaka, R. (2010), "Great expectations? The subjective well-being of rural–urban migrants in China", *World Development*, Vol. 38 No. 1, pp. 113-124.
- Lawler, E.E. (2008), "Why are we losing all our good people?", *Harvard Business Review*, Vol. 86 No. 6, pp. 41-51.
- Lee, H., Iijima, Y. and Reade, C. (2011), "Employee preference for performance-related pay: predictors and consequences for organizational citizenship behaviour in a Japanese firm", *The International Journal of Human Resource Management*, Vol. 22 No. 10, pp. 2086-2109.
- Lewis, W.A. (1954), "Economic development with unlimited supplies of labour", *The Manchester School*, Vol. 22 No. 2, pp. 139-191.
- Lin, Y.Z. (2003), "A preference study of knowledge workers on the compensation factors of cafeteria compensation", Zhejiang University, Zhejiang.
- Li, N. and Yan, J. (2007), "The mechanism of how trust climate impacts on individual performance", *Acta Psychologica Sinica*, Vol. 39 No. 6, pp. 1111-1121.
- Li, S. and Yang, S. (2009), "Impact of minimum living standard guarantee on income distribution and poverty reduction in urban China", *Chinese Journal of Population Science*, Vol. 29 No. 5, pp. 19-27,111.
- Lin, Z.Y., Xiao, Q. and Zhou, Z.Q. (2014), "An empirical study on the relationship between ethical predispositions and charitable behavior: based on the moderating effect of moderating effect of moral identity", *Foreign Economics and Management*, Vol. 36 No. 6, pp. 16-31.
- Long, L.R., Zu, W. and He, W. (2010), "An empirical study on employees' preferences toward the implicit taxonomy of economic compensation", *Science of Science and Management of S. and T*, Vol. 31 No. 12, pp. 154-162.
- Lu, Z.F., Wang, X.Y. and Zhang, P. (2012), "Do Chinese state-owned enterprises pay higher wage?", *Economic Research Journal*, Vol. 47 No. 3, pp. 28-39.
- Ni, C.H., Ye, R.S., Huang, S.C. and Jun, X. (2013), "Perceived organizational support and group turnover in the context of working groups: the mediating effects of group level psychological safety and group cohesion", *Management Review*, Vol. 25 No. 5, pp. 92-101.
- Niederle, M. and Vesterlund, L. (2007), "Do women shy away from competition? Do men compete too much?", *The Quarterly Journal of Economics*, Vol. 122 No. 3, pp. 1067-1101.
- Pei, Y.L., Jiang, X. and Liu, H. (2013), "Strategic flexibility, original innovation and firm competitiveness: the moderating effect of organizational legitimacy", *Studies in Science of Science*, Vol. 31 No. 3, pp. 446-455.
- Ranis, G. and John, C.H.F. (1961), "A theory of economic development", *The American Economic Review*, Vol. 51 No. 4, pp. 533-565.
- Rogers, S. and Marcotte, S. (2010), *Communicating Total Rewards: How-To Series for the HR Professional*, WorldatWork Press, Scottsdale, AZ.
- Shi, L. and Gao, Y.F. (2006), "Regional economy disparity: an empirical study based on economic structure transformation", *Management World*, Vol. 22 No. 5, pp. 35-44.
- Sun, H.L. (2011), "The financial system reason of migrant workers", *China Industrial Economics*, Vol. 28 No. 1, pp. 15-26.
- Sund, A.E. and Surette, B.J. (1998), "Gender differences in the allocation of assets in retirement savings plans", *The American Economic Review*, Vol. 88 No. 2, pp. 207-211.
- Todaro, M.P. (1969), "A model of labor migration and urban unemployment in less developed countries", *The American Economic Review*, Vol. 59 No. 1, pp. 138-148.
- Tsui, A.S. and Gutek, B.A. (1999), *Demographic Differences in Organizations: Current Research and Future Directions*, Lexington Books, Lanham, MD.

- Tsui, A.S., Farh, J.L. and Chen, X.P. (2012), *Empirical Methods in Organization and Management Research*, Peking University Press, Beijing.
- Tsui, A.S., Pearce, J.L., Porter, L.W. and Tripoli, A.M. (1997), "Alternative approaches to the employee-organization relationship: does investment in employees pay off?", *Academy of Management Journal*, Vol. 40 No. 5, pp. 1089-1121.
- Wall, T.D., Michie, J., Patterson, M., Wood, S.J., Sheehan, M., Clegg, C.W. and West, M. (2004), "On the validity of subjective measures of company performance", *Personnel Psychology*, Vol. 57 No. 1, pp. 95-118.
- Wang, H.F. (2015), *Research on Employee Total Rewards Perception, Engagement and Job Performance of Non-State-Owned Enterprises*, Shanxi University of Finance and Economics, Taiyuan.
- Wang, X.L. and Fan, G. (2004), "Analysis on the regional disparity in China and the influential factors", *Economic Research Journal*, Vol. 39 No. 1, pp. 33-44.
- Wen, Y.R. (2011), "Six conjecture on compensation trend in China", *Occupation*, Vol. 18 No. 13, pp. 70-71.
- Wu, M.L. (2010), *Structural Equation Modeling: The Operation and Application of AMOS*, Chongqing University Press, Chongqing.
- Wu, L.Y., Wang, C.J., Chen, C.P. and Pan, L.Y. (2008), "Internal resources, external network, and competitiveness during the growth stage: a study of Taiwanese high-tech ventures", *Entrepreneurship Theory and Practice*, Vol. 32 No. 3, pp. 529-549.
- Yang, J.L. and Yang, J.Q. (2015), "Research on total rewards perception conceptualization and the impact on organizational identification – explanation from the motivation-hygiene theory", *Business Management Journal*, Vol. 37 No. 11, pp. 63-73.
- Yang, J.Q., Lu, Y.P. and Wang, H.F. (2014), "The strategic model for non-state-owned enterprises to absorb agricultural labor and urbanization – data analysis on Shanxi, a big province of coal resource", *Business Management Journal*, Vol. 36 No. 10, pp. 136-146.
- Yao, X.G. and Lai, J. (2005), "The wage determination and population migration in the dualistic society-analysis of the shortage of rural labor", *Journal of Finance and Economics*, Vol. 31 No. 8, pp. 68-75.
- Zhang, Y. and Long, L.R. (2013), "The impact of pay for performance on employees' creativity: moderating effect of person-job fit and mediating effect of creative self-efficacy", *Acta Psychologica Sinica*, Vol. 45 No. 3, pp. 363-376.
- Zhang, Y. and You, M.D. (2014), "The empirical study about innovative intention of staff in the science and technology enterprises: based on the theory of planned behavior", *Nankai Business Review*, Vol. 17 No. 4, pp. 110-119.
- Zhang, S.L., Yuan, J. and Li, X.D. (2015), "The impact of team cultural and psychological capital on graduate students' knowledge sharing behavior", *Journal of Graduate Education*, Vol. 5 No. 6, pp. 39-45.
- Zhang, M., Li, H., Wei, J. and Yang, B.Y. (2011), "Cross-over effects or direct effects? The mechanism linking work-family conflict with outcomes", *Acta Psychologica Sinica*, Vol. 43 No. 5, pp. 573-588.

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