Private jobs and collective employment in China

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Abstract

The purpose of this paper is to understand the dynamics of private sector employment in China in recent years; and to provide insight into the effects private sector employment has had on internal variations in growth and development. We conclude that private enterprises are an important and significant driver of prosperity in urban China but are less significant for employment or growth in rural areas. Our findings indicate divergence in sources of employment in cities and the countryside, and a growing spatial divide between areas that rely on state-owned enterprises for employment, and places where the private sector is an increasingly important employer.

Key words: China, private enterprise, collective enterprise, employment, urban, rural**.**

JEL classification : J11, J21, J29

1. INTRODUCTION

More than thirty-five years of rapid growth has transformed China into the second largest economy in the world (World Bank, 2015). Central to China's economic transition has been the emergence of private enterprises as a driver of the national

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economy and its growth (Garnaut et al., 2001; Garnaut et al., 2006; Li e*t al* 2012; McMillan and Woodruff, 2002; Tenev, 2006, Zhang and Liu, 2013). In 1978, when reforms began, more than 99% of the economy was state-owned and the official line was that there was no private sector (Child, 1996; Chow, 1994; Warner 2014; Zhang, 2014). Thirty years later, China's private enterprises accounted for more than two-thirds of national economic activity, in terms of GDP (Dekle and Guillaume, 2012; Du et al., 2014; He, 2009). China's economic emergence has resulted from the emergence of a vibrant and increasingly dominant private sector of entrepreneurs (Atherton and Smallbone, 2013; Du et al., 2014; Guo e*t al.*, 2014; Schlerogt, 2001; Smallbone and Welter, 2012, Zhang, 2014).

There is a growing literature on the contribution of the private sector to economic growth in China (for example: Dickson, 2003; Huang, 2008; Garnaut et al., 2001; Guo *et al*., 2014; Meyer, 2013; Yang and Li, 2008); with much of the emerging literature focusing on the economic and political effects of entrepreneurial emergence, in particular the intersection between entrepreneur and state, and the impacts of entrepreneurs on economic growth and structure (e.g., Feng and Wang 2010; White, 1995; Zhou, 2013).

What is less evident in the literature to date is the impact of private sector development on employment. Through much of the reform period, and in the 1980s and 1990s, job creation was a central concern of the state and party. In the early period of reform, a major legacy of the planned economy was chronic under-employment in state-owned enterprises and falling agricultural productivity (Ash et al., 2013; Chow, 1994; Gittings, 2006). Job creation by newly emerging and fast-growing private enterprises in the 1980s and 1990s offered the prospect of redeployment of workers laid off from state-owned enterprises in the private sector (Iyer et al., 2013). A consequence of the reform was an

emphasis on creating employment opportunities through improving household production in the countryside and encouraging 'side-line' small-scale household entrepreneurship (Atherton, 2008).

During the 1990s, restructuring of the state-owned enterprise (SOE) sector, alongside privatisation of smaller SOEs (Tong, 2009) and many collectively owned Township and Village Enterprises (TVEs), created significant unemployment, especially in parts of China with heavy reliance on state-owned production (Cai and Wang, 2010; Cao *et al*., 1999). As restructuring played out in the late 1990s, and into the 2000s, small private enterprises were considered a primary destination to absorb labour released from other enterprises. The promotion of SME was enshrined in the 2003 SME Promotion Law, which sought to create an enabling environment for entrepreneurship in order to improve the capacity of SME's sector to generate new jobs (Atherton, 2008). Throughout the late 1990s and early 2000s period, job creation by the private sector has been a key emphasis of government policy (Han and Hare, 2013; Taylor, 2011; Warner and Zhu, 2010). As a result, state promotion of the private sector has been as concerned with job as with wealth creation (Atherton and Smallbone, 2013).

This paper analyses recent data on private sector employment in China, in order to better understand the extent to which entrepreneurship has had a positive effect on job creation. We are especially interested in the urban and rural effects of private sector employment. There is growing evidence that China's recent growth has produced higher levels of income inequality (Jalil, 2012; Lee, 2012), and that this is particularly apparent in an increasing divide between wealthier cities and less prosperous rural areas (Chen and Groeneweld, 2010; Wei and Ye, 2009). The recent relaxing of the *hukou* household registration system, which prevented rural migrants from receiving full resident rights when moving to cities, recognises the importance of these spatial disadvantages within

China (Treiman, 2012; Xue et al., 2014; Giulietti, et al. 2012). Our contribution as a result is two-fold: to understand the dynamics of private sector employment in China in recent years; and to provide insight into the effects private sector employment has had on internal variations in growth and development.

2. LITERATURE REVIEW AND RESEARCH QUESTIONS

In a wide-ranging review of 68 articles on entrepreneurship published in eleven leading academic journals over 26 years (1980 – 2005), Yang and Li (2008) found that China's private enterprises normally employ fewer than seven people and these businesses are formally registered as private. This result is not surprising, as standard classification of private enterprises distinguish between 'household enterprises' (getihu) and 'private enterprises' (siying qiye) on the basis of employment, with a threshold for the former enterprise of seven employees. Their finding supports the notion that most private enterprises are small and micro-enterprises, and that the private sector includes a large number of self-employed individuals, in line with small business populations in most countries (Djankov et al., 2006). In China, the private sector is diverse, and as a result the number of employees in any single enterprise varies considerably (Coase and Wang, 2016; Garnaut et al, 2001; Unger, 1996).

One of the most noticeable recent trends in reform era China has been the increasing divide between rural and urban areas in terms of employment dynamics and rights (Li et al., 2013). Mass migration of a young rural workforce from many of the provinces in middle China, combined with increased urbanisation as cities have grown and expanded their borders, has created labour markets and employment opportunities that are very different in the countryside and cities (Fan, 2007; Knight and Song, 2005). It has also created differential patterns of development in rural areas, as more developed rural

places have urbanised. In addition, private sector emergence has varied considerably in rural and urban areas. Farms and townships were at the forefront of economic liberalisation in the early years of reform, with de-collectivisation of farming and the emergence of township and village enterprises particularly prominent in the 1980s and into the 1990s (Huang, 2012). As state-owned enterprises – mainly based in urban areas – have restructured, especially during the 1990s and early 2000s, privatisation and the laying off of surplus workers has stimulated private sector emergence in cities (Dong and Xu, 2009). As such, our first research question examines private sector employment in urban and rural areas, and in particular, whether there are differences:

Question 1: What have been the effects of private sector employment in China's urban and rural areas, and are there any differences?

Much of the literature, and policy analysis, has found that the rise of the private sector in the countryside coincided with privatisation of under-performing township and village enterprises (TVEs) that had been privately managed but held under local government (Li and Rozelle, 2003; Liu et al., 2006). The privatisations occurred in the 1990s, and led to transfer of ownership from local government to private entrepreneurs, as these collective enterprises were 'released' by the state. By most accounts, the reforms led to a decline in TVEs from the late 1990s, and to a rise in entrepreneurship and self-employment in rural areas. However, one explanation for the continued existence of TVEs in rural areas could related to a 'soft centralisation' of power that occurred over the same period. As TVEs were being privatised, local government was weakened as the central state removed fiscal and other local administrative powers (Oi et al., 2012). Naturally, the above leads to a second question we analyse in our paper:

Question 2: To what extent have collective enterprises continued to have an employment effect in rural areas?

As well as an urban-rural divide, there is growing divergence in economic growth, and prosperity, between provinces (Lin et al., 2004). In broad terms, the major Eastern cities and coastal provinces have experienced higher growth over a sustained period than inland provinces, and in particular those in the North and South West. Over time, this divergence in growth has widened differences in per capita and household income between coastal and inland provinces (Fleisher et al., 2010). Such an outcome raises a broad question around whether private sector development also varied spatially, reflecting differences in provincial GDP:

Question 3: Are there spatial variations in private sector employment by province?

There has been a tendency for private sector development to be faster in provinces that have higher levels of GDP growth, so presenting the possibility that they are correlated (Wang, 2004; Choudhry, & Elhorst, 2010). Work to date has focused on the GDP, and hence income, relationships between private sector development and provincial development (e.g. Liu and Yu, 2008). In this paper, we consider relationships between GDP per capita and GDP growth with employment in the private sector, in order to better understand spatial patterns of the impact of private sector development on jobs:

Question 4: Is there a correlation between private sector employment and GDP?

3. DATA ANALYSIS AND DISCUSSION

Section 3 of the paper considers five dimensions of private sector employment in China: (1) national urban patterns of private employment; (2) national rural patterns; (3) urban and rural private employment at provincial level; and (4) national correlations between private sector employment and GDP; and (5) provincial correlations between private sector employment and GDP. These five areas of analysis address the four research questions presented earlier in this paper.

3.1 Urban Patterns of Collective Private Sector Employment

We start by considering increases in private sector employment in urban areas between 1990 and 2015, which is the last available year for these data (see figure 1). Figure 1 shows that over that period, the share of urban employment by private enterprises increased from 0.39% in 1990 to 30.42% in 2015, and the share of urban employment by micro enterprises and the self-employed from 4.17% in 1990 to 21.22% in 2015. On that basis, recognised privately-owned enterprises accounted for just over 51.64% of urban employment, up considerably from less than 5% in 1990.

The results indicate the scale of ownership transformation in China's cities between 1990 and 2015. In 1990, the private sector accounted for a very small proportion of urban jobs, and employment in the private sector was almost all in micro-enterprises. Employment in larger private enterprises, with more than seven employees, made up a tiny fraction of urban employment; indicating that the private sector was not a major employer in China's urban areas during the 1980s, a key period for economic liberalisation. As a result, we can conclude that the early years of economic reform in China did not produce a major shift towards private employment in the country's cities. Instead, urban employment rested with the state sector into the 1990s.

(insert figure 1 here)

The transition to private employment therefore is a relatively recent phenomenon that started in the early 1990s and only became significant from the late 1990s, when private enterprises and self-employment first exceeded 30% of urban employment. Moreover, several phases of private sector employment can be identified. The first was a rapid increase in self-employment and household enterprise, the growth of which happened between 1993 and 1999. The growth in small-scale urban private enterprise slightly

preceded extensive restructuring of state-owned enterprises (SOEs) through the second half of the 1990s and into the early 2000s. A second phase, which consisted of significant increases in employment in larger private enterprise, can be identified over a ten-year period from the late 1990s through the late 2000s (1999-2009). Over that period, urban employment in private enterprises increased from under 5% to 25% of the workforce.

During the 1999-2009 period, and in particular between 1996-2000, most smaller SOEs were privatised so transferring employment and ownership from the state to the private sector. Under these circumstances, significant increases in private employment in cities since 2000 reflected a wider restructuring of China's urban economy away from the state. The initial rise in self-employment and micro-enterprise suggests that the move to the private sector had started before major shedding of labour by SOEs, however, initially focused on small-scale enterprise. The growth of employment in private enterprises, in other words, appears to be well explained by the restructuring and subsequent privatisation of many SOEs in China's cities. The slightly earlier rise in small-scale private enterprise, however, precedes the restructuring, so signalling some shift to private employment in China's cities early in the 1990s.

The share of urban employment by state owned companies has decreased dramatically, from 70.25% in 1990 to 16.89% in 2015 (Figure 2), reflecting widespread privatisation of SOEs between the mid-1990s and early 2000s. The continued fall in urban employment in the state sector through the latter half of the 2000s also suggests that those SOEs that remained in public ownership secured efficiency gains by reducing their overall labour costs, so providing some indicative evidence of re-positioning of these enterprises as they sought to be more competitive in an increasingly marketed economic system following on from WTO accession. Figure 2 shows that the share of urban employment by collective enterprises decreased from 24.10% in 1990 to 1.31% in

2015. As a result, we can conclude that the urban collective sector has essentially disappeared from China's cities, and the state sector is no longer the main urban employer.

(insert figure 2 here)

The share of urban employment by other private sectors (Cooperative Units; Joint Ownership Units; Limited Liability Corporations; Share Holding Corporations Ltd; Units with Funds from Hong Kong, Macao and Taiwan; Foreign Funded Units) increased from 1.10% in 1990 to 30.17% in 2015. The private sectors category includes enterprises that have significant international shareholdings, as well as private enterprises that have financed themselves through shares issues. However, the private sectors category also includes nominally private companies that actually are owned by the state through shareholdings. Overall, the share of urban employment from private enterprises, self-employed and micro-enterprises, and other private sectors accounted for 81.81% of Chinese urban employment in 2015. Even with inclusion of nominally private companies, the change seen over the two decades indicates that the private sector has become the dominant employer in China's cities. Comparing Figures 1 and 2, the urban economy has shifted from being almost completely state-owned to three-quarters privately owned within two decades. Such change is a major structural transformation over a short period. Such a change signifies a fundamental restructuring of China's urban economy away from the state to a dominant market sector between over a 15-year period from the mid-1990s to the late 2000s.

3.2 Rural Patterns of Collective and Private Sector Employment

We turn next to rural employment. The countryside accounted for more than half of the total population until 2011. Figure 3 shows that the share of rural employment by

private enterprises increased from 0.24% in 1990 to 14.08% in 2015. The share of rural employment by household enterprises (self-employed and micro family businesses) increased from 3.13% in 1990 to 10.48% in 2015. The data also indicate that employment in smaller, household enterprises and self-employment remained static over much of the period. After increases in the 1990s, self-employment in rural areas fell and then stayed static at lower levels between 1999 and 2009. Although private self-employment has grown since 2009, it remains a minor employer in China's countryside, accounting for circa 14% of the workforce by 2015. Combined, private enterprises accounted for around 24.56% of rural employment in 2015, up from 3.37% in 1990.

The share of rural employment by collective enterprises also increased, from 19.42% in 1990 to 32.69% in 2008. Through much of China's reform period, rural collective enterprises have tended to be privately managed, and effectively operating as private enterprises under the guise of local ownership by the state. Steady increases in employment from 1999 indicate that collectively owned enterprises, overseen by local government, but generally privately managed, became a more important source of employment over the period.

(insert figure 3 here)

The above finding contradicts much of the literature, which identified a fall in the TVE population in the mid-1990s as these enterprises were sold to private entrepreneurs and so effectively privatised (Kung and Lin, 2007; Li and Rozelle, 2003; Park and Shen, 2003). Two dips can be identified in the data – in 1995 and 1998-1999 – which coincide with the privatisation of TVEs and restructuring of the state-owned sector. However, the data indicate that these were temporary trends, with employment growth by collective enterprises continuing from 2000 to 2011. The data indicate therefore that much of the literature pronouncing the disappearance of TVEs during the 1990s reflects a relatively

minor short-term trend that did not reflect a longer-term dynamic of continued growth in collective employment through the 2000s. The above is a novel finding, as it indicates that collective enterprises have continued to be an important and growing source of employment in rural China, accounting for significantly more jobs than private businesses throughout the period.

3.3 Urban and Rural Private Sector Employment by Province

Looking at urban and rural private sector employment by province is to determine whether there are variations across China in economic and enterprise development. Divergence in the economic development and prosperity of provinces in China has become increasingly evident as the economy has been liberalised through successive reforms, and addressing the wealth disparities that are reflected in these trends has become a policy concern for the Chinese state (Lau, 2010). Figure 4 shows that the highest percentage shares of urban employment by private enterprises were in Jiangsu (46.52%), Shanghai (42.68%), Guangdong (30.94%), Zhejiang (28.76%) and Tianjin (28.27%), which are all more developed provinces located along the east coast of China. The lowest percentage shares of urban employment by private enterprise were in Shanxi (11.86%), Guizhou (14.72%), Henan (15.75%), Jiangxi (16.06%) and Xinjiang (16.88%), which are in the west and middle of China, and are considered underdeveloped areas.

The highest percentage share of urban employment by micro-enterprises and the self-employed were in Anhui (34.28%), Tibet (33.02%), Jiangxi (29.36%), and Ningxia (26.48%). Conversely, the lowest percentage shares of urban self-employment were found in Shanghai (3.95%), Beijing (6.73%) and Tianjin (9.22%). These findings indicate a relationship between the size of a private enterprise and overall levels of

economic development. The ‘private enterprise’ category includes businesses that employ more than seven staff, and the ‘self-employed’ and household enterprises are private businesses with seven or fewer employees. In the more developed eastern coastal provinces, employment by private enterprises – the larger units – is high, and self-employment is low. Conversely, in inland poorer provinces – in particular Tibet and Ningxia and Anhui – self-employment is higher, but employment in larger private enterprises is low. Therefore, we can say that there is a negative relationship between economic prosperity and self-employment, which in turn indicates that self-employment in China is more likely to be necessity-based, and so concerned with subsistence. Moreover, self-employment is less evident in more developed parts of China, suggesting that private enterprises are bigger and so are more likely to grow rather than staying small.

(insert figure 4 here)

A tendency for private enterprises to be in more developed provinces suggests that these parts of China will be less dependent upon the state sector, as supported by Figure 5 for evidence. The highest percentage shares of urban employment by state-owned enterprises (SOEs) are in Shaanxi (52.51%), Guizhou (48.42%), Xinjiang (47.55%), Gansu (46.36%) and Heilongjiang (44.08%), all of which are amongst the least developed provinces in China. The provinces with the lowest percentage share of urban employment by state-owned enterprises are Zhejiang (13.12%), Jiangsu (13.64%) (16.56%), Guangdong (17.04%) (17.94%), Beijing (19.49%) and Shanghai (19.77%), which are all located along the economically developed East coast.

(insert figure 5 here)

As noted, private enterprises can be categorised as other enterprises, particularly when they are share-owned or have non-Chinese ownership. Employment in ‘other’

enterprises therefore also provides some indication of private sector employment, although not all businesses in other enterprises can be considered private. The highest percentage share of urban employment in other sectors is in Beijing (43.62%), Fujian (40.85%), Zhejiang (38.49%), Tianjin (33.28%), and Shanghai (32.09%), which are all prosperous and more developed parts of China. In contrast, the lowest percentage share of urban employment in other sectors appears in Yunnan (11.27%), Gansu (11.67%), Qinghai (13.09%) and Heilongjiang (13.94%). Foreign enterprises as well as public and private enterprises with shares, is most concentrated in the most developed parts of China, where the private sector is more pervasive. Therefore, we can say that these enterprises cluster where private sector activity is greatest.

3.4 Correlations between Private Sector Employment and GDP

Our analysis so far suggests a positive correlation between private sector employment and economic development, as measured by GDP. In section 3.4, we test this positive correlation by using summary provincial data from the China Statistical Yearbook. Table 1 presents a correlation analysis that considers the significance of the relationship between GDP per capita and in terms of annualised growth rates – and employment by type of enterprises, as categorised by ownership status (state, collective, private, self-employed). The data source was industrial data, and so covers urban areas in China. The correlation analysis highlights significant results in bold.

From Table 1, we can see that per capita GDP is negatively correlated with share of urban employment in the state sector and the self-employed. These negative effects are high. In broad terms, cities that are more reliant on state-owned enterprises or that have a high reliance on very small enterprises tend to be less prosperous in per capita terms. In contrast, per capita GDP is positively correlated with the share of urban employment

by private and ‘other’ enterprises, the latter category including many private international businesses and so indicating to some extent levels of Foreign Direct Investment and activity. Private enterprises (employing more than seven people) and foreign companies have a strongly positive impact on GDP and hence economic prosperity and growth. We find therefore that private sector employment is positively correlated with GDP in China’s cities.

We also find that the share of urban employment by private and ‘other’ enterprises is negatively correlated with urban employment by the state sector, which implies that private enterprises are more likely to emerge where state-owned enterprises are not as dominant. Such a trend corresponds with the early emergence of small and micro private enterprises in sectors and niches where the state and collective sectors were less active, in a dynamic of ‘filling out’ the economy. It is also conceivable, that the growth in the private sector in recent years has lessened the economic importance of state-owned enterprises in areas where private sector growth has been particularly strong. Our results also indicate that private and collective employment are negatively correlated, supporting our earlier observation that private enterprises tend to be concentrated in urban areas and collective enterprises continue to be important to and located in rural areas.

The relationship with growth is less clear, with no significant correlations found. There are positive but not significant relationships with collective and ‘other’ enterprises, suggesting that collective enterprises drive growth in rural areas as well as employment, and foreign investors are positively associated with GDP growth. These results make sense given our earlier identification of collective employment in rural areas and the tendency for foreign direct investment to both stimulate local growth and to focus on areas where the economy is expanding. However, neither results are

significant, and the weak effects of other enterprises on GDP growth instead suggests that the specific make-up of enterprises and economic activity locally, which tends to be both variable and have its own distinctive development contexts, are likely to explain variations in GDP growth. These local profiles of economic activity and enterprise are not available in national statistical data.

Table 1 Correlation analysis of Provincial Panel Data (2004 – 2008)

	PC GDP	**GDP growth**	**State**	**Collective**	**Private**	**Self**	**Others**
PC GDP	1.00						
GDP Growth	0.10	1.00					
State	**-0.69**	-0.13	1.00				
Collective	-0.31	0.12	0.31	1.00			
Private	**0.64**	-0.02	**-0.79**	**-0.51**	1.00		
Self	**-0.55**	-0.04	0.19	-0.14	-0.21	1.00	
Others	**0.70**	0.18	**-0.72**	-0.04	0.34	**-0.65**	1.00

(Source of data: China Statistical Yearbook 2005 – 2009)

The relationship between GDP per capita and private sector employment is clearer than the relationship with growth. Figure 6 broadly shows that there is a positive relationship, especially where private sector employment is especially high or low. There is considerable range in GDP per capita levels at any single percentage composition of private sector employment, which indicates that the single variable of private sector employment provides a partial explanation of per capita GDP levels by province in China.

It is not surprising that, given the many other factors that affect provincial variations in GDP, including for example, spatial variations in investment by the state and by foreign investors across China, along with a trend of starting economic liberalisation along the coast through pilots and location-specific initiatives, such as Special Economic

Zones in the 1980s, and Economic and Trade Development Zones in the 2000s. Indeed, from above perspective the r-squared correlation is relatively strong, as it indicates that private sector employment – or by inference private sector activity – explains circa 40% of the variation by province in per capita GDP. Therefore, there is a strong influence by the private sector on the relationship between jobs and prosperity, in GDP terms at least.

(insert figure 6 here)

In order to further analyze the relationship between per capita GDP and private enterprises employment, we construct the static panel data model. Taking the above into account we specify the econometric model to estimate as follows:

$$y_{it} = \alpha_i + \beta_1 x_{1it} + \beta_2 x_{2it} + \beta_3 x_{3it} + \beta_4 x_{4it} + \beta_5 x_{5it} + \varepsilon_{it}$$

Where y_{it} represents the per capita GDP of province i at the time t; x_{1it} is the capital stock per worker of province i at the time t; x_{2it} is the total trade per capita of province i at the time t; x_{3it} is the FDI per capita of province i at the time t; x_{4it} is the private enterprises employment of province i at the time t; x_{5it} is the consumer price index (CPI) of province i at the time t; ε_{it} is the error term.

The benefit of above model is that it opens up the opportunity to investigate long-run trends of the relationship between per capita GDP and other relevant variables. In this paper, we use annual panel data from 31 provinces in China for the period 2007-2015.

The economic variables which are selected for this paper are identified as important stimulants to GDP per capita and occupied most of findings in the study of correlation between private sector development and GDP per capita. Out first control variable is capital stock per worker. We include capital stock because, in the study of economic growth, Solow (1956) proposed that the stock of capital per effective unit of labour has positive effect on steady-state income per capita.

Second, many developing countries use export oriented polices to promote economic growth, through export expanding policies, factor productivity can be raised by using its resources efficiently and increasing technological innovations. With economic openness, developing countries are gradually integrated into international markets through foreign trading, hence increase their capacity utilization and improve gains of scale effects (Moschos, 1989). As well as trade, foreign direct investment (FDI) also be recognized as vital contributor for economic growth in developing economies. FDI builds a bridge between developing countries and developed countries in areas such as technology transfer and stimulates domestic investment as well as encourages development of human capital and institutions in the host countries (Makki and Somwaru, 2004). In this paper, we use trade per capita and FDI per capita as independent variables and expect they have positive impact on per capita GDP. In addition, Consumer Price Index (CPI) is used as a deflator to adjust GDP per capita because of China's GDP reporting methods, which uses the value-added method. For most developed economies, the expenditure method is the preferred GDP reporting method because it can provide the best measure of an economy's output. However, in China's case, it only implements value-added measures because of its inherited-out reporting system that heavily depends on the direct enterprise reporting of Gross Value Output, intermediate inputs, and income components (Keidel, 2001). Hence, to analyse the correlation between GDP per capita and private sector employment, it is necessary to apply appropriate deflators in our model. Finally, we used percentage share of private enterprises employment in our model to test whether a relationship between GDP per capita and private sector employment could be established.

The mian results form the panel data regression are presents in Table 2.

Table 2 mian results form the panel data regression

variables	Pooled OLS	Fix effect model	Random effect model
x_{1it}	**1.2013***** (38.36)	**1.0595***** (22.21)	**1.1186***** (25.06)
x_{2it}	**0.0001***** (11.51)	**0.0001***** (6.14)	**0.0001***** (6.17)
x_{3it}	0.0141 (0.08)	**2.2059***** (8.39)	**1.4808***** (6.13)
x_{4it}	**7.6034***** (14.49)	**6.2678***** (8.40)	**6.7703***** (9.84)
X_{5it}	49.0395 (0.89)	43.1620 (0.34)	132.8396 (1.02)
F test		**16.36***** [0.000]	
Hausman test		**66.50***** [0.000]	
Time fixed effect		3.45 [0.9437]	
R-squared	0.9806	0.9723	0.9709
Number of observations	299	299	299

Notes: *** indicates significant at 1%, ** indicates significant at 5%, and * indicates significant at 10%, t-statistics are in parentheses ( ) and p-value are in [ ].

As can be seen from the results in Table 2, Hausman specification test statistic shows that the null hypothesis that the regressors and individual effects are not correlated is rejected, thus the fixed effects model will be appropriate.

The coefficients of x_{1it} , x_{2it} , x_{3it} , x_{4it} are strongly significate at 1% level in fixed effect model, which indicates that capital stock per worker, the total trade per capita, the degree of openess in terms of FDI per capita, and the private enterprises employment are directly related to per capita GDP. Although the CPI has positive coefficient but insignificant coefficient, implying that it does not have an impact on per capita GDP.

The overal goodness of fit of pooled OLS, fixed effect model and Random effect model demonstrates that the specific models fit a set of observations in a significant level. Time fixed effects are necessary if the independent variables for all are equal to 0. If they are, then no time fixed effects are needed. In Table 2, we fail to reject the null that

all years coefficients are jointly equal to zero which is 3.45. Therefore, no time fixed effects are needed in this case.

4. CONCLUSIONS

In this paper, we explored employment patterns in China since 1990, especially the contribution of employment in the private sector to GDP. The late 1990s and early 2000s period is of significance because it saw major re-structuring of the Chinese economy, including the decline of collectively owned township and village enterprises in the early to mid-1990s, the shrinking of the state sector and sell-off of loss-making and smaller state-owned enterprises, and a significant reduction in employment within government. Over the period, the relationship between the state and the economy has changed fundamentally, as government has moved, both locally and nationally, from directly managing enterprises to a more distant relationship that allowed businesses, even those owned by and close to government, more autonomy (Atherton and Smallbone, 2013). Each of these changes saw falls in employment in the collective and state sectors, and increased employment in the private sector. Therefore, they are reflected in government policy, which conceived of private enterprises as absorbing workers laid off from the state-owned sector during the 1990s and early 2000s. Within above wider context, patterns of employment outside the state sector are an important consideration when seeking to understand the nature of economic change within China over that period.

Our first research question considered private sector employment effects in urban and rural areas, and whether there are any differences. Our analysis indicates that in urban areas private sector employment increased significantly between 1990 and 2015, and at the same time, state and collective employment fell. We can conclude therefore that employment in China's cities moved from publicly owned enterprises to the private

sector over that period. The private sector growth was particularly apparent in larger private enterprises, rather than amongst the self-employed and micro-enterprises. The data indicate that self-employment, which can be associated with marginal returns from entrepreneurship and lower levels of profit generation in many emerging economies, did not account for job growth after 2000. Instead, employment in private enterprises with more than seven employees grew, pointing to a scaling up of the private sector.

Private sector employment in rural areas grew rapidly, but from a very low level based upon the statistics. In 1990, almost none of the active rural workforce was employed in private enterprises and few were self-employed or working in household enterprises. By 2015, private sector employment had grown to circa 24.56%. However, over the same period, employment in collective enterprises rose from 20% to 33% of the rural workforce. In other words, rural employment in collective enterprises was high in 1990 and increased markedly over the period. We can conclude therefore that in response to question one, private enterprises have become a major employer in China's cities, but not in the countryside even though jobs in private sector have grown considerably. In contrast, and addressing our second question, collective enterprises not only continued to be a significant employer in rural areas, but increased their share of employment over the period.

Our third research question considered the extent to which there are spatial variations in private sector employment. In broad terms, we identified three patterns. Firstly, employment in private enterprises tended to be higher in more developed provinces and cities along or near the eastern coast. Second, self-employment tended to be higher, but employment in larger private enterprises tended to be lower, in inland provinces that are less developed. And, thirdly, employment in state-owned enterprises tended to be higher in provinces where private enterprises employed fewer people.

These broad findings led to our analysis of the fourth question, which was concerned with understanding whether there is correlation between private sector employment and GDP. We found a strong positive correlation between GDP per capita and private enterprises, and a negative correlation between GDP per capita and both state-owned enterprises and self-employment. Above results provided statistical support for the trend data identified in relation to our third question. Supporting the broader trend data, we found a negative correlation between employment in the state and in the private sector. We also found a negative correlation between private sector employment and collective enterprise employment, implicitly supporting our finding that private enterprises are increasingly important employers in cities but not in the countryside, and that collective enterprises are key employers in rural areas but not in urban areas.

These findings point to the following key implications. The importance of collective enterprises in rural areas, and private enterprises in cities, indicate different drivers of growth in these two spatial contexts. We can conclude therefore that the growth of the private sector overall has been more important in China's urban areas than in the countryside. Although private sector employment increased in rural areas since 1990, it is not a major employer in rural areas. In contrast, collective enterprises have become an even more important employer in the countryside over the late 1990s and early 2000s period, despite accounts that have characterised the demise of many township and village enterprises as the decline of the collective sector in the countryside.

Our results point to a somewhat complex, and nuanced, picture of collective and private sector activity and growth. We can conclude that private enterprises are an important and significant driver of prosperity, as measured by GDP, in urban China, but are less significant for employment or growth in rural areas. In these parts of China, the primary driver of economic growth is still the collective sector, which highlights a

growing bifurcation between China's cities and countryside in terms of type of employer.

Our analysis finds a broad correlation between private sector development and GDP, per capita, with growth being driven by larger private enterprises, rather than through self-employment and in household enterprises. We also found that the presence of 'other' enterprises, which includes many private (as well as state-owned shareholding) enterprises and also foreign ventures that are privately owned, is positively related with local prosperity. Above correlation aligns particularly with China's urban areas, which as we note above have become private sector economies over the period considered in this paper.

There is some suggestion from our analysis that there is no clear benefit or advantage arising from a mixed economy, where SOEs and private enterprises co-exist. Instead, there is an indication that private enterprises concentrate in areas where SOEs are less dominant. Employment growth is driven, in other words, by private sector activity, and not from a hybrid model of enterprise ownership. Where state-owned enterprises continue to play a significant role, the impact of the private sector appears to be less strong (Ke, 2015).

Although private enterprises are important drivers of urban employment growth, and collective enterprises of rural job creation, their employment effects do not tell the full story of China's recent economic growth on jobs. In our analysis, private sector employment in urban areas provided only a partial, although notable, explanation of GDP increases and distributions. As such, we can conclude that other dimensions of economic development are also important, including; reform and de-regulation of markets, trade liberalisation, and institutional improvement. In other words, broader institutional and macro-economic developments, focused around and emerging from a

rolling reform programme, have enhanced the Chinese economy, which appears to have had a positive and reinforcing effect on private sector development in China's cities, as entrepreneurs stimulate growth that in turn generates the resources that the state can invest in enhancing the institutional environment for economic growth through reform and investment (Andriessea and van Helvoirt, 2010; Wang et al., 2012).

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Figure 1 Urban private sector employment

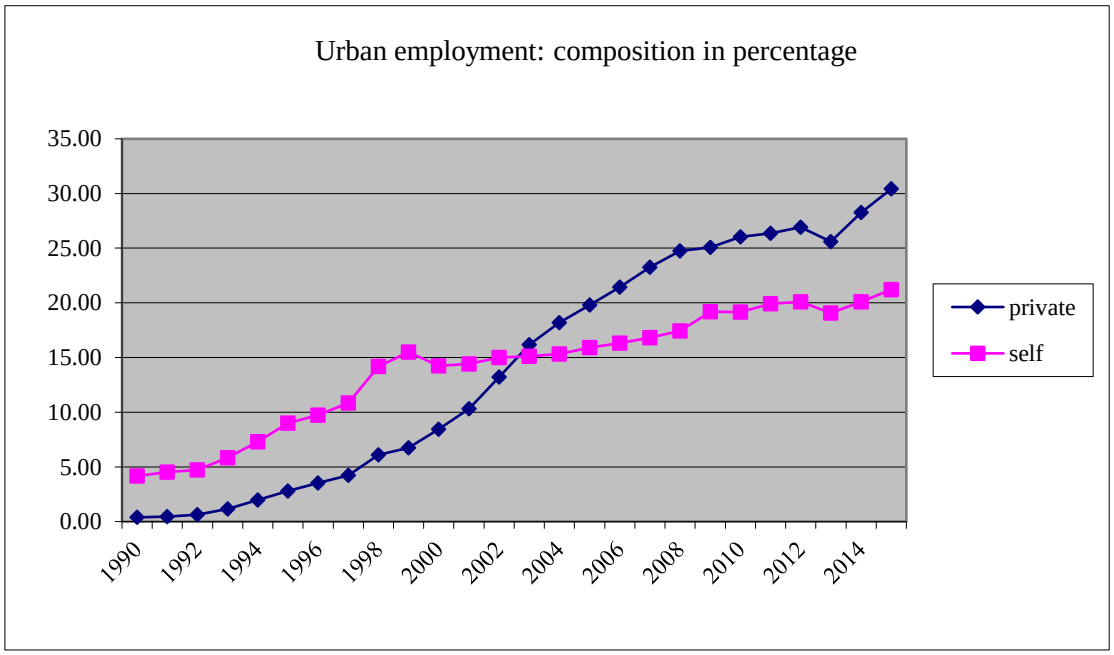


Figure 2 State and collective employment shares

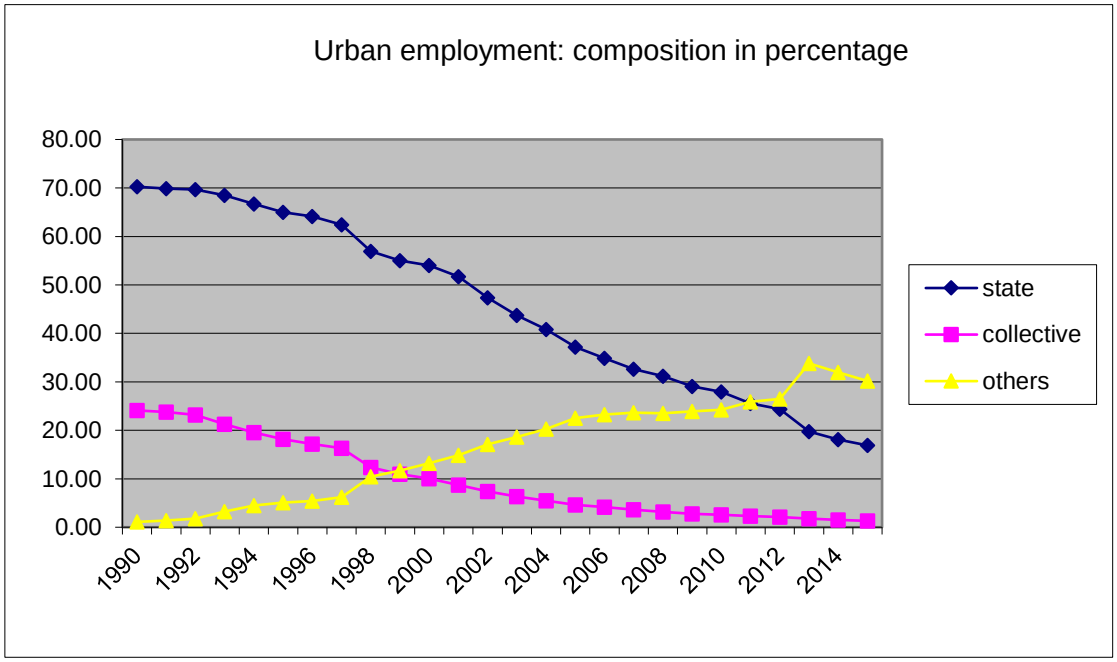


Figure 3 Rural employment in collective and private enterprises

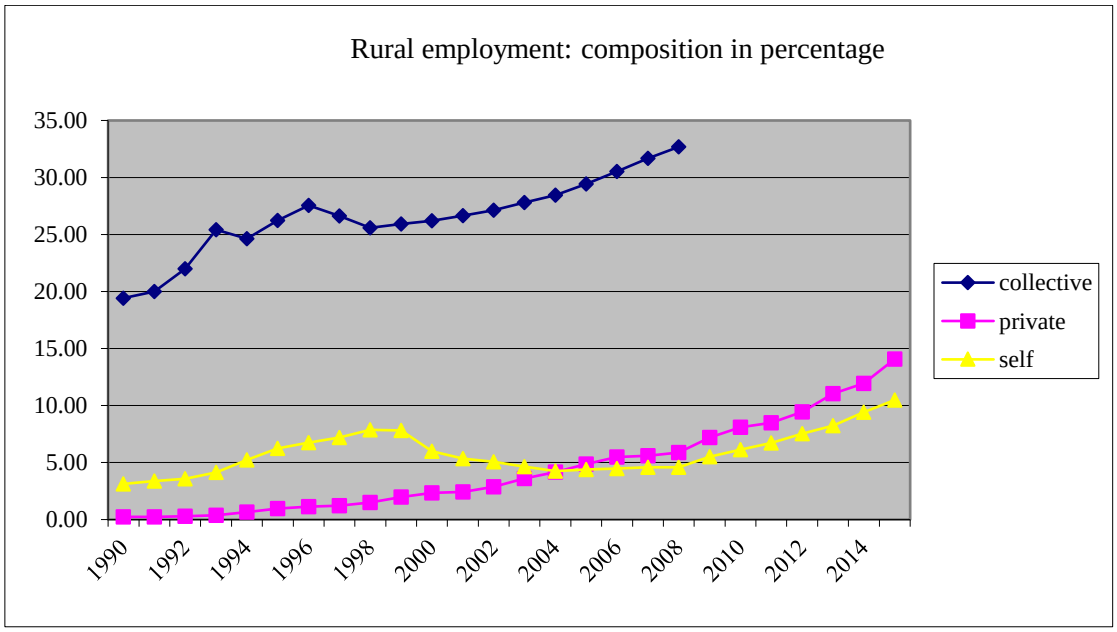


Figure 4 Urban employment in 2008 by province: composition in percentage

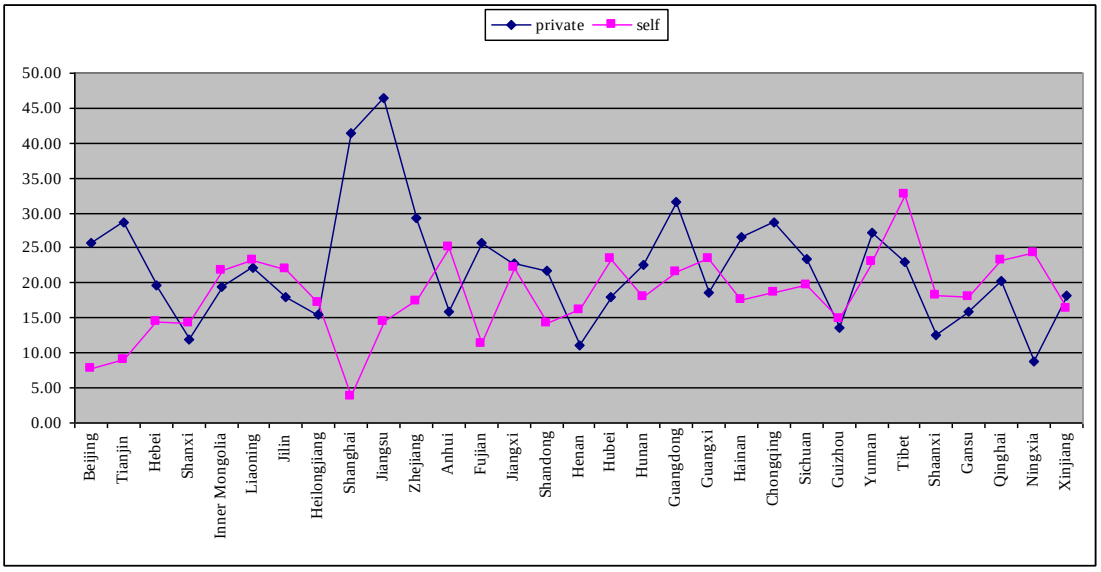


Figure 5 Urban employment in 2008 by province: composition in percentages

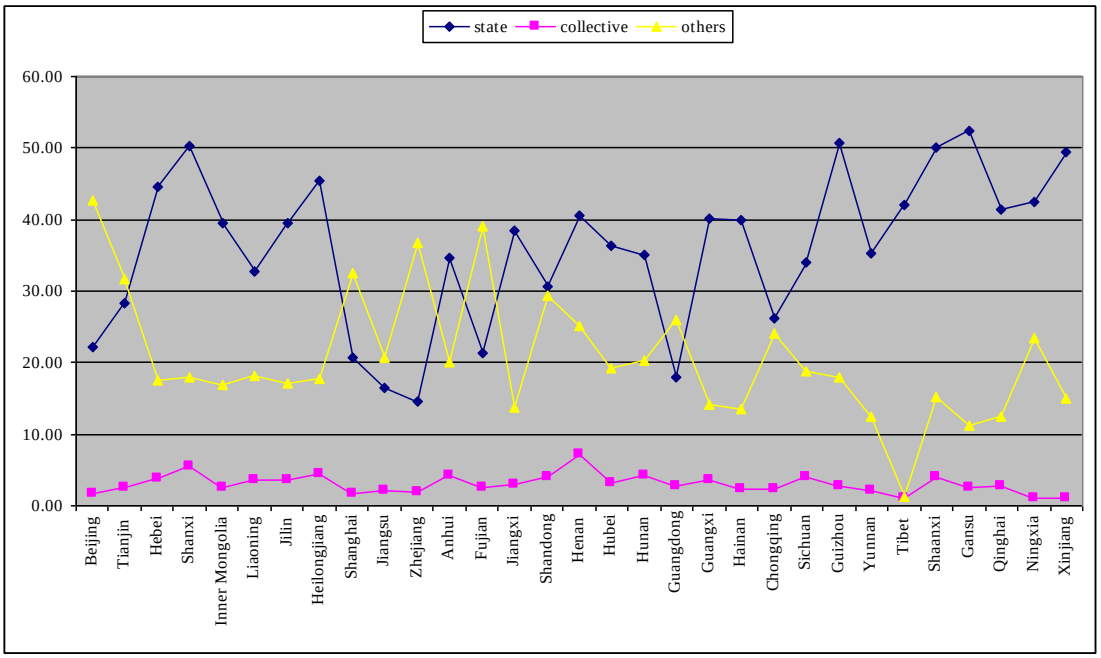
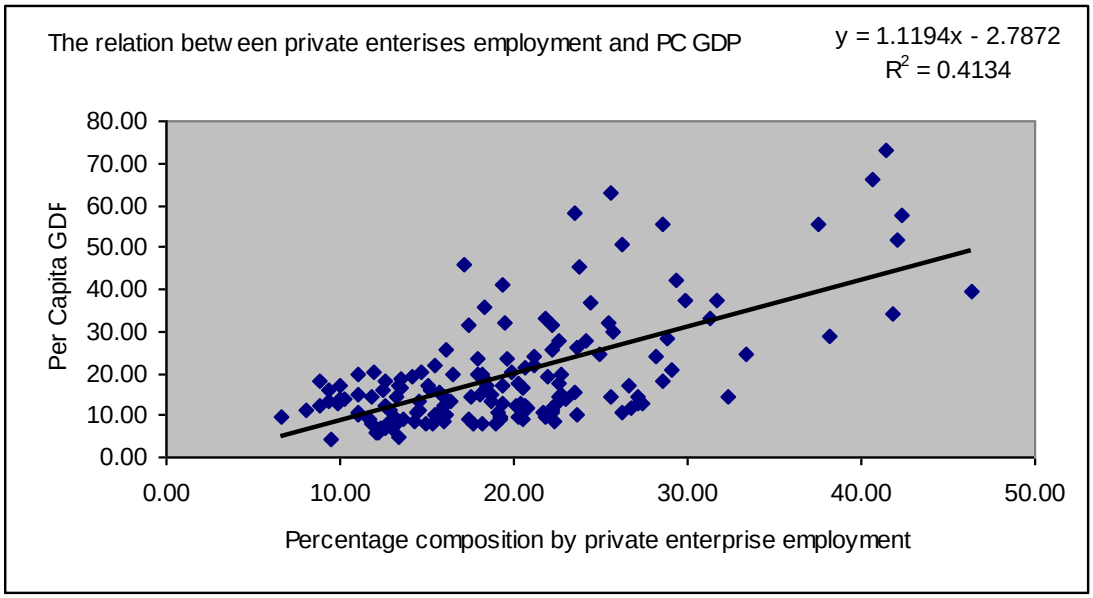


Figure 6 Results from Provincial Panel Data (2004 – 2008)



(Source of data: China Statistical Yearbook 2005 – 2009)

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