

**Precarious Truckers:
Job Quality and Working Conditions of Truck Drivers in China**

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Abstract

International research has shown how trucking work has become increasingly precarious. This thesis builds on this international research by examining the work of truck drivers in China, with a particular focus on their working conditions, job quality, and truckers' well-being. I pay particular attention to how the organization of the trucking industry and the broader political economy of China impact trucking work. Using a qualitative research approach, I interviewed 22 truck drivers and examined relevant public documents. Based on the results of my research, and drawing on the political economy approach and the labor process theory, I show how the negative implications of the job on truckers' lives are linked to the organizational structure of their work. Truckers are in a weak position in their power dynamics with brokers, shippers, and the government, which exposes them to poor working conditions at every step of the labor process, and results in long waiting times, poor sleep quality, and fewer trips home. Furthermore, the organizational structure of trucking makes it difficult for them to maintain a stable income and possible to lose their jobs at any time.

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Table of Contents

Abstract	2
Acknowledgements	3
Table of Contents	4
List of Tables	6
List of Appendices	7
Chapter 1: Introduction	8
1.1 Context	10
1.2 Research Questions	17
1.3 Thesis Outline	17
Chapter 2: Literature Review	20
2.1 Introduction	20
2.2 Working Conditions and Job Quality of Truckers around the World	20
2.3 Research on Precarious Work and Trucking in China	23
2.4 Definition and Measure of Job Quality and Precarious Work	28
2.5 Self-employed Workers: Precarious or Not	30
2.6 Political Economy Approach	31
2.7 Labor Process Theory	34
2.8 Theorizing Self-employed Truck Drivers and Their Employees in China	37
Chapter 3: Methods	39
3.1 Introduction	39
3.2 Research Site	39
3.3 Recruitment and Consent Acquisition	40
3.4 Interviews	42
3.5 Research Participants	44
3.6 Transcription and Thematic Analysis	44
3.7 Documents	45
3.8 Summary	48
Chapter 4: Precarious Work: The Organization of Trucking Work in China	49
4.1 Introduction	49
4.2 Self-Employed Truckers (Car Bosses) and Employees (He-Hired Truckers)	50
4.3 Truckers and Shippers, and Truckers and Brokers	55
4.4 Typology of Gigs	63

4.5 Guanxi	68
4.6 Regulatory and Economic Factors Affecting Trucking Work	71
4.7 Discussion	78
Chapter 5: Precarious Lives: Job Quality, Well-being and Family Life among Truckers	81
5.1 Introduction	81
5.2 Truckers' Ambivalent Perceptions of Trucking	81
5.3 Working Hours	86
5.4 Income Instability and the Costs of Trucking	89
5.5 Life on the Road	94
5.6 Relationship with Family	103
5.7 Benefits for truckers	107
5.8 Discussion	112
Chapter 6: Conclusion.....	115
6.1 Reflection on Research Questions.....	115
6.2 Contributions, Shortcomings and Implications for future research	119
6.3 Policy Recommendations to Improve Truckers' Working Conditions.....	121
References.....	122
Appendix 1: Ethics Approval Documentation.....	147
Appendix 2: Invitation Letter.....	148
Appendix 3: Informed Consent Form.....	150
Appendix 4: Interview Questions	158

List of Tables

Table 1: Documents Referenced.....	46
Table 2: Types of Gigs.....	63

List of Appendices

Appendix 1: Ethics Approval.....	147
Appendix 2: Invitation Letter.....	148
Appendix 3: Informed Consent Form.....	150
Appendix 4: Interview Questions.....	158

Chapter 1: Introduction

Scholars in the United States, Canada, Europe, and Australia suggest that employment is becoming increasingly precarious, meaning work is characterized as non-standard, casual, flexible, contingent, or part-time work. Precarious employment is often poorly paid, unregulated and dangerous. In the United States, Kalleberg (2011, pp. 82-104) has documented that since the 1970s, the number of temporary and part-time jobs has been growing, work is becoming more unsafe, and wages are increasingly unstable. Similarly, in Canada, an increasing number of workers are experiencing precarious employment, as evidenced by the rise in part-time and temporary work, which is largely insecure and lacks protection (Cranford et al., 2003a; Foster & Barnettson, 2016, p. 150; Tompa et al., 2007; Vosko, 2000). Researchers have also found that precarious work is widespread in Europe (Barbieri, 2009; MacDonald, 2016; McDowell & Christopherson, 2009; McKay et al., 2012; Kretsos & Livanos, 2016), and Australia (Burgess & Campbell, 1998; Tweedie, 2013). The growth of precarious work has been linked to the processes of neoliberal globalization after the 1970s, which facilitated increased competition among companies, the decline of trade unions and government deregulation (Kalleberg, 2009, 2012; Tweedie, & Chan, 2021). In addition, as research in Australia shows, the political actors did not seize the opportunity to advocate for improved working conditions for casual workers (Tweedie & Chan, 2021). Since the 1990s, jobs in China have become more precarious as well (Hu, 2010; Hewison, 2015; Kalleberg & Hewison, 2013; Lindtner, 2017; Ngai, 2004; Zhou, 2013; Swider, 2015). The Chinese government's State Council Policy Briefing in May 2021

mentions that China's flexible employment currently stands at 200 million (Ministry of Human Resources and Social Security of the People's Republic of China, 2021).¹

Globally, the trucking sector is characterized by precarious work (Bensman, 2016; Bensman, 2017; Jaffee & Bensman, 2016). In the United States, Australia, and Europe, truck drivers endure low pay, high work intensity, poor working conditions, and lack of employment protection (Apostolopoulos et al., 2014; Bensman, 2017; James, Mayhew & Quinlan, 2006). China is currently the largest road freight market in the world (Mckinsey, 2020). According to Ministry of Transport of the People's Republic of China (2021), a total of 17.28 million truck drivers in China completed 74% of the nation's freight volume in 2020. Road freight dominates the cargo transportation industry in China. Although academic research on Chinese truck drivers is scarce, what is available, combined with industry reports and news articles, suggest that the jobs of truck drivers in China are also precarious, especially among self-employed truckers and truckers who work for self-employed truckers. These sources suggest that truck drivers in China experience unstable income and employment (Public Welfare Institute of Transfar Foundation, 2018a, p. 46);² they work long hours (PWITF, 2018a, pp. 35-40; Tmtpost, 2017); many of them lack work benefits such as pensions (PWITF, 2018a, p. 56); they experience poor food and accommodation conditions while travelling for work (Chen, 2018; Tmtpost, 2017); and drivers report high levels of health risks (PWITF, 2018a, pp. 60-61).

In this thesis, I describe the working conditions, job quality, and wellbeing of self-employed truckers and truckers who work for self-employed truckers in China and examine how

¹ In China, the concept of flexible employment (灵活就业) covers informal and non-standardized employment and "includes both part-time, temporary, seasonal, and flexible work in the formal sector, as well as employment in the informal sector, such as in small and micro business, family business, and individual workers" (Employment Bureau, 2022, para. 1).

² Public Welfare Institute of Transfar Foundation is referred to PWITF in the remainder of this thesis.

their work has become increasingly precarious. I pay particular attention to how the organization of the trucking industry and the broader political economy of China impacts trucking work.

1.1 Context

This section introduces a brief history of China's economy and labor market, including the development of the market economy and the increase in informal employment; the historical transformation of China's road transportation industry, including the emergence of private enterprises and self-employed operators and the current classification of the road freight market; and the basic situation of truck drivers' lives in China.

1.1.1 Historical Change and the Current State of the Chinese Economy and the Labor Market

For 40 years, the Chinese economy has undergone a shift from a centrally planned to a market economy (Chow, 2004; Zhou, 2013). Since the 1980s, the implementation of the household responsibility system in rural areas that shifted responsibility for agricultural production from the collective to the individual household pushed a large number of farmers to look for work in the cities, which meant there was a large influx of migrant workers (Harvey, 2007, pp. 125-127; The Academy of Contemporary China and World Studies, 2022; Xinhua, 2014). These migrant workers made up (and continue to make up) a large proportion of the workforce in China's manufacturing, service, construction, and export-oriented processing industries, including clothing and electronic processing factories (Ngai, 2004; Swider, 2015). Due to the restrictions of the hukou system that delivers welfare benefits based on household registration of residency (Chan, 2009; Chan & Zhang, 1999; Cheng & Selden, 1994; Liu, 2005), these migrant workers work in the city but lack access to the social security benefits (e.g., education, housing, health care, pensions) that urban residents have (Chan & Buckingham, 2008;

Chan & Zhang, 1999; Cheng, T., & Selden, M., 1994; Harvey, 2007, p. 127; Lee, 2012, as cited in Hewison, 2015; Standing, 2014; Zhou, 2013). Moreover, in the late 1990s, a large number of state-owned enterprises in China went bankrupt and privatized (History Course Textbook Research and Development Center, 2015, pp. 50-61). As a result, tens of millions of urban industrial workers were laid off (Li, 2015; Zhou, 2013). State-owned enterprises usually provide a social safety-net for workers (Lee, 2000). Urban Chinese workers who had access to a secure job with access to government-supported education, medical care, and pensions, suddenly found themselves without work, and without any of these benefits (Lee, 2000; Kuruvilla et al., 2011, as cited in Lindtner, 2017; Zhou, 2013). China's transition to a more market-oriented economy has led to a substantial increase in non-standard employment, which is part of precarious work (Kalleberg and Hewison, 2013). This employment tends to be flexible, short-term, and lack security (Cindy Fan, 2009; Swider, 2015), and often includes working long hours, tedious assembly line work, and wages that are not far from the minimum wage line; and for some, living in crowded, cramped dormitories (Ngai, 2004; Swider, 2015).

1.1.2 The evolution of the Road Transportation Industry in China

Before the 1980s, China did not have a market-driven logistics industry. Commodities were purchased, distributed, transported, delivered, and kept by the government and state-owned enterprises (Ding, 2018). The people who drove goods by truck were government workers or worked for state-owned enterprises (Ding, 2018). Only those who work for the government, the state-owned enterprises, or the public institutions were eligible to learn to drive a car and obtain a driver's license (Yang et al., 2018). Before 1980, most people in China had never driven a car, and at the time, many parts of the country had no highways (Yang, 2009). The country itself had no freeways (Yang, 2009).

Before the 1980s, China did not have self-employed individuals who operated long-distance transportation, and private transportation enterprises did not exist. In the early 1980s, the Chinese government officially recognized individual businesses and the legality of private car purchases (Liu, D., 2018; Yang et al., 2008; Wu, 2008). Private truck drivers who did not work for the government began to emerge and a new profession was born. From the 1980s to early 1990s, the supply of truckers was low, giving individual truck owners a strong position in the market, and their income was high (Xu et al., 2021).

Economic development (He & Wei, 2005; Jiang & Prater, 2002), expansion of consumer markets (Jiang & Prater, 2002), strong manufacturing industry (Wang & Wang, 2013), development of import and export trade (Lin, 2009) as well as expansion of multinational companies in China (He & Wei, 2005; Jiang, 2002; Jiang & Prater, 2002; Jiang, 2004; Liu, 2005; Lu, 2006), relaxation of restrictions on transportation and logistics industry after joining the World Trade Organization (WTO) (Jiang & Prater, 2002; Lin, 2007), development of e-commerce (Jiang & Prater, 2002; Wang & Wang, 2013), and promotion of government policies (China Business Herald, 2018; He & Wei, 2005; Liu, D., 2018) have all become driving factors for the development of China's logistics industry. With the development of marketization, there are more and more private companies and individual truck owners (Liu, D., 2018; PWITF, 2019). Competition in the road freight market has become increasingly fierce, driving down truck drivers' incomes from levels seen in previous period (considering purchasing power).

In 2018, the volume of road freight accounted for 76.79% of the total freight volume in China (National Bureau of Statistics of China, n.d.). Data from 2018 show that the main business of road freight industry in China is medium- and long-distance transportation with a distance of 500km or more (China Federation of Logistics & Purchasing & China Society of Logistics,

2019, p. 263; School of Transportation and Logistics of Southwest Jiaotong University, 2020). Data from the Research Institute of Highway Ministry of Transport & Sinoiov (2021) show that nearly 85% of road freight operators in 2020 were self-employed operators. Currently, the road transportation industry in China is subdivided into small parcel shipping (single shipment ranges from 0-30 kg, e.g., online shopping), less-than-truckload shipping (LTL: single shipment ranges from 30-3,000 kg), and full truckload shipping (FTL: single shipment is more than 3,000 kg) (China Automotive Technology and Research Center Co., 2017; China Federation of Logistics & Purchasing & China Society of Logistics, 2019, p. 57; Full Truck Alliance Co. Ltd., 2021a; Yan & You, 2019).

In terms of transportation costs, McKinsey and BCG data show that the scale of full truckload shipping is the largest, reaching more than half of the entire road freight market (McKinsey, 2020; Xu et al., 2021). According to the prospectus of trucks-goods matching internet platform Full Truck Alliance in China, the market size of full truckload shipping accounts for more than 60% of the entire Chinese road freight market (Full Truck Alliance Co. Ltd., 2021a). Meanwhile, "it also accounts for about 70% of China's road transportation market in terms of goods turnover" (Full Truck Alliance Co. Ltd., 2021a, p. 134).

The small parcel shipping market is now controlled by several large corporations (Yan & You, 2019) and the less-than-truckload shipping market is gradually getting more and more dominated by a large number of medium and large companies (Yan & You, 2019). Ninety percent of the transport capacity in the full truckload shipping market remains in the hands of self-employed drivers (McKinsey, 2020; Yan & You, 2019). In my research, I focus on self-employed truckers and truckers who work for self-employed truckers in the full truck load shipping market.

1.1.3 Truck Drivers in China

Much of what we know about employment in the trucking industry in China is found in media reports and reports of surveys conducted by industry associations, large freight industry companies, consulting firms, and company's prospectuses.

An online questionnaire survey of 6,782 truck drivers released in June 2021 by the China Federation of Logistics & Purchasing (CFLP), the state-approved and sole organization representing the logistics industry in China (China Federation of Logistics & Purchasing, 2014), shows that the current age of truck drivers is concentrated between 36-45 years old and the vast majority are men (China Federation of Logistics & Purchasing, 2021). According to the Research Institute of Highway Ministry of Transport & Sinoioiv (2021), "94% of road truck drivers are male, with an average age of 41" (p. 11). Most of them are from rural rather than urban areas, with education levels mostly at junior high school and below (China Federation of Logistics & Purchasing, 2021). The survey by the China Federation of Logistics & Purchasing (2021) also provides some information about trucking work conditions: Most truckers reported that they do not have a fixed transportation route. More than 37.3% of drivers work more than 12 hours a day, and more than 82.4% work more than 8 hours a day (Full Truck Alliance Co. Ltd., 2021a). More than 70% have only one driver on the truck when they are on duty (China Federation of Logistics & Purchasing, 2021). Compared with other industries, truck drivers have significantly less rest time overall and fatigue driving is a common problem (China Federation of Logistics & Purchasing, 2021). In China, truck drivers belong to the labor group with a high income level. Just over 29.1% of truck drivers earn an average monthly income between 5,000 and 8,000 yuan,³ and, 28.4% of truck drivers earn an average monthly income between 8,000

³ Yuan, or Renminbi, is the official currency of the People's Republic of China.

and 10,000 yuan (China Federation of Logistics & Purchasing, 2021). Twenty percent of truck drivers have an average monthly income between 10,000 and 15,000 yuan, 12.7% of truck drivers have an average monthly income of 15,000 yuan or more, and 9.7% of truck drivers have an average monthly income of 5,000 yuan or less (China Federation of Logistics & Purchasing, 2021). A truck driver's monthly income is not considered low when looking at the overall working class in China. Shanghai is one of the richest cities in China. As a comparison, a survey done by Shanghai officials on 88 companies in the city's four industries - agriculture, services, construction and manufacturing - showed that the average monthly income of frontline employees in monitored companies in Shanghai in 2022 was 4,947.21 yuan (Shanghai Price Monitoring and Cost Survey Team, 2023). According to the Research Institute of Highway Ministry of Transport & Sinoiov (2021, p.12), "The income of truck drivers is at the upper middle level in the whole society, with an average monthly income of 8,000-20,000 yuan ... Compared with the national average salary, the overall income level of truck drivers is high."

The majority of truckers in China are self-employed truck drivers (China Federation of Logistics & Purchasing, 2021; PWITF, 2018a, pp. 27-30). According to the 2018 *China Road Transport Big Data Report*, the majority of China's road freight market is dominated by small companies, with 92.8% trucking companies possessing less than five vehicles (Tuomedia & Sinoiov, 2019). As a result, the industry exhibits a low level of concentration.

My research focuses on self-employed truck drivers and truck drivers who work for self-employed truckers. Self-employed truckers have their own truck. They pay all the costs on the road themselves and are responsible for their own profits and losses. Most self-employed truck drivers buy trucks by borrowing loans from banks and from relatives and friends, which puts them in a lot of debt (PWITF, 2018a, pp. 71-72). After purchasing a truck, some self-employed

truck drivers hire one or two truck drivers (PWIFT, 2018b, pp. 49). These drivers are truckers who work for self-employed truck drivers, and they do not own the truck they are driving. They usually receive a fixed monthly salary and are not responsible for the expenses on the road, such as fuel and tolls, which are paid by the truck owner (PWIFT, 2018b, pp. 49-57).

To summarize, China has undergone a transition from a planned economy to a market economy. The massive labor force released by agricultural and state-owned enterprise reforms, the restrictions on access to benefits under the hukou system, and the rapid development of urban construction have led to the emergence of a large number of informally employed people who often do not work under good conditions. China's road transport industry has likewise undergone a process from government-led to private-dominated, and today, in China, the majority of road freight operators are self-employed, and full truckload shipping accounts for the majority of the overall road freight market. Most Chinese truck drivers are middle-aged men from rural areas, with low education levels. They work long hours, get little rest time, and fatigue is a common driving problem. Currently, the concentration of the road freight industry in China is very low, and most truck drivers are self-employed truck drivers or truck drivers working for self-employed truck drivers. Despite the important role these truckers have in China's road freight market, they have received little academic attention. In this thesis, I document the working lives of this group of truckers and find that while their earnings are relatively high compared to other manual labor groups, their work can be described as precarious, marked by job insecurity, unstable income, long working hours, and poor working conditions, and their work is largely directed by other industry stakeholders.

1.2 Research Questions

In the context of China's market-driven logistics industry, I conducted research on self-employed truck drivers who own their own trucks and truck drivers who are hired by self-employed truckers in China. These groups of workers make up the majority of truckers in the full truckload shipping market. I examine how the organization of small-scale trucking contributes to its precariousness and the impact on truckers' working conditions, job quality, and wellbeing. More specifically, I address the following research questions:

1. What broader factors contribute to the working conditions and job quality of truck drivers in China? How do trucking industry stakeholder groups and government regulations shape and impact trucking work, and contribute to the precarity of truck drivers in China?
2. What are the current working conditions and context of self-employed truck drivers and truckers who work for self-employed truckers in China? To what extent and in what ways is trucking precarious? What are the impacts of truckers' working lives and wellbeing?

1.3 Thesis Outline

This thesis is organized into seven chapters. Chapters 1 and 2 provide background of the research on truckers in China, and situate this research in the broader literature on precarious work. The remaining chapters focus on the research project, including a description of my research design and methods, followed by chapters that present and discuss an analysis of the findings. I end the thesis with a conclusion chapter.

In Chapter 1 I briefly describe the context for my study. I discuss the precarious character of trucking sector around the world, including North America, Europe and Australia, and in China. Then I present a brief description of the historical changes and current situation of the

Chinese economy and labor market, including the development of the market economy and the increase of informal employment. Next, I describe the historical transformation of the Chinese road transportation industry, including the emergence of private and self-employed operators. Then I present current profiles of the road freight market and truck drivers in China. Finally, I introduce my research questions and provide an outline of the thesis.

In Chapter 2: Literature Review, I provide an overview of the literature describing the current working conditions and job quality of truck drivers around the world, and I describe the current state of research on truck drivers' work in China. This chapter introduces the definitions and measures of job quality and precarious work that I used to examine the work lives of truckers. Finally, I conclude with a description of the theoretical framework used in this study: the political economy approach and labor process theory.

Chapter 3: Methods describes the selection of research site, the recruitment of the participants and consent process, as well as the methods used, including interviews and document analysis. In this chapter, I describe how I conducted transcription and thematic analysis. I present a demographic profile of the participants, as well as a list of the public documents used in the thesis. In Chapter 4, I answer the first research question of this study by illustrating how the organization of trucking work makes truckers' job precarious. I begin by explaining the differences and similarities between self-employed truckers and he-hired truckers. I next analyze the relationship between truckers and brokers and shippers. The results show shippers and brokers control truckers' labor process through employment pattern with some stability, and also that shippers and brokers can cheat and harm truckers' interests through unequal market positions and information asymmetry. I then illustrate the differences between different gigs, and illustrate the role of guanxi in truckers' work. I finish by describing the

institutional factors which are part of the organizational structure of truckers' work: regulatory and economic factors.

In Chapters 5, I answer the second research question by describing how the Chinese truck drivers' lives are affected by their precarious work. I first describe the reasons why truckers get into the industry and what keeps them from leaving it. I then delve into an analysis of how truck drivers' job quality exhibits a strongly precarious nature in terms of working hours, income, sleep, eating and other basic life needs, family relationships, as well as their workers' benefits.

Finally, in Chapter 6: Conclusion, I summarize the findings and answer the research questions raised in this study. I discuss the possible contributions and limitations of my research, as well as suggestions for future research.

Chapter 2: Literature Review

2.1 Introduction

This chapter briefly reviews four literatures that are helpful to the study. The chapter first summarizes the current literature describing working conditions and job quality of truck drivers around the world, including the United States, Australia, the United Kingdom, and the European Union. It then describes the current research on truck drivers' work in China. This is followed by an introduction to the concepts of job quality and precarious work that I use in this study to analyze interviews with truckers. The fourth part introduces two theories used in this study: the political economy approach and the labor process theory.

2.2 Working Conditions and Job Quality of Truckers around the World

Poor working conditions and job quality of truck drivers is a global issue. In the United States, Australia, the United Kingdom and other parts of Europe, truck drivers are exposed to working conditions that endanger their health and safety: long working hours, poor sleep and eating conditions which leads to fatigue, and working alone and social isolation (Apostolopoulos et al., 2014; Belzer & Sedo, 2018; Jaffee & Bensman, 2016; Johnson et al., 2011; Renner, 1998; Saltzman & Belzer, 2007; Port Jobs, 2007, East Bay Alliance for a Sustainable Economy, 2007, Smith et al., 2010, Rawling & Kaine, 2012, Sitran & Pastori, 2013, COFI, 2015, Sayer, 2016, Quinlan, 2001, cited by Bensman, 2017; Thörnquist, 2015). Truck drivers tend to lack job security, pension plans, as well as other features that standard employment guarantees, while in some cases also taking on all the operation costs on the road (Bensman, 2017; Thörnquist, 2015).

In the United States, Australia, and the European Union, deregulation by governments of the trucking industry beginning in the 1980s is an important reason for the precarious situation of

truck drivers (Belzer, 2000, as cited in Gregson, 2017; Bensman, 2017; James, Mayhew, & Quinlan, 2006; Sears et al., 2018; Viscelli, 2016). In the U.S., truck drivers work as independent contractors instead of employees, which keeps the working conditions from being restricted by employment laws, and allows freight companies to transfer costs and risks to workers, freeing them from obligations as employers, such as providing access to medical insurance, paid leave, unemployment insurance and pension (Bensman, 2014; Bensman, 2017; Jaffee & Rowley, 2009, as cited in Sears et al., 2018; Monaco & Grobar, 2004, as cited in Sears et al., 2018; Sears et al., 2018; Viscelli, 2016). In Sweden, false self-employment, meaning "employment disguised as self-employment in order to circumvent collective agreements, labor laws, payroll taxes and social security contributions" (Thörnquist, 2015, p. 412), is a result of fierce competition and "complicated networks of subcontractors" drawing on cheap immigrant labor and has also become a tool for the exploitation of truck drivers (Thörnquist, 2015). In the United States, Australia, and the European Union, large retailers such as supermarket chains dominate the supply chain, and drivers are at the bottom of the power hierarchy, which creates a highly competitive market and puts truck drivers under tremendous pressure to reduce costs (Bensman, 2017; James, Mayhew & Quinlan, 2006). This pressure increases the probability of driving long hours without taking rest breaks, leading to fatigue driving, which is a huge risk factor for vehicle accidents (Feyer et al., 1993, Shaw et al., 2003, as cited in Rodríguez et al., 2004; Rodríguez et al., 2003; Rodríguez et al., 2004; Sabbagh-Ehrlich et al., 2005).

In the United States, Australia, and the European Union, trucker unions mount campaigns through participation in meetings, petition, litigation, strikes, expert research, and calls for legislation, seeking to improve truck drivers' working standards (Jaffee & Bensman, 2016, Howard Law, 2010, Bradbury, 2014, Bensman, 2014b, Quinlan, 2001, Kaine & Rawling, 2010,

Thornwaite & O'Neill, 2016, European Transport Workers Federation, 2015, ILO, International Labor Organization, 2015a, 2015b, 2015c, as cited in Bensman, 2017). In the United States, unions are trying to reclassify truck drivers as employees and make transport providers and clients accountable for truck drivers' working conditions (Bensman, 2017). Thus far, they have achieved some results, such as the adoption of "Safe Rates" in Australia and Europe, compelling trucking companies to increase rates, but these results are not enough (Kaine & Rawling, 2010, as cited in Bensman, 2017; Bensman, 2017).

In addition to financial issues, the work of truck drivers puts them at high risk of adverse health consequences. Studies of truck drivers in the United States (Apostolopoulos et al., 2013; Apostolopoulos et al., 2014; Renner, 1998; Sieber et al., 2014; Saltzman et al., 2007; Shattell et al., 2010), Australia (James et al., 2006), Belgium (Braeckman et al., 2011), Brazil (da Silva-Júnior et al., 2009), Israel (Sabbagh-Ehrlich et al., 2005), and Italy (Guglielmi et al., 2018) have shown that they are more susceptible to the effects of being overweight and obese (Apostolopoulos et al., 2012; Apostolopoulos, Lemke, & Sönmez, 2014; Sieber et al., 2014), sleep problems (e.g., falling asleep while driving is one of the causes for car accident) (Apostolopoulos, Lemke, & Sönmez, 2014; Braeckman et al., 2011; Guglielmi et al., 2018; LaDou, 1988; Wylie et al, 1996, as cited in Renner, 1998; Lemos et al., 2009, Mitler et al., 1997, Braeckman et al., 2011, Talmage et al., 2008, as cited in Van der Beek, 2012; Sabbagh-Ehrlich et al., 2005; Saltzman & Belzer, 2007), fatigue (Apostolopoulos et al., 2014; James et al., 2006; McDonald, 1984, as cited in Van der Beek, 2012; Renner, 1998; Sabbagh-Ehrlich et al., 2005; Saltzman & Belzer, 2007), cardiovascular disease (Apostolopoulos et al., 2014; Backman, 1983, LaDou, 1988, as cited in Renner, 1998; Hedberg et al., 1998, as cited in James, Mayhew, & Quinlan, 2006), musculoskeletal injuries (Apostolopoulos, Lemke, & Sönmez, 2014; Jensen et

al., 1996; Tesche et al., 1999, Mabbott et al., 2001, as cited in James et al., 2006; Robb & Mansfield, 2007, as cited in Van der Beek, 2012), exposure to diesel fumes (Boffetta & Silverman, 2001, Steenland et al., 1998, as cited in James et al., 2006), anxiety and depression and other mental health issues (da Silva-Júnior et al., 2009; Orris et al., 1997, as cited in Van der Beek, 2012; Shattell et al., 2010), and a lack of physical exercise (Apostolopoulos et al., 2014). Trucking accidents result in serious injuries and deaths (Hedlund & Blower, 2009, Moonesinghe et al., 2009, as cited in Apostolopoulos et al., 2013; Saltzman & Belzer, 2007). In the United States, truck drivers have difficulty obtaining the healthcare services they need (Apostolopoulos et al., 2014; Renner, 1998; Apostolopoulos et al., 2013; Saltzman & Belzer, 2007; Solomon et al., 2004).

2.3 Research on Precarious Work and Trucking in China

There are many work-themed academic studies in China, and some focus on precarious work or informal employment. Most of these studies were written from a macro perspective by analyzing the whole country (e.g., Wu & Cai, 2006; Hu & Yang, 2001; Huang, 2009; Xue & Gao, 2012; Liang et al., 2016; Park & Du, 2012; Shi, Liu & Zhao, 2022; Yao, 2006; Zuo, 2013; Zhu, 2022). There is a smaller body of empirical studies that concentrate on a specific subset of workers, as this thesis does. These studies focus on the construction industry (Guang, 2005; Swider, 2015), machinery manufacturing (Jia, 2019); automobile manufacturing (Zhang, 2015); automobile, furniture and air conditioning manufacturing (Xu & Ye, 2021), the apparel and footwear industries (A & Liu, 2014; Ding & Liang, 2021; Fan & Xue, 2017; Huang & Hu, 2020; Lin & Xiao, 2020; Zheng et al., 2015), cultural and entertainment industry where white-collar workers work (Cao & Murdock, 2015; Huang, 2012; Jia & Zhong, 2018; Liu et al., 2022; Xu & Zhang, 2022), domestic workers (Hu, 2010; Liang, 2017; Sa et al., 2020), labor groups that

represent the platform economy, including drivers of online car-hailing platforms (Wu & Li, 2018; Qi et al., 2020; Zhao & Deng, 2021; Zhao & Han, 2021) and food delivery riders (Chen, 2020; Feng & Zhan, 2019; Sun, 2019; Li & Jiang, 2020; Zheng et al., 2020), student interns (Jia & Zhong, 2018; Wang & Yang, 2021) and technical school students who are used as cheap labor (Chan et al., 2015; Su, 2011; Zhang, 2015), and also seafarers in the transportation industry (e.g., Shan, 2017; Shan et al., 2024; Wu et al., 2007).

Much of the literature focusing on Chinese truck drivers is related to transportation science (e.g. Yang, 2024), health and medicine (e.g., Zhang et al., 2013), and psychology (e.g., Qu et al., 2022). Literature from other humanities disciplines focusing on truck drivers' work, while increasing in recent years, is generally modest. Communication studies is beginning to see scholars focusing on truckers' use of smart media in their work process (e.g., Chang, 2023). Liu and Wang (2022) examined truckers' organizational practices on the internet through WeChat groups and short video platforms.

In sociology, Liu, Ren and Liu (2021) studied how virtual communities can be organized through the case study of a road freight truckers' online platform. Through his study of self-employed concrete mixer truck drivers, Zhen (2021) explores how consent arises among them; he shows how the labor of these drivers is controlled by management. Unlike the road freight truck drivers studied in this thesis, these self-employed mixer drivers are fully dispatched by the same fleet and concrete mixing plant over a period of time for short-distance transportation within the city, and do not schedule their own gigs. Despite owning the means of production, these drivers are more like employees of the same company. Induced by the employer, the drivers take loans to buy mixer trucks and assumed the business risk. According to Zhen (2021), owning the mixer trucks provides the drivers with the illusion of being a boss. The piece rate

system increases the autonomy of the driver's work and forced the driver to work overtime. Vehicle status monitoring system increases the monitoring of driver behavior. The peer effects shape the drivers' collective labor goals. The sense of identity is further shaped by the atmosphere among the group of fellow drivers. The class dilemma, the demands of masculinity and the responsibilities of fatherhood oblige them to consent. The relationship with the fleet manager also becomes a tool for the fleet manager to control the drivers. At the same time, the drivers will engage in a compromised resistance to ensure a smooth and efficient labor process through building good relations with the dispatcher, gaming with the traffic police and the road administration, collective bargaining for unpaid salaries, switching plants to vote with their feet, or hiring another driver.

A study by Zhou (2021) that examines how digital platforms have reconfigured the way work is organized in the traditional road freight industry is an important academic article for this study. The author examines two digital platform models that match trucks and goods, namely bridging matching and integrated matching. Bridging matching refers to platforms that only play the role of information transmission; the platforms improve matching efficiency and reduce search costs. In this model, truckers bid on posted jobs and try to win the contract by offering lower freight rates than their competitors. The low freight rates resulting from the "race to the bottom" bidding model put truckers' livelihoods at risk, increase tensions between truckers and shippers. Also, non-face-to-face transactions with strangers allow fraud to occur more easily. The second type of matching model, integrated matching, assumes more responsibility on the platform in the transaction process. Specifically, the platform signs a transportation contract with the shipper as a carrier and assumes responsibility, and the platform then entrusts the truck driver to complete the transportation task. The platform not only provides information, but is also

responsible for charging freight fees to the shipper, supervising the safety of goods transportation, and paying freight fees to the driver. Along with eliminating the competition associated with the bidding model, integrated matching limits transactions to acquaintances as much as possible, and builds a credit system for truckers. The platform also encourages and assists truckers to form trucker fleets and provides support for the fleets, which includes the provision of a large number of sources of goods, brand endorsement and qualifications for signing contracts and issuing invoices. Zhou (2021) argues that the latter matching system benefits truckers, as well as shippers who benefit from the management and stability the platform provides.

In addition to the above, there are a small number of authors in sociology who contribute to the work process of truck drivers. Zhang (2022) analyzes the action strategies of truck drivers, and the participants in the study are six truck drivers employed by a manufacturing company with 63 total employees. The drivers are employed by the company, which is different from the drivers in this thesis who are employed by self-employed drivers. Wu (2023) explores the working lives of self-employed small dump truck drivers in Shenzhen, China, from a time ecology perspective. Unlike road freight truck drivers, dump truck and dump truck drivers mainly transport construction waste in the same city, and their work operates in a very different way from road freight truck drivers. Some other research is concerned with collective action. For example, Lin and Ngai (2021) talk about truck drivers' strikes in China, arguing that such collective action is organizing against what they call infrastructure capitalism. There are also scholars discussing the labor practices of truck drivers from a gender perspective. Ma (2020) examines the work of female truck drivers from a micro perspective. Concerned with truckers' family life, Yuan and Li (2022) explored truckers' masculinity and fatherhood practices. There

are also several articles in social work that focus on truck drivers or their wives (e.g., Yang, 2020; Huang, 2023). It should be noted that the literature on communication studies, sociology, and social work mentioned here that focuses on Chinese truck drivers are all master's theses, except for Liu and Wang (2022), Liu et al. (2021), Zhou (2021), and Lin and Ngai (2021).

While academic literature in sociology focusing on the working conditions and job quality of road freight truckers in China is rare, there are a number of industry reports addressing the issue. Four reports titled *Chinese Truck Drivers* (No.1, No.2, No.3 and No.4) published by Public Welfare Institute of Transfar Foundation between 2018-2021 are particularly useful for my study. The Transfar Foundation is funded by Transfar Group (Transfar Foundation, n.d.), a private company ranked among the China Top 500 Enterprises and specializes in chemicals, logistics and real estate (Transfar Group, n.d.). Report No. 1 provides basic demographic and sociological characteristics of the Chinese truck driver community, the basic features of their labor process, the institutions and policies that affect their work (PWITF, 2018a). Report No. 2 describes the group of drivers employed by others, truck drivers' wives, and the form and role of truck driver organizations (PWITF, 2018b). Report No. 3 describes freight handlers and the female truck drivers group; the report also investigates the market players that play an intermediary role, represented by large and small logistics enterprises, brokers, and Internet logistics platforms (PWITF, 2019). Finally Report No.4 examines the affiliating system in trucking industry in China, and how the road freight industry has become a major industry of a county in China (PWITF, 2021). For the self-employed driver group, historically, in order to obtain an operating permit, these truck drivers would need to register their vehicles under the name of a company, operate in the name of that company, and pay fees to that company; this company would assist the driver with various procedures related to the vehicle (Transfar Group,

n.d.). But in reality the driver owns the truck and operates as a self-employed trucker (Transfar Group, n.d.). After 2017, due to the loosening of laws and policies and the increased risks associated with the operation of such companies, the phenomenon of traditional affiliating simply for operating qualifications has decreased (Transfar Group, n.d.). The drivers I interviewed did not mention in their interviews the impact of the affiliating system on their work lives.

Given the paucity of academic literature on truck drivers in China, industry reports and other grey literature are important sources of information on trucking in China. In my thesis, I contribute to the research on trucking in China by focusing on truck drivers' working lives and exploring the major forces that influence the working conditions and job quality of truck drivers. I build on the important work by Zhou (2021) who focused on the impact that digital platforms have had on the organizational patterns of the freight industry, and Zhen's (2021) research on truck drivers which used labor process theory.

2.4 Definition and Measure of Job Quality and Precarious Work

In this study, I use the concepts job quality and precarious work to understand Chinese truck drivers' working lives. While the current research has no universal definition of job quality, in this thesis I use the definition proposed by De Bustillo et al. (2011, p. 150): "job quality refers to the characteristics of jobs that have a direct impact on the well-being of workers."

Researchers have developed many approaches that focus on different dimensions of job quality. There are some key dimensions that are consistent across different approaches, including wages (Cazes, Hijzen and Saint-Martin, 2015; Davoine, Erhel and Guergoat-Larivière, 2008; Green, 2006; Leschke, Watt and Finn, 2008; Lowe, 2007), job security against the risk of

unemployment (Cazes et al., 2015; Gallie, 2007; Leschke et al., 2008; Lowe, 2007), working time (Cazes et al., 2015; Green, 2006; Leschke et al., 2008), work autonomy (Cazes et al., 2015; Gallie, 2007; Green, 2006; Kauhanen & Nätti, 2015; Leschke et al., 2008; Lowe, 2007; Smith et al., 2008), access to training/skills development (Davoine et al., 2008; Gallie, 2007; Kauhanen & Nätti, 2015; Leschke et al., 2008; Lowe, 2007), skills requirements (Gallie, 2007; Green, 2006), work-life balance (Davoine et al., 2008; Gallie, 2007; Leschke et al., 2008; Lowe, 2007), workplace relationships with colleagues (Cazes et al., 2015; Lowe, 2007), monotonous tasks frequency (Davoine et al., 2008), interesting and challenging job content (Lowe, 2007; Smith et al., 2008), and work intensity (physical and mental) (Cazes et al., 2015; Davoine et al., 2008; Green, 2006; Leschke et al., 2008; Lowe, 2007).

Precarious work "overlaps with a cognate concept of poor 'job quality'" (Burchell et al., 2014, as cited in Campbell & Price, 2016, p. 315). They are both associated with such job characteristics as low-levels of regulation, low wages, long working hours, and low control over job content. The criteria for judging whether certain employment is precarious or not tends to be related to the concept of job quality. Lewchuk (2016, p. 92) states that precarious work can be identified by two aspects: forms of the employment relationship ("full-time, part-time, temporary, self-employment") and characteristics of employment ("non-wage benefits, variations in earnings, future employment prospects"). Schneider and Harknett (2019) argue that unstable wages and irregular, unpredictable work time are two crucial aspects of precarious employment. Precarious work usually has unstable wages, no health insurance and no pension, and does not have one full-time employer; the workers are not sure if they will still work for this employer in one year, and the work hours and work schedule are uncertain (Lewchuk, 2016).

Traditionally self-employment and workers with high incomes have not been included in discussions of precarious work. My work contributes to emerging discussions about the ways in which some forms of self-employment and even some relatively high earning work may be described as precarious in the context of broader industry- and economy-level changes. I turn to a discussion of this emerging literature next.

2.5 Self-employed Workers: Precarious or Not

Many of the truck drivers studied in this thesis are self-employed truck drivers. Self-employed workers have often been associated with entrepreneurs and entrepreneurship, and they have been described as individuals who proactively embrace risk, autonomy, flexibility, fulfillment, and the pursuit of higher profits (e.g., Hundley, 2001; Hughes, 2003; Parker, 2004). Self-employed workers have not received as much attention as wage workers in studies related to precarious work (Conen & Schippers, 2019); however, in recent years, more studies have pointed out that the work of self-employed workers can also be precarious, especially the solo self-employed who work independently for themselves without any employees (Conaty et al., 2016; Jonsson et al., 2021). Examples include studies on the Vietnamese immigrants running retail stores in Berlin (Schmiz, 2013), self-employed personal trainers in fitness centers (Harvey et al., 2017), one-person entrepreneurs in Austria (Bögenhold & Klinglmair, 2015), self-employed workers in the service industry in Korea (Shin, 2013), and highly educated self-employed workers in Italy (Murgia & Pulignano, 2021).

The experience of self-employment can be quite different for different groups of people. For some people, self-employment is a way to earn a high income and have work autonomy, and for others, it is marked by insecurity and low income and long hours (Bögenhold, 2019; Harvey et al., 2017; Parker, 2018; Vermeylen et al., 2017). Research has shown that some forms of self-

employment take on the characteristics of precarious employment, for example in cases where the self-employed obtain lower income than paid employees and employers (Boeri et al., 2020; Halvarsson et al., 2018; Levine & Rubinstein, 2017; Schneck, 2020), and where there is an over-reliance of these self-employed workers on a single client, which leads to a very high risk of unemployment in the event of the loss of that client (Boeri et al., 2020). Other research has pointed to high risks of self-exploitation that self-employment entails, which includes the tolerance of extremely long working hours and low profits (Schmiz, 2013), and the lack of training and opportunities to upgrade employability in self-employment (Conen & Schippers, 2019). The rise of neoliberalism (Shin, 2013), and inadequate national social security legislation for self-employment in many countries (Buschoff & Schmidt, 2009) that mitigate the risks of unemployment, sickness and disability, and old age poverty (Boeri et al., 2020; Conen, 2018; Conen & Schippers, 2019; Murgia & Pulignano, 2021) shape the precarious character of some forms of self-employment. This literature points to the importance of the need to shift the question to the difference in the actual and perceived job quality brought about by various work arrangements (Vosko, 2006, as cited in Conen & Schippers, 2019). It is also why making social security coverage less dependent on the employment status has become necessary (Eichhorst et al., 2013).

This thesis makes an empirical contribution to the conversations about whether and how self-employed workers may be precarious by examining truck drivers, a group that is largely self-employed.

2.6 Political Economy Approach

When thinking about the broader factors that contribute to truck drivers' precarity, the theory of political economy inspired me: As a market participant, the situation of truck drivers is

not only affected by economic factors, but also by the government policies and the interplay of interests between the different parties in their work process. I use a political economy approach to provide and understand the broader context of the current working conditions and job quality of truck drivers in China.

According to Drazen, political economy focuses on "how conflicts of interests are resolved" and "its economic implications" (2004, Chapter 1, para. 35) and politics is "the study of power and authority, and the exercise of power and authority" (Chapter 1, para. 9). The patterns of activities in the trucking industry, are the outcome of the interplay of the various interests of different parties in the working process, including truckers, brokers, shippers, government, and others. Different parties have different interests, and because the government determines the regulations governing truckers' working life, the work process of truck drivers can be analyzed from a political economy perspective.

Foster and Barnettson (2016) offer a political economy approach to understanding workplace health and safety. In their analysis of workplace injuries in Canada, workers want to maximize personal safety (p. 62), and employers aim to maximize profitability (p. 8). Although the government does not aim at profit, it must balance economic development with "maintain[ing] its own legitimacy with voters" (p. 11). The crux of the problem is that the interests of workers as the "majority of the electorate " are to some extent contrary to the benefits of the "capital accumulation process (p. 11)". On the one hand, improving working conditions means higher costs, and further, economic downturns; on the other, "low pay" and "poor working conditions" can make the public lose confidence in the government (p. 11), demonstrating that it is impossible for the government to favor or protect either side indefinitely. In addition, when using the political economy framework to analyze workplace injuries in Canada, Foster and

Barnetson (2016, p. 159) pointed out that employers have control over the workers: "What is required is a more explicit recognition that employment is a power relationship, and that power permeates all aspects of workers' lives."

In terms of research on truck drivers, some studies have mentioned the huge decline in local truck drivers' working conditions caused by government deregulation of the trucking industry in the United States since the 1980s (Belman & Monaco, 2001; Belzer, 2000; Gardner, 2000) and in the European Union since the 1990s (Bensman, 2017; Hilal, 2008; Belzer & Thörnquist, 2020; Sitran & Pastori, 2013). In addition to this, Nowak (2022) argues for a global political economy approach to analyze and situate labor in a broader social formation. In considering labor issues in the Brazilian logistics industry, Nowak (2022) identified a number of factors that led to the ineffectiveness of the Brazilian truckers' strike and logistics blockade protests in 2018 including, the position of Brazil within the global division of labor, which leads to higher transportation costs than benefits for truckers; the deficiencies in the state power of the government, in terms of energy price regulation and transportation infrastructure development; and the inadequacies in the political ideology of the trucker community, who limit their bargaining focus solely to sectoral issues and lack a broader political agenda.

I use a political economy perspective to study the job quality of truck drivers by exploring the question: How is the organization of trucking in China shaped by industry stakeholders and government regulations, and what are the impacts on truckers' work quality and stability? I explore power relationships that are reflected within the interactions between truckers and other parties in the work process and analyze how this power relationship determines the course of action of all parties in the work process. I also explore how the government exerts influence over truck drivers and how government regulation affects their working conditions.

2.7 Labor Process Theory

Labor process theory (LPT), which originated from the work of Karl Marx, became prominent after the first publication of Braverman's *Labor and Monopoly Capital* in 1974. Braverman argued that the capitalist labor process undermines workers' skills through the division of labor in internal production, scientific management, and the use of automation technology, causing workers to lose control over the labor process (Braverman, 1998). The labor process is a transformation process in which the worker's labor becomes part of the factors of production that are used to help transform goods or services that have value (Smith, 2015). The starting point of the labor process theory is the indeterminacy of labor: although the capitalist hires the labor power of the worker, the final outcome of the labor is uncertain and the worker can choose his employer through mobility (Smith, 2006; Thompson & Smith, 2009). This indeterminacy requires capitalists and managers to control the labor process of workers (Thompson & Smith, 2009).

Due to the indeterminacy of labor and the fundamental antagonism between capital and labor, any settlement/agreement between labor and capital, control strategy and type of resistance are temporary and diverse, and new controls and new resistances will constantly emerge (Thompson & Newsome, 2004; Thompson & Smith, 2009). Today, the dynamics between workers and managers in the workplace, the antagonism between workers and capital/employers, the control of workers, workers' resistance, compliance and consent remain central aspects of labor process theory (Smith, 2016; Thompson & Newsome, 2004). Today, the way employers control workers is usually not through coercion, but rather as Burawoy argues in *Manufacturing Consent*, consent is built up without the workers' awareness (Burawoy, 1982; Smith, 2016).

In small, labor-intensive businesses, control is often manufactured through the construction of blurred, poorly delineated relationship between the boss and the employee. The study by Goffee and Scase (2015) of the British construction industry illustrates that in small businesses that rely heavily on skilled labor, employers often adopt a strategy of fraternalism. In such cases, employers work together with their employees, they see themselves as colleagues working with their employees, with few obvious hierarchical relationships. They have a close relationship with their employees and maintain a friendly, united relationship. They are heavily dependent on these "indispensable" workers, which makes them strive to maintain this fraternal relationship with their employees (Goffee & Scase, 2015, p. 105-129). In their study of small-scale garment factories in Guangzhou, China, Zheng et al. (2015) show how the blurring of the boundary between workers and bosses operates as a mechanism of labor control. Most of the bosses in small-scale garment factories were previously workers, and "many of them are still involved in production work after becoming bosses" (Zheng et al., 2015, p. 187). They eat, live, work, discuss work issues, and have recreation with the workers (Zheng et al., pp. 187-188). And, the boss says, "all the money he earns is from hard work, and the profit is very low" (Zheng et al., 2015, p. 187). This relationship "reduces the identity difference between workers and bosses" and leads workers to agree that there are consistent rather than opposing interests between them and their bosses, producing consent among workers; weakening workers' working-class consciousness and concealing substantial exploitation (e.g., bosses have inviolable authority and can fire workers at any time) (Zheng et al., 2015, p. 187-188). Finally, Hsiung's (1996, p. 121) study of small family-owned factories in Taiwan shows how "working among the workers" the owner's goal of controlling the labor process of the workers is achieved. The boss/owner and workers participate in labor together: the boss dresses the same as the workers,

even going barefoot, and they do the same work the employees are asked to perform (Hsiung, 1996, p. 121).

LPT lends itself to analysis that links to the broader political economy, rather than focusing solely on the workplace itself (Smith, 2016); labor process is influenced by specific contexts, including the state, the firm, the market, and other institutional dynamics (Thompson & Smith, 2000; Thompson & Vincent, 2010). For example, Gandini (2019) used LPT to study self-employed workers in the gig economy on digital platforms. He points out that digital platforms represent a 'point of production,' where the platforms become a closed place where the production process can be managed and capital-labor relations are achieved. Also, digital platforms incorporate emotional labor into the core of the labor process by leveraging feedback, ranking, and rating systems to regulate "interaction between workers and consumers/clients," turning emotion labor into one form of quality enhancement of the labor process (Gandini, 2019). Moreover, the metrics presented by these systems also act as the "techno-normative" means of monitoring and controlling the gig workers' performance (Gandini, 2019). Gandini's (2019) work is especially pertinent for my study because he is examining the labor process of self-employed gig workers.

This thesis applies the basic ideas of LPT: control, resistance, and consent, throughout the study of truck drivers. Also, this thesis applies the labor process theory to understanding how stakeholders in truck drivers' working process manage work, shows how truck drivers are controlled by brokers and shippers, and how the self-employed truck drivers generate consent in truckers who work for them. This thesis also applies the labor process theory by focusing on the overall labor process of truck drivers from departure to return, and focusing on the indeterminacy of labor outcome.

2.8 Theorizing Self-employed Truck Drivers and Their Employees in China

My review of the literature shows that in the United States, Australia, the United Kingdom and other parts of Europe, truck drivers face working conditions that put their health and safety at risk. They often lack standard employment protections. In the U.S., Australia and the European Union, government deregulation of the trucking industry and the domination of the supply chain by large retailers are important reasons for the precarious situation of truck drivers. In these areas, truck driver unions have campaigned in various ways to seek improvements in trucker' working conditions. In addition to financial issues, the work of truck drivers puts them at high risk for adverse health outcomes. These studies reviewed in this chapter help to situate the context of truck driving and to formulate the research questions for this thesis.

In China, most studies on precarious work or informal employment have been written from a macro perspective, with few empirical studies focusing on a specific group, including very few on the subject of truck drivers. These studies provide an important starting point for the research in this thesis and suggest that more research on the job quality and working conditions of truck drivers is necessary.

Although there is no universal measure of job quality and definition of precarious work, low wages and unstable earnings, long and unpredictable work hours, low control over job content, and lack of benefits and security are often cited as markers of low job quality and precarious work. These definitions and measures provided important references for the design of the interview questions and the framework for writing the thesis, and I use these definitions and measures to interpret the data collected. I use these definitions to interpret interviews with the Chinese truck drivers in my study and to build on emerging discussions about how some forms of self-employed work is precarious.

The political economy approach aids the research in this thesis. Through a political economy approach, the thesis investigates the dynamics between different players in the freight market (truckers, brokers, shippers), the interaction of their interests, and the impact of power relations on truckers' job quality, as well as the role of government policies in truckers' job quality and how government regulation affects their working conditions. Furthermore, labor process theory by focusing on the indeterminacy of workers' labor process and labor outcome, directs attention to aspects of control, compliance, obedience and consent, provides a framework for understanding how truck drivers' labor process is controlled and the implications for truck drivers' job quality.

Chapter 3: Methods

3.1 Introduction

I used a qualitative approach to explore the working conditions and job quality of truck drivers in China, with data derived from semi-structured in-depth phone interviews with truck drivers and state and industry documents. This chapter describes the methods used in my study of truck drivers' job quality and working conditions, including the selection of the research site, recruitment of participants, including how consent was obtained, and the interview process. I describe the demographic characteristics of the participants. Next, I describe the approach I used to analyze the interviews. Finally, I discuss the strengths of the methods and difficulties encountered in the research process.

3.2 Research Site

This research focuses on truckers in Shijiazhuang and Xingtai, Hebei Province. It is a region in northern China close to Beijing. Shijiazhuang is the capital of Hebei Province and an important central city in the Beijing-Tianjin-Hebei region, adjacent to Xingtai. The data provided by Kuaishou Big Data Institute (2022) show that the top-ranked regional source of truck drivers is Hebei Province. *The 2018 China Road Transport Big Data Report* states that "Shijiazhuang is the gathering place and transit area of goods sources in the north" (Tucmedia & Sinoiov, 2019, (3) in section 2.1) and Shijiazhuang ranked third among 334 prefecture-level cities in China in terms of the number of registered truck vehicles (Tucmedia & Sinoiov, 2019). Hebei Province ranks second in the national ranking of the number of registered truck vehicles by province, and also ranks second in the distribution of road freight truck drivers by province (Research Institute of Highway Ministry of Transport & Sinoiov, 2021). In addition, according to PWITF (2018a, pp. 10-11), in the nationally representative truck driver survey conducted in 2017, the proportion

of truck drivers from Hebei was the highest, accounting for 24.3%. Therefore, the above data affirm that Shijiazhuang and Hebei are important sites for the trucking industry. I do not intend to claim the sample represents all self-employed truck drivers and truck drivers who work for the self-employed in the country. The aim of qualitative research is to understand participants' experiences and understandings of their lives (Rice & Ezzy, 1999, as cited in Fossey et al., 2002). Qualitative research attempts to understand "how and why people behave, think, and make meaning as they do" (Ambert et al., 1995). Qualitative research aims to understand findings within a specific context and setting, rather than simply or directly extrapolating findings to large populations in different settings (Fossey et al., 2002). Focusing on the daily working lives of truckers, I am able to link broader political economy and industry-level organization to the truckers' working conditions, job quality, and the manifestations and effects of their precarious work.

The other reason I choose Shijiazhuang and Xingtai is that my family and relatives live in Shijiazhuang and Xingtai, which helps with recruitment. I posted recruitment posters in gas stations, repair shops, logistic parks and high way service areas. Since only local people know where these places are (they are not always shown on maps, and maps are not precise in small areas in China), my family, relatives, and friends were able to help me find these areas of recruitment.

3.3 Recruitment and Consent Acquisition

I used snowball sampling by handing out recruitment invitations to my family and friends and asking them to give these invitations to any truck drivers they know. I also put up recruitment posters in local gas stations, repair shops, logistic parks, and high way service areas in the two cities. The content of the posters and invitations is exactly the same (see Appendix 2).

Truckers who were interested in being interviewed were able to reach out to me directly through the contact information on the posters and invitations. The invitation required truck drivers to contact me directly so they did not have to find me through brokers, including the person who gave them the invitation. The invitation and posters included a web address containing the content of the consent form for this study, which the truckers could view at any time by clicking on the web address. The consent form was provided for truckers' reference, but they were not asked to sign and return it. The consent form describes the goals of the study, what participants will be interviewed about, how the data will be used, and possible benefits and risks, with special emphasis on the confidentiality and anonymity of the study. During the interview, participants were not asked to provide their names or any other identifying information, including birth date, home address, etc. The data were anonymized and pseudonymized before data analysis began. All personally identifying information of the participants, including the names of the people the participants mentioned in the interviews, people's physical appearance, the names of the locations, and the names of the companies were removed to ensure that the participants were not identified or recognized when the thesis is read: the names of the locations mentioned by the participants were referred to by the initials of the locations (e.g., M city); the names of all the companies whose names were pointed out were removed (e.g., the AA cement factory is referred to as, the cement factory). Throughout the research process, including data collection, collation, analysis, thesis writing, each participant's name has been replaced by a randomly assigned string of numbers and letters. For the thesis, although I use direct quotations from the interview transcripts, each participant is referred to as their series of randomly-chosen numbers and letters.

Prior to the start of the interview, I read out the contents of the consent form to obtain explicit verbal consent and made a request to have the interview recorded. None of the participants refused to be audio-recorded. The reason for choosing verbal-consent is that signed consent forms may be viewed as overly formal, and I anticipated that some truckers may not want to sign their name on any paper document due to fear, which is a common concern about things related to authority in the Chinese context. Therefore, I did not use the paper consent form but read the consent form to them orally. Memorial University's Ethics Board provided ethical clearance for this study (see Appendix 1).

3.4 Interviews

Through the above approach, I recruited and interviewed truck drivers in November and December of 2020. My proposed questions in the Interview Questions (Appendix 4) are centred around the truckers' working experience, their understanding and experiences of trucking, their challenges during work, and the people they meet during the working process. All of the interviews with truck drivers were conducted by phone. This was a requirement of Memorial University's ethics board for investigations conducted during the Covid-19. Phone interviews have the advantage of being relatively cheap because they eliminate geographical constraints required for face-to-face interviews, and can increase the number of potential interviewees (Stephens, 2007). However, the lack of visual contact can result in data loss in communication, such as loss of nonverbal data such as body language and facial expressions (Novick, 2008). For example, the interviewee may not easily sense the interviewer's confusion or interest (Stephens, 2007), and may misinterpret the researcher's silence (Holt, 2010; Stephens, 2007). However, Novick (2008) argues that it is a bias to feel that phone interviews in qualitative research are inferior to face-to-face interviews and that phone interviews do not necessarily yield high-quality

data. Muntanyola Saura and Romero Balsas (2014) and Holt (2010) similarly support Novick's view. Telephone calls may make respondents feel relaxed and willing to speak freely and disclose private or sensitive information, and the phone provides more anonymity (Sweet, 2002, Tausig & Freeman, 1988, as cited in Novick, 2008) and privacy (Sturges and Hanrahan, 2004).

In my study, I felt that truckers were comfortable talking to me about private things in their lives, precisely because they didn't show their faces. I speculate that they felt safe given that they were very talkative. I speak the local dialect and I expect this made it easier for the interviewees to trust me, and talk to me more openly. My post-graduate status also helped my interviews, as the truckers tended to respect the high achievers who were well educated and had traveled abroad, which made it easier for them to answer the questions seriously and not perfunctorily. Each interview followed the Interview Questions in Appendix 4 but over time I added questions based on what I learned from the preceding interviews. During my research, I perform data collection and analysis in parallel, as they are not separate processes, but rather a continuous iterative process (Gale et al., 2013). During or right after the interview, when a participant said something that made me think of an idea, a concept, or a question which I might consider asking in the next interview, I make note of it. These notes helped me organize and reflect on the themes of the writing that popped out of the interview, and helped improve my next interview. The recruitment process was more successful than I thought it would be. During the interviews, I felt that because of the loneliness and hard work, truck drivers were very willing to recount their struggles to people, especially those outside the industry; Because truckers were talkative, I have a sense that they do not get to share their experiences very often, or they want to help a student to achieve. I ended up with a sample of 22 interviews for analysis.

3.5 Research Participants

I recruited 22 truck drivers, including self-employed truck drivers and truckers who work for self-employed truckers. The participants were all from rural areas of China and currently live in rural and county areas;⁴ 14 of the 22 participants had graduated from junior high school, and two of these 14 had entered high school but did not graduate. The rest of the participants had less than a junior high school education level. Eleven of the 22 participants ran short-distance freight and the others ran long-distance freight. The average age of the 22 participants was 41.47 years, with 17 participants older than 40 years and five participants under 40 years (including two under 35 years). All interviewees were men, Chinese, married and had children,⁵ and all have worked in the industry for more than ten years. The names of the 22 interviewees are shown in a four-letter random code when quoted in this thesis.

3.6 Transcription and Thematic Analysis

All of the recorded interviews were turned into text. Because the interviewees did not speak standard Mandarin and most had local accents, voice-to-text software for transcription was not a good option. Instead I opted to transcribe each audio-recording word for word manually. During the transcription process, I would keep track of the ideas I had generated from reading these texts for subsequent text analysis. After converting to text, I read each document again and again, trying to discover and categorize themes, focusing on text that related to truck drivers' working conditions and job quality. I coded by looking for repetitive issues related to job quality

⁴ County, one of the administrative divisions of China, is governed by a province, an autonomous region, a municipality or a large city (VI. The Local Administrative System, n.d.). Below the county are townships or towns and the county governs the subordinate townships, ethnic townships and towns (VI. The Local Administrative System, n.d.). The economy of counties, townships and towns is usually less developed than that of cities and big cities. The truck drivers I interviewed all currently live in counties or villages under Shijiazhuang and Xingtai.

⁵ In rural China, people usually get married very early. It's normal and common for them to get married in the early half of their 20s.

that emerged from the interviews. Although repetition was the focus of the analysis, I also reminded myself to look through each person's interview carefully, trying to find those things that were important to them, rather than just noticing repetitive parts of the interviews. Repetitive parts may reflect the questions that I asked, rather than what the participants really cared about or what most affected their lives.

In coding, I also refer to the literature review and theoretical framework of the thesis. I analyzed the interview content through theoretically-informed codes, including dimensions of job quality (e.g., wages, work intensity, work autonomy, work-life balance), examples of precarious work (e.g., unstable income, irregular, unpredictable working time, without one full-time employer) and reflections of political economy and labor process theory (e.g., the interplay of interests between industry stakeholders, control and consent). By starting with the labor process of truck drivers, I documented the everyday experiences of truck driver's work, and I was able to try to understand the reasons for the decisions made at each step of the truck driver's work process; and the political economy theory was instrumental in helping me analyze the impact of the relationship between truck drivers and other parties such as employers and government on truck drivers' work.

3.7 Documents

As things came up in interviews, I looked for additional information to help me understand and analyze the transcripts. Bowen (2009) mentioned that documents can provide context for research. In the course of my analysis, I looked up and consulted many legal and policy documents related to the work and lives of truck drivers that helped me to see the government's and industry's influence on the work of truck drivers, and they likewise helped in the analysis of the results of this thesis. I refer to documents from government and other official

organizations mainly on road traffic, drivers' driving behavior, environmental protection (e.g., auto emission standards, heavy pollution weather, environmental inspection, and cutting overcapacity), social security, Chinese economic data and economic policies, auto sales and auto finance. Documents included laws and regulations, policy documents issued by the government, and news from government press conferences and articles and data on the government's official websites.

Table 1

*Documents Referenced*⁶

Sources	Details
Laws, Regulations and Policies	Heavy pollution weather warning or announcements issued by the Ministry of Ecology and Environment and local governments
	National Energy Administration's policy document on Clean Winter Heating Plan
	Regulations, announcements and documents related to vehicles emission standards issued by the Ministry of Ecology and Environment, the Ministry of Industry and Information Technology or the State Administration for Market Regulation
	Motor vehicle mandatory scrapping standard regulations
	Traffic bans and restriction policies for trucks by local governments
	Auto loan related policies issued by the People's Bank of China
	Regulations and documents in China related to drivers' driving behavior issued by the Ministry of Public Security
	Social Insurance Law of the People's Republic of China
	Documents or articles issued by the State Council of China, the Ministry of Human Resources and Social Security or the National Healthcare Security Administration related to China's medical insurance and pension insurance system
	Announcement of provincial or local governments on medical or pension insurance system
Other	Statement related to China's flexible employment by the Ministry of Human Resources and Social Security at the State Council Policy Briefing
	Data from the National Bureau of Statistics of China on the volume of transportation of goods by different modes of transportation
	Press release from the Chinese Ministry of Transport, regarding road freight transport and truck drivers
	Press conference of the National Development and Reform Commission of China referring to cutting overcapacity
	Progress of environmental protection inspection announced by China's Ministry of Ecology and Environment and related press conference
	Income data from the National Bureau of Statistics of China

⁶ For each category of source, the table is sorted in order of their appearance in the thesis.

I did not plan to read these documents before writing or interviewing, but when things came up in interviews, in order to better understand what the truckers were saying, I looked for and read those files, which helped me analyze my transcript. Bowen (2009) mentions that documents can be used to validate or support data from other sources, however, when documents contradict other evidence, further investigation is needed. Despite the richness of data that documents can provide, researchers should use documents in a critical and cautious manner (Bowen, 2009). Coffey (2014) also states that documents cannot be used as a substitute for other types of data and that it is not possible to understand how an organization actually operates on a daily basis through written records alone. I used the documents to provide contextual information to help understand what I was hearing in my interviews, but I did so critically. My findings come from my interviews with truckers, who provided me with a picture of what the real world of their work actually looks like, which does not necessarily match the picture described, prescribed or required in legal and policy documents. In reading the laws and policy documents, I noticed that government requirements can be deviated from or have unexpected outcomes in actual implementation. Therefore, I carefully scrutinize the content of the documents in my research to understand the regulatory role of government in trucking and the discrepancies between the experiences of truckers and these requirements. What kind of behavior do truckers engage in when faced with government regulations? How do truckers behave? What motivates them to do that? This is what I need to study. Government regulations provide an important reference and context for my study of truckers' working lives, and I am interested in the tensions between government regulations and truckers' descriptions of their work and work organization that is not reflected in the documents.

3.8 Summary

In this chapter, I describe the methods I used to study the working conditions and job quality of truck driving work. I present the suitability of the study site, the way the data were obtained, the method of participant recruitment, the work done in terms of ethical risk, the strengths and weaknesses of telephone interviews and my reflections on the interview process. I also describe the demographic characteristics of my participants and the transcription process, state the sources of the coding strategy, list the documents used in my study and explain the ways in which I used them.

Chapter 4: Precarious Work: The Organization of Trucking

Work in China

4.1 Introduction

This chapter describes the organization of truck drivers' work in China and its impacts on their working conditions and job quality. I argue that the employment relationship between self-employed truckers and their trucker employees, the power dynamics between the drivers and the shippers and the brokers, the industry context created by regulatory, economic and online platforms contribute to the precarity of trucking work in China.

In the next section of the chapter, I describe the two main categorizes of truckers, and show how the employment boundary between the self-employed car bosses and the he-hired employees is blurred. Next, I demonstrate how the entanglements or power dynamics between truckers, and shippers and brokers have shaped the working lives of truckers. This section details the two modes by which truckers find goods and reach shippers, analyzes how shippers and brokers hedge risks and control truckers' labor process, and describes how shippers and brokers cheat and undermine truckers through unequal market positions and information asymmetries in the buyer's market. Next, I describe the characteristics of different types of gigs, showing how different characteristics of gigs and the importance of guanxi impact the stability of the truckers' work. Then, I describe the broader economic and regulatory context that shapes the working conditions of truckers. This section details the process by which regulations in three areas greatly affect truckers: reductions in industrial overcapacity, environmental protection and urban traffic bans, and restrictions affect the working lives of truckers. This process is achieved primarily by reducing the demand for goods transportation and increasing the operating costs of truckers.

4.2 Self-Employed Truckers (Car Bosses) and Employees (He-Hired Truckers)

According to multiple industry reports (China Federation of Logistics & Purchasing, 2021; Full Truck Alliance Co. Ltd., 2021a; PWITF, 2018a, pp. 27-30), the majority of truckers in China are self-employed truck drivers. Self-employed truckers who own their trucks pay all operational costs (e.g., fuel and tolls), and are responsible for their own profits and losses. There is variation in terms of the number of trucks that they may have. According to the Full Truck Alliance Co. Ltd. (2021a), "About 80% of carriers in China are individual truckers with only one truck" (p. 134). Based on my interviews, self-employed truckers usually own one truck, and a self-employed trucker may be the sole owner and driver of a truck, or multiple self-employed truckers may be partners, owning and driving a truck. Some self-employed truck drivers -- often referred to as car bosses⁷ -- hire one or two truck drivers. The drivers they hire are usually referred to as he-hired truckers.⁸ The he-hired truckers usually receive a fixed monthly salary and are not responsible for operational expenses (PWIFT, 2018b, pp. 49-57).

In interviews, truckers described the employment relationship between he-hired truck drivers and car bosses as informal and unstable. Car bosses often hire truckers based on a verbal agreement without a formal contract, paying the trucker in cash, and in turn avoiding paying for employee benefits, such as health insurance and pension insurance. He-hired truckers' employment tends to be short term and unpredictable, lasting between a few days to months or a year. One result is that he-hired truckers move from job to job, and from boss to boss often within short periods of time, with impacts on their wages. He-hired truckers may be paid on a

⁷ "Car boss" in English, "che lao ban" in Pinyin, "车老板" in Chinese.

⁸ "He-hire truckers" in English, "ta gu si ji" in Pinyin, "他雇司机" in Chinese.

daily or on monthly basis, and the time they do not work is deducted from their income accordingly. As a result, both employment and income for he-hired truckers are often extremely unstable: sometimes they can get a job, sometimes they cannot; even if they can, the process of finding a job takes time, and they have no income during the time they are looking for work.

JKG3 and MGBH describe the instability of working as he-hired truckers:

Just do a day, count a day. If he works today, he will be paid today, if he doesn't work tomorrow, then no pay tomorrow. And did not say who agreed to work for who for how long. There is no contract or anything. (JKG3)

-You wouldn't work for a person for a long time?

Yeah. If you say there is work, then I do it, maybe work for a year; if the gigs are bad, maybe just a month or two months, then stop. In the second half of this year I did not work, because no one is looking for a he-hired trucker. [They] do not need he-hired driver. No one is looking. (JKG3)

If I stop working for you, I go to work for others. In the middle of this change, I have to have three days, five days, or ten days of handover, right? ... I went. As a result, I found out this person is not okay, I quit, again. Then I still have to wait ten days or eight days, half a month, 20 days or so, to find a car boss again. The time delayed is gone. (MGBH)

The position of he-hired truckers is extremely precarious as they are often informally employed on short terms, based on the fluctuating needs of self-employed truckers, and experience insecure wages, with no employee benefits. He-hired truck drivers also lack autonomy on the job, and must accept the task assigned to him. He-hired truckers must go wherever the car boss says to go to haul the goods, and thus lack control over aspects of their work, such as which roads to take, how to schedule driving time and rest time, and so on.

Self-employed truckers, on the other hand, oversee and are responsible for all aspects of the work, including choosing gigs (e.g., contacting the source of goods, calculating whether this gig is profitable or not), negotiating freight rates and supervising the work of the freight handler (i.e., supervising the loading and unloading of freight), overseeing the work of he-hired truckers

(e.g., choosing which road to take, scheduling breaks), as well as financing, maintaining and repairing the truck to be in working order. While car bosses generally earn greater incomes than he-hired truckers, they also bear the costs and risks associated with fluctuating freight rates, traffic accidents, delays, damage to goods and other uncertainties.

Interview participants identified autonomy and responsibility, and earnings and costs as key differences between self-employed and he-hired truckers. BYTM is a he-hired driver. He described the difference between working for others and self-employment:

To work for others is not much pressure on the mind, the work is good, fine, bad, fine, anyway, this month I earn this salary, I do not have a lot of pressure. If you work for yourself, you have to be stressed, have to pay the bank loan, find gigs, consider which route is better, fear that the truck on the road in a traffic accident, ah, and so on. If you drive for others, at least you do not have to consider these things. They say where to go, go where with them, then it's done.

-What is the reason for wanting to work for yourself but not to work for someone else?

One is that he feels that he can earn more by buying his own truck and working himself. In addition, he buys a truck by himself, he can be in charge and he is not controlled by others. For working for others, you have to be controlled by others. Buy your own truck and be your own boss, if you want to take a day off, take a day off; if you are willing to do it, do it, do not want to do it, then quit.

77VN is a self-employed driver. He echoes most of BYTM's points and suggests that a car boss doesn't necessarily make more money than a he-hired driver due to the risks he faces:

If you do it for yourself, of course you make more money than if you do it for someone else. It's just that it takes more effort. It's a lot more work than being a driver. But the car boss can lose money. If the gigs are less. Right? On the road also, work your own truck, as long as there is no accident you can make money, but with an accident you will not. Some people they get their own truck, an accident happened, then, it is even worse than driving for others.

Interviews with truckers also show how movement between being a car boss and being a he-hired trucker is common and relatively easy. The buying and selling of trucks is common: a

car boss who sells his truck may work for someone else, and a he-hired trucker is able to become a car boss if he buys a truck. MGBH described his experience:

At the beginning, I got my own truck, and later, think trucking is not good, and sold the truck, and began to work for others. After working for a period of time, and then bought a truck, until this year, the first month of this year, sold the truck. After the sale until now, have been working for others.

Truckers described their decisions to buy and sell their trucks as sometimes driven by financial factors. As BYTM stated:

In the beginning, I had my own truck, and hired two drivers; later, I bought a truck with someone, and ran it for less than two years, but it was not profitable; because it was not profitable, I sold it a while ago, four months ago.

Interviewed truck drivers held conflicting opinions on exactly how to drive in the most profitable way, and identified a number of factors affecting profitability for car bosses. For example, hiring more people raises labor costs, but also speeds up the time it takes to move goods because truckers can take turns driving and the truck needs to stop less for rest periods. When the market is good, and freight rates are high, car bosses can afford higher wage costs and prefer to hire additional drivers; when the market is bad, and freight rates are low, they prefer fewer people driving to reduce costs.

Easily and frequent moving from he-hired to truck owner and vice versa is made possible in part by the labor process of trucking, which allows the he-hired driver to acquire quickly the experience needed for self-employment work. The driver and the car boss work closely with each other doing similar work on a daily basis. A new he-hired driver can acquire experience quickly by spending a lot of time driving with the boss and observing the boss's daily work.

There is often no difference in the experience between a car boss and a seasoned he-hired driver.

As BYTM stated:

I work for you, you are the boss, I work for you for a while, then stop working for you, do it myself. Before I run to S city, pulling coal, that truck is, two drivers, plus the car boss, three people, shift work, three shifts, you work, work, work, got experience, also know the route, also know the gigs. Then bought a truck yourself. Finally one truck is divided into three trucks, the two drivers stop working for you, he goes to buy his own truck to work for himself.

The job churn that comes with short and informal employment for he-hired truckers also means that truck drivers develop a familiarity with several car bosses and other he-hired truck drivers. For people who are familiar with each other, it is very easy to get friends or friends of friends to temporarily help out on their trucks. Car bosses find he-hired drivers primarily through referrals from acquaintances, something N6F7 illustrates:

[I used to] do it myself. Recently, my truck got old and I sold it. Now there is no truck in hand, I give people a little help. I'm familiar with them, you see that they are running short of people, you go to fill in for them, drive a gig.

Also, the boss and the driver eat and live together while on the road, and there is not much difference in their daily standard of living. Although the car boss financially profits from the employment arrangement, interview participants report there is not a large difference between the incomes of the boss and the he-hired driver.

After you become a boss, you know again, it's not easy to be a boss. Not easy in what? When you are a driver, you only see the income, and the expenses, you do not see. For example, if you are a driver, you and the boss are in the repair store, after repairing the car, you get up and leave. Who pays the bill? The boss did. Buy a tire, how much? Two or three thousand yuan. Right? Who settles this bill? It is difficult for drivers to realize this. As long as you repeatedly have been the driver, but also been the car boss, you will know. In fact, the boss and the driver earn the same money, just the name is different. I am an employee; you are a boss. Just this difference. In fact, they are the same. Just the name is not the same. (MGBH)

This familiarity, close proximity of daily work, the movement of truckers between being a he-hired driver and self-employment and the similar standard of living and income blur the boundaries of the boss-employee relationship, and contribute to the feeling among truckers that they are all the same. The unclear boundary between the car boss and the he-hired driver is

shaped by the organization of the road freight industry in China. This finding is similar to Goffee and Scase's (2015) study of the British construction industry, Zheng et al.'s (2015) study of the small garment factory in Guangzhou, and Hsiung's (1996) study of the home-based small factory in Taiwan. These studies conclude that small and labor-dependent companies are more likely to form blurred employment relationships between the boss and the employees. This kind of relationship is beneficial for the car boss because it reduces the sense of exploitation of he-hired truckers, establishing common interests between the car boss and he-hired truckers, and encouraging he-hired truckers to work hard to make trucking work run efficiently. This blurring of identities is one of the ways car bosses may control the labor process of the he-hired truck drivers.

4.3 Truckers and Shippers, and Truckers and Brokers

This section describes the relationships between truckers and shippers, and truckers and brokers, and how these associations affect the organization of trucking work and job quality. The shipper refers to the company that sends out the logistics demand, which includes two kinds of companies: one is the manufacturing and trading company themselves, and the other is the logistics company (Zhou, 2021; Xu et al., 2021). Logistics companies become shippers in many cases when they outsource a transportation gig from a manufacturing or a trading company to individual truckers or to another logistics company, which will eventually outsource it to individual truckers (Zhou, 2021). For these individual truckers, these logistics companies become shippers. Brokers are independent third-party companies responsible for matching information between truckers and shippers. The shipper posts the demand through the broker, the

trucker goes to the shipper to pick up and haul the goods after paying the broker fees, and after completing the goods transportation, the shipper pays the trucker the transportation fee.

Truckers find goods through two methods, brokers and online platforms, though there is evidence of the increasing popularity of online platforms. The Ministry of Transport of the People's Republic of China stated at a press conference in 2021 that "according to incomplete statistics, 70% of truck drivers now use trucks-goods matching internet platform apps to achieve goods-finding-related services" (2021, 16:12:28 section, para. 2). According to a survey conducted by McKinsey in 2020, although the use of online platforms is on the rise, Chinese truckers currently still rely on acquaintances and offline brokers for nearly half of their business (McKinsey, 2020). While 52.4% of truckers look for goods on trucks-goods matching internet platforms, 30% of truckers have regular shippers or use logistic companies to provide goods sources, and the percentage of those who find goods through familiar offline brokers is 43.1% (China Federation of Logistics & Purchasing, 2021).

Trucker participants who reported finding goods using long-term contacts with many brokers tend to add the broker's WeChat, and later receive information about the agent's need for truck drivers through WeChat groups⁹ and WeChat moments,¹⁰ and then contact the broker to find goods. As PEPL mentioned:

-Where does he [broker] send the messages?

There are groups. WeChat group. That group is I work for them, over time, the broker person, he will build a group, pull you in, 'to where where there are goods' will be said in the group. The group has an broker person, the others are all drivers.

⁹ WeChat, owned by Tencent, is the most popular messaging app in China with over one billion monthly active users (Tencent, 2022).

¹⁰ Moments, a feature in WeChat which is similar to Facebook's Newsfeed.

Truckers also reported finding goods through mobile applications. These apps are similar to Kijiji and Craigslist but are dedicated to connecting truck drivers to shippers or brokers, allowing truckers to filter the location, truck type and type of goods. Every time they make a deal through the app, truckers pay an information fee to the broker who negotiated the deal. Truckers tend to download multiple goods-finding apps on their phone, with 72% of truckers using Huochebang and 46.5% using Yunmanman (PWIFT, 2019). Huochebang and Yunmanman were merged at the end of 2017 and now belong to the Full Truck Alliance Co. Ltd. (Full Truck Alliance Co. Ltd., 2021a).

The Huochebang app reduces the time to search for goods. Truck drivers no longer need to go to logistics parks or parking lots to look at a small blackboard or electronic screen on the wall to find goods (Ba, 2021). Instead they just tap the cell phone app, and the trucker can see information about many different goods. Using Huochebang reduces deadheading (driving an empty truck) and fuel waste (Chaparro, 2022; McKinsey, 2020). Truckers interviewed for this study reported on the apps' convenience:

-What do you think has changed since you used Huochebang, compared to not using this before?

It's convenient. After using this, there are more sources of goods. I know more. When arrive at a raw place,¹¹ if you don't know the information, you can't find goods. Now you can search on your phone and find out available goods. (PEPL)

At the same time, the Huochebang app has had the effect of reducing freight rates. With the app, brokers/shippers who need to hire truckers can easily see the rates of other brokers/shippers under the same conditions (e.g., same route, similar goods, same distance) on the app page, which results in brokers/shippers posting rates very close to each other. Truckers

¹¹ "Raw", "生" in Chinese, or "Sheng" in Pinyin, and means new, strange, unfamiliar.

can see the posted jobs and rates on the app, and often contact shippers directly with a lower price to get the job, which leads to vicious competition, reducing freight prices. As F2KM stated:

With Huochebang, the freight price is transparent. Before the app, you can negotiate with the boss for a higher freight rate. Now all belong to a clear rate, no one can cheat anyone. The difference between more and less is not even four or five hundred yuan. [Just] take a look on the app, everything is known.

MGBH explains below how the Huochebang led to lower freight rates:

-What do you think is the difference between having Huochebang app and before having Huochebang app?

It's a big difference. Freight rates used to be higher and now they are lower. Why? ... cheaper ... because not only the brokers compare with each other, truckers have to compete for this work, right? So now we are not making money.

Truckers often work regularly for one or a few shippers, as well as the same brokers, which brings a certain amount of job stability. For example, N6F7 reported hauling coal or gravel to the same coking plant over the course of several months. He found these gigs through the same broker each time.

-Do you think you'll still use the same few acquaintances next month to find goods?

The work I do now, often pull to one same place. A coking plant ... these months I often work for them. Sometimes the freight rate is higher, sometimes lower, just work for them a lot. ... They are the one who I have been working for recently. (N6F7)

-How did you start doing this with them so steadily? How did you first get in touch with them?

It was also through information which he posted on the Internet. ... you contact them, call on the phone. You see ... He often ships, I often send him my license plate number, send him my information, I often work for him, constantly work, get familiar, then always work for him. (N6F7)

-Now that you regularly haul for the coking plant, do you pay the information fee or not?

Still the same. You have to pay every time. (N6F7)

N6F7 reports being content with this arrangement. In this case, the trucker has established a familiarity with the broker and this coking plant. He consistently gets the coking plant gig from the same broker, the broker contacts him directly and asks him if he wants to go each day.

Despite regularly doing the same gig over time, N6F7 has to pay the same information fee for

each gig, and the coking plant does not pay him any benefits. Further, this sort of employment relationship may end abruptly, and truckers have to always be ready to deal with the changes to their jobs and income which come with it. This is an important manifestation of the precariousness of their work. V89K illustrates the possibility of sudden termination of such employment:

-So when they needed sand or they needed coal, they didn't always come to you, did they?

No, they didn't.

-Which is, even though you're always pulling for them, there's a lot of other people pulling for them at the same time, right?

Yeah. ...whoever comes first will get it first.

...

-Where did all the people who couldn't load it go?
cannot be loaded, [then], you, nearby you contact somewhere else.

At the same time, self-employed truckers can also decide to stop working for specific companies, for example, when the pay is too low. As U4V7 says, "...there is no contract. If I can make money from other things, I can change whenever I want to pull something else." However, in the road freight market, there are more trucks than goods (Zhou, 2021), so while in principle the trucker can change shippers at any time, he does not have as many choices as the shippers does when picking drivers. This imbalance adds to the competition amongst truck drivers to get the gig by lowering rates (as mentioned earlier with the influence of Huochebang), arriving at the pickup place as quickly as possible, otherwise the gig might be taken by others, and being the most efficient and cost-saving truck driver in transporting and delivering the goods.

This context favors the shippers, and truckers are required to abide by their rules to get paid. As U4V7 describes:

And you go over there to load, they have lots of rules, you do not obey their rules, they also have to fine you. All have to listen.

-Do you think those rules are reasonable?

Reasonable... it must be for the sake of the factory to make their own arrangements. It should be said that it is reasonable. For example, you go to the factory, you have to

comply with the rules of them, the designated location parking, cannot park indiscriminately; or that some work units do not allow you to bring fire, matches ah, cigarettes ah, all do not, are for the safety of the factory. After you enter the factory, you have to obey the management of them.

At the same time, truckers reported that the rules of shippers and companies are often unreasonable and make trucking work unnecessarily difficult:

The factory also has bad things. If there are many trucks, they unload slowly. The factory control this and that, he assigns your car, where to unload, cover tarpaulin. Throw a garbage throwing wrong, you will be fined 30, 50, 100, 200 yuan, which is fewer. Sometimes the penalty is more. He is deliberately making things difficult for drivers. He is not short of trucks. There are lots of trucks. The driver saying good words to him also does not work. Stamp a seal driver stamped wrong also has to fine. Making things tough for drivers. Many things with fines! (77VN)

In interviews, truckers pointed to a lack of transparency and honesty in their dealings with shippers, which fosters mistrust. For example, some of the truckers interviewed reported that shippers intentionally underpay truckers upon delivery, citing reasons such as damaged goods, insufficient weight of goods, late arrival, or dropping trash at the factory:

Some shippers are good. Some shippers are bad: who deduct your money. ... Say you are late, or the goods broken, wet, or the number of pieces is not enough, deduct you some money, there are a lot [things like this], not few. (BYTM)

There is a lack of regulatory oversight regarding how to assess such claims and associated penalties, and as a result when there is a problem with the goods, drivers have to fully accept the shipper's claims, as well as their underpayment penalty. This process contributes to a sense among drivers that shippers are taking advantage of them (e.g. using rigged scales), and deliberately withholding their money:

Forty tons loading here, and you go there and weigh it 39.5 tons.
The factory is, just let you lose. Look at the scale, that number, loaded at the same place, to this factory and that factory to unload, the difference is 0.2 tons, 200 kg. He deliberately gives you less money. (PXN5)
-What if you tell him you're not weighing the right amount?
It doesn't work. You have no authority to speak, you are not the metrology bureau, you are not the government, right? What's the use of your words? It's useless. (PXN5)

According to interviews with truckers, brokers are supposed to play a neutral and mediating role between shippers and truckers, but in practice, they are more biased toward shippers. Both 75L7 and BYTM provide insight into this bias:

-If there is a problem, can you go to him [the broker] to mediate?

He does not take care of mediation. Nowadays, the intermediary mainly thinks for the shipper, he does not think for you truckers. What he wants is the shipper still ship from him next time so that he can get the information fee. But there are plenty of trucks, if you don't pull for me today, someone else will pull for me. (75L7)

This shipper can contact truckers through several brokers, not only through you this one; if the truck you contact for me is expensive, I do not have to use you to contact for me, I can ask other brokers to contact for me. (BYTM)

Since there are more trucks in the freight market than are required to transport goods, competition among brokers to keep shippers from switching to other brokers is intense. This causes brokers to favor shippers more than drivers in practice. Furthermore, some drivers will offer a higher information fee to the broker or take the initiative to give the broker a kickback to secure the job. This is demonstrated by what 77VN said below:

For example, ten trucks are enough, 11 came, each driver says let me pull it, let me pull it, the driver himself will take the initiative to give more money to the broker. Information fee is 100 yuan, the driver says I give you 200 let me load it. The driver himself will give a rate reduction. Or he will not be able to load.

Regarding the role of brokers in assisting employers, Zheng and Fu (2022) similarly describe how labor service brokers in China's manufacturing labor market act as external parties to control workers' labor behavior. Liu and Zhu (2019) explore how the chain of labor market brokers in manufacturing facilitates the flexibility of the companies' labor hiring, thereby supporting factory production at the expense of workers' long-term well-being. My research echoes the findings of these studies to some extent.

In addition to the advantage conferred to brokers when truckers compete for jobs, there is an information asymmetry between truckers and brokers, where brokers have more information

about the gigs, which can lead to deception of truckers by brokers. This is consistent with the scholarly work on brokers in the labor market by Autor (2009) who writes, "if information about the quality of workers or jobs is incomplete, better-informed market actors have an incentive to exploit their informational advantage to the detriment of less-informed market actors" (p. 5). According to the interviewees' responses, in the case of trucking in China, there are many ways for brokers to cheat truck drivers. For example, after collecting the information fee, the broker refuses to inform the driver of the goods' information and requires the driver to pay an information fee again. 77VN described his experience in this regard:

Sometimes a broker can sell a message twice, agreed on 100 yuan, but after gave 100 yuan, still do not tell you where the goods are, you give 100 again, then he tells, then you are able to pull the goods.

Also, the truckers I interviewed reported that some brokers engaged in deceptive practices, including deducting a percentage of shipping fees and lowering freight rates, in order to pocket more money. F2KM below told of the deception and threats he encountered:

Like in the summer we go to Tibet [province], the broker posts some information on the Internet, let's say, if you talk to the broker, negotiate about it, agreed on 11 [yuan per ton], in fact, the shipper originally wanted to pay 12 [yuan per ton]. After the negotiation, you pay the brokerage fee, the broker directly tells you that, after you arrive there, the shipper will check out with you by 12 yuan per ton. You now, that is, before going to the goods-pick-up place, have to give him the one yuan [means that the truck driver has to pay the broker the total tonnage times one yuan in advance]. If you pay, he will tell you the loading location, then you go to load; if you do not agree, the information fee he will not give you a refund.

The information fee received by the broker is supposed to be a fixed amount, but many brokers withhold a percentage of the driver's shipping fees by lowering the freight rate. Neither the shipper nor the driver knows about this deduction beforehand. However, the driver can later conclude from the work process and accounting that the broker took a kickback. The driver learns this slowly over the course of his work.

In addition, after paying an information fee to the broker, the trucker may find that the actual situation of the deal is inconsistent with the situation he was informed of in advance.

RJJ3's experience below demonstrates this:

-What did they do to make you feel that they are bad?

Charging you the information fee, but what they say doesn't match what they do. The job didn't turn out what he said.

For example, he said the goods are easy to load and unload, you go there after a long queue to load the truck, you wait a long time; and the road conditions may also be different, the road is difficult; and then, to there, though had said you unload to a certain place, in fact, the actual unloading location is many kilometers away; and the unloading is also slow. [You] drive more. And he will not give you any extra money for it.

-So, do you have any solutions to this situation,

There is nothing to do. Why? You have arrived at their place, you must pick up the goods. If you do not unload, the information fee he will not give you a refund. You pay the information fee before you load the goods.

The waiting time and the distance from the loading or unloading location are important costs for the driver. These deceptions reduce the driver's income for the gig. The driver has already paid the sunk cost (information fee), he can hardly give up the gig even if he finds that the conditions of the gig are not as promised.

4.4 Typology of Gigs

Truckers use the term 活儿 to describe their work, and the most equivalent English word I can find for this term is "gig." Also, the characteristics and organization of trucking work shares a lot in common with gig workers in other sectors. While gigs varied in terms of workflow, distance and ability to negotiate rates, drivers tended to talk about gigs in terms of two major types, common gigs and remote gigs (See Table 2).

Table 2

Types of Gigs

Characteristics	Common Gigs (大众货) ¹²	Remote Gigs (偏远货) ¹³
distance of trip	short distance	long distance
the way to find gigs	familiar brokers	mobile app
stability	gigs with some stability	one-time gig
bargaining power	unable to bargain	able to bargain
variation in brokerage fee	little	a lot

According to the interviews with truckers, short-distance freight (pulled in about two or three days per gig) is more likely to be a common gig than long-distance freight (to pick up and deliver for at least a week per gig). In the case of common gigs, the brokers tend to have more control in terms of setting rates. 4AEX and BYTM mentioned the difference between remote and common routes when negotiating freight rates with brokers:

-You can't tell him to raise it a little bit?

Usually it's up to the broker. Generally, for the common routes, the range is small. Unless you run this remote place, the range is bigger. (4AEX)

-Do you think you have any room to negotiate with them every time?

Yes. It depends on where you're going. ... If you often run to this common routes, such as to Yunnan [province], there runs quite a lot of trucks, you cannot raise prices with him. ... Just the current price, you do not pull then he ask other trucks to pull. He is not short of trucks.

If you say you drive to remote places, such as Y city, Tibet [province], Qinghai [province] around, sparsely populated places, they urgently need this goods, you raise the price with him, then you can. That kind of gig is rare, but cannot say there is none, it is not usual gigs, those gigs are not many. (BYTM)

Common gigs have a larger pool of drivers running the route, meaning the broker can always find a replacement driver. As a result, the driver has little negotiation power in freight rates and can only accept the rates offered by the broker. In remote gigs, there are fewer drivers running

¹² Common Gigs is translated from "大众货" in Chinese, "da zhong huo" in Pinyin. "大众货" literally means common goods, but here "goods" represents a different type of gig.

¹³ Remote Gigs is translated from "偏远货" in Chinese, "pian yuan huo" in Pinyin. "偏远货" literally means remote goods, but here "goods" represents a different type of gig.

the route, which means that the competition is not as fierce as with common gigs, and the driver can negotiate freight rates with the broker.

At the same time, brokers are able to increase brokerage fees in remote gigs. PXN5 described the difference in brokerage fees when he runs long-distance and short-distance freight:

-Well, why don't you go long distance? Wouldn't you make more money?

Gee, I also ran long distance last year, and it's not good, that gig. For the brokers, you are a raw truck, the brokerage fee is very high, it is simply sky-high price asking, and especially uncertain, sometimes 300, sometimes 400, 500, and so on, because you pull different goods each time; and, to S city [the "to S city" refers to the short-distance freight he is now running], the brokerage fee is 50, 100, up to 100, sometimes direct contact with the shipper, the shipper does not want money [meaning the trucker does not have to pay brokage fees to the shipper]. The shipper, who is asking you to ship his goods, does not ask you for [brokage] money.

The example by PXN5 shows that in his case, compared with long-distance gigs, the brokerage fee for short-distance ones is less variable. I surmise that the reason for this is that, long-distance freight brokers may deal with a raw driver (meaning the drivers are unfamiliar, first-time-dealing drivers) for the first time, and possibly the last. The broker does not need to maintain a relationship with a raw driver, so the broker's strategy is to make as much money as possible from this driver, and may be inclined to raise their fees. In contrast, because he relies on the same pool of drivers to pull the goods in short-distance hauls, the broker may be less inclined to charge huge fees if he wants to maintain a good working relationship. In addition, for long-distance freight, the role of brokers for truckers is very important because the trucker is dealing with an unfamiliar route and shipper. However, for short-distance freight, because the goods are shipped more regularly, the route is common and known to everyone. As a result, brokers do not play as big a role in such gigs, as evidence in the example of PXN5 omitting the broker and establishing contact directly with the shipper. Therefore, it is difficult for brokers to raise their charges in such freight, so the brokerage fee is relatively fixed and not high.

Truckers reported that for short-distance freight, drivers often rely on acquaintances (familiar brokers, shippers) to find work; while for long-distance freight, drivers mainly find work through the Huochebang app. According to RXL9's account below, for him, running the southern routes requires the use of the Huochebang app because long-distance freight requires finding unfamiliar brokers and shippers, while short-distance coal gigs do not. The situation is the same for N6F7.

-Well, have you ever used the Huochebang app to find goods?

No. (RXL9)

-Emm. You've heard of it, right? Why don't you use it?

Yeah, I've heard of it. I don't need this if I'm not running south, I don't need this if I'm hauling coal. (RXL9)

Running far you need Internet platforms, such as Huochebang or something to contact goods, right? We run close, generally do not use the Huochebang app. (N6F7)

The shipping route of V89K is in stark contrast to Z3S8. V89K has been working with a fixed route: pulling coal from C city to his city. This is a short-distance, common route. This allows him to find goods not through the Huochebang app, but through commonly used WeChat group chats. His work is characterized by (1) some stability in gigs, (2) short-distance gigs and (3) gigs found through acquaintances. For Z3S8, his gigs are found on the Huochebang app, and neither of them has a fixed source of goods. For Z3S8, his shipping work is characterized as (1) irregular, (2) long-distance, and (3) found through the Huochebang app.

-How do you find gig each time? By what means do you find the goods to be pulled?

WeChat group. Those logistics groups. (V89K)

-How did you get into those groups?

This... it has been many years, always pull this route. It's all added when I was pulling goods. At first it was the phone, then it was WeChat. (V89K)

-Do you use other ways to find goods?

No. (V89K)

-Do you have any fixed routes?

Basically, it's fixed, just pulling coal from C city to here. (V89K)

-Do you see the Huochebang app?

Haven't used. I don't need it. This gig of mine, is fairly regular, so I don't need to go there to find goods. (V89K)

I run all that, where, Qinghai [province], Gansu [province], Tibet [province] and Xinjiang [province]. (Z3S8)

-What kind of goods do you pull there?

All kinds of goods. What goods are ordered through the broker, take what goods. ... I pull everything. Whatever goods I find. (Z3S8)

-What do you find the goods through?

I usually find goods through apps on the phone, Huochebang app, make contact.

-You do not contact others through the WeChat group? (Z3S8)

Well, rarely.

-Do you have some fixed sources of goods, like, you usually help who pulling goods,

No, the goods are different from one time to another. (Z3S8)

-Have you ever thought about finding some fixed sources? Just pull for him regularly, from where to where.

Alas, I would like to do that, and I think about that as well. But the main thing is that it's hard to find gigs like that nowadays, very rare. (Z3S8)

The examples of V89K and Z3S8 illustrate that common gigs are more likely to form an employment relationship with some stability. For common gigs, the route is somewhat more stable in comparison, but there is an unstable relationship between the shipper and the trucker who often pulls this route. Which driver pulls for which shipper can change at any time because the cost of change is very small. This is the source of the instability in their employment relationship; but it is always the same large pool of truckers and the same large pool of shippers around this common transportation route, and the fixed demand for this route leads to the emergence of "stability" in this employment relationship.

Moreover, it can be seen from V89K and Z3S8 that, short-distance freight truckers are more likely to establish a stable, long-term contact with the same group of brokers and shippers than long-distance freight truck drivers. The driver also does not always work for the same shippers or brokers in long-distance freight, making it more difficult to build stable ties with each other.

4.5 Guanxi

Guanxi, which has a deep meaning in Chinese society, plays an important influence on the transaction process between truckers and brokers, and truckers and shippers. The translation of guanxi, "关系" in Chinese, is relationship (Wang, 2013), but it means much more than that. Scholars note that guanxi entails reciprocity (Bian, 1994 and Yang, 1994, as cited in Huang & Wang, 2011) and care for each other (Gao, 2017).

Maintaining good guanxi with multiple brokers and shippers can help increase truckers' earnings. Fei (1947/1992, pp. 60-70) uses the term "Differential Mode of Association" to describe the mode of interaction between people in Chinese society. He explains that individuals take themselves as the center and categorize people around them according to the proximity of their guanxi, and then use different criteria to treat different guanxi categories of people.¹⁴ Thus for brokers and shippers, different drivers are treated differently depending on their guanxi with them.

Interviews with my participants confirm that drivers who have good guanxi with brokers and shippers are treated better than those with whom they do not have good guanxi. For example, truckers reported that a broker is willing to assist in disputes with shippers or other problems in cases where they are well acquainted with the drivers. As F2KM stated:

-Does the broker have a role to play other than introducing you to gigs?

There is a problem involved in this. What is involved? If this intermediary is an acquaintance, it means that I have been dealing with the broker for a long time, and if there is any disagreement in the transportation, e.g., goods wet, lost, broken, and so on. I can coordinate through the intermediary. If this intermediary is raw, they won't take care of it, so I have to coordinate with the shipper [by myself].

¹⁴ The Differential Mode of Association, translated from 差序格局, pinyin: Chaxugeju (Fei, 1947/1992).

The broker will be more inclined to reduce information fees (PEPL) and settle freight fees faster for truckers with good guanxi (RJJ3), even reserving shipments for them in "first-come, first-served" mode orders (77VN). Similarly, preferred sources of goods are often reserved for truckers who have good guanxi with shippers and brokers before they are publicized on certain large information channels such as WeChat group chats and Huochebang app (PEPL). RJJ3 mentioned that when a guanxi is established with a shipper, he can bypass the broker and directly contact the shipper, eliminating brokerage fees. F2KM similarly described his experience in this regard:

-How did you get in touch with the shipper?

It's all about guanxi network. Why do I say I rely on the guanxi network? For example, I load this truck to X City to unload the goods; the shipper he has a guanxi network, the shipper will say to you, there is a need to go where, a gig, how much the freight rate is, do you want to do it? You just say you do or not. You find goods through him.

In the F2KM example, after the shipment is completed, the shipper introduces another gig to the trucker. The shipper is willing to do this favor for the driver is because they have maintained good guanxi with each other.

It is important to note that such guanxi can only be built through long-term interpersonal interaction; it cannot be formed in short term. Huang (2011) stated that interpersonal favor exchange (guanxi) is more likely to develop in long-term relationships. PEPL's words corroborate this view:

When you've been out there working for a long time, you're more likely to do good gigs and meet good shippers. The income will not be the same. After a long time working outside, with the broker and the shipper will have that guanxi, the broker, the shipper, when he has a gig he directly lets you pull.

Guanxi provides a channel that helps build trust between people (Zhan, 2012), and in the context of trucking, adds some stability to individuals working in an industry that is characterized by precarious work. In an industry where getting the gig is highly competitive and

where the organization of work produces opportunities of exploitation, deception and mistrust, dealing with familiar brokers and shippers reduce the uneasiness of both parties in the cooperation. Therefore, drivers prefer to work with brokers and shippers with whom they have good guanxi. According to truckers I interviewed (N6F7, PXN5 and PEPL), a gig found through a raw broker is a second choice compared to a gig found through a broker they know well.

PEPL's words illustrate this point vividly:

There's a lot of this going on. Owed freight fees do not pay. So I say [when] we're out there hauling goods, we're willing to haul with this acquaintance, right? Brokers I am acquainted with. Even if I earn a few hundred yuan less, I do not haul goods for raw brokers. Often get duped. How many times have I been duped? The whole freight fees, ten thousand are gone, even the gas money is lost in it.

Weak regulatory oversight to address disputes between truckers and brokers/shippers (e.g., fee disputes) is one of the reasons why truckers rely on guanxi in trucking jobs. As Guthrie (2002, as cited in Huang & Wang, 2011, p. 120) states, "from institutional perspective, guanxi is a product of unripe legal and regulatory structure." A report on truck users shows that

Thirty-six percent of the truck drivers surveyed said that among the disputes they encountered, the most is the dispute on shipping fees. After a dispute occurs, only a very few will seek a solution, and the others will choose to put up with it. One of the reasons for this is that there is no way to complain, and it is useless to complain. (China Satellite Navigation and Communications Co., Ltd., & China Automotive Digital Research Institute, 2021, Slide 15 of full report slides)

The truckers interviewed for my study commented that relying on the law to deal with problems when disputes over shipping fees and brokerage fees arise is difficult and slow, and taking the legal route would mean a loss of trucking time and income, which they cannot afford, especially if they have an outstanding vehicle loan. The alternative is to rely on guanxi with brokers and shippers in their work. For example, PXN5 below stated:

-Has there been a shipper who didn't pay after the shipment arrived?
Oh, there was one time, pulling to H city, just did not pay, only gave half of the shipping fees, the remaining half of the shipping fees said will give me in two days. After two

days did not call. Then I called again and couldn't find anyone. Do not answer the phone. That gig for nothing.

-That was the first time you work for him, right?

Yes. The reason why I do not want to pull a raw gig is this,

-There is no way to get that money back?

There is no way. If you go through the procedure, go to the police, procuratorates, courts, take that time, it is better not to find that trouble. It is too difficult to recover the money.

4.6 Regulatory and Economic Factors Affecting Trucking Work

In addition to their criticisms of the weak regulatory and legal system to resolve fee disputes, the truckers in my study commented on a number of broader policies and regulations and economic factors that impact their job security and working conditions. Specifically, they identified policies in the areas of cutting industrial overcapacity and environmental protection and transportation, as well as traffic bans and restriction policies for trucks on urban roads as affecting their work.

Cutting industrial overcapacity in the economy is one policy area that influences truckers' work. Cutting overcapacity is one of the priority tasks on industrial production that the Chinese government has focused on in 2016 and 2018 (China Daily, 2018; Liu, Y., 2018; Wang, 2016). To this end, since 2016, China has cut a large amount of excess production in high-consumption and high-emission industries such as steel (Wang, W., 2021) and coal (Zuo et al., 2021). The impact of cutting capacity on economic development is far-reaching and complex, and I will not discuss it too much here. One of the direct impacts of the government's efforts to cut capacity has been the closure of factories. According to the truckers, they have been directly impacted by factory closures because such closures mean a reduction in demand for freight transportation and job opportunities. BYTM mentioned how plant closures have the effect of lowering freight rates as truckers compete over the reduced number of gigs:

Like these years, why are the freight rates low? Many, like the cement plant, he gave you shut down, just in Hebei Province, cement plants, they have to use coal, probably at least half of the cement plants removed ... steel plants you also have to use coal, steel plants removed how much? Say steel is surplus, so remove, do not want so much. The vehicle increases So, it's the source of goods is less, and more trucks, more wolves and less meat, the freight rates then get low.

In addition to policies in the industrial sector, interviews with truckers point to a tension between the implementation of environmental protections and truckers' employment. Below I present each of the four governmental decisions regarding environmental protection that affect truckers' work life.

The first is the Central Inspection on Ecological and Environmental Protection (CIEEP). It expanded nationwide in 2016 (Fan, 2021). The program consists of a team of Ministry of Ecology and Environment (MEE) inspectors to investigate the environmental protection work of local governments, solve and address outstanding environmental problems (MEE, 2016a). Environmental inspections represent a direct official demand to fine and immediately stop the production of companies that do not meet environmental requirements and give them a deadline to rectify the situation (MEE, 2016b; Xinhua, 2019), which results in employee furloughs (see, Guo, 2018) until the company comes to compliance. Companies either renovate and upgrade or face elimination (MEE, 2018).

The purchase and maintenance of environmental protection equipment come at a huge cost for any company, which makes it even more difficult for small and medium-sized enterprises (SME) to afford compared to large companies (e.g., Cao, 2018; Dong, 2017). Environmental inspections have reduced corporate pollution, but also caused some companies to reduce production (e.g., Dong, 2017; Mao et al., 2017) and resulted in the closure of a large number of SMEs (Cao, 2018). These closures have also brought about unemployment among

SME workers (China Central Television, 2019; Mao et al., 2017). When faced with environmental inspections, many factories choose to operate secretly to evade them even though they have been required to stop production after an environmental inspection. As a result, these factories can only work at night.¹⁵ As EE3R mentioned in the interview:

-Do you think the government's policy to limit pollution has an impact on you?

I ran Shanxi [province] and Sichuan [province] side, there they check the environmental protection ah, a number of cement plants in Sichuan [province] is not unloading during the day, because when you unload coal, the coal is dry, there is dust, so unloading until the night, work at night.

-But at night there is still dust?

But at night he secretly unloads, secretly works ah, you do not let unloading during the day, no one checks at night, so they wait until the night to work.

In addition to impacting the time of day when shippers can unload at factories that operate in secret, truckers I interviewed talked about how the shutdown of factories has led to a decrease in demand for freight (i.e., a decrease in the demand for trucking) and, without a significant change in the number of truck drivers, competition among drivers has increased in the face of a decrease in the overall number of gigs on the market, which has led to drivers having more difficulty finding work and earning lower incomes. As RXL9 claimed, the policies that he believes have had the most negative impact on his job are the environmental ones:

Environmental protection now has the greatest impact, everything else does not matter. Environmental protection, that is, the factory shutdown, no more goods. As soon as the factory ceased work, you have fewer sources of goods. (RXL9)

The second policy on environmental protection that drivers mentioned as having a strong impact on them is the air pollution control policy, which requires companies to shut down production during heavy polluted weather. In the fall and winter, many Chinese cities, especially in the north, have heavy smog (Shen, 2013). Local governments will issue heavy pollution weather warnings when air quality is predicted to fall below certain values, and require

¹⁵ In social media companies also report working secretly at night and at lunch time.

companies to implement the emergency emission reduction measures during the warning period (MEE, 2016c, 2016d). The warnings also require listed companies to reduce, limit and shut down production to reduce the pollution of the atmosphere from companies production (MEE, 2016c, 2016d). In interviews, truck drivers talked about how business shutdowns during heavy pollution weather reduced demand for goods transportation, which in turn, reduced the need for truck drivers. As YP2L stated,

-Um, why do you think the goods sources has become less?

Because there is less demand. Environmental protection is tightening up, right? Many factories and mines or coal-using units have reduced or stopped production. E.g., if a factory used to use 10,000 tons of coal a month, it may now reduce production to only use 5,000 tons of coal, or it may stop production at all, and this is the case for many of them.

The third environmental protection policy that truckers argued will reduce the demand for their labor is the promotion of clean heating. The traditional heating methods in rural areas of northern China mostly consist of burning scattered coal, which produces high air pollutants emissions (Zhi et al., 2015). In 2017, the Chinese government began to promote clean heating in several key cities in the north to reduce air pollutant emissions, the specific approach of which is to reduce the use of scattered coal, and improve the use of renewable energy as well as natural gas and other energy sources (Gu, 2017; Hu and Han, 2018; National Energy Administration, 2018a, 2018b). In September 2019, there were data showing that these cities which practiced clean heating had reduced scattered coal consumption by a significant amount (Li, 2019). The decrease in coal for heating has caused a decrease in the amount of freight transported for coal, which has led to lower demand for trucks to transport coal, as 4AEX mentioned below:

-What factors do you think will affect your income and cause a change in your income?

There is a big factor. You see, the main thing now is the environmental protection, all the work is not good. E.g., you [individuals] are not allowed to burn [scattered] coal anymore, right? Do not let you [individuals] burn coal, you trucks have no work to do, right? In the past, each household burning coal, at then buy indiscriminately, now are

not allowed to, so there is no work. In the past, the coal was pulled from September and could be pulled for two or three months. Now there's no more work like that.

The fourth environmental policy that truckers cite as affecting their jobs is the government's upgrades to motor vehicle emission standards. These upgrades brought stricter emission limits on harmful substances emitted from vehicle exhaust, aiming to improve environmental quality (Wu et al., 2017). Vehicles that do not meet the standards cannot be produced, imported, sold and registered (MEE & Ministry of Industry and Information Technology, 2016).¹⁶ The impact of the emission standard change on truck drivers is huge as it has increased the operating costs of truck drivers. PEPL addressed this situation here:

-Besides that, are there any other policies that affect your work?

Other policies... This emission standards update is also fast ah, you see, ... this change is too fast. The little money earned by the driver are taken to replace the truck, those do not change cannot run.

Drivers have to replace their vehicles to meet the changing standards, even if the vehicles are still in working condition. Some cities restrict the passage of vehicles with old emission standards, resulting in these vehicles not being able to pass normally or access areas will be limited (Li, 2021a). As Z3S8 and PMRD stated:

Honestly, without replacing truck, you go into the city, this restriction, that restriction, it's too, too much. Like this you cannot run [gigs]. (Z3S8)

There's that low standard truck, he won't let you enter the highway. Or some city he restricts you, doesn't let you enter into the city zone. (PMRD)

¹⁶ Since 2001, China's emission standards have been continuously upgraded and made more stringent (E, 2019). In 2018, the China VI standard on heavy-duty truck exhaust was officially released, divided into two stages: China VI-a and China VI-b which have been implemented nationwide since July 2021 and July 2023, respectively (MEE and the State Administration for Market Regulation, 2018). China VI-a is basically comparable to the Euro VI standard, and China VI-b has even higher requirements than the Euro VI standard (E, 2019; Euro 1 to Euro 6 – find out your vehicle's emissions standard, 2023).

In particular, many companies have implemented rules that prohibit substandard vehicles from entering their plants, i.e., loading and unloading sites (E.g., Z3S8; Li, Y., 2021a, 2021b). This is the reason why PEPL had to replace his truck:

-Do not let you run is to say, will not let you on the road?

For example, like the China III standard trucks are scrapped, the China IV trucks, like some places are not allowed to enter, loading do not give you, unloading do not give you. This is the national policy, can he not implement it? The government requires. (PEPL)

In China, the general mandatory scrapping limit for trucks is 15 years (Ministry of Commerce, 2013). However, Z3S8 mentioned, having to buy a new truck after only two years of use because of the update to emission standards adds a lot of financial pressure on him:

-Why did you sell the previous truck?

Because of the environment protection [policy]. Time to change the vehicle type. The state has been upgrading and modernizing this.

-Would you have replaced your vehicle without this standard upgrade?

No. This truck, frankly speaking, the longer you drive, the more you can earn money, let's say a new truck, like mine cost 400,000 [yuan], a year of depreciation is 100,000 yuan, just after two years you replace it, you do not earn money, you calculate your depreciation, and then you loan to buy it, not a full payment.

Truckers bear the reduction in freight demand brought about by environmental protection inspection, air pollution control and promotion of clean heating, as well as the cost of updating trucks due to upgrading vehicle emission standards.

In addition to policies related to environmental protection, the truckers I interviewed feel that traffic bans and restriction policies for trucks on urban roads have also had a significant impact on their work. Cities in China take measures to specifically manage the movement of trucks on urban roads, like other large cities internationally with crowded populations and limited road resources (e.g., New York, Moscow, Cairo, Sao Paulo and London; Sayed, 2018; Duran, 2013; Guan, 2017; Panin, 2013; Transport for London, n.d.). For example, in 2020, Guangzhou issued a notice showing that some sections of the downtown area ban trucks all day,

some sections (downtown area) from 7:00 to 9:00 and 17:00 to 20:00 daily, some sections from 7 am to 10 pm daily (Guangzhou City, 2020). Changsha issued a notice in late 2020 marking the areas in Changsha where all trucks are banned 24 hours a day and the road sections where medium and heavy-duty trucks are banned from 7 am to 10 pm daily (Zhang, 2020). The purpose of these policies is to reduce urban traffic congestion, reduce air pollution, protect urban roads, and reduce traffic accidents.

PXN5 and RJJ3 describe the impact of these restrictions on them:

The road is so blocked it won't let you do. Used to drive, through ... through ... All can go. Now, the bans only let you take the highway, the cost is high, but also more distance, more distance will be more fuel, ... (PXN5)

-Hmm.

Here doesn't allow you to go, there doesn't allow you to go, [you] go back and forth, go east for three or four kilometers, [you] go around and turn west for three or four kilometers, so that's six or seven kilometers, isn't it? (PXN5)

-When there was no bans, you didn't have to go this six or seven kilometers?

No. (PXN5)

That means it's this restricted time, that means it's not allowed to go from 7:00 a.m. to 12:00 p.m., and in between that time you have to wait. (RJJ3)

These restrictions seriously affect the work of truck drivers, who in many cases have to take detours or wait for unrestricted time slots, which increases the cost to drivers in terms of time and money, and may even result in fines or impact the status of one's driver's license. There's an even worse case encountered by 77VN:

-What are the circumstances that will delay you?

Through the streets that are prohibited, ... Some places, 24-hour ban, the surrounding area is also banned, The stone market is in the city, so it must be pulled here. The shipper said we had to go in and said we had to break that traffic ban for him, get a fine, deduct a point.¹⁷

-Points deducted for what?

¹⁷ China's traffic demerit system deducts points for violations, maxing out at 12 points per year. Reaching this limit triggers a temporary driving suspension. Large truck drivers also used to face license downgrades, but a rule change from April 1, 2022, no longer enforces this. Instead, they need to study and test for reinstatement after reaching 12 points. (Ministry of Public Security of the People's Republic of China, 2012, 2016, 2021)

That is, usually the violation caused by breaking the ban on the street, where the goods pulled, you have to go. Now there are too many restrictions.

77VN went so far as to deliver a shipment although he was aware doing so would deduct points from his driver's license. Cities need the goods that truckers bring in but restrict access, which is a contradiction inherent in the restriction policy. As JKG3 put it: "You need him, but limit him." And all the costs associated with this are borne by the trucker.

4.7 Discussion

Lewchuk (2016) argues that the precarious work can be defined by the form of employment relationship that is insecure or where there is not one full-time employer, and by characteristics of employment such as variations in earnings, lack of benefits and uncertain no long term prospects. Using political economy approach and labor process theory, I identified three factors within the organization of work that contribute to truckers' precarity in China.

The first factor is the employment relationship between car bosses and he-hired truckers. The car bosses' employment of he-hired truckers is informal and unstable, fluctuating according to the car bosses' needs. There is no contract between them, and the period of employment is often very short. The job of a he-hired trucker is precarious. Movements between car bosses and he-hired truckers are common. The easy and frequent movement and similar daily life between these two groups create a blurred, poorly delineated employer-employee relationship that, as demonstrated in these studies by Goffee and Scase (1982), Zheng et al. (2015) and Hsiung (1996), can help car bosses control the labor process of he-hired truckers. Regarding the subtle differences in the job quality between self-employed and he-hired truck drivers, car bosses may earn higher incomes, however the risks are higher and they take on more work and

responsibility. However, a closer look at the work process of self-employed truckers suggests they are also in a precarious employment position.

The second factor in the organization of truck drivers' work that affects their working conditions and job quality is the power dynamics between the drivers, and the shippers and the brokers. The core of labor process theory focuses on how employers control workers and how consent among workers are established in the workplace (Thompson & Newsome, 2004; Smith, 2016). My analysis shows how employers (shippers and brokers) control truckers during the labor process through precarious work arrangements. Truckers compete for gigs and are dependent on shippers and brokers for work. Similar to Gandini's (2019) study of self-employed workers in gig economy, I find that online platforms have increased competition among self-employed drivers, lowering freight rates, and further intensifying the precarious character of trucking work. Shippers are able to exploit drivers through penalties that drivers have to accept and deducting freight fees from drivers on the grounds of damaged goods, underweight goods, dirty goods, etc. Since the road freight market is a buyer's market, brokers are not neutral in the transactions between truckers and shippers; they tend to take the side of the shippers when the transactions are disputed and may cheat truckers so as to get higher returns. Different routes have different impacts on the relationship between truckers and shippers/brokers. Compared to short distance or common routes, under long distance or remote routes, drivers have more say in the face of shippers and brokers and are more able to bargain, while short distance or common routes are more likely to form an employment relationship with some stability, and there is less variation in brokerage fees. For gigs with some stability, shippers may change drivers at any time through brokers. Guanxi has a significant impact on the transaction process between truckers, shippers and brokers, and maintaining good guanxi with shippers and brokers can help increase

truckers' access to gigs and income. From the above, we can see that relationship between truckers and shippers and brokers is one of the factors that make truckers working life precarious. And the weak legal system related to fee disputes is one of the reasons why truckers rely on guanxi in trucking jobs.

The third factor that leads to the precarity in truck drivers' job is the industry context created by regulations, and economic development. With reference to the political economy approach, a number of government regulations and economic factors impact the broader trucking industry. Environmental protection legislation and priorities in China include environmental inspection and air pollution control that have caused some companies to reduce or shut down production and the reduction in demand for coal due to clean heating have reduced the number of shipping gigs, and new vehicle emission standards have increased the operating costs of drivers. Urban truck bans and restrictions likewise increase drivers' operating costs. Economic policies to cutting industrial overcapacity have also led to a reduction in demand for truck drivers.

The current organization of trucking work, including the employment relations between self-employed car bosses and he-hired truckers, and between truckers and shippers/brokers; and the broader cultural context and political economy result in precarious work for truckers in China. Moreover, when we look at truckers in the context of the entire Chinese society and economy, we can see that the government makes decisions in the overall interest of the country as a whole, and policies that benefit the environment and the economy as a whole do not necessarily benefit every group in the economy, including truckers in this case.

Chapter 5: Precarious Lives: Job Quality, Well-being and Family Life among Truckers

5.1 Introduction

This chapter focuses on the working conditions and job quality of trucking work, and the impact of truckers' well-being and their lives at work and outside of work. The chapter starts with a discussion of my participants' perceptions of trucking work, what attracted them to trucking work, and what keeps them in trucking. I then move to a discussion of aspects of job quality based on the previous literature review chapter, including working hours, income, the satisfaction of basic life needs including sleep, eating, etc. Their working hours are excessive; income is high but unstable; they do not get enough hours of sleep and the sleep schedules are irregular; their other basic living needs, such as eating and bathing, are not well met. Next, I discuss the impact of trucking work on their relationships with family, showing how they lack time to spend with their wives and children. Finally, I discuss the inadequate health and other benefits for truckers, and insufficient retirement income. I show that while trucking work may offer higher wages relative to other kinds of trades, the precarious nature of the work and the overall poor job quality have great costs for truckers' well-being and their family lives.

5.2 Truckers' Ambivalent Perceptions of Trucking

In this section I describe how truckers' view their work, what attracted my participants to the trucking industry and what prevents them from changing to another occupation. The main reason they chose to be truck drivers is that, for those with limited education (typically a junior high school education or less) and without significant financial, technical, or social capital, this is

one of the highest paying jobs accessible to them. Most of the truck drivers I interviewed were initially encouraged into the trucking industry by fellow villagers who had started working as truckers earlier. Other local manual labor jobs earn much less than truck drivers. As mentioned earlier, car bosses or self-employed truck drivers earn similar incomes to he-hired truck drivers, both of whom earn more than other local manual laborers. When asked why he left his factory job to drive trucks, one trucker responded: "Oh, there's no point. I earn 3,000 to 5,000 yuan a month [in the factory], that's enough for what? The pay is too low" (EE3R). For residents of counties and rural areas in China, more than 8,000 yuan per month is a high income. According to the National Bureau of Statistics of China (2023), the per capita income of Chinese residents in 2022 was about 3,000 yuan per month. Data show that 29.1% of truck drivers earn an average of 5,000 to 8,000 yuan per month, and 61.2% earn more than 8,000 yuan per month (China Federation of Logistics & Purchasing, 2021).

Many drivers I interviewed consider themselves to be well-paid, and they are satisfied with their income. Moreover, car bosses enjoyed the status of being self-employed. For car bosses, "wage earner" is a pejorative term because it implies that wage earners do not have as much as freedom as bosses have. Even though they are hired by shippers, many self-employed truckers do not think that they are working for other people and do not consider themselves to be wage earners because they may earn more than and have greater autonomy compared to wage earners. Although they are both forms of manual labor and do not require highly specialized technical skills, self-employed truckers distinguished themselves from factory workers who are wage earners. For example, 77VN stated:

There is no other job. Other jobs are not easy to find, and the money is slowly coming, but trucks, the money comes faster. Better than wage earning. Work in a factory and you earn five or six thousand a month, right? A few thousand. If you drive, if you suffer, you can earn ten thousand or eight thousand [a month]. ... Also

there is no need for any high technical skills, right? As long as your driving skills can drive.

Despite this higher pay, many truckers report dissatisfaction with the job in general. The word they use most often in their evaluation of the job is "suffering." As in the quote above, self-employed truck driver 75L7 said, "This work is not as good as I initially thought, like we suffer, which basically, stay up all night, all these things.... What else? Ha. Suffering and exhaustion." Similarly, he-hired trucker HGM9 stated: "... doing this work, [is] too tiring. Give a lot of care, stay up late, too tired. Driving a truck is too painful. Eat badly, sleep badly. From my personal point of view, this job is not a good job, one [reason] is [it is] dangerous, one [reason] is tired." These comments by truckers point to poor working conditions and job quality, which I explore in detail in this chapter.

At the same time, self-employed truckers said they enjoyed the greater freedom compared to other jobs. As self-employed trucker V89K stated:

-Why do you want to buy a truck in partnership with others and not go to work for those logistics companies?

It's a little bit freer.

-Well, but isn't the income more stable there?

The key to this problem is that you are governed by them. This way [means working in the current way he does now], you want to go to a gig, you go; do not want to go, want to rest, you stop. [If] you work for them, is it possible to do so?

Self-employed truckers I interviewed saw trucking as "less restrictive and [more] freedom from other people's control" (75L7) compared to manufacturing work or work for large logistics companies. For self-employed truck drivers, freedom means not having to do things according to some agency, not having to take direction from a boss. Though, as I described in the previous chapter, these expectations and interpretations of trucking work seem to be in tension with

truckers' experiences of their work as mediated through their relationship with brokers and shippers.

On top of that, easily accessible loans to purchase trucks have made it easier for people to enter the industry as self-employed truckers, and the structure of loan repayment puts pressure on truckers to work long hours to repay the loan within the time frame, and make it difficult for them to leave the industry. The truckers described this as follows:

Now the trucking industry has a low threshold. In the past, you buy a truck, loan, down payment, a person has to take more than 200,000 yuan. ... Now the threshold for entry is low, you take 30,000, take 50,000, you can start running a truck, which is a big problem. (Z3S8)

Some trucks are bought with a loan, he paid the truck loan month by month, like, a truck, with a two-year loan, a month is more than 10,000 yuan, plus truck depreciation. He has to work, when the freight costs low have to work, high also have to work, no matter how much have to do. (N6F7)

Virtually all truck drivers take out a loan to purchase a heavy-duty truck (Research Institute of Highway Ministry of Transport & Sinoiov, 2021), which costs roughly from 300,000 to 500,000 yuan (PWITF, 2018a; 360che, n.d.). What is more, trucks that cost hundreds of thousands of yuan can now be bought with very little or even zero down payment,¹⁸ and the loan term is usually two years (PWITF, 2018a). These loans have lowered the entry barrier for truck drivers. However, the monthly repayment on the truck loan is around 10,000 to 20,000 yuan (Research Institute of Highway Ministry of Transport & Sinoiov, 2021; PWITF, 2018a). Due to the pressure of the monthly loan repayments, they have to run the truck as much as possible, which in turn means working long hours.

¹⁸ The current Chinese government policy on auto loans states that "the maximum loan origination ratio for commercial conventionally powered vehicles is 70%" and "the maximum loan origination ratio for commercial new energy vehicles is 75% (People's Bank of China, 2017, para. 3)." This includes trucks for freight transportation. However, in practice, in the implementation of many places, car dealers will join hands with financial institutions to use various financial means to lower the actual down payment for truckers to below these two percentages, or even use "zero down payment" to attract truckers to purchase trucks (e.g., Ba, 2021; Bu, n.d.; Zhang, 2021).

If a trucker wishes to exit self-employment in trucking, he must pay off outstanding loans. Truckers I interviewed suggested that switching careers is difficult because the experience they have gained in trucking is not easily transferrable to other jobs. BYTM offers his perspective on changing careers:

-You just said you're not going to be doing this job this time next year?

Yes. I don't want to do it anymore. I plan to see if I can do something else. ... Have been at home rested these two or three months, haven't find out what work is suitable for me. Just say change of career, now, I am 50, different trades are worlds apart,¹⁹ you do what ah. The only thing am able to do is drive, do not know anything else. You want to join a new job, you don't know what can make money.

-Hmm.

So you cannot blindly engage in, now this age, also cannot afford to lose money, you have the elderly and the children, who can stand to lose again, My family conditions do not allow ... And ... in fact, most of the truck drivers have always been doing the job of driving a truck, the transition is few, and lots of people do not make money after the transition.

Truckers in my study who have worked in the industry for a long time said they lacked knowledge of other industries. Moreover, truckers identified the burden of providing for their families and cannot risk reducing the family income or incurring debt due to a failed career change. Truckers tended to agree that not many truckers succeed in switching careers. A few mentioned that they had tried to switch careers and had failed (PEPL) or had not yet succeeded (BYTM and JKG3).

Overall, truck drivers are attracted to the industry by the relatively high incomes and the idea of freedom and status that come with not being a wage earner. Switching careers is not easy and the short loan repayment period means self-employed truckers must work long hours and take on many gigs, with little downtime, to repay loans. They suffer by working long hours to earn high incomes.

¹⁹ "Different trades are worlds apart," is a Chinese idiom, 隔行如隔山.

5.3 Working Hours

A common feature of trucking work, and an indicator of poor job quality, is working long hours. HGM9 and Z3S8 described their working hours below:

The working hours are too long. It's 24 hours a day non-stop, 24 hours for two people, right, that's 12 hours for one [person]. It's too much work. (HGM9)

To be honest, we drive one person, you see, [others] usually work 8 hours a day, right? Like we're at least at least 15, 16 hours. (Z3S8)

By working longer hours each day, they reduce the number of days it takes to complete a gig, and the more gigs they can run each month, the more money they earn. "Gan tang" or 赶趟 is a trucker's term meaning trying to complete as many gigs as possible in a limited amount of time. YP2L explained about this: "If this gig takes two days a trip, you may earn okay, three days a trip, there may be no profit." Similarly as U4V7 stated below:

-Let's say last month and this month's income is not the same, what may have increased or decreased your income?

The main thing is how much work, according to the number of gigs, pulling less gigs to earn less, you earn 1,000 yuan a gig, you pull two gigs to earn 2,000, pull five trips to earn 5,000, this month pulled three gigs, certainly not as much as last month pulled five gigs to earn more. (U4V7)

Similarly, PXN5 used to extend his working hours by working up to 24 continuous hours without sleep because he wanted to shorten the duration of a gig and did not want to delay that gig to another day.

In addition to driving (something truckers have a certain degree of control over), truckers spend a lot of time in their trucks, waiting (often for reasons out of their control). One of the main reasons for long wait times is the unpredictability of the loading and unloading times of the goods. One trucker described this as the most difficult part of the job: "The hardest part? The hardest part, is waiting! Waiting for them, waiting for unloading, waiting for loading, the most

difficult to do" (PXN5). Loading and unloading time is very important to the drivers because it directly affects their incomes. Delays in loading and unloading times reduce the truck drivers' income because it increases the length of time for each gig, reducing the total number of gigs in a given month. According to truckers, productivity issues, namely the inability of the seller's factory to meet the buyer's needs in a timely manner, creates delays in loading and unloading. The buyers send a number of trucks to pick up the goods ordered, but the factory cannot accommodate all of the trucks with the goods right away, so many trucks must wait and bear the cost of inefficiencies. 77VN's words confirmed this:

-Queue for one day or two is the mine out of stock?

There are goods. Waiting to be loaded. Let's say the mine produces a thousand tons of coal a day, and there are too many trucks coming to pull the goods, you have to wait until the second day. Now you can say that there are too many trucks. Let's say this mine, send out this coal, the loader or excavator cannot load out, or for other reasons the mine production is not enough, so you have to wait. Sometimes waiting for a long time.

For some gigs, a first-come-first-served mode is implemented: the drivers are competing with each other for the same gig, and the gig is given to whoever arrives at the yard first. There are more drivers than there are gigs, and so often who gets the gig is not agreed upon in advance. Very often, the truck driver does not know whether the gig belongs to him or not until he arrives at the yard and has a conversation with the seller's personnel; the sellers also do not know who will be hauling the goods on any given day. This results in drivers trying to get to the yard as fast as they can in order to get the gig. Because of intense competition to get the gig, drivers may lie to shippers about their geographic location, saying they are closer to the gig than they are, with the goal of making it to the yard in time to get the gig. And in turn, shippers distrust drivers when they report their location. The result is the shippers resorting to the first-come-first-served mode. It can be inferred that this mode results in a large number of drivers arriving and waiting to load

or unload at the yard at the same time, which creates an excessively long loading or unloading time. As trucker V89K described:

People do not say that they will definitely give you, e.g., he only needs ten trucks of coal, 50 trucks have called him, he only say, "Oh you go, but there are only ten trucks anyway, who arrives first who loads first."

-Let all 50 trucks go? Why didn't he just negotiate for ten trucks and let ten people go? Because, you do not know who will arrive first, right? If ten called and you tell the rest "no, already booked," there will be that situation, like, some trucks they are actually still very far away, but they called, said "I am nearby," and are scheduled, but they just could not pull on this coal; some are very close by, waiting, but they do not get the booking, and cannot pull. So, now the shippers will say, whoever arrives early, who get loaded, anyway it's ten trucks.

V89K is faced with a pattern that is common in China's road freight market, an inefficient operating pattern created in a market environment that lacks trust and disciplinary mechanisms.

The first-come-first-served mode creates a waste of trucking resources and is one of the manifestations of a bad working environment. Truckers who do not get the gig will have to spend time looking for another gig all over again.

It's worth noting that the long working hours are spent largely in the truck. The "truck" is both work space and rest space for truckers, with no clear distinction between the two. Since they eat and live in the truck, even when they rest, they are resting in the truck. From the words of YP2L, it can be seen that they emphasize the physical space of "in the truck" because, for them, there is no real rest as long as they are "in the truck": "I was in the truck 24 hours a day" (YP2L). Another trucker stated: "Whenever you are out there, you are working. Whenever you are in the truck, you are working" (HGM9). Based on the words of the truckers I interviewed, not only do truckers lack entire blocks of completely undisturbed rest time and rest space (which I discuss in more detail below), they also do not get real rest psychologically. They feel that there is no end to their work, which greatly increases their work stress and exhausts their minds. At the same time, the use of cell phones also extends work into rest time and spaces. As Lian (2021)

mentions, mobile internet and smart mobile devices seamlessly integrate work and non-work activities leading to an increasingly blurry line between working time and private time. Truckers I interviewed rely heavily on cell phones and are contactable anywhere and anytime with them. Even when they are not driving, they use their cell phones to find goods and communicate with shippers and brokers, and the time they spend doing these things is part of their work time. The long working hours and the extension of working hours into rest time and rest spaces reduce truckers' non-work time.

5.4 Income Instability and the Costs of Trucking

While truckers' income is higher than other comparable jobs, it is unstable. This section describes reasons for the instability of truckers' income, and illustrates the important but limited role of experience in truckers' income increases. Interviews with truckers indicate that number of gigs completed, variations in freight rates, tips and repair costs contribute to the instability of truckers' income. Additionally, the fact that increases in income do not continuously come with work experience as years pass demonstrates the precariousness of truck drivers' job.

The main reason for self-employed truckers' income instability is the variation in the number of gigs they are able to complete. As described in the previous section, even for identical work content (same route, same goods, etc.), the time to complete this gig is uncertain, so the number of gigs completed in a month is highly variable, which causes a high degree of uncertainty in their income.

Another reason for income instability is due to the volatility of fast-moving, extremely variable and unpredictable freight prices. Freight prices are influenced by the shifts in the

market, and they can change a large amount in a very short period of time, e.g., a few hours, half a day, or a night. Truckers bear some of the costs of variations in the economy like other big participants, but they are far less resilient to risk than the big participants, i.e. the big transport companies and shippers (the factories). One trucker described the changes in shipping fees over previous years, indicating that even a difference in a few yuan per ton would result in an overall difference of 6,000 to 7,000 yuan over a very short period of time: Like F2KM stated: "It does not have a fixed freight rate. The fluctuation is still particularly large each time. There may be a difference of 6,000 to 7,000 between one night, which, for the same gig, is very easy." Fluctuating freight rates lead to large variation in shipping fees for the same goods on the same route. This variation leads to truckers not being able to predict how much they will get per gig, and therefore their total monthly income becomes unstable.

Truckers' incomes are also impacted by the informal practice of tips and bribes. The culture of tipping is very common in truckers' labor process, and truck drivers I interviewed complained about it a lot. Whether it is a freight handler, a factory janitor, or a security guard at a service area, all may use their power to ask truckers for gifts or cash worth around a few dozen yuan. According to the truckers, if they do not comply, the person asking for the bribe may make his job difficult, even deliberately damage the truck driver's property. Examples are mentioned here by HGM9 and MGBH:

This yard regulations say, forklift drivers cannot ask for money from truck drivers. But sometimes you do not give them money, they do not give you unloading. You will have to give a tip. (HGM9)

-How much is usually given?

Generally there are 30, 20, 50 yuan, and ten or eight yuan. The forklift drivers, you do not give them money, when he shovels he may be too fast, the truck could deliberately be pushed broken. (HGM9)

They shovel the truck, load the truck and because of 20 yuan you do not pay, he loads a shovel of goods thrown on the truck with a bang, with him dumping

slowly, the nature is different, right? Very different. ... Loaded with other things slightly better, especially loaded with iron powder, this shovel thrown down is ten tons of goods, your truck can not withstand, ... repairing the truck may cost you hundreds of yuan. (MGBH)

-So you have to give him some money then he will give you a good job,
Right. If you give him 20 yuan, he will slowly, little by little to put for you. (MGBH)

As BYTM mentioned below, if he does not give the service area security guard money, the fuel may be lost at night.

Sometimes you, arrive at the service area, you rest, the area has a security guard, you give the security guard 20, or 30, or some even ask 50, [if you] give him money, your oil will not be lost; you do not give him money, there may oil lost for you.

Sometimes truck drivers take the initiative to bribe people they meet during their work in order to get unfair advantage. Tipping and bribing impacts trucker's ability to access gigs in a timely fashion. An example is U4V7's experience while hauling coal:

-How do you think these people you meet at work treat you?

U4V7: Now it's all about money. For example, if you go to someone's factory, ... once you get there, see that there are 40 trucks, a long queue, [if] you do not give the money to the factory security, you cannot load the truck. You wait one day, two days, still cannot be loaded. Then you say to the factory security, "I give you 100 yuan, ah, you let me go first." Then he let you first go in to load.

The conduct of freight handlers, janitors or security guards is a typical rent-seeking behavior. As He (1999, as cited in Feng, 2003, p. 85) states, "Rent-seeking, ..., seeks to redistribute existing or potential profits through power." They use their position in the labor process to gain power over the state of the goods and use this power to seek rent from the truck driver. The process of tipping and service exchange is vague, tacit, and uncertain. There is no black-and-white promise to serve as a guarantee, leaving the trucker to depend in a verbal agreement, but he may not get the service he expects as a result. This informal practice of tipping allows the shipper, as the employer, to put the responsibility of supervising the service providers on the trucker. Taking the freight handlers as an example, the cost of monitoring the quality of the freight handlers' work,

which should be paid by the shipper, is shifted to the driver. The driver, who is supposed to provide only transportation services, now has to bear the burden of tipping the freight handlers an undetermined amount. Truckers position in the whole freight transportation chain means they have to accept this shift; they have little choice if they wish to get and complete the gig in a timely manner.

Another cost for self-employed truckers is the uncertainty of expenses caused by fluctuations in repair costs. Car bosses bear the cost of repairing the truck, and furthermore, according to the truckers interviewed, truckers can encounter deception in the matter of truck repair. The complexity of repair techniques and the opaque prices of vehicle parts mean that people have no way of knowing how much it should cost to fix a problem with a vehicle or buy an auto part. Just as with brokers and shippers, truckers rely on *guanxi* when seeking someone to repair their truck. Since truckers do not know many local people when they travel, they have to rely on unfamiliar repair shops to fix their vehicles, which makes them vulnerable to getting ripped off. N6F7 recounts his unjust encounter with a repair store out of town:

The car had an accident, the tires were broken and needed to be repaired, you couldn't go back to the local repair [shop], and when out of town, you were asked for a lot of money. In local, 100 yuan repair fee is enough, [when out of town] he asked me 300, 400 yuan. It's a scam.

Other truckers reported similar accounts of being scammed. For example, 77VN recounted his experience of twice having auto parts deliberately removed at unfamiliar repair shops so that he had to pay to get his truck back in shape.

The self-employed truckers interviewed all agreed that the reason income can vary widely from one self-employed trucker to another is because of the difference in experience between them. Increased experience can improve their income. As self-employed trucker U4V7

noted, "If you don't have experience and you don't have an older driver with you, you're not going to make any money." Truckers report that drivers with more experience have better driving skills, are less likely to get into accidents, know the most efficient routes, and, also, drive faster and use less gas for the same distance, all of which lower their operating costs. Besides driving skills, for self-employed truck drivers, experience also includes choosing and arranging gigs, and making reasonable calculations of costs and profits. Self-employed truckers 75L7 and Z3S8 demonstrate the differences in truckers' income caused by different levels of experience in these areas:

The road is not familiar. It is possible that you take a little more freeway, or take the wrong road. ... You will not make money, make less money. (75L7)

The freight market is that, like we run for a long time, to what place, how much money we can earn, we can figure out. Like they are just starting out, as long as they are given shipping fees then they go, and in the end will find themselves not making money. (Z3S8)

-They don't know if the job is profitable or not?

Z3S8: No. He doesn't know how much money it costs on the road, how much consumption on the road, he doesn't know. He has to work for a while to know. So it's easy to lose money. (Z3S8)

For a self-employed truck driver, his job is a business that requires precise calculations. Without experience, self-employed truckers can easily lose money.

It is important to note that while experience has a significant impact on the earnings of self-employed drivers, it does not have the same kind impact on he-hired drivers. According to the truckers I interviewed, truck drivers undergo a one-year internship period after obtaining their license, during which the he-hired truckers earn lower salaries than their non-intern counterparts. Post-internship, the he-hired drivers with different experience (two, three, five years, etc.) receive the same salaries. However, car bosses prefer to select drivers with more experience. Experienced he-hired drivers find employment more easily than those with less

experience. While different driving skills associated with different levels of driving experience can result in different operating costs, the wages of he-hired drivers do not necessarily increase with experience beyond the first year. There is indeed a difference in driving skills between drivers with different experience, but the resulting difference in profit is not large enough for the car boss to pay a wage premium. And, when self-employed truckers lose money, he-hired truckers are likely to lose their jobs.

Although truck drivers initially find value in their experience, it typically plateaus after a period of time. Different self-employed drivers may vary in their opinions on the length of this time, but they all agree that their income stops increasing with additional experience at a certain point.

For example, self-employed trucker EE3R mentioned:

Having experience is definitely not the same as having no experience.

-So do you think having three years, five years, seven years of experience is the same as 10 years of experience?

More than three years and less than three years, there is a difference, and then more, five years is also the same. There is no difference.

The truck drivers' income tends to stall after a few years of work experience and the non-transferability of their work experience to other jobs suggests that the job quality of trucking is poor. The next section will illustrate the impact that poor job quality has on a trucker's life, including sleep, eating, and more.

5.5 Life on the Road

This section describes some aspects related to job quality of trucking. In particular, I focus on the impact of truck driving on sleep quality (including hours of sleep and sleep

schedules, etc.), and I examine the reasons why drivers drive fatigued. This section also discusses the problems that drivers experience with other basic daily needs such as eating and bathing, as well as their physical health.

Overall, drivers reported insufficient hours of sleep, mainly because they prioritized gan tang. The time needed for work is calculated and satisfied first, and only then sleep can be considered. In order to save time, they prefer to sleep during the waiting time after arriving at the destination, and try not to stop in the middle of the trip to rest, otherwise the time would not meet their gan tang expectations: this leads to insufficient hours of sleep. The allocation of time for sleep and sleep quality are impacted by the different driving modes of truckers.

Data from China Federation of Logistics & Purchasing & China Society of Logistics (2019, p. 262) shows that 67.21% of vehicles in motion have one driver on the truck while 31.3% have two drivers. According to the truckers I interviewed, depending on the number of drivers in the truck while it is moving, there are different possible driving modes. One possible mode entails one person is in charge of a truck and drives it. In this case, while he is on the road, he sleeps in the back of the truck while he rests. A second possible mode is where two people are in charge of a truck, with one driving while the other rests at home, and they take turns being on the road. Another possible mode is where two people are in charge of a truck, and while one drives, the other sleeps in the back. After driving for a period of time, both truckers go home at the same time to rest. A fourth possible mode described was where three people are in charge of a truck, and while two people are on the road, the other rests at home, and they take turns rotating.

The pressure to use only one driver to earn greater income has a great impact on driver sleep and fatigue, as stated by 75L7:

One person doing is now a common phenomenon. I am not for one person doing it. Because one person is too tired. They may work 16 or 17, 18 or 19 hours a day, or even up to 20 hours a person, and just sleep for three or four hours. I think this [relative to other driving modes] is the worst.

To make more money, he has to hurry. If he sleeps ten hours a day, he does not earn more money, there will be no difference between one person in the truck and two people in the truck, then why should he do it alone, right? They do it alone is just not want to pay another person's salary, and then also have to rush the time, so they let one person to do the work of two people. I think the current trend of one person doing the job is very bad...,

For example, myself, why wouldn't I do it for one person? I can't stay up late, I can't complete the work of two people, and I do not want to earn more of this kind money. Not able to earn, and then again, I may have a life to earn, but not a life to spend.

It can be inferred from 75L7's statement that the extra money earned from "one person in charge of one truck" compared to "two people in charge of one truck" comes as a result of reduced sleep time, which harms health and increases the probability of traffic accidents. He warns of a dangerous trend of truckers who currently choose the "one person in charge of one truck" driving mode working longer hours and sleeping less: they are doing the business alone, trying to do the same number of gigs completed by two people, and earn more money. In driving modes where drivers rotate in and out of truck, they are expected to sacrifice sleep while on the road since they get dedicated time to rest at home. Both U4V7 and N6F7's driving modes involve two people in charge of one truck, with one driving while the other rests at home, taking turns. U4V7's case demonstrates the characteristics of such truck drivers' sleep hours:

-About how long did you go out each time before you came home?

Two or three days. I'd run this way for two or three days, come back, change drivers, drive on and go. (U4V7)

-How long do you sleep every day?

Until the night to sleep four or five hours. (U4V7)

-Do you think four or five hours is enough to sleep?

You take a few days off at home, so it's okay. ... If you sleep more, you're running slow. Originally two days to run a gig, it became three days. (U4V7)

U4V7 does not get enough sleep on the road. In order to gan tang, he must sacrifice enough hours of sleep. He reserves getting enough sleep to when he gets home.

In addition to insufficient hours of sleep, the truckers I interviewed suffered from irregular sleep schedules. Driving schedules may be at any time during the day or night, and this means their sleep schedules are erratic, including what time of day they start sleeping and how long they sleep. For example, U4V7 and N6F7 stated that,

This break hours is not fixed, it's according to the loading time to determine, if it takes five hours from the departure place to the loading place, you have to run for five hours; if it takes ten hours to get here, you have to run for ten hours, you have to run until here, after loading the truck, until then you can rest. (U4V7)

-How long will you sleep in the truck when you go out?

It's impossible to say [the exact time]. If you wait to load, you can set an alarm on your cell phone now ... how many truck in front of you, you calculate the time, estimate how much time one truck need to be loaded, set your alarm yourself, you can sleep during this time. ... You have to be attentive when you go out. ... As long as you go out, basically do not sleep. (N6F7)

It can be seen from U4V7's and N6F7's accounts that they could only rest after arriving at a loading or unloading place. Their sleep schedule is very variable, depending on the length of the route to the loading or unloading place, driving speed and the speed of goods loading or unloading. Sleep quality is also impacted in cases where there are two drivers in the truck, one is driving while the other sleeps in the back. The one sleeping in the sleeper berth feels bumps on the road. It is not easy for him to fall asleep, and he wakes up easily as well. As MGBH and V89K put it:

[When] the road is bad, bumpy you can't sleep. Even if there's a traffic jam and the truck is not moving, you are sleeping here, the other side of the road is still passing cars, dengdengdengdeng [imitating the sound], ... you can't sleep well. You can't fall sleep unless you are very, very sleepy. (MGBH)

The truck keeps running, right? ... You lie down to sleep in the truck, ... the road conditions have been changing as well, a narrow one, a bumpy one, you do not sleep well. ... In between you don't dare say how many times you wake up. ... You just fall asleep, you wake up, you wake up and you can't fall asleep again. (V89K)

Research shows that driving without getting enough sleep or fatigued driving is dangerous and linked to increased rates of accidents (e.g., Philip et al., 2014; Ting et al., 2008). China's government has tried to address the problem of fatigue driving through surveillance, and penalties and fines for truckers who violate the standards. In 2020, China's "average daily driving time for a truck is seven hours" (Research Institute of Highway Ministry of Transport & Sinoiov, 2021). According to the industry standard issued by China, driver fatigue occurs if a driver drives for more than four hours continuously without stopping to rest for 20 minutes (Ministry of Public Security of the People's Republic of China, 2014). Moreover, it is stipulated that six points shall be deducted for "continuous driving motor vehicles other than medium-sized and above passenger cars and dangerous goods transport vehicles for more than four hours without stopping to rest, or stopping to rest for less than 20 minutes" (Shanghai Public Security Bureau, 2013, section 2, article 13).²⁰ In addition to the demerit points, the driver will also be fined (Ni, 2021). These provisions usually apply to truck drivers. Mandatory electronic logging devices (ELD) installed on trucks record the truck's travel speed, driving time, parking locations, travel routes and other information; when the truck has been driving for three and a half hours or speeding, the recorder will begin to sound an alarm to remind the driver to pay attention to driving safety (Liu & Liu, 2021; Tang, 2021). Traffic police can check and print the historical data of the electronic logging devices (ELD) (Tang, 2021; Phoenix New Media, 2021), and when the police find that the driver has violated fatigue driving standards, the driver will be deducted points and fined.

²⁰ Starting from April 1, 2022, the implementation of the new "Measures for the Administration of Points Assigned for Road Traffic Violations" decreases this violation points from six points to three points (Ministry of Public Security of the People's Republic of China, 2021).

Many drivers do not comply with the requirement to rest after driving for four hours continuously by manipulating the ELD. The ELD requires the insertion of a card representing the individual identity of each driver (Tang, 2021). Truckers interviewed reported using two cards to trick the ELD from recoding fatigue driving:

Now this job is not good, a driver to go out, driving four hours, you must change the driver, ... Now people are using two cards, change the card, not your own card, continue to drive. When the state caught you, you will be fined 3,000 yuan. (U4V7)

If you're driving fatigue or speeding, it [the device] will give you an alarm. (N6F7)

-So if you get an alarm, you stop and rest?

Normally, you have to pull over for at least 20 minutes. (N6F7)

-So is that how it works in practice?

That's not how it works in practice. In practice, when it [the device] start to report fatigue driving, a little stop, change a new driver's card, [because the destination is] in the near, we do not need to overshoot much time, usually arrived. It allows you to drive four hours, we five hours, five and a half hours to get there. Not a problem. (N6F7)

It can be seen from the statements of the drivers above that some drivers will switch to using other people's cards to continue driving when their continuous driving hours approach four hours, creating the illusion of having switched the driver. There are several reasons why many drivers think that the rule of no more than four hours of continuous driving does not meet the practical needs of their jobs. Firstly, many drivers do not feel tired after driving for four hours and can continue to drive. PEPL's and BYTM's remarks illustrate this point:

-Do you have fatigue driving?

Definitely. That fatigue driving can't be helped. (PEPL)

-Driving four hours do you feel tired?

Four hours is usually fine. At least it has to be six or seven hours. The fatigue driving is unstoppable. (PEPL)

-Do you think you have fatigue driving?

About fatigue driving, generally we won't be tired until we drive five or six hours. The four hours that the state stipulates, not tired. (BYTM)

Secondly, the highway infrastructure makes it difficult to find a place to park to adhere to the four hour rule. There is a lack of convenient parking areas in the vicinity when they are required to stop. This was discussed by 77VN and PEPL:

Four hours a shift. Well, if working according to this rule, the truck cannot run, right? Because of the layout of the highway, you cannot stop the truck until the service area. There are too many trucks in the service area, which makes you can't get into the service area, right; nowadays trucks are many, go in and park the truck, you can't get out. [The parking process is inconvenient when there are too many cars.] (77VN)

After four hours of driving, you have to go into the service area to rest, sometimes there is no service area on the highway, what do you do? Stop driving? Stop to the side of the road to sleep? That's even more impossible, right? It is sometimes not very realistic, this rule. (PEPL)

Not always being able to access a service area when it is needed prompts truckers' fatigue driving.

Thirdly, compliance with regulations regarding fatigue driving reduces a driver's operational efficiency. For example, 77VN mentioned: "When three and a half hours come, you have to find a place to stop the truck; the truck brakes, stops, and then starts again, this costs fuel, right?" Drivers are reluctant to find a place to park, stop for 20 minutes, and then start again, because these stops increase their costs.

In addition, for the driving modes in which one trucker is driving while the other one sleeps in the back, switching every four hours is too short a period of time, preventing the resting trucker from getting enough sleep. If the driver is not switched when the four hours are up, then after another two hours or so, when the driving trucker gets really tired, they will have to find another place to stop and switch drivers. This additional stop is too much trouble and too costly for truckers. Truckers feel that these operations are unnecessary. 4AEX could relate to this point:

-Do you think you have fatigue driving?

Of course I do. No one who drives a truck does not fatigue drive. The national regulation is four hours. I think four hours is too frequent. You two people in the truck, four hours then change, no matter who lies on it, it is impossible to fall asleep as soon as you lie on it, people are not machines, right? Especially just after eating, ... you lie

on it, you can immediately go to sleep? From my personal point of view, it should be made into six or seven hours, right? I don't think I can sleep well for four hours. (4AEX)

Drivers do not comply with the four-hour rule partly because there are risky but successful ways of violating the regulation; and partly because the rule does not work well in the daily trucking operations. The four-hour period is so short for drivers that they feel that they are awake enough and can continue to work. Moreover, complying with such a limit is difficult due to trouble finding parking and the impact it has on changing shifts to sleep.

In addition to poor sleep quality and fatigue driving, irregular eating is an ongoing problem for truckers. A survey by Full Truck Alliance Co. Ltd. showed that only 66% of truck drivers can guarantee three meals a day, and the rest can only eat one or two meals (Wang, S., 2021). HGM9's remarks illustrate the problem of irregularity in their diets:

I am not sure what I eat. Sometimes you can eat one meal a day, sometimes you can't even eat one meal, and sometimes you can eat two meals. The most is two meals. Because there is no time. Sometimes you eat in the morning, the next meal may be on the next day in the middle of the night. This is not certain. (HGM9)

Truckers prioritize their work and do not stop to eat at moments when they need to gan tang, as recounted by 77VN:

Sometimes I eat instant noodles in the truck, sometimes I eat a bowl of noodles in a restaurant, or eat fast food. Time rushes, right? ... Time rushes. In a hurry. On the road, quickness is needed, eat quick, do everything quick.

Truckers I interviewed said when they do eat they usually choose to eat at restaurants they find on the road, or bring their own burners (such as portable gas stoves), cooking utensils, cutlery and food, and cook their own meals in the truck during breaks. The report released by Full Truck Alliance Co. Ltd. showed that close to 30% of truck drivers in China choose to cook in the truck (Wang, S., 2021). Truckers I interviewed reported that cooking their own meals saves money, and it is also a necessity when they were traveling in remote areas where there were no

restaurants, or when there are no affordable options available, or when they were stuck in traffic.

As MGBH and VWLH illustrate:

It's a lot of suffering, maybe one day, two days, three days, you can't eat a meal, ... there's nowhere to go, no place to buy, there's no place to spend the money, there's a lot of that. (MGBH)

Eating irregularly. Not willing to eat on the highway, highway meals can be expensive, usually leave highway to eat, do not know what time will be when leave highway. There is no fixed time to eat. (VWLH)

Eating regular meals is not the only challenge facing trucker. Bathing, brushing their teeth, washing their face, accessing toilet facilities, and laundering clothes - these basic needs are difficult to access on the road. N6F7 and 77VN describe the challenges of washing themselves and their clothes:

It would be nice if there was no charge to take a bath in the service area. The bathing charges in the service area now are so expensive. Generally I don't take a bath in the service area. Generally we go to the service area, get some water to wash hair. Hot water is free. This aspect of the service area is not bad. (N6F7)

I often wash my own clothes in the truck. (77VN)

-Is there water on the truck?

Usually there is a hose in the factory. I have my own plastic basin, so I wash by hand. (77VN)

The government has taken some measures to address these problems. By January 2022, the All-China Federation of Trade Unions and the Ministry of Transport of the People's Republic of China had coordinated commercial forces and invested subsidies to have built more than 800 "Home of Drivers" across the country (All-China Federation of Trade Unions, n.d.; General Office of the Ministry of Transport & General Office of the All-China Federation of Trade Unions, 2021; Zhang, 2018). Home of Drivers are mainly located in highway service areas, along national and provincial arterial roads, goods distribution areas or logistics parks (All-China Federation of Trade Unions, 2020). Unlike the ordinary service areas N6F7 mentioned earlier,

Home of Drivers provides truck drivers with affordable parking, resting, dining, bathing, laundry and other services (All-China Federation of Trade Unions, 2020; General Office of the Ministry of Transport & General Office of the All-China Federation of Trade Unions, 2018, 2021). The number and coverage density of Home of Drivers have not been able to meet the needs of truck drivers yet (Wu, 2021), so currently, not every driver in every place can enjoy the services of the Home of Drivers.

For any worker, including truck drivers, the satisfaction of basic living needs -- eating and sleeping, bathing, brushing teeth, washing face, going to the toilet, and laundering clothes - may seem insignificant, but their fulfillment can greatly affect one's quality of life and mental state. Additionally, in terms of health conditions, insufficient sleeping hours, irregular sleeping and eating schedules, coupled with having to sit in the small vehicle cab almost all day, make many truck drivers' health deteriorate, especially since working conditions can continue day after day driving gigs. For instance, ten of the truck drivers I interviewed had lumbago or lumbar disc herniation; nine said they had cervical spondylosis; nine had stomach problems; four said they had leg pain; two said they had high blood sugar; one had joint pain; one had vision loss; one had backache; and one had prostatitis.

5.6 Relationship with Family

Trucking affects the family life of truck drivers, taking them away from home for lengthy periods of time. This section describes the reasons why truckers come home less often and their perceptions of how their absence at home affects their relationships with their wives and their relationships with their children.

Of the 22 interviewed drivers, six reported returning home once a week and five reported returning once every two weeks. Two reported returning home every one month or so and just one reported returning every two months. Other respondents reported more variation, returning home after a dozen days, or after a month or two, and some returned home more frequently, once every two days or so. Interestingly, proximity to home did not result in returning home more often, as RXL9 mentioned below:

-For you, do you think, do you go home more or less often?

Less and less, of course.

-Didn't you just say you go home once every three or four days?

Three or four days to go home is from S city to our place, not that I arrive home to rest. I leave, load, unload and come back, which is about three days. It's not that [when] I come back to unload, after each gig, I arrive home to rest a day, it is impossible. I [run] ten days, half a month can return home once is to show respect. Oh.

Due to their busy work schedule, RXL9 and others chose to return home weekly and bi-weekly for efficiency, even though they could pass by their hometown every three days per gig, like an old Chinese proverb which says, "pass by one's home three times without going into it" (Cchatty, n.d.).

According to my interviews, truck drivers are usually the main or even the only income earner in their family. So, although their individual income is high, their family's per capita income is low. This money does not seem much when it is divided among the family, including his spouse, children and elderly. Like what Z3S8 and JKG3 mentioned here:

-Does your family have any income other than what you earn from driving?

No. It's just me driving to support my family. (Z3S8)

There are too many places to spend money and too few people to earn money. Now my family of five people, only I earn money. The same as the neck has a rope whisk [a local, colloquial saying describing that they are forced to do things], cannot stop earning money. (JKG3)

The truckers interviewed thought it would be good to spend more time at home with their families, but they all agreed that their jobs did not allow them to do so. Like PMRD stated:

-What do you think is quality family time?

At home with the children is comfortable, [but] the key is you have to make money, right?

-You think,

[Interrupts] At home the point is you don't have money when you're resting. Right? Have to make money.

Though the job reduces the time they spend with their families, the truckers I interviewed believed that securing a source of income is a greater necessity than spending time together as a family. According to 77VN, going home too much may even be seen as a bad sign: going home more means not working, which is the same as not earning money that the family needs:

-Do you want to be out more or come back more?

When you make money, you don't go home enough, right? You don't make money and you have nothing to do, then you want to go home. To earn money, you do not want to go home. (77VN)

In general, truckers talked about how their absence from home negatively impacted their relationships with their children, but took for granted that that their wives accepted the division of responsibilities (wives are responsible for family matters, truckers are responsible for earning money) without real consequence. Others said they did not feel their absence would negatively affect their familial relationships. Compare, for example, the responses by HGM9 and JKG3 described here:

-How do you think your job has affected your family relationships?

Huh? (HGM9)

-For example., relationships with your wife,

The relationship with her, ah, it doesn't affect. (HGM9)

-What do you think the job of driving a truck has done to your relationship with your wife?

Impact, not much, I guess. Not [spending] much [time] at home, and she can understand. In order to work will have to separate. (JKG3)

In general, truckers acknowledged that their wives take the main responsibility of taking care of the family, including the elderly and children, as well as household affairs and other family matters.

-How do you think this job affects your family?

It has a big impact on my family, I can't take care of my children, I can't take care of the elderly, I can't take care of anything at home. I can't take care of anyone. They all fall on my wife's shoulder. The impact is huge. (4AEX)

And truckers assumed that since they work hard outside the home and provide material resources for the family, their marriage should remain sturdy.

Feminist insights into political economy have long shown how employment and domestic work are interdependent: the truckers' work outside the home would not be possible without their wives' efforts to handle family matters soundly at home. The value of the labor provided by truckers' wives is enormous. For that matter, it is inaccurate to say that the money a truck driver earns from running a truck supports the family alone. Unpaid housework and care work of truck driver's wives are also critical to the functioning of the household.

In contrast, however, truckers show concern about their relationship with their children.

When asked about trucking's impact on their children, N6F7 and PEPL replied:

Less interaction with the kids. Yes, you can call them, it's just that you don't see them, I don't think seeing each other is the same as calling. They are accustomed to meet less, gradually their feelings to you will be diluted I think, you often do not get together with them, just telephone contact like this, I feel that it is not good. Not good for a long time. (N6F7)

The truckers I interviewed believe that their relationship with their children has been negatively affected by their job, because it caused them too much time away from home.

5.7 Benefits for truckers

This section describes truckers' access to benefits. Firstly, I will discuss the options truck drivers face in terms of pension and medical insurance, and the impact this has on their plans for retirement. Secondly, I will discuss the situation of truck drivers with regard to sick leave and personal leave. Through these two cases, I show that the inadequate benefits is indicative of the precariousness of their job.

5.7.1 Medical Needs and Pension Needs

Truck drivers are both workers and residents. They can choose medical insurance and pension insurance based on both statuses. Since self-employed truck drivers are workers with flexible employment, to join the medical or the pension insurance-for-employees, they have to pay both the medical insurance (which does not include vehicle insurance here) and the pension insurance themselves (Department of Law and Regulation of Ministry of Human Resources and Social Security of the People's Republic of China, 2012; Ministry of Human Resources and Social Security of the People's Republic of China, 2023; National Healthcare Security Administration, 2023; Social Insurance Law of the People's Republic of China, 2010). In contrast, workers who work for employers have their medical or pension insurance-for-employees paid jointly by their employers and themselves (State Council of the People's Republic of China, 2014, 2016). However, self-employed truck drivers pay the salary of the trucker he employs and does not pay medical insurance or pension insurance for he-hired truckers, as mentioned earlier in section 4.2.

However, if he does not want to choose the medical or the pension insurance-for-employees, as a resident, the truck driver can choose to participate in the pension and the medical insurance-for-residents (Social Insurance Law of the People's Republic of China, 2010). The cost

of the medical insurance-for-residents is partially covered by individuals and partially subsidized by the government. The medical insurance-for-residents is cheaper than the medical insurance-for-employees, and has a lower reimbursement rate than the medical insurance-for-employees (China Healthcare Security, 2023). The cost of the pension insurance-for-residents is mostly covered by individuals and subsidized by the government in small part, and in some places, a portion is subsidized by a collective economic organization (State Council of the People's Republic of China, 2014). Collective economic organization is a special form of organization usually found in rural areas in China. The more people pay for pension insurance when they are young, the more pension they will receive after retirement (Chongqing Human Resources and Social Security Bureau, 2020). Because the levels of premium of insurance-for-residents is lower than that of insurance-for-employees, the amount of pension they will receive after retirement is also lower (Chongqing Human Resources and Social Security Bureau, 2020; Dong, 2023).

Truck drivers do not have a low income compared to other Chinese workers, but the ones I interviewed did not purchase medical insurance-for-employees. All of them purchased medical insurance-for-residents. None of them participated in pension insurance-for-employees, but only participated in pension insurance-for-residents and only paid the minimum level premium; some of them did not even participate in pension insurance-for-residents. And none of the car bosses paid for he-hired truckers' benefits.

According to interviews with truckers, for self-employed truckers, one of the reasons they arrange their health and pension insurance this way is they do not have an employer. For example, self-employed trucker PEPL contrasted his situation with the drivers from the same village who worked as trucker before but now drive forklifts in the cement plants. He stated: "They are paid pension insurance. Who will take care of us here? Who will take care of us when

we are old? No one takes care of our pension insurance." Since these workers are employees of the cement plant, their employer contributes to the premiums of their pension insurance-for-employees. However, PEPL, as a self-employed truck driver, if he chose the pension insurance-for-employees, he would have had to pay the premiums all by himself, so he said he had "no one to take care of him." Also, I surmise that the non-contractual employment status may be a reason why the car bosses do not and why the he-hired truckers do not expect the car bosses pay the pension insurance-for-employees for them. Instead, all truckers choose this pension insurance-for-residents rather than the pension insurance-for-employees. Due to the lowest grade premiums they pay, the pension the truckers receive in retirement are the lowest grade. In most parts of China those who currently pay into the lowest level of the pension insurance-for-residents will retire with a monthly pension of around 200 yuan (Dong, 2023; Wang, 2022). Truckers perceive the pension insurance-for-residents as negligible. Therefore, they do not expect to rely on it for their retirement. For example, although Z3S8 has paid for pension insurance-for-residents, when I asked him whether he had pension insurance, he answered negatively. In his view, only those who have the pension insurance-for-employees are considered to have real pension insurance. He considered the amount of money he would receive from pension insurance-for-residents is too small to play a role when he is old. This would seem to be a vicious circle: Because they pay less in premiums, they get less pension when they get old; because they feel that the pension they get in old age is too small, they choose to pay less in premiums. Also, it is worth noting that, as a worker with flexible employment, the premium amount for a truck driver who chooses medical insurance-for-employees is much higher than the premiums for the medical insurance-for-residents (China Healthcare Security, 2023). And, in Hebei province, where the truckers I interviewed are located, the lowest level of premiums for a worker with flexible employment

who chooses pension insurance-for-employees is much higher than the lowest level of premiums for pension insurance-for-residents (Ministry of Human Resources and Social Security of the People's Republic of China, 2023; Xie, 2020; Zhang, 2023).

Since they are unable to rely on this pension for their old age, what do truckers perceive will be their source of income when they get older? I asked truckers about their retirement plans and how they would earn income at that time, and some of their responses are listed below:

That, now it's even hard for me to take care of my family now, why should I care about this, think about long term things in the future? I haven't thought about it. (RXL9)

Older, 60 will not be able to drive a truck. Have not thought it out. At that time life is less stressful, the burden is less, just do whatever something. After the son gets married, the daughter gets married, you don't have to spend any money, why do you still work? Just find a more stable one, then it's fine. You don't have to go out that far away, you can do a job at home. (RJJ3)

Oh, well, I can't rest anyway. For me, when I'm old, if I really can't do anything, I will watch people's gates. I don't have any other skills. Only this. Nothing else. Physical condition allows, able to go to watch the door, would be the best. (MGBH)

It is evident that truckers I interviewed do not have a clear plan for their retirement. They see retirement as something they will consider in the distant future, and there is no need to plan for it thoroughly now. Also, they think they are making money now to provide for their children and their parents, especially to save money for their children to get married. They believe that when they reach their retirement age, their financial burden will be much lighter so they do not need to worry too much about their finances.

Moreover, none of the participants voluntarily said the word "retirement." When I asked a question that included the word retirement in the sentence, they answered with the expression "when I get older" rather than with the word retirement. In the interviewees' eyes, there is no concept of retirement, and it is not in their consideration to rest instead of working when they are old. They anticipate having to work when they are older, but they plan to do lighter work

because their health will not allow them to do work in such a demanding job anymore. For them, retirement means re-employment. They place their expectations of retirement on finding jobs that pay less but are less labor-intensive. For example, Z3S8 argued that he would still need to maintain basic living by working odd jobs when he is old.

5.7.2 Sick leave or Personal leave

For truck drivers, there is no concept of sick leave or personal leave. Whether a truck driver is self-employed or employed by a self-employed driver, he receives no income during the time he is not working. This makes them feel that their income is unstable and insecure. They envy those who have stable employers because they have public holidays and other leave set by their employers, such as sick leave and paid leave. HGM9, a truck driver who is employed by a self-employed driver, had this to say about sick leave:

-Have you ever stopped driving for a while?

Yes. Because I was sick. [And] I was building a house at home. Just something came up.

-When you don't go, you don't make money, right?

Yeah, who's going to pay you if you don't go? If you're off, they won't pay you. They will deduct the money. The amount of deduction depends on the day you are resting, which day you are resting which day no money. This month, you work 20 days, give you 20 days of money, you work ten days, give you 10 days of money.

Of course, since self-employed truckers do not have a boss, having more flexibility for their vacations is one kind of freedom for them. PXN5, for example, he did not work for more than 20 days to help organize his son's wedding. This would be unthinkable for people with stable jobs as employers would probably not allow it.

The lack of sick days or other leave means that truck drivers sometimes have to choose between going to work sick and losing much-needed pay. Their income immediately stops the moment they stop working, meaning they cannot afford to have anything go wrong in their lives or they would have no income. Without access to sick or personal leave, truckers have little

ability to take risks, and the slightest thing can send their lives into poverty. It is one of the manifestations of the precariousness in truckers' work.

5.8 Discussion

Researchers found that wages, working time, access to skills development, work-life balance are some of the key dimensions of job quality (Cazes et al., 2015; Green, 2006; Leschke et al., 2008; Lowe, 2007; Davoine et al., 2008; Gallie, 2007; Kauhanen & Nätti, 2015; Leschke et al., 2008). Precarious work overlaps with the concept of poor job quality (Burchell et al., 2014, as cited in Campbell & Price, 2016, p. 315). Scholars identify unstable wages, irregular and unpredictable work time, no future employment prospects, no medical insurance and no pension as some of the crucial aspects of precarious work (Lewchuk, 2016; Schneider & Harknett, 2019). In this chapter, I demonstrate the poor job quality of truckers' job using the impacts of job on their working hours, income, work-life balance (life on road including sleep, eating, etc.; health; family life), and work-related benefits.

Based on my interviews, I found that truckers entered the industry because of the high pay and the pursuit of so-called freedom. The pressure of loans and the fact that experience in the trucking industry does not help them change careers keep them stuck in the industry.

Excessive working hours also show the poor job quality of truck drivers. Bourdieu (2000) said that "of making people wait, of delaying without destroying hope, of adjourning without totally disappointing, which would have the effect of killing the waiting itself, is an integral part of the exercise of power" (p. 228). The reason for the long working hours of truck drivers is that they cannot predict how long it will take to load and unload this time, so they don't know how long they need to wait this time, which causes uncertainty in their working hours; in this case, they have to gan tang to catch up with work in order to run more gigs in a limited time they have.

Due to the overlapping of rest and work space and rest and work time, truck drivers' working time are excessively extended. They do not enjoy real rest time.

Despite their relatively high incomes, truckers' income remains unstable, which is strongly related to the number of gigs they complete, freight rates, paying tips and bribes and the cost of vehicle repairs. Also, experience is useful for self-employed truckers, but after a certain years, experience growth does not continue to increase income for them. Unstable income and unsustainable income growth with additional experience demonstrate that truckers' work is precarious.

The impacts of work on truckers' sleep, eating and other basic life needs, as well as their health, also shows that the trucking job is precarious. Truck drivers have insufficient hours of sleep, because they always prioritize gan tang on the road. Also, truckers' sleep is impacted by different driving modes. Laws and regulations related to fatigued driving have a great impact on truckers' sleep. The essential contradiction between drivers and regulations related to sleep conditions is that, drivers believe they are not tired at all from driving for four hours continuously and do not need to change drivers. Complying with the rule of changing drivers when four hours are up will greatly increase their operating costs, so they will find various ways to circumvent this rule. Also, truck drivers do not eat well on the road. They cannot guarantee three meals a day and their meal times are irregular. And their other basic needs (e.g., bathing, laundry) are not well met as well. Likewise, trucking life brings them a lot of health problems.

As mentioned by truck drivers, another important aspect of the job's impacts on their work-life balance is family life. Truck drivers come home less often than those who do other jobs. In a truck driver's household, the wife takes on the primary household responsibilities while the truck driver is responsible for providing financial resources to the family. For truckers,

although they want to come home more often, it is more important to ensure the family's income. Although they did not feel that their job negatively impacted the couple's relationship, they agreed that the job negatively impacted their relationship with their children. The negative impact of work on their family life suggests precarity in their job.

In terms of medical and pension insurance, although truckers are full-time workers, they only buy the medical and the pension insurance-for-residents because self-employed truckers have no employer and he-hired truckers are employed on a non-contractual basis. They receive very little pension when old based on the insurance they have chosen so far, so they do not to expect to retire on it. For them, there is no concept of retirement, and even if they are too old to drive a truck, they will continue to do other jobs that are physically easy. For truck drivers, there is no sick leave or personal leave, and a day without work is a day without income. Inadequate medical insurance, pension and lack of sick and personal leave give us a glimpse of the precarious nature of their job.

Chapter 6: Conclusion

Using qualitative research methods, this thesis has explored the manifestations of and contributors to Chinese truck drivers' job precarity and job quality. This chapter will answer the research questions of this thesis; present the contributions, strengths and limitations of the thesis; and make suggestions for relevant future research. I conclude the chapter with recommendations to improve the working conditions and job quality of truck drivers.

6.1 Reflection on Research Questions

One of the aims of this thesis is to explore what broader factors contribute to the working conditions and job quality of truck drivers in China, as well as to examine what issues are encountered with trucking industry stakeholder groups in the working process, and what kinds of government regulations contribute to the precarity of truck drivers in China. The organization of trucking work affects the working conditions and quality of truckers' work. Using the frameworks of political economy approach and labor process theory, this thesis focuses on how shippers and brokers exercise control over truckers' labor process, and likewise on how the conflicting interests and power dynamics between the parties in the labor process affect the truckers' job quality. This thesis also focuses on how the government, at the macro level, exerts influence on truckers and thus affects their working conditions, and addresses the impact of online platforms on the working lives of truck drivers.

On the one hand, there are two main groups that truckers face in their labor process: shippers and brokers. The interaction between drivers and brokers and shippers has a significant impact on truckers' job quality. Brokers help shippers establish an employment pattern with some stability, in which truck drivers can be replaced at any time without employers having to

bear the cost of firing truck drivers. This creates instability in truck drivers' work and income. In addition, because there are more truckers than needed competing in the road freight market, shippers are able to set their own standards of penalties that truck drivers have to accept as employees, thereby deducting freight fees from drivers. The fact that there are more truckers than needed in the market likewise creates a situation where the brokers are not impartial in the transaction, but rather favors the shippers' side. On top of that, it is not uncommon for brokers to gain money from undue advantage by cheating truckers. It is important to note that the relationship between the trucker and the broker or shipper forms differently under the orders of different routes. Under long-distance or remote routes, drivers have more say and are more able to bargain with shippers and brokers than under short-distance or common routes, while short-distance/popular routes are more likely to form an employment relationship with some stability and the broker gets less variation in brokerage fees. Besides, guanxi has a significant impact on the transaction process between truckers, shippers and brokers. It provides a channel for mutual trust in an imperfect market, and maintaining good guanxi with shippers and brokers can help increase truckers' income.

On the other hand, the impact of government regulation on truckers' working environment, which is mainly reflected in three aspects: cutting industrial overcapacity, environmental protection, and urban traffic bans and restrictions. In terms of environmental protection, environmental inspection and air pollution control cause some companies to reduce or stop production. Together with clean heating and cutting industrial overcapacity, these policies cause a reduction in the demand for goods transportation, which in turn will lead to truck drivers losing their jobs. The updating of motor vehicle emission standards and urban traffic ban and restriction policies increase the operating costs of drivers. On top of that, online platforms

have increased competition among drivers while giving them convenience, lowering freight rates.

Another aim of this thesis is to address what are the current working conditions and context of self-employed truck drivers and truckers who work for self-employed truckers, and to what extent and in what ways trucking is precarious.

I analyze this question based on the definition of precarious work in the literature review. Whether self-employed or he-hired, the job quality and working conditions of Chinese truck drivers are poor, which can be reflected in several ways: their working hours, income, basic life needs, family relationship and benefits. Firstly, truckers' working hours are excessive. This stems from the uncertainty of loading and unloading time due to the first-come-first-served mode and insufficient shipper production capacity, and to having to gan tang. The dependence on cell phones combined with the overlap of rest and work space lead truckers to feel like their working hours are infinitely extended and their rest time disappears. Even though the income of truck drivers is higher than most manual laborers, their income is very unstable, which is highly related to the varying number of gigs they complete, the frequent fluctuation of freight rates, the practice of tips and bribes, and the cost of vehicle repairs in both driving and operation. Another manifestation of poor job quality is that after several years of working, additional experience does not convey further benefits, and does not help truckers find jobs in other industries.

The life of a truck driver on the road is not easy. In terms of sleep, truckers suffer from insufficient sleep length because in order to gan tang, on the road they always prioritize their work, and their sleep arrangements are dependent on the status of their gigs. Different driving modes also affects truckers' sleep. Laws and regulations related to fatigue driving have a great impact on drivers' work. Strict compliance with the rule of taking a twenty-minute break after

four consecutive hours increases drivers' operating costs and may make them unable to sleep well. Drivers' are not tired after four hours of driving and therefore lack the motivation to comply with the rule and tend to circumvent it in various ways. In terms of basic life needs, they suffer from irregular eating and poor access to bathing, laundry and other needs. Regarding health, truck drivers' work takes a heavy toll on their bodies, and many of the people I interviewed suffered from diseases related to trucking.

Moreover, in terms of the impact of work on the family, truck drivers are often away from home, which results in them not spending as much time with their families. In their families, the wives take on the main family responsibilities; even though truckers would like to spend more time home, the financial pressure to provide for their families compels them to go home less often. Although truckers do not feel that their work negatively affects the couple's relationship, they agree that the job negatively affects their relationship with their children. In terms of benefits, truckers need to buy their own pension and health insurance, and they prefer resident-type insurance over employee-type insurance because self-employed truckers have no employer and he-hired truckers are employed on a non-contractual basis. Also, for them, there is no prospect of retirement. Even if they cannot drive a truck when they are old, they have to continue to do other less physically demanding jobs. Also, they do not think that this pension will be enough to cover their living expenses when they are old. Moreover, despite enjoying the flexibility of working on their own, they have no sick leave or personal leave, and they have no income for the days they do not work.

Based on the results of my research, with the reflection on the political economy approach and the labor process theory, it is clear that the negative implications of the job on truckers' lives are linked to the organizational structure of their work. Truckers are in a weak

position in their power dynamics with brokers, shippers, and the government, which exposes them to poor working conditions at every step of the labor process, such as long waiting time, poor sleep quality, and fewer trips home. Despite truckers' desperation to gan tang, the organizational structure makes it difficult for them to maintain a stable income and the possibility of losing their jobs at any time. Their lives become precarious.

6.2 Contributions, Shortcomings and Implications for future research

6.2.1 Contributions

This thesis bridges some of the gaps in qualitative research on the subject of precarious work, with Chinese truck drivers as the main subject of the study. Truck drivers represent a group that has previously received little attention in China - a group with relatively high but precarious income within the overall manual labor group. This thesis offers research that focuses on a significant representative of this group, the Chinese truck driver community. My research on freight-matching platforms echoes the research done by Zhou in 2021 on the impact of platform interventions on truck drivers' work, and I build on her research to further examine how truck drivers' job quality is affected by factors other than platforms.

Second, this thesis provides a complementary study of the characteristics and causes of precariousness in a specific work group in the Chinese context. Specific precarious work groups have been studied less, and this thesis can provide future researchers a resource for studying other groups of workers in the Chinese context. We can see the challenges a group has to face if their work becomes precarious in China; how they get caught in the web of precariousness; and why they do not leave their job despite this.

In addition, the work of self-employed workers has often not been seen as precarious. By examining truck drivers, a group with a large proportion of self-employed workers, this thesis provides strong empirical evidence on the question of whether and how the work of self-employed workers can be precarious, and how it becomes precarious. This research illustrates the complexity of the work life of self-employed workers, which cannot be simply judged by the form of self-employed. This study can provide insights for our future understanding of the work of other self-employed groups.

Finally, this paper employs the political economy approach and labor process theory throughout the analysis, showing how truck drivers are influenced and controlled by, and interact with, their employers (for he-hired drivers, this includes car bosses), brokers, and the government. This can provide insights into the use of this approach for other researchers in the future in the study of a particular group of workers.

6.2.2 Strengths and Limitations

In-depth interviews with truck drivers constitute credible interview data for this paper, and the detailed firsthand information greatly facilitates the researcher's understanding of what is really going on in the lives of the group of truck drivers. This thesis is useful in understanding how truck drivers' work is organized, including how truck drivers interact with other groups in the chain of work (brokers, shippers, and the government); the manifestations of job precarity among truck drivers; and the lives of truckers outside of work.

A limitation of this thesis is that the drivers interviewed were concentrated in one region of China. Although this does not affect the depth and accuracy of the study, more conclusions

may be obtained if the interviews are expanded to interview more people from other regions. Furthermore, this paper's research is based on interviews with groups of truck drivers and analysis of documents; other people in the work chain of truck drivers, including shippers, brokers and government departments, were not interviewed. Interviews with them might have better enabled me to understand the power flow in the road freight industry and provided additional empirical data. Also, I did not follow one or some truckers through a particular gig, and being personally involved in the truckers' work process may allow the researcher to experience the quality of the truckers' work firsthand and to be informed of the important aspects or important features of their lives that even the truckers themselves are not aware of.

6.2.3 Recommendations for Future Research

There are three suggestions I have for future research. Future research could improve on the diversity of the interview population to include other groups in truck drivers' work process besides truck drivers. In addition to qualitative research, some quantitative research could help the government make better decisions about truck drivers: for example, would adding a weekly driving time limit to the four-hour continuous driving time limit help to reduce fatigued driving behavior among truck drivers? Also, research on more detailed subgroups of truckers is necessary: do truckers in different industries experience precarious work differently than in this thesis? Future researchers can conduct more studies on the Chinese truck driver population from these aspects.

6.3 Policy Recommendations to Improve Truckers' Working Conditions

Based on my findings, in order to improve the health and safety of truckers, government and industry need to work on decreasing the precarity in the industry. There are a few additional

recommendations that would lessen the financial impact of government policies and improve working conditions that would be easy to implement:

1. Although some local governments in China are already subsidizing the elimination of vehicles with old emission standards (360che, 2024), the government should invest more in subsidizing the cost of replacing vehicles for truck drivers so as to reduce their financial burden, for example, by subsidizing in full the cost of vehicle replacement.
2. The government should create a special, easy-access channel for truckers to file complaints, which allows truckers to be bold enough to utilize the help of authority when they feel they have encountered injustice or unfairness. This will also eliminate the need for drivers to rely too much on guanxi in their work.
3. The government should invest more resources into building more and bigger service areas to ensure that drivers have a place to stop when they need to park while on the highway.

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Appendix 1: Ethics Approval Documentation



Interdisciplinary Committee on
Ethics in Human Research (ICEHR)

ICEHR Approval #:	20210770-AR
Researcher Portal File #:	20210770
Project Title:	<i>Job Quality and Working Conditions of Chinese Truck drivers</i>
Associated Funding:	Not Funded
Supervisor:	Dr. Nicole Power
Clearance expiry date:	November 30, 2024

Dear Xue Jin:

Thank you for your response to our request for an annual update advising that your project will continue without any changes that would affect ethical relations with human participants.

On behalf of the Chair of ICEHR, I wish to advise that the ethics clearance for this project has been extended to **November 30, 2024**. The *Tri-Council Policy Statement on Ethical Conduct for Research Involving Humans* (TCPS2) requires that you submit another annual update to ICEHR on your project prior to this date.

We wish you well with the continuation of your research.

Sincerely,

DEBBY GULLIVER
Interdisciplinary Committee on Ethics in Human Research (ICEHR)
Memorial University of Newfoundland
St. John's, NL | A1C 5S7
Bruneau Centre for Research and Innovation | Room IIC 2010C
T: (709) 864-2561 |
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Appendix 2: Invitation Letter

[Recruitment Invitation/Poster]

Invitation to participate in a research project on Chinese truck drivers

Dear Sir or Madam,

My name is Xue Jin, and I am a Master's student in the Department of Sociology at Memorial University of Newfoundland, Canada.

I am here to invite you to participate in a study entitled "Job Quality and Working Conditions of Chinese Truck drivers." This study focuses on the Chinese truck drivers' group, trying to explore the current situation of their working conditions and job quality, which involves truckers' work experiences and the challenges they face in their day-to-day work practice.

This research involves an interview of about 60 minutes. The interview will be conducted remotely (voice call only). The participation of this research is anonymous. I do not collect or record participants' names or any other information related to their identity. With your consent, interviews will be audio-recorded and will be kept confidential. Each interview will be randomly assigned a number code in the research process to help ensure that the identities of the participants are not identifiable. All research data, including audio-recordings and any notes, will only be accessible by the researcher.

Participation is completely voluntary, and you may end your participation in the study for any reason without penalty. If you choose to withdraw, all the information you have provided will be destroyed.

There is no compensation for participating in this study. However, your participation will be a valuable addition to my research, and findings could lead to a greater public understanding of Chinese truck drivers' lives.

Before deciding whether to participate or not, you can read the informed consent

form for this study by going to the website: [<https://5f8edaec9ffbc.site123.me>], to better understand what the participants will be asked to do and how the data will be used. The website is free to access. Just click it! This consent form on this site is for reading purposes ONLY and does not require any form of reply.

If you would like to participate or have any questions, please contact me at +86 18519796156. For confidential reasons, please contact me directly and do not reach me through intermediaries, including the person who sends you the invitation letter. I will not inform your contacts who forwarded the invitation, or anyone else, of who does or does not participate in the study. Thanks!

Xue Jin

ICEHR Approval Statement

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research, such as the way you have been treated or your rights as a participant, you may contact the Chairperson of the ICEHR at icehr@mun.ca or by telephone at +1 709-864-2861.

Appendix 3: Informed Consent Form



Department of Sociology

Memorial University of Newfoundland | 230 Elizabeth Ave, St John's, NL A1C 5S7
www.mun.ca

Informed Consent Form

Title: Job Quality and Working Conditions of Chinese Truck drivers

Researcher: Xue Jin
Graduate Student |Department of Sociology
Memorial University of Newfoundland
230 Elizabeth Ave, St John's, NL A1C 5S7
Email: xuej@mun.ca
WeChat: truck-drivers-research

Supervisor(s): Nicole Power, PhD
Professor |Department of Sociology |Office A-4049B
Memorial University of Newfoundland
230 Elizabeth Ave, St John's, NL A1C 5S7
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Phone: +1 709-864-6914

Liam Swiss, PhD
Associate Professor |Department of Sociology |Office A-4053

Memorial University of Newfoundland
230 Elizabeth Ave, St John's, NL A1C 5S7
Email: lswiss@mun.ca
Phone: +1 709-864-4467

You are invited to take part in a research project entitled "Job Quality and Working Conditions of Chinese Truck drivers."

This form is part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. It also describes your right to withdraw from the study. In order to decide whether you wish to participate in this research study, you should understand enough about its risks and benefits to be able to make an informed decision. This is the informed consent process. Take time to read this carefully and to understand the information given to you. Please contact the researcher, Xue Jin, if you have any questions about the study or for more information not included here before you consent.

It is entirely up to you to decide whether to take part in this research. If you choose not to take part in this research or if you decide to withdraw from the research once it has started, there will be no negative consequences for you, now or in the future.

Introduction

Hello. My name is Xue Jin. I am a graduate student in the Department of Sociology at Memorial University of Newfoundland, Canada. As part of my Masters thesis, I am conducting this research under the supervision of Dr. Nicole Power and Dr. Liam Swiss.

I would like to invite you to participate in a research study about the working life of Chinese truck drivers, which is conducted for my master's thesis.

Purpose of study:

The study tries to explore the current situation of their working conditions and job quality.

What you will do in this study:

You will be asked to participate in an interview about truckers' working experiences. I will ask questions about truckers' beliefs and perceptions towards trucking, challenges during work, influence that trucking brought to them, etc.

Length of time:

The interview will take around one hour to complete.

Withdrawal from the study:

Please understand your participation is entirely on a voluntary basis, and you can end your participation and destroy your data without penalty by contacting me by WeChat: truck-drivers-research and providing your code. You will be given a randomly assigned series of number at the end of the interview, which is your exclusive code. The withdraw can be done at any time before the date of April 1st, after which the data cannot be removed.

Possible benefits:

The benefit which may be expected is that the study could bring us more understanding of Chinese truckers' working life, giving us thoughts on how to improve their situation in the future.

Possible risks:

Participation in this study will not affect your employment or pose any other financial risks. The interview will include questions about your views on government policies and regulations, however, your information and your identity will not be shared. You will not be asked to provide your name or any other identifying information. I will not ask any questions or record any information about your identity, such as your name, date of birth, home address, physical appearance, etc. information. Instead your interview will be given a code. You will be indicated by a code - a series of randomly assigned numbers during the data analysis and presentation of results. I will give you your exclusive code at the end of the interview. I will not inform the contact who forwarded the invitation, or anyone else about who is or is not participating in the study. All research data will be stored on my computer, never be put online, and will only accessible by my supervisors and me. Like what I will discuss again later, I will mitigate the risk by protecting the data from leaks by every means.

There is a potential emotional risk given that the interview will involve some content about work stress and the impact of work on family. This may cause participants to feel some negative emotions such as anxiety. I will tell participants to let me know if they need to skip questions or take a break. If you need to skip certain questions, you can always skip them. Also, here is a free counselling hotline: +86 022-88188858 (24-hour online, counsellor-qualified volunteer on duty), if you want to find somebody for psychological counselling services. The hotline was set up by the Tianjin government in 2011 and had served many people ever since.

During the interview, if at anytime and for any reason, you would prefer not to answer any questions, please feel free to skip those questions. I will remind you about this part at the beginning of the interview.

Confidentiality

Confidentiality is ensuring that identities of participants are accessible only to those authorized to have access. The participants' responses will always be confidential. All research data, including audio-recordings and any notes, will only be accessible by my two supervisors and me. The data will not be used or disclosed for any reason except this research. Anyone else other than my supervisors and I will have no access to the data.

Anonymity:

Anonymity refers to not disclosing participants' identifying characteristics, such as name or description of physical appearance. This participation will be anonymous. I will not ask or record any information about your identity, such as name, date of birth, home address, physical appearance, etc. Throughout the research process, including data collection, collation, analysis, thesis publication, and presentation), your name will be replaced by a randomly assigned string of numbers, which is your exclusive code.

And, I am conducting research in an area limited to certain communities in the cities of Shijiazhuang and Xingtai. Some truckers may know each other, and it is possible that you may be identifiable to other people on the basis of what you have said. Although I will not share what was said in an interview, if you talk to your friends/ acquaintances about the interview, and your friends/acquaintances mention your interview with other locals, then the information may be spread locally. During the research process, every reasonable effort will be made to ensure their anonymity and that they will not be identified in any reports and publications without their explicit permission.

The data from this research project will be reported in a Master's thesis and may be published in reports and academic journals and used in presentations; however, your identity will be kept confidential. Direct quotations from the interview will be used but your name will

represented by your code - a randomly-selected-series of numbers, and all identifying information such as the name of the institution, the participant's position, etc. will be removed from all written documents and presentations.

Recording of Data:

The interview will be conducted remotely (voice call only). With your permission, I will take notes and use a digital voice recorder to audio record the interview.

Storage of Data:

How the data will be stored: The audio file will first be stored on a digital voice recorder, and the notes will first be written in my notebook; then, I will copy the audio file and the notes to my laptop. After the data has been transcribed and pseudonymized, I will delete the audio file from the recorder and destroy the interview notes from my notebook. The data will remain on my laptop in password-protected files, and my laptop is also password-protected.

Data will be kept for a minimum of five years, as required by Memorial University policy on Integrity in Scholarly Research, after which it will be destroyed.

Who has access: All research data, including audio-recordings and any notes, will only be accessible by my two supervisors and me. The data will not be used or disclosed for any reason except this research. Anyone else other than my supervisors and I will have no access to the data.

Reporting of Results:

The data will be shared in a presentation at Memorial University.

During the presentation, your identity will be kept confidential. Although I will report direct quotations from the interview, you will be represented by your code - a randomly-selected-series of numbers, and all identifying information such as the name of the institution, the participant's position, etc. will be removed from our report.

Sharing of Results with Participants:

Upon completion, my thesis will be available at Memorial University's Queen Elizabeth II library, and can be accessed online at: <http://collections.mun.ca/cdm/search/collection/theses>. You can freely access this website to read the thesis, without having to contact me.

Questions:

You are welcome to ask questions at any time during your participation in this research. If you would like more information about this study, please contact:

Researcher(s): Xue Jin
 Graduate Student |Department of Sociology
 Memorial University of Newfoundland
 230 Elizabeth Ave, St John's, NL A1C 5S7
 Email: xuej@mun.ca
 WeChat: truck-drivers-research

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ICEHR Approval Statement

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research, such as the way you have been treated or

your rights as a participant, you may contact the Chairperson of the ICEHR at icehr@mun.ca or by telephone at 709-864-2861.

Consent:

Your signature on this form means that:

- You have read the information about the research.
- You have been able to ask questions about this study.
- You are satisfied with the answers to all your questions.
- You understand what the study is about and what you will be doing.
- You understand that you are free to withdraw from the study without having to give a reason and that doing so will not affect you now or in the future.
- You understand that any data collected from you up to the point of your withdrawal will be destroyed.

If you sign this form, you do not give up your legal rights and do not release the researchers from their professional responsibilities.

Your signature:

I have read what this study is about and understood the risks and benefits. I have had adequate time to think about this and had the opportunity to ask questions and my questions have been answered.

I agree to participate in the research project understanding the risks and contributions of my participation, that my participation is voluntary, and that I may end my participation.

I agree to be audio-recorded during the *interview / focus group* Yes No

I agree to the use of quotations. Yes No

A copy of this Informed Consent Form has been given to me for my records.

Signature of participant

Date

Researcher's Signature:

I have explained this study to the best of my ability. I invited questions and gave answers. I believe that the participant fully understands what is involved in being in the study, any potential risks of the study and that he or she has freely chosen to be in the study.

Signature of Principal Investigator

Date

(This Informed Consent Form is for reading purposes ONLY and does not require any form of reply.)

Appendix 4: Interview Questions

While I will explain and indicate the ethical procedures, risks, and freedoms in the consent form to the participants before the interview process, I will preface the interview questions with the following statement, outlining the intention of the interview:

As part of my research study, I intend to interview you on your experiences with trucking, particularly about your working conditions and job quality. I would also like to know about any challenges that you experience in the work process.

During the interview, if at anytime and for any reason, you would prefer not to answer any questions, please feel free to skip those questions.

1. How did you become involved in the industry?
2. Could you describe your journey to me, from preparing to the end? How do you find gigs, the people you meet, etc..
3. How much do you earn every month? Is it stable or not?
4. How many hours do you work everyday? What do you think about your working hours? Is there any situation that might waste your time in the work process?
5. How's your accommodation during work? What do you usually eat when you are on the road? Where do you sleep? How was your sleeping quality?
6. What costs do you have to pay during the work? And which costs the most?
7. How often do you go home? What do your family feel about your job? What impact do you think the trucking work has on your family life?

8. What are the main regulations that you think are affecting your work? How are they affecting you? Is there anything that you think the government can or should do to make truck drivers' situation better?

9. What do you like about trucking? (What do you dislike about trucking?) As you see now, will you continue to work as a truck driver at this time next year? What are the things that you found challenging about your work/the work of truck driving? Would you encourage your children to be in the trade? Why?

10. What is your age? What is the highest degree or level of education you have completed? Are you married?

11. Can you think of anything else that I should know about your work or your life? Do you have anything to add about issues that I did not ask you about?