# Integrating Theories on Informal Economies: An Examination of Causes of Urban Informal Economies in China

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**Abstract:** Rapid urbanization has seen a concurrent growth of informal economies, which play an important role in alleviating urban unemployment and poverty. Following international efforts to integrate divergent theories on informality, this paper examines the causes of urban informal economies in China by deploying a panel data regression model that considers multiple explanatory factors informed by these theories. Our estimation based on the latest China Population Census shows that the size of urban informal employment in China reached 215 million and 22% of gross domestic product (GDP) output share was from urban informal economies. Our model reveals that the causes of urban informal economies in China are mainly associated with the stages of economic development, tertiarization of industries, unemployment, rural-to-urban migration, and globalization of urban economies. This paper adds evidence from the Chinese context to the emerging argument that informal economies cannot be fully explained by each mainstream informality theory, suggesting that these theories should be seen as complementary rather than opposing alternatives. The paper concludes with policy implications for urbanization in China.

**Keywords:** informal economies; informal employment; globalization; urbanization; new-type urbanization; China

## 1. Introduction

The prevalence of informal economies across the globe has received continual attention over the past decade [1,2]. A recent report from the International Labor Organization (ILO) shows that two billion (61.2%) of the global employed population aged 15 years and over are informal workers [2]. Particularly in Asia and the Pacific region, the share of informal employment within the total workforce reached 68.2% [2]. Together with climate change, resource depletion, rapid urbanization, and poverty, employment informality is listed by the United Nations Human Settlement Programme (UN-Habitat) as one of the major challenges to global sustainable development in the 21st century [3]. On one hand, the informal economy contributes to sustainable development because of its role in alleviating unemployment and poverty and promoting local economies [4–7]; on the other hand, it is also seen as a sign of underdevelopment and unsustainability given the nature of poor working conditions and precarity in informal employment [8–10]. Hence, the development and regulation of informal economies has become a key policy issue for national governments and supra-national agencies worldwide.

This paper aims to engage with a burgeoning literature that draws attention to the dynamics and causes of the informal economy and provide policy implications for the development of urbanization in China. In the literature, three mainstream perspectives have emerged on the causes of informal

economies: modernization, neo-Marxism, and neoliberalism. Each with a different theoretical lens, these perspectives provide diverse and competing explanations for the increase in informal economies in today's global world [11,12]. Recently, efforts have been made to integrate these perspectives to develop a better understanding of the complexity of informal economies [13–15]. The present study aims to contribute to existing literature by constructing a quantitative model that considers the multiple explanatory factors highlighted by the above-mentioned theories and applying this model to examine the causes of informal economies in urban China. We suggest that these theories are neither contradictory nor alternative to one another but are complementary in understanding the development of informal economies within a specific context.

Parallel with rapid urbanization in the post-reform era [16,17], China has seen a striking growth in informal economies [18], although this phenomenon continues to be neglected by the state's statistical apparatus. Research shows that the number of employees outside the formal economy grew dramatically from 15,000 in 1978 to 168 million in 2006, making up 59.4% of the total urban labor force [19]. China has become part and parcel of the worldwide process of the informalization of economies, although this has not yet been fully recognized by groups such as the ILO. Most of the existing studies on Chinese informal economies have focused on the effects on economic growth, job creation, and poverty reduction, as well as the reasons for participation in informal employment by specific social groups such as female and migrant workers [20,21]. However, little is known about the structural factors that drive the growth of informal economies in China in the era of marketization. Additionally, analyses to understand these structural causes have rarely been conducted with existing theoretical perspectives on informal economies. This paper thus attempts to fill the literature gap by applying these theories to explain the prevalence of informal economies in China. Two related research questions are investigated: What factors drive the growth of informal economies in China?; To what extent can the existing informality theories explain informal economies in the Chinese context?

The remainder of this paper is structured as follows. Section 2 reviews existing theories on informal economies and emerging efforts for their integration. Section 3 introduces the methodology we used to examine the causes of urban informal economies in China, followed by the results of the study in Section 4. Finally, Section 5 summarizes the theoretical and empirical implications of the findings and concludes by discussing several policy implications for tackling the informal economy.

## 2. Competing Perspectives on the Informal Economy: Debate and Integration

The informal economy is generally defined as income-generating activities that are either not regulated or insufficiently regulated by the state [22]; this includes self-employment and informal waged employment. Since the concept was first proposed in 1973 [23], a vast body of research has emerged in the fields of development economies, geography, economic sociology, planning, and urban studies [24–27]. Three mainstream theories on the causes of informal economies can be identified in the literature, namely modernization, neo-Marxism (or structuralism), and neoliberalism. These theories conceptualize the nature of informal economies through different approaches, providing competing explanations for their expansion. Through a critical review, we argue the need to integrate these theories through complementary approaches in order to better understand the dynamics of informal economies.

### 2.1. Modernization Perspective

There was a long-dominated view through the second half of the 20th century which asserted that the informal economy was a residual or temporary phenomenon that would ultimately disappear with the modernization of economies [28]. In this view, the economic system is divided into two distinct sectors: the formal and informal economy. The formal economy is seen as a thriving phenomenon that symbolizes development, advancement, and modernity, while its informal counterpart is defined as a traditional activity that indicates underdevelopment, backwardness, and pre-modernity [29].

Given the dualistic characterization of the economies, the modernization perspective is also referred to as dualism, which is rooted in the works of Lewis [30] and Harris and Todaro [31].

Several arguments about the causes of informal economies can be drawn from the modernization perspective. First, this perspective suggests that informal economies will shrink as nations step into a certain advanced stage of economic development. This indicates a trend in which informal economies are likely to experience a decrease parallel with a country's increase in per capital gross domestic product (GDP) [32]. The second argument, which has been well-reported in many developing countries that have experienced unprecedented population growth alongside underdeveloped industrialization, is that the expansion of informal economies results from the formal economy's inability to create sufficient jobs for urban labor forces [33,34]. Indeed, it has been asserted that informal economies are likely to grow when unemployment rates go up [35]. The economic crisis is thus considered to be a booster for the growth of informal employment due to the decline of formal economies and the rise in the number of unemployed persons. In line with the second point, the third argument is that an increase in the magnitude of rural-to-urban migration would lead to a growth of informal economies given the limited job opportunities in formal economies. The migration factor is well-recognized in the literature but rarely included in the models on informal economies.

However, parallel with the view of informal economies as a residual sphere is the fact that in recent years the informal economy has been thriving across the globe, becoming increasingly widespread. In both developing and developed countries, there are significant proportions of informal economies in the economic system as a whole [36,37]. Moreover, it has been argued that economic growth does not necessarily bring about a reduction of informal economies as expected by the modernization perspective; in some countries, in fact, informal economies are found to grow alongside the development of modern economies [38]. These studies suggest the complexity of informal economies, which might be structurally associated with modern economies in complicated ways that cannot be reduced to a trade-off pattern.

## 2.2. Neo-Marxist Perspective

The neo-Marxist perspective, also called the structuralist perspective, views the informal economy as a byproduct of contemporary capitalist restructuring, rather than as a result of the formal economy's inability to create sufficient jobs. According to this perspective, the informalization of economies is a strategy intentionally used by capitalist firms to cut costs, improve competitiveness, and weaken the power of unions [39,40]. Globalization is seen as the primary driver for the expansion of informal economies, as globalizing economies result in the growth of subcontracting activities, which, when coupled with deregulation and liberalization, give rise to the expansion of informal waged work and self-employment [41,42]. The informal economy is thus not separated from, but rather functionally linked to, the modern economy [43]. Thus, the informal economy is seen as a mode of production, a form of work organization, and part of the regime of flexible accumulation in the condition of recent capitalism [44,45].

The neo-Marxist theorization shapes new understandings of the causes of the informal economy. First, given the linkage between formal and informal economies, the informal economy is likely to expand with the process of industrialization and modernization, a trend that contradicts the assumptions of the modernization perspective. The relationship between informal economies and economic development in a country is thus not a given, but rather needs to be justified and explained by relating to the country context. Second, the informal economy is likely to grow when economies are increasingly globalized given that the globalization of production and trade has brought about the boom of subcontracting and outsourcing activities. One can expect, for instance, that the growth of foreign direct investment in a nation's economy may result in the expansion of the informal economy. Overall, in the light of the neo-Marxist perspective, the informal economy is constitutive of the process of modernization and globalization.

### 2.3. Neoliberal Perspective

Scholars from a neoliberal perspective are concerned with the effects of state regulation on economies and people's responses to this [46,47]. From this perspective, the informal economy is neither a byproduct of contemporary capitalist restructuring nor a consequence of underdeveloped modern economies; rather, it is a result of excessive state regulation, which motivates people to choose to engage in informal economies in order to avoid burdensome institutional costs [48]. Informality is thus conceptualized as a representation of free market forces responding to the failure of state intervention. Scholars from this perspective highlight the ingenuity, entrepreneurship, and rationality of informal workers in creating income opportunities and alleviating their poverty in the context of the high cost of legality. Empirical research has supported the neoliberal perspective, showing that countries with a higher tax burden or heavier regulations imposed on their economies (e.g., time-consuming business registration, high-cost labor regulation) tend to have a higher share of the informal economy in their total GDP [32,49].

Neoliberal reading of the informal economy has had great influence in the World Bank's policies for the development of developing countries primarily because it advocates for the policy of deregulation to empower free market forces and conforms to the project of neoliberalism undertaken in the capitalist world since the early 1970s [50,51]. However, deregulation might lead to the deterioration of job quality and growth of indecent work in light of the neo-Marxist perspective. Research shows that the capitalist firms that are essentially profit-driven lack motivations for improving the social benefits of their workers [52]. As the improvement of job quality is not an autonomous process but an institutional consequence, deregulation will tend to result in the erosion of job benefits [53].

### 2.4. Integration of Theories: The Informal Economy as a Cocktail

The debate in literature, as highlighted above, indicates that the growth of informal economies is driven by multiple forces that cannot be fully explained by one single theory. This multiplicity does not mean that explanations for the causes of informal economies are divergent or contradictory. Rather, it indicates that these theories are complementary in that each is valid in relation to specific elements of informal economies [54]. For example, the modernization perspective effectively explains traditional informal employment, such as street vending, which generally serves as the survival strategy of the unemployed, while the neo-Marxist theory gains more explanatory power in the case of the informal factories/workshops linked to formal economies. Indeed, a series of empirical studies by Williams and co-authors demonstrated the need to integrate these theories in order to achieve a comprehensive understanding of the informal economy [55,56]. With evidence from developed, transitional, and developing countries, they argued that only by combining multiple perspectives will a finer-grained understanding of the complex character of the informal economy be achieved [57,58].

To sum up, the informal economy is better understood to be a cocktail of multiple socio-economic forces in a specific context. Different theoretical perspectives might have different explanatory power for the informal economy in different countries given the contingent coupling of social, economic, and institutional forces in a specific geographical context. However, while these theories were used to understand the general dynamics of informal economies throughout the world, the extent to which they are valid in explaining the Chinese case is unknown. Moreover, some factors specific to China have not been considered in existing studies on the causes of informal economies. For example, given that China is a socialist country, the development of state-owned enterprises might have an impact on the reduction of informal economies. Likewise, rural migrants who are institutionally discriminated in urban formal labor markets due to lacking local household registration might fuel the growth of informality. Following the integrative approach, therefore, this paper contributes to the literature by constructing a quantitative model that considers multiple factors highlighted by different theories mentioned above. Empirically, this paper reveals the combination of factors causing the growth of informal economies in China and evaluates the adaptability of extant theoretical perspectives in understanding the dynamics of Chinese informal economies.

## 3. Definition, Data, and Methods

### 3.1. Definition and Estimation of Informal Economies

According to the ILO [34], informal employment is defined as workers who are not subject to labor regulations, social security benefits, or income taxation. It thus covers various forms of employment ranging from self-employment, such as street vending, to employment in informal sectors, such as home-based workshops and small-size firms, to unregistered employment in formal firms. In light of research undertaken by the ILO and others [59], we estimated the size of urban informal employment (IE) with the number of informal workers consisting of three parts: (1) unregistered or underground employment that is absent in the state's regular employment statistics ($IE_1$); (2) registered employment not complying with labor legislations ($IE_2$); and (3) registered self-employment ($IE_3$).

The data source for estimating the size of Chinese urban informal employment is from the China Population Census (2000 and 2010) and China Statistical Yearbook (CSY). In China, $IE_3$ can be estimated by referring to the number of individual employment or *geti jiuye* in Chinese from the CSY. These are mostly own-account workers and owners of small shops. $IE_2$ may exist in every firm; it is almost impossible to calculate this part of employment over the whole economy. However, $IE_2$ mostly exists in small-size firms [19]. In this paper, we approximated $IE_2$ with the number of employments in urban privately-owned firms or *siying qiye jiuye* that can be obtained from CSY as they are almost all small-size businesses. These firms account for 14% of urban employment and should not be equated with non-governmental enterprises as the term might suggest. According to Huang [19], who cited a systematic sampling survey of these firms, only 1.13% are larger entities that employ over 100 workers. The great majority are small-scale enterprises employing an average of less than 13 workers. It is argued by Chinese economists that workers in these firms are informal as they generally enjoy little social security and/or labor law protection [19,60].

The key to approximating the unregistered employment ($IE_1$) is to obtain the total of urban employment (TUE). We started with the population census to obtain the number of the total urban population (TUP) of each province and drew from the 10% sampling data of the population census the number of the surveyed urban population ($UP_0$) and their employment ($UE_0$). TUE can be estimated by operating the following equation:

$$TUE = TUP \times (UE_0/UP_0)$$

Then, we deducted from the total urban employment the number of all registered employees (RE) in the officially-counted formal entities that are reported annually through the enterprises to arrive at the number of $IE_3$, that is:

$$IE_1 = TUE - RE$$

According to the CSY's category, RE consist of employees employed in different kinds of formal/registered enterprises including the above-mentioned private firms, individual businesses, and other various forms of state-owned and private units. Therefore, we arrived at the number of urban informal employment (IE) in China by the equation:

$$IE = TUP \times (UE_0/UP_0) - RE + IE_2 + IE_3$$

Following Hu and Zhao [60], the magnitude of the urban informal economy (IEE) in China can be estimated as follows:

$$IEE = IE \times P$$

where P is the average labor productivity in society, equating with the ratio of the value of GDP to the number of the entire workforce in society.

### 3.2. Variable Selection

Explanatory variables were selected based on the mainstream perspectives on informal economies (Table 1). Data sources included China Population Census (2000 and 2010), China Statistical Yearbook (various years), and China Marketization Index [61]. Summary statistics of all data used in the paper are given in Table 2. As previously explained, there are competing expectations on the relationship between some of these variables and the growth of informal economies. For instance, while the modernization perspective expects that higher economic development levels (measured by per capital GDP) are associated with a larger informal economy size, neo-Marxists are inclined to expect an inverse relationship given the functional linkages between informal and formal economies. The relationship between economic development and the growth of the informal economy in China thus needs to be tested and explained. Likewise, while globalization is implicitly seen by the modernization perspective as a driver for economic development and thus considered as a potential contribution to the reduction of economic informality, it serves as a contribution to the informalization of economies from the perspective of neo-Marxists. In addition to these theoretical insights, the variable selection is also based on empirical researches by Schneider and his colleagues who estimated the size of informal economies over the world using a Multiple Indicators Multiple Causes (MIMIC) model [62–64]. Their researches have shown that factors including GDP per capital, unemployment rate, globalization (or openness), and institutional quality are causes of informal economies. Moreover, we considered some factors specific to the Chinese context. First, considering China as a socialist country, the impact of state-owned economies is taken into account for the relationship between economic development and informalization of economies. According to the dualist view of economies informed by the modernization perspective, a higher share of state-owned economies is associated with a smaller informal economy size. Second, considering the *hukou* (household registration) system that discriminated migrants in urban formal labor markets, the migration factor, noted by both modernization and neo-Marxist theories but rarely empirically tested, was included in our model. As migrant workers without a local *hukou* are institutionally disadvantaged, it is expected that a larger share of floating populations is associated with a larger size of informal employment.

**Table 1.** Selected variables based on theories on informal economies.

| Variables | Measurement Index | Expected Relation | Data Source | Theories |
|---|---|---|---|---|
| Economic development level | Gross domestic product (GDP) per capital ($X_1$) | Negative | China Statistics Yearbook | Modernization |
| Economic structure | Output share of primary industry in GDP ($X_2$) | Positive | China Statistics Yearbook | Modernization |
| | Output share of tertiary industry in GDP ($X_3$) | Negative | China Statistics Yearbook | |
| | Output share of state-owned industries in GDP ($X_4$) | Negative | China Statistics Yearbook | |
| Unemployment | Unemployment rate ($X_5$) | Positive | China Population Census | Modernization and Neo-Marxism |
| Migration | Share of floating population in total urban population ($X_6$) | Positive | China Population Census | Modernization and Neo-Marxism |
| Globalization | International trade volume as a share of GDP ($X_7$) | Positive | China Statistics Yearbook | Neo-Marxism |
| | Used foreign direct investment (FDI) as a share of GDP ($X_8$) | Positive | China Statistics Yearbook | |
| Institutional quality | Efficiency of administrative examination and approval ($X_9$) | Negative | China Marketization Index | Neoliberalism |
| | Tax burden reduction ($X_{10}$) | Negative | China Marketization Index | |

**Table 2.** Dataset summary statistics.

| Index | Mean | SD | Max. | Min. |
|---|---|---|---|---|
| Output share of the informal economy in GDP | 22.74 | 13.43 | 79.00 | 4.99 |
| GDP per capital | 9.42 | 0.74 | 11.02 | 7.92 |
| Output share of the primary industry in GDP | 14.42 | 7.64 | 37.9 | 0.66 |
| Output share of the tertiary industry in GDP | 39.43 | 7.49 | 75.10 | 28.60 |
| Output share of state-owned industries in GDP | 46.35 | 17.94 | 92.86 | 5.46 |
| Unemployment rate | 3.40 | 0.69 | 4.60 | 0.80 |
| Share of floating population in total urban population | 5.81 | 8.16 | 39.98 | 0.38 |
| International trade volume as a share of GDP | 29.86 | 39.85 | 165.72 | 3.68 |
| Used FDI as a share of GDP | 2.47 | 2.27 | 9.67 | 0.00 |
| Efficiency of administrative examination and approval | 4.14 | 3.30 | 10.00 | −12.95 |
| Tax burden reduction index | 9.83 | 4.86 | 15.80 | 0.00 |

## 3.3. Model

We used the method of panel analysis to reveal the determinants of informal economies, as it can control the influences of those unobservable variables that are difficult to measure or obtain. Limited by the China Population Census to evaluate informal economies, we chose to conduct a two-term panel data regression at the provincial level. A total of 31 Chinese provinces (including Chinese provinces and municipalities, except for Hong Kong, Macau and Taiwan) are included in the regression analysis. Although this might affect the robustness of our model, our estimation shows that the model is acceptable, and the results are consistent with the theories. The models we used are as follows:

Pooled OLS model

$$y_{it} = \alpha + \beta X_{it} + \varepsilon_{it}$$

Fixed effect model:

$$y_{it} = \mu_i + \beta X_{it} + \varepsilon_{it}$$

Random effect model:

$$y_{it} = \alpha + \theta_i + \beta X_{it} + \varepsilon_{it}$$

where for province $i$ in year $t$ ($t$ = 2000, 2010), $y_{it}$ stands for the informal economy size as % of GDP, $X_{it}$ stands for various explanatory variables included in the regression, $\theta_i$ represents unobservable factors related to a specific province, and $\mu_i$ represents unobservable factors randomly distributed and unrelated to the explanatory variables. Moreover, $\alpha$ is the constant term and $\varepsilon_{it}$ is the error term. Following the methodology of panel analysis, we conducted several statistical tests including the F-test and Hausman test (if needed) in order to decide which model was the most appropriate. Results are given below.

## 4. Results

### 4.1. Size and Development of Informal Economies

Our estimation shows that the size of urban informal employment in China grew from 111.5 million to 214.8 million between 2000 and 2010, with the percentage in total urban employment increasing from 48.4% to 62.4% (Table 3). As in other developing countries, the informal employment in China has far exceeded the scale of formal employment and has become a primary means of employment in cities. Moreover, the annual average growth rate of informal employment reached 6.8% during the same period, faster than the growth in formal employment and total urban employment. This means that the source of urban employment growth in China during this period was primarily from informal employment.

As a part of urban informal employment, the scope of self-employment was 44.6 million employed persons in 2010. These self-employed persons include small-shop and stall owners, artisans and apprentices, and proprietors of small eateries and food stalls. The second part of

informal employment—private enterprise employment—grew more rapidly in this time period than self-employment, with an average size of 60.7 million employed persons in 2010. In addition to the 105 million registered informal employments, a striking finding was that there are nearly 110 million unregistered employments, which took up one-third of the total urban employment and one-half of urban informal employment (Table 3). These unregistered employees work at lower levels with little job security, including day workers, temporary workers, home-based workers, street vendors, and motorcycle drivers. These shadow economies greatly contribute to the growth of urban employment opportunities and large-scale rural-to-urban migration in China. To sum up, the three groups of employed persons make up the picture of urban informal economies characterized by little job security, few or no benefits, and no labor law protection.

**Table 3.** The development of urban informal employment in China.

| Type of Employment | 2000 | | 2010 | | Annual Average Growth Rate (%) |
|---|---|---|---|---|---|
| | Number (million) | Percentage (%) | Number (million) | Percentage (%) | |
| Total urban employment | 230.6 | 100.0 | 344.5 | 100.0 | 4.1 |
| Urban formal employment | 119.1 | 51.6 | 129.7 | 37.6 | 0.9 |
| Urban informal employment | 111.5 | 48.4 | 214.8 | 62.4 | 6.8 |
| Self-employment | 20.9 | 9.1 | 44.6 | 12.9 | 7.9 |
| Private firm employment | 10.2 | 4.4 | 60.7 | 17.6 | 19.5 |
| Unregistered employment | 80.4 | 34.9 | 109.5 | 31.9 | 3.1 |

Our estimation shows that the output share of urban informal economies in GDP in China grew by 1.7% from 2000 to 2010, increasing from 20.7–22.4%. The output value of informal economies increased from about 2.0 trillion to 7.1 trillion yuan in the same period, with an annual average growth rate of 13.3%. According to the Organization for Economic and Cooperation Development (OECD), there are 1.8 billion people engaging in various informal economic activities over the world, producing 10 trillion US dollars every year [36]. Taking the exchange rate in 2010, where 1 US dollar equaled 6.622 yuan, it can be estimated that China's urban informal economies take up 10.8% of the world's informal economies in terms of the output value, a percent approximate to the share of China's GDP in the global economy in the same year, which was 9.5% according to the National Statistical Bureau of China.

The development of informal economies in China is geographically uneven across different provinces in terms of the share of informal employment ranging from 36–73% and the share of informal economies ranging from 9.5–79.0%. As shown in Figures 1 and 2, informal employment and informal economies in China are mainly concentrated in eastern coastal areas, which are also economically developed regions, such as Guangdong, Jiangshu, and Zhejiang. This suggests a potential structural linkage between informal economies and the whole economy. The underdeveloped western part of China is mostly where the lowest informality performance is found. Nevertheless, it should be noted that in some less developed provinces, there is a considerably high share of informal economies, such as Jiangxi, while in some moderately developed areas, there is a relatively lower share of informal economies, such as Fujian. This suggests that diverse linkages exist between informal economies and the whole economy determined by multiple causes acting on different provinces with different socio-economic contexts.
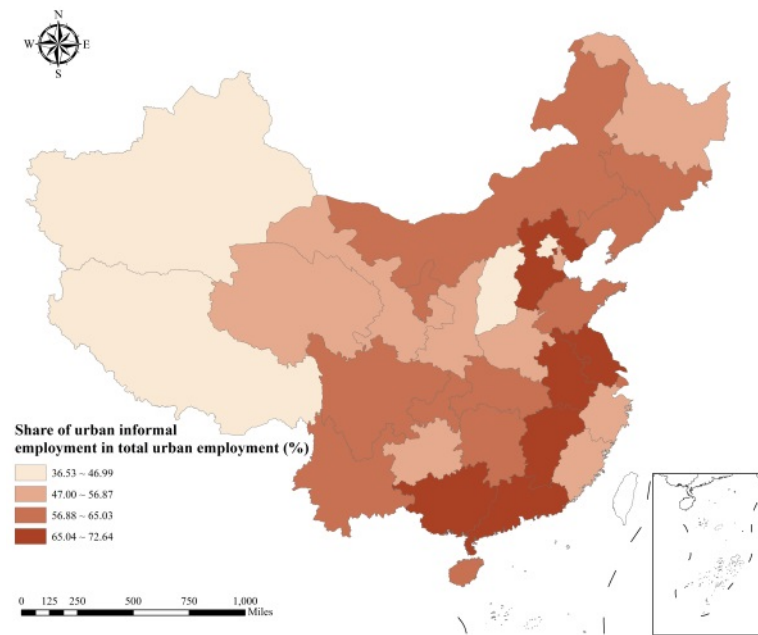
**Figure 1.** Geographical distribution of urban informal employment in 2010 in China.
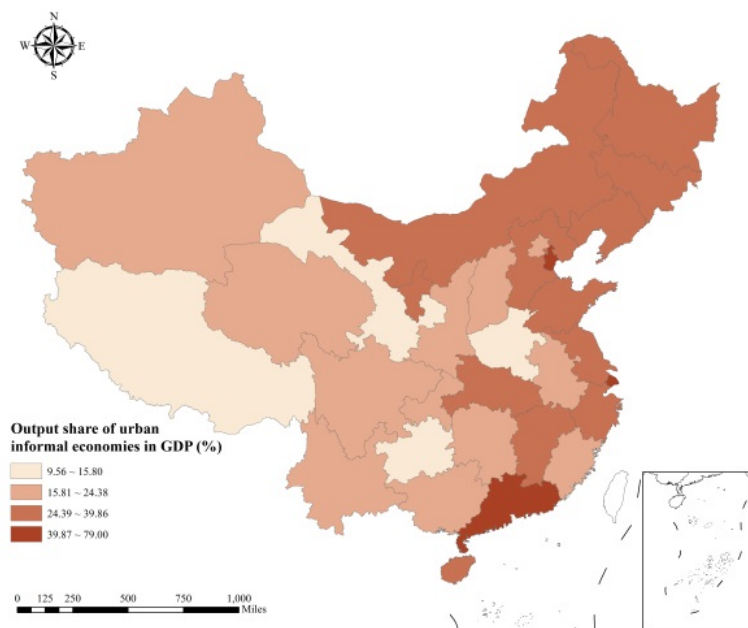


**Figure 2.** Geographical distribution of urban informal economy in 2010 in China.

*4.2. Causes of Informal Economies*

The results of the three models for causes of informal economies in China are shown in Table 4. According to statistical tests (F-test and Hausman test), the random effects model is considered as the most appropriate for the purpose of this study. This means that there are unobservable factors with random individual effects on informal economies which are not correlated with explanatory variables. This is understandable in the sense that informal economies are the result of geographical articulation of economic, social, and institutional factors and are sensitive to change.

**Table 4.** Results for pooled, fixed, and random effect models for causes of informal economies.

| Variable | Pooled OLS | Fixed Effects Model | Random Effects Model |
|---|---|---|---|
| Ln (GDP per capital) | 4.299 | 10.710 ** | 4.894 * |
| | 2.933 | 4.747 | 2.990 |
| Output share of primary industry in GDP | −0.092 | 0.655 | −0.056 |
| | 0.177 | 0.404 | 0.191 |
| Output share of tertiary industry in GDP | −0.508 *** | −0.439 | −0.482 ** |
| | 0.191 | 0.302 | 0.197 |
| Output share of state-owned industries in GDP | −0.033 | −0.123 | −0.057 |
| | 0.104 | 0.166 | 0.105 |
| Unemployment rate | 6.391*** | 0.197 | 5.096 *** |
| | 1.481 | 2.393 | 1.534 |
| Share of floating population | 0.642 *** | 0.455 | 0.616 *** |
| | 0.240 | 0.278 | 0.228 |
| International trade volume as a share of GDP | 0.108 ** | 0.036 | 0.099 ** |
| | 0.054 | 0.092 | 0.051 |
| Used FDI as a share of GDP | 1.456 *** | 0.754 | 1.287 *** |
| | 0.483 | 0.631 | 0.477 |
| Efficiency of administrative examination and approval | 0.128 | −0.554 | −0.039 |
| | 0.323 | 0.465 | 0.318 |
| Tax burden reduction | 0.007 | −0.008 | −0.005 |
| | 0.061 | 0.074 | 0.059 |
| $R^2$ | 0.823 | 0.795 | 0.820 |
| F-test | 23.71 | 8.14 | — |
| | 0.0000 | 0.0000 | |
| Wald test | — | — | 202.44 |
| | | | 0.0000 |
| Model comparison | F-test (*p*-value)<br>F (30,21) = 1.99 (0.0052) | | |
| | | Hausman test (*p*-value)<br>Chi-squared (10) = 15.08 (0.1293) | |

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

The random effects model shows a significant positive correlation between informal economies and GDP per capita, which is not consistent with the assumptions of the modernization perspective. However, it also does not contradict the empirical research, thereby demonstrating that economic growth does not necessarily lead to the shrinkage of informal economies [38]. That is, in some countries informal economies decrease with the growth of GDP per capita, while in others the correlation is reversed. This suggests that the relation between informal economies and GDP performance is associated with a certain way of economic growth in specific countries. In China, an explanation for the positive correlation might be that China's economic growth is strongly accompanied with the growth of informal economies and driven by a certain mechanism bringing about and depending on the growth of informal economies. Thus, formal economies do not absorb, but tend to enlarge informal economies. We will come back to this point below.

While it is assumed that a lower share of primary industry—indicating a higher share of non-agricultural industry—is associated with a larger size of informal economies, our model shows that this relation is not statistically significant. The reason may be related to the structure of non-agriculture industries. While the growth of the secondary industry (including manufacturing and construction industries) contributes to the expansion of informal economies, the development of the tertiary industry tends to have an inverse impact. According to modernization theory, the development of the tertiary industry indicates industrial upgrading and economic advancement, which may bring about a reduction of informal economies. This expectation is illustrated by our model, which shows a negative correlation between the development of the tertiary industry and informal economies.

Another important factor of the impact of economic structure on informal economies in the Chinese context is that of state-owned economies. As is well-known, workers in state-owned enterprises in China enjoy secure employment and enviable social welfare. It is thus reasonable to expect that a

larger size of state-owned economies is associated with a smaller share of informal economies in the national economy. Our three models all show this correlation, but it is not statistically significant. One reasonable explanation is that state-owned enterprises have reduced formal employment and increased informal/flexible employment in order to cut labor costs since the marketization reform that began in 1978. A recent survey on dispatched workers conducted by the All-China Federation of Trade Unions shows that 16.2% of employees in state-owned enterprises are dispatched workers, which is higher than the situation in foreign-owned enterprises [65]. According to the survey, migrant workers or floating populations make up the majority of dispatched workers, who were found to enjoy little job security and labor law protection. This indicates that employment in state-owned enterprises is not overwhelmingly formalized but has undergone the informalization process. It is thus suggested that the association of state-owned and informal economies depends on the tension between the formalization and informalization processes, which pertain to employment strategies of state-owned enterprises.

Unemployment has been widely recognized as a driving factor for the expansion of informal economies. Our test confirms the positive effect of the unemployment rate in causing informal economies in China. People, especially rural-to-urban migrants, have no choice but to enter informal economies when they are unable to find jobs in formal labor markets. Chinese scholars have long argued that China has faced the fundamental contradiction between the limitless supply of labor forces in rural areas and the limited labor demands in cities in the process of rapid urbanization [66]. There has been a concern in Chinese literature on urbanization that the pace of urbanization in China is too fast in terms of the fact that job opportunities created in cities are far away enough for the magnitude of rural-to-urban migration. However, our research suggests that this contradiction should be revaluated, considering that informal economies serve as an engine of job creation and a social safety-valve for rapid urbanization. Recent research in China shows that migrant workers are able to find informal income opportunities such as street vending in responding to job insufficiency in formal labor markets [13]. As informal employment is invisible to the state, the diagnosis on the urbanization pace and job scarcity based on regular statistical data is exaggerated and needs to be reassessed.

Our model shows a positive correlation between floating populations and informal economies, indicating that the more floating populations, the larger the size of informal economies. In this paper, floating population refers to the migrants who have no *hukou* or household registration in destination cities. In China, they are excluded from the social welfare system due to the absence of *hukou*. They are viewed as second-class citizens without having regular urban resident status. As they are not seen as local residents, they are usually discriminated against when seeking jobs in urban labor markets and are generally low-paid with few or no benefits. Floating populations are thus more likely to be informally employed than their counterparts with local *hukou*. While the illegal status generally leaves little choice outside of informal employment for international migrants in developed countries, in China, it is the *hukou* system that serves as the mediator effecting the positive association between migrants and informal economies.

Globalization, measured by international trade volume and used foreign direct investment (FDI), is proven to have a significant positive correlation with the expansion of informal economies in China. The correlation is created largely by the subcontracting system emerging in globalizing economies. In this system, production processes are decomposed, and the decomposed production tasks are shifted by formal large firms to small-scale and informal specialized factories for the purpose of reducing costs. In China, as the country known as "worlds' factories", many informal factories or small workshops were developed to satisfy the need of the global subcontracting production system. This contributed to China's advantage of low labor costs in the competitive global economy. These informal factories generally violate labor laws in terms of providing no benefits for their employees, deducting their payment for non-legal reasons, and firing them without paying economic compensation. The local governments have tolerated such violations for the purpose of retaining this low-cost advantage in competing for global capital. Floating populations or migrants from rural areas are the favored

employees of the informal factory, as they are discouraged to claim and protect their rights at work due to the lack of political and social capital in cities. Therefore, created by the subcontracting system, the association between informal economies and economic globalization in China is enabled and strengthened by the states' development policy favoring global capital and the *hukou* system which limits migrant agency.

According to the neoliberal perspective, higher efficiency of administrative examination and approval is associated with fewer informal economic activities. This is because if the cost of time for business registration in a less bureaucratic environment is lower, economic actors have weaker motivation for engaging in unregistered business. In our model, this kind of negative correlation exists in the Chinese context, although it is not statistically significant. This might be because some factors that affect the role of the business registration factor are not controlled for in our model. Another important institutional factor highlighted by the neoliberal perspective is tax burden. In general, a higher tax burden encourages economic actors to avoid business registration and to engage in informal economies. The results shown in our model are in line with this expected relationship, although it is not statistically significant. The reason for this might be that, as shown in the literature, the correlation of tax burden and informalization is indeterminate. For instance, while empirical research in Austria shows that a simplified tax revenue regulation goes hand-in-hand with the growth of informal economies [67], another empirical study in Ukraine, as a transitional country, indicates an inverse relationship whereby a reinforced tax revenue regulation is associated with the expansion of informal economies [68]. In recent years, the Chinese government has sought to simplify the business registration system and reduce tax burden in order to activate free market forces. How these institutional reforms affect the development of informal economies is a question to be addressed in further research.

## 5. Conclusions

Following the emerging effort to integrate competing perspectives on informal economies, this paper constructed panel data regression models to test and examine the causes of informal economies in urban China. It was found that the emergence and dynamics of Chinese urban informal economies are mainly associated with the stages of economic development, tertiary industries, unemployment, rural-to-urban migration, and the globalization level of economies in terms of FDI actually used and international trade volumes. This paper adds evidence from the Chinese context to the emerging theoretical argument that informal economies cannot be fully explained by each, or one, of the existing mainstream informality theories. One of these theories could be more valid than others in explaining informal economies in certain contexts, but none can entirely replace the other. Instead, they should be seen as complementary in understanding the dynamics of informal economies.

Our model allows us to provide an evaluation on explanatory power of existing theories for Chinese informal economies. As shown, factors deriving from modernization and neo-Marxist perspectives are more significant than neoliberalism in understanding informal economies in the Chinese context. Three important factors deserve further discussion. First, the statistically significant positive correlation between unemployment and informality indicates that informal employment has served as an engine of job creation by providing persons who are unable to find jobs in formal labor markets with income opportunities. Second, the positive correlation between floating population and informality suggests that these persons are likely migrant workers. Therefore, informal economies have greatly contributed to the process of urbanization in China by providing available job opportunities to rural-to-urban migrants and alleviating urban unemployment and poverty. It is thus argued that economic informality should be seen as a constituent part of Chinese urbanization and taken as a parameter of Chinese urbanization theories.

The third important factor is economic globalization measured by FDI and international trade. The positive correlation between informality and globalization discloses the impact of Chinese industrialization driven by global capital and market on the expansion of informal economies,

manifesting the existence of structural linkages between formal and informal economies. This correlation implies that economic development would not necessarily lead to the shrinkage of informal economies as argued by the modernization theory. In contrast to the general assumption that economic development reduces informal economies, in an export-oriented and FDI-driven economy, informal economies can go hand-in-hand with economic growth due to the linkage of formal-informal economies. This argument is consistent with the reflection on informalization theories, which suggests that economic development is both the cure for, and the cause of, urban informal economies in developing countries unable to achieve sufficiently dynamic industrialization [58,69]. It is suggested that more research is needed in order to reveal the way in which economic development affects the process of economic informalization.

This paper has policy implications for urbanization development in China. First, informal economies will persist with urbanization as they are structurally associated with the ongoing modernization and globalization of economies in the country. Hence, hostile policy responses to informal economies such as street vending, seen in many large Chinese cities, are ill-advised. Rather, the government should formulate policy approaches to better regulate informal economies in a way that benefits ongoing urbanization and social stability. Second, simply implementing macro policies in order to expand modern economies without an appropriate employment regulation system would not achieve the goal of reducing or eliminating informal economies. Rather, it might lead to a reversed consequence as the expansion of modern economies can result in the growth of informal economies through the functional linkages of informal and formal economies, such as the subcontracting system and firms' employment strategies. Last, but not least, the Chinese government has made great efforts to promote a new type of urbanization which includes floating populations or migrant workers in the urban social welfare system. It is suggested that the 110 million informal/unregistered workers should receive prioritized attention in the policy of new-type urbanization as they are the individuals outside of the urban social welfare system. How this group of workers can have access to the welfare system and what policies are needed are among the important questions emerging from urbanization and informality and should guide future research.

Finally, some questions and shortcomings need to be addressed in future research. First, this study examined informal economies at the provincial level due to the limited data. There is a need to develop a method that can estimate the informal economy at a finer geographical level (e.g., in the city level) and form panel data with a longer length of time to gain more robust results and a better understanding of the dynamics of urban informal economies. Second, we explained the informal economy without considering its heterogeneity. Future research should disaggregate the structure of informal economies, disclose key causes of different types of informal economies, and look into the explanatory power of informality theories for each type.

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