Politics-Finance Nexus Under Pandemic Shock Based on DID Model: From the Modern Slavery Perspective

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Abstract: The COVID-19 pandemic has created uncertainty in financial conditions around the world and generated risk-based vulnerabilities for households and societies. Workers in severely affected areas may face worse work conditions and imbalances due to the pandemic. Possible potential labour exploitation in those regions is a product and manifestation of this status quo. The existing research is still on the macro impact of the pandemic. This article attempts to analyze the latent unfair treatment that employees may receive by constructing modern slavery as a theoretical guide for analysis. There are 1760 sample observations of seven areas, running from 2016 through 2020. We used Shanghai as the treatment group it was hit hard by COVID-19 in 2020. The other six provinces, as the control group, each had less than 200 confirmed cases by comparison. Since the emergence of the pandemic is an exogenous shock, we are interested in the alterations in modern slavery before and after the experiment, the DID Model is applied for measuring the impact effect of the experimental group in this study. The parallel trend test was used to evaluate the validity of the DID model, and regression was utilized to determine the influence of pandemic shock.

1   INTRODUCTION

COVID-19 has spread globally and is considered the most serious health crisis in the 21st century (Yu, 2020). In reaction to the pandemic, all governments have implemented lockdowns and isolation, causing local and international cooperation problems. The pandemic and lockdown are new financial catastrophes that will raise worldwide poverty. According to World Bank data, during these blockades, the manufacturing industry was closed and the global supply chain was disturbed (Vidya, 2020). There are significant and instant influences caused by lockdowns on economic activities in China (Chen, 2020).

China has been studied by management and public health researchers, but not from a micro-political economics standpoint. While the pandemic damaged the domestic economy and finance, worldwide trade and collaboration, many individuals lost their jobs temporarily or permanently, which leads to increasing inequality (Shibata, 2020). During the pandemic, many unequal treatments faced by labour have been reported. However, existing theories struggle to explain how economic shifts affect workers during COVID-19. Facing uninterrupted scattering of outbreaks, remote work and home office are usually alternatives to clocking in, so the exploitation and threat of unemployment are more likely to occur. This study explores the political economy of Shanghai employees in 2020 when the pandemic broke out by adopting a novel yet emerging method, modern slavery, and the Difference-in-Difference (DID) model to support our findings.

This article will firstly construct modern slavery through a critical analysis of current debates and empirical evidence from the Marxist perspective, and explore the impact of the pandemic on modern slavery. Second, this paper employee DID model to quantitatively analyse whether modern slavery occurs during severe pandemic shock. The paper uses data from CSMAR. 2016-2020 is the sample's span. 1080 Shang-hai observations and 680 from the other six provinces total 1760. Since the pandemic is an exogenous shock, we are interested in "modern slavery" before and after the experiment; consequently, the DID Model is ideal for analyzing the experimental group's impact effect in this study. This research employed the parallel trend test to evaluate the DID

model's validity and regression to determine the impact of the pandemic shock.

2 THEORIZING MODERN SLAVERY

Although the global living conditions have improved due to economic, trade, and political globalization, and the poverty rate has fallen sharply, many negative effects have been brought (Chen, 2010). These influences are mainly on workers, including poor working conditions and unsafe working environments (Selwyn, 2019). With the importance of human rights and the critical attitude of global supply chains, more scholars are focusing on the term modern slavery to help vulnerable groups affected by imbalance and inequality through laws, social supervision, and other measures. Modern slavery has been explored more frequently in political economy, history, society, and law, owing to the International Labour Organization (ILO) and the Walk Free Foundation (Benstead, 2020). It has become a vague concept of extreme exploitation of labour, by taking advantages of the vulnerabilities and weaknesses of employees, including not only threats and violent behaviour, but also manipulating victims to claim that they are voluntary (Machura, 2019).

As the definition of modern slavery is not clear, scholars tried to analyze and define this term from a historical perspective, and offer an understanding between 'new' and 'old' (Manzo, 2005). Manzo first agreed on the Marxist theory of slavery as a special form of exploitation of unpaid labour, and claimed the fact that workers have lost their freedom and right to choose due to violence, then conclude slavery as unpaid forced labour (Manzo, 2005). At the same time, by examining the international laws related to human rights and slavery, he defined the new modern slavery as control without considering autonomy, and consisting of the use of violence and threats, making labour their personal freedom and rights of choice, and the forced unpaid work (Manzo, 2005). Manzo's definition and theory have largely helped construct the concept of modern slavery. The origins of modern slavery are explained by political economy: the production and trade of commodities involve the consideration of labour costs in the global value chain, which makes employers more inclined to choose modern slavery; at the same time, the expansion of global capitalism promotes unequal conditions of exchange, and it ultimately leads to the widespread existence of modern slavery (Manzo, 2005).

In forced labour, however, meagre salaries are possible, but they should not be viewed as a normal and liberal relationship between employers and employees. His study offers a restricted definition of modern slavery. From a post-colonial perspective, this definition is European-centric, focused solely on human trafficking and child labour. His method doesn't applicable to sweatshops and Marxist concepts of surplus value, where individuals make a modest wage and are exploited and poor. Therefore, wages in the relationship between employers and employees should be emphasized.

Wages help distinguish between contract labour and slavery in the 19th and 20th centuries (Jones, 2019). Symbolic wages that can't meet basic demands and commoditized labour are indications of modern slavery in transnational labour (Jones, 2019). Historically, workers after signing a labour contract work according to the employer's guidelines within a certain contract duration, and the labour contract is merely a tool to legalize exploitation, especially when employees are not supported by their own country's laws since they work overseas (Jones, 2019). Freedom and non-freedom, or slavery and non-slavery, cannot be totally separated in history (Jones, 2019). This is a continuum where employees have been enslaved.

Overall, modern slavery can be narrowly understood as the exploitation of people whose personal freedom is deprived within the supply chain from the extraction of raw materials to the final customer to provide services or products, or those who are forced to work without payment (Stefan, 2015); it could also be broadly understood as the process where people are forced to work or whose human rights have been violated (Lucas, 2020). However, current discussions are usually limited to research on global supply chains, such as human trafficking, differences in working environment and wages caused by imbalance and inequality between suppliers and transnational companies, and sweatshops, while domestic situations are ignored. In fact, modern slavery within the countries is also common, especially in developing countries, such as the 996 working system of high-tech companies in China, which is an inhumane working system (12 hours a day, 6 days a week) and affects many people's health including sudden death and cancer (Wang, 2020).

Due to the pandemic's increased demand, modern slavery audits have been neglected (Trautrims, 2020). Medical supply pressure, including masks and gloves, placed the slavery audit on hold (Feinmann, 2020). Moreover, cooperation partners and business institutions in developed economies often choose to infringe

on the interests of vulnerable labourers (Trautrims, 2020). Pandemic implications of modern slavery include labour displacement, changes in migratory worker rules, and an increase in homeless trafficking (Lucas, 2020). In addition to the perspective of economic politics, the difficulties posed by modern slavery have been selectively or intentionally filtered out relevant, and institutions and companies cannot receive any information (Lucas, 2020). These vulnerable groups are hit most by the pandemic.

This paper argues that a broader modern slavery system should be defined, which can be linked to the global poverty chain, that is, any employer restricts employees' normal life activities, and employees' wages are not proportional to the working content and intensity of the work, and exploitation in an unhealthy working environment. Under this alternative definition, the content of modern slavery can not only include the dark side brought about by the global value chain, but also exposes the domestic problems of capitalist globalization. Based on this alternative understanding of modern slavery, a DID model has been formulated to support our arguments.

3 HYPOTHESIS, EMPIRICAL MODEL AND DATA DESCRIPTION

Through the exploration of modern slavery, the indicators related to wages are expected to provide a basis for further quantitative analysis of the impact of the pandemic on modern slavery. Thus, this paper proposes the following two hypotheses:

Hypothesis 1: COVID-19 increases the gap between "directors, supervisors, executives" pay and employee pay.

Hypothesis 2: COVID-19 has an adverse impact on average employee salaries.

This paper uses the Difference-in-Difference approach to test the hypotheses above and examine the impact of the COVID-19 outbreak as a quasi-natural experiment on the extent of 'modern slavery' among employees in selected areas of China. We use inter-provincial data for selected areas of China and distinguish between areas severely affected by the outbreak (treatment group) and areas not severely affected (control group) based on the cumulative number of confirmed cases.

According to Yang and Wang (Yang, 2021), COVID-19 started in China on 20 January 2020, so we used Shanghai as the treatment group because its cumulative confirmed cases reached 1,500 by the end

of 2020. The control group included Guizhou, Jilin, Gansu, Qinghai, Ningxia, and Hainan provinces as they each had less than 200 cumulative confirmed cases in 2020. The model specification is shown as follows:

$$MS_{it} = \alpha + \beta Region_t \times Covid_{it} + \gamma Region_t + \delta Covid_{it} + \theta Control_{it} + \mu_i + \varepsilon_{it}$$

$$(1)$$

Equation (1) is a DID estimation model that takes into account individual fixed effects. MS_{it} is a measure of the degree of 'modern slavery', which consists of two indicators: a) ratio of the compensation of directors, supervisors and executives to the salaries of employees (abbreviated as S/E); b) average employee salary (AvPay). $Region_t \times Covid_{it}$ is an interaction term. $Region_t$ is a dummy variable for the treatment group, corresponding to a value of 1 for Shanghai and 0 for other regions. $Covid_{it}$ is a dummy variable for the treatment effect period, as COVID-19 broke out in early 2020, and it takes the value of 1 after 2020 and 0 before. $Control_{it}$ indicates control variables, including a) Ownership, with state-owned enterprises taking a value of 1 and private enterprises taking a value of 0. Foreign enterprises and joint ventures are not considered; b) Firm size, expressed as the natural logarithm of the firm's total assets (LnAssets). μ_i is an individual fixed effect and ε_{it} is a random error term.

The data used in this paper are obtained from the CSMAR database. The duration of the sample spans from 2016 to 2020. There are 1080 sample observations of Shanghai and 680 observations for the other six provinces, giving a total of 1760 observations. In order to eliminate the dimensional relationship between variables and enhance comparability, the data used in this paper have been standardized. To mitigate the influence of outliers, variables are winsorized at the 1% and 99% levels.

4 EMPIRICAL RESULTS

4.1 Descriptive Statistics

The objective of descriptive statistical analysis is to reduce a set of complicated data to a few descriptive values. It is a general description of the existing data set that facilitates an understanding of the data's central and dispersed patterns.

Table 1: Descriptive Statistics.

VARIABLES	(1) N	(2) mean	(3) sd	(4) min	(5) max
Year	1,760	2,018	1.349	2,016	2,020
SE	1,760	52.90	26.67	0	94.51
AvPay	1,760	69.75	25.61	9.573	100
Regions	1,760	1.614	0.487	1	2
LnAssets	1,760	22.42	1.584	18.29	29.92
Owner	1,760	0.433	0.496	0	1

Figure 1: Parallel Trend for S/E and AvPay before and after 2020.

Table 1 shows the descriptive statistical analysis results of the sample, including sample size, variable mean, standard deviation and maximum value. This study is most concerned with the explained variables, namely the ratio of executive and employee salaries (SE) and the average employee salary (AvPay). All the data have been standardized. It is not difficult to find that both SE and AvPay have great range differences. Therefore, to avoid the possibility of outliers affecting the analysis results, this study adopts winsorization. In terms of the degree of data dispersion, both of the two key variables have large standard deviations, which to a certain extent reflects that the indicators related to employee wages ("modern slavery" proxies) have fluctuated greatly between regions, and before and after the pandemic. In addition, the specific cause behind this is analyzed in the following sections with the DID model to show implications.

4.2 Parallel Trend Test

A prerequisite assumption for DID is that the trend of change in the treatment and control groups should be (almost) the same prior to the event. To do this, we further examined changes in trends for the 4 years before the COVID-19 outbreak in 2020 up to the final year of the sample. The analysis results are reported in Figure 1. It appears that the trends in the treatment and control groups before the outbreak were almost identical and not significantly different. After 2020, the 'modern slavery' indicator for the treatment group increased/decreased significantly compared to the control group. The sample, therefore, passes the parallel trend test required for double difference estimation.

4.3 Baseline Regression

This section examines the pandemic's impact on "modern slavery" in China. Table 2 presents the results of examining the pandemic shock using equation (1) including firm-level control variables.

The pandemic shock (Region×Covid) has a positive effect on the ratio of directors', supervisors', and executives' pay to employee salaries (S/E) at the 90% confidence level, meaning it widens the gap between directors' and executives' pay and employee pay in pandemic-affected regions (Shanghai in this study), although the effect is marginal. Moreover, the pandemic reduces the average income of employees in badly afflicted areas compared to those that survived the big blow on the 95% confidence level.

Table 2: Baseline Regression Results.

VARIABLES	(1) S/E	(2) AvPay
Region×Covid	5.253*	-5.730**
	(3.106)	(2.838)
Region	4.822***	23.61***
	(1.400)	(1.197)
Covid	-2.032	0.238
	(2.543)	(2.261)
Ownership	14.16***	7.762***
	(1.337)	(1.083)
LnAssets	-2.946***	3.871***
	(0.487)	(0.293)
Constant	109.9***	-34.10***
	(10.61)	(6.391)
Observations	1,726	1,743
R-squared	0.079	0.306

Robust standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

5 DISCUSSION AND REMEDIATING MODERN SLAVERY

This paper corroborates two assumptions using data from limited regions, leading to two credible results: first, at the 90% confidence level, the pandemic shock (RegionCovid) has a positive effect on the ratio of directors', supervisors', and executives' pay to employee salaries (S/E), implying that it widens the discrepancy between the senior executives' pay and employee pay in pandemic-affected regions (Shanghai in this study), though the effect is marginal; second, on a 95% confidence level, the pandemic decreases the average salary of employees in seriously affected areas compared to those who survived the big hit. These findings account for business size and property rights. This is consistent with the results of our preliminary parallel trend test. This result supports our previous statement that modern slavery may have increased during the pandemic, with employees struggling to meet some of their material and health needs, and that there may have been an increase in the price of some necessities in hard-hit areas, further reducing employees' disposable income and adding to the evidence of modern slavery. Possible factors include the difficulty of auditing and examining enterprise employment systems during the outbreak and the economic impact of the pandemic forcing enterprises to decrease employment costs. The execution of policies to address the pandemic has been cautious in boosting wage income growth, and there is insufficient autonomy in wage distribution at the grassroots level (Chang, 2021), which confirms the conclusions of this work. This study shows the negative consequences of global value chains and globalization of capital on disadvantaged employees through the lens of wages, making modern slavery visible in modern society in the context of the pandemic crackdown and drawing attention to it. Our experiment has the benefit of having adequate sample data. However, because COVID-19 has spread throughout the country and even around the world, it is difficult to pinpoint locations that are "not substantially afflicted by the pandemic." Because of the effective management of China's central and local governments, several places (six provinces in this study) were not severely impacted during the outbreak's early stages, and they were chosen as the control group. Future research should focus on more provinces or even country comparisons and, if accessible, evaluate home working conditions and employee mental health.

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