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## Regional unemployment disparities in China



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### ABSTRACT

China has larger regional unemployment disparities than any other economy of comparable size. The persistence of the unemployment disparity in China has prevented the aggregate unemployment rate from decreasing even when the country's GDP was growing at 10 percent per year. Unemployment rates rose and unemployment disparities widened in other transition economies too, but what made China's disparities wider than those in other transition economies is the existence of a large subsistence sector, where unemployment exists only in a disguised form. This study explains the wide unemployment disparity in China with the geographically uneven distribution of the three sectors: the state sector, which suffers from a steep rise of unemployment during transition; the capitalist sector, which absorbs labor from the subsistence sector and grows rapidly; and the subsistence sector, which supplies its redundant labor to the capitalist sector. The study also presents a case study of Fuxin City, which has experienced an extremely high unemployment rate due to the reform of its main industry. Fuxin's case is presented as a microcosm of the problems that give rise to unemployment disparities, such as massive layoffs in the state sector, lack of labor mobility in the unemployment-stricken regions, and inadequate development of the capitalist sector.

### 1. Introduction

Most transition economies have experienced a steep rise in their unemployment rates during transition. Along with the rising unemployment rates, regional disparities in unemployment have emerged and turned out to be persistent (Schiff et al., 2006). China is no exception. The persistence of high unemployment in certain regions has prevented China's aggregate unemployment rate from decreasing even when the country's GDP was growing at 10 percent per year on average. The unemployment problem in China is a problem of the regional rather than the national economy. This study explores the reasons for the emergence and persistence of regional unemployment disparities in China by analyzing nationwide unemployment data as well as a case study of a city in northeastern China, where a severe district-level unemployment disparity exists.

Regional unemployment disparities more or less exist in all countries with a sizable territory, and a vast literature has explored their causes. Theories proposed in the literature to explain regional unemployment disparities can be grouped into three types: equilibrium, disequilibrium, and structural views. The equilibrium view recognizes persistent geographical unemployment disparities as a result of workers' underlying preferences for staying in certain regions. Workers' preferences are influenced by local amenities and differences in the level of unemployment benefits and insurances between regions. According to this view, the effects of shocks that disturb the relationship between regional unemployment rates and workers' preferences will soon be mitigated by migration. This view was presented by Marston (1985) in his study on regional unemployment disparities in the United States and has been supported by Dixon et al. (2001) and Galiani et al. (2005) for the cases of Australia and Argentina, respectively. The disequilibrium view, on the other hand, recognizes regional unemployment disparities as a result of economic and social barriers that restrict

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workers' mobility between regions. Weak labor demand in a region will raise its unemployment rate, because there are barriers that discourage workers from migrating out of the region in search of work opportunities. This view is supported in a study on Spain by Saez and Murillo (1996), who point out that the Spanish labor market is characterized by "an extreme lack of labor mobility." Pehkonen and Tervo (1998) report similar findings for Finland. Filiztekin (2009), who studies the case of Turkey, implicitly supports this view by stressing the role of labor demand in determining local unemployment rates. The third view, which the author calls the structural view, attempts to identify the structural features of the regional economy that create differences in the regional labor demand. This view implicitly incorporates the disequilibrium view, because it presupposes that labor mobility is not sufficient to offset differences in regional unemployment rates caused by differences in regional labor demand. Lazar (1977), discussing Canada's case, points out that differences in the regional labor market structure and seasonal employment fluctuations give rise to regional unemployment disparities. He argues that regions with a large secondary labor market, which is characterized by high labor turnover, are likely to have higher unemployment rates. Martin (1997), in his study on the United Kingdom, argues that the regional industrial structure has shaped the differences in regional labor demand, which leads to regional unemployment disparities. For example, he argues that regions characterized by traditional and heavy manufacturing industries will have higher unemployment rates than others. Bande et al. (2007) explain the wide unemployment disparity in Spain by the sectoral-regional wage setting mechanism, which often results in deviations of the sectoral-regional wage from productivity, leading to high unemployment in the region.

Studies on regional unemployment disparities in transition economies tend to adopt the disequilibrium and structural views, since it is unlikely that labor markets in transition economies can work perfectly to reach an inter-regional equilibrium. In their study on Central and Eastern Europe, Schiff et al. (2006) point out that regional unemployment disparities in transition economies appear as a result of transition-related shocks. Such shocks affect industries unevenly, which leads to initial regional differences in unemployment. Subsequent changes in the industrial structure, in particular the contraction of heavy industry and mining, widen regional unemployment disparities. The persistence of regional unemployment disparities in Central and Eastern Europe is explained mainly by low labor mobility in these countries compared to their Western European counterparts.

It is likely that China's regional unemployment disparity stems from a similar structural background as in Central and Eastern Europe, since China is also on its way of transitioning from a centrally planned to a market economy. However, this study argues that, in order to understand this regional unemployment disparity, it should be taken into consideration that China is not only a transition economy but also a developing economy. Developing economies are characterized by a dual structure with a "capitalist" sector and a "subsistence" sector, as modeled by Lewis (1954). In the subsistence sector, unemployment exists only in a disguised manner: many people ostensibly have employment, but their marginal productivity is zero or even negative. In the capitalist sector, unemployment may exist because of economic fluctuations or other reasons. If the two sectors are unevenly distributed geographically, regional unemployment disparity may arise in a dual sector economy: regions with a large capitalist sector will have higher unemployment rates than those with a small capitalist sector.

The transitional and developing features of the Chinese economy have brought about an extremely wide regional unemployment disparity. While in some regions that are primarily characterized by the subsistence sector unemployment rates are close to zero, other regions are suffering from persistent unemployment with unemployment rates above 15 percent. Taking the ratio of the average regional unemployment rate in the top quartile regions over that in the bottom quartile regions as a way to measure the magnitude of the disparities (Bande et al., 2007), this study finds that China's ratio in 2000 (13.4) was far greater than those of the United States in 2005 (2.2), Japan in 2005 (2.4), Spain in 2001 (3.3), and Germany in 2001 (4.0).

The remainder of the paper is structured as follows. Section 2 presents an analytical framework to explain regional unemployment disparities in China. Section 3 examines China's current unemployment statistics and presents the statistics used in the subsequent analysis. Section 4 measures regional unemployment disparities in China and compares the results with other major economies in the world. Section 5 examines the effectiveness of the analytical framework in explaining regional unemployment levels using econometric methods. Section 6 presents a case study of Fuxin, a mining city located in northeastern China, which is characterized by a severe unemployment problem and intra-regional unemployment disparity. Section 7 concludes the study.

## 2. Analytical framework

Most transition economies experienced a sharp contraction of output and a rising unemployment rate during the initial years of transition. Chadha et al. (1993) present a model explaining the process of transition, where the economy consists of two sectors: the state sector and the private sector. The firms that constitute the state sector are controlled by their workers and thus maximize the expected utility of workers, while those in the private sector maximize profits. It is assumed that the speed of productivity growth is faster in the private sector. Along with the increase in the level of human capital in the private sector, the model shows that the state sector begins to shed labor, because the probability of state sector workers obtaining employment after being laid off from the sector increases. Since not all workers who are laid off from the state sector are re-employed by the private sector, the unemployment rate rises as more workers are laid off. Once the private sector has expanded beyond a critical level, it begins to absorb labor at a faster pace than that shed by the state sector, leading to a decline of the unemployment rate. In the same vein with this model, Schiff et al. (2006) suggest a C-shaped relationship between output and employment during transition. During the initial stage of transition, both output and employment shrink. In the next stage, output rises, but employment still falls. In the third stage, both output and employment expand.

What happens if a subsistence sector with plenty of surplus labor coexists with the other two sectors? With unlimited supplies of labor from the subsistence sector, the private sector (hereafter referred to as the "capitalist sector") is likely to grow more rapidly than in the case without a subsistence sector. The decline of output during the initial stage of transition as predicted by Schiff et al. (2006)

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