Economic Insecurity in China:
Analyses of Family Economic Resources and Income Instability

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Abstract

Economic Insecurity in China: Analyses of Family Economic Resources and Income Instability

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Economic insecurity is a crucial part of economic wellbeing and has negative social consequences. While social scientists have documented the heterogeneity in economic insecurity across social groups, the attention is limited to developed and democratic contexts. In authoritarian or low-income societies, the inefficient protection laws of private property and an overall low level of income and wealth may amplify the level of economic insecurity and brings more severe consequences to individuals and families. However, family or individual economic insecurity in such contexts is overlooked in previous literature.

This project tries to fill the literature gap by providing the first empirical analysis of family economic insecurity in China, a major middle-income country in the world. Different from previous literature relying on income volatility or changes to measure economic insecurity, this project argues a dual-dimension framework to operationalize this concept: a static dimension indicates family economic resources, including family income and wealth. In contrast, the dynamic dimension indicates the volatility of family income over a period. This measure is built upon the argument that family may face an insecure economic situation when it has higher volatility of income and a low amount of income and wealth.

Drawing upon a longitudinal household survey recently conducted in China, this project proposes to measure economic insecurity and investigate three empirical questions: a) How volatile is family income in China? Furthermore, to what extent does family income instability[1]correlate with family income and wealth? b) How is the household registration system, a fundamental social institution in China, related to family economic wellbeing? c) does family economic insecurity relate to the social trust of family members?

The first empirical chapter (Chapter 3) deals with a fundamental question on economic insecurity. That is, what is the relationship between family economic resources and income instability? The findings show that families with more wealth and income have a lower level of income instability and those with the very lowest income and the highest wealth experience the most volatile income. These findings suggest different roles of income and wealth in shaping the instability of family income. It extends previous literature merely focusing on the relationship between income levels and income instability by taking family wealth into account.

After answering this fundamental question, this project shifts attention to the institutional origins of family economic insecurity in the context of China. The second empirical article (Chapter 4) investigates the role of a specific social institution, the household registration (*hukou*) system. Building upon a typology of *hukou* status at the family level, it examines the difference of income, wealth, and income instability across families. The results show that urban families and rural-urban conversion families have a more secure economic situation. Namely, they have higher income and wealth and a lower level of income instability as well, compared with rural families and rural-urban migrant families. After controlling socioeconomic and demographic characteristics, the economic advantages of urban and rural-urban conversion

[1] Throughout the dissertation, instability and volatility are exchangeable terms when referring to the trend of family income over a period.

families become small or insignificant. The results suggest that the household registration system may shape family economic insecurity through differentiation of educational levels and other population processes, such as smaller family size and assortative mating.

The last empirical chapter (Chapter 5) pays attention to whether economic insecurity in the real world, rather than an individual's perception of economic insecurity, plays a role in the formation of trust values. Contrary to previous findings based on the subjective measure of economic insecurity in democratic contexts, the results here suggest a fragile relationship between objective economic insecurity and any type of trust value, including generalized trust, trust in strangers, and trust in political cadres.

Taking these analyses together, this project has at least two contributions. First, it extends the economic insecurity literature by providing the first systematic analysis of economic insecurity in a middle-income and non-democratic context. Second, it also provides a potential direction in understanding the economic wellbeing of families or individuals based on economic insecurity rather than merely the amount of income. The findings in this project underline the importance of understanding the causes and consequences of economic insecurity in non-Western countries.

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Acknowledgement

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Chapter 1. Introduction

One of the most notable achievements for China over the past four decades is the reduction of the poverty rate and the rising wealth accumulation. Since the 1970s, China has been experiencing rapid social and economic changes. The transformation from the planned economy to the market economy allows individuals and families to share the benefits of rapid economic development through private economic activities. However, accompanying the rapid rise in income and wealth, the distribution and stability of income and wealth demand more attention as the level of inequality has been rising rapidly at the same time. This project employs the China Family Panel Studies, a longitudinal national representative survey since 2010, to provide a comprehensive examination of the level of income and wealth distribution and instability, its institutional origins, and associations with individual social values.

Building upon the literature on economic insecurity, this project attempts to achieve three goals from a sociological perspective to meet the gap of previous literature. The first goal is to provide a test of the relationship between income instability and the level of family income and wealth. Previous literature on economic insecurity exclusively focuses on the composite measure of income, as an economic indicator, and does not distinguish the components of income and examine how income-wealth relationship shapes income instability. Because of this limit, previous research finds it difficult to reach any conclusion on the substantive meaning of income instability. For instance, the impact of income instability is not independent of wealth. In contexts where house assets are essential for families due to cultural and institutional reasons, such as the East Asian society, income-to-wealth transformation is a prevalent phenomenon among families so that income instability itself is not adequate to reflect the level of economic insecurity. This project argues, without considering the structure of income and wealth

components, the unidimensional measure of income instability has limited value for understanding economic insecurity, which is a complex social phenomenon.

The second goal is to examine the relationship between economic insecurity and institutional contexts by investigating how the household registration system (namely, the *hukou* system) shape family economic insecurity in China. Previous studies on economic insecurity exclusively focus on democratic contexts. The findings have limited implications for societies with different institutional and social settings, such as China, Japan. How institutions shape the family economic insecurity is still a puzzle for economic insecurity literature. In non-democratic contexts, private assets are not protected as well as in democratic countries, given the vast political power which may penetrate almost every aspect of individual and family life. Hence, an institutional arrangement may exert tremendous influence on the redistribution of income and wealth through direct or indirect routines. Examining how the household registration system shapes family income insecurity in China meets the gap of previous literature, which generally overlooks the role of institutional settings.

The third goal is to revise the so-called insecurity-distrust thesis, the negative relationship between economic insecurity and social trust, in a non-democratic context. Previous research has shown a negative correlation between the perception of economic insecurity and social trust values in democratic contexts. This study extends this line of literature by examining the relationship between objective economic insecurity and individual social trust in China, where family income and assets may not be as secure as in democratic countries. As a consequence, individuals may still perceive economic insecurity despite their actual economic situation. It may imply that actual experiences of income and wealth instability are not consistent with the

perception of the insecure economic situation in this non-democratic context. That is, the insecurity-distrust thesis should be interpreted with caution.

1.1. Income Instability as the Starting Point of Understanding Economic Insecurity

The concept of income instability was introduced in the field of income inequality in the 1990s. In the seminal work by Gottschalk and Moffitt (1994, 2009), they posit that the rise of income inequality since the 1970s in the United States is partially attributed to the variance of income instability. Income instability is defined as the change only reflecting transitory income, interpreted as an intertemporal change of the income attributed to "accident" or "chance", such as macro-level economic recessions and micro-level family dissolution. Using data of the Panel Study of Family Dynamics, they find that the variance of transitory income rose from 0.10 to 0.15 or by 42 from the 1970s to 1980s in the United States. The results indicate that permanent and transitory income variances rose at a similar rate during this period, and income instability contributed to the one third to one half of aggregate rise of income inequality (Gottschalk and Moffitt 1994: 218). In another study, Haider finds similar trends and concludes that "annual inequality increased because of fairly equal increases in the persistent and instability components" (Haider 2001: 883).

The definition of income instability can be derived from the permanent income hypothesis (PIH) proposed by Milton Friedman (1957). He separates income into permanent and transitory components. "The permanent component is to be interpreted as reflecting the effect of those factors that the unit regards as determining its capital value or wealth: the nonhuman wealth it owns; the personal attributes of the earners in the unit, such as their training, ability, personality; the attributes of the economic activity of, the earners, such as the occupation followed, the location of the economic activity, and so on. ... The transitory component is to be

interpreted as reflecting all 'other' factors, factors that are likely to be treated by the unit affected as 'accidental' or 'chance' occurrences, though they may, from another point of view, be the predictable effect of specifiable forces, for example, cyclical fluctuations in economic activity." (Friedman 1957: 21-22) The separation of permanent and transitory income components has been a standard practice of economics research on income instability.

Sociologists, particularly social stratification scholars, start to pay attention to income instability in recent years. From a sociological perspective, income inequality consists of two components: between-group and within-group inequality. As Western et al. (2008: 904) note, "Between-group inequality describes variation across groups with different characteristics— the average difference in incomes between two-parent and single-parent families, for example. Within-group inequality describes heterogeneity in groups with the same characteristics—for example, the variability of incomes among single-parent families."

Recent studies have brought new knowledge on the trend of income instability. A recent study by Cheng (2014) formalizes a life course trajectory framework of intragenerational income mobility. The latest advance in literature also inspires scholars to rethink what factors shape temporal change of individual income and how personal income trajectory is related to other social outcomes, such as family changes and migration choices. Hill et al. (2013) suggest that income instability is an independent factor influencing child development and family wellbeing independent from income level. They also indicate that the lack of high-quality longitudinal data is an essential challenge of understanding the causes and trends of income instability. Moreover, in the era of the gig economy, how individuals experience instability of income or wealth over time has been becoming an essential dimension of inequality that influences individual and family life, particularly for those at the bottom of the social class

with insecure occupations (such as freelancers) (Friedman 2014).

Scholars have produced essential findings on family economic wellbeing, especially in the context of the United States, and provides theory and policy implications. For instance, Hacker and his colleagues (2011; 2014) create an integrated index of economic insecurity in the United States and show that the percentage of American population experiencing significant economic loss without an adequate financial safety net is increasing over time. Similarly, many scholars employ the level of family income volatility to show families, particularly the most deprived group, have more unstable income trajectories since the 13/25/20 10:52:00 AM970s in the United States (Gottschalk et al. 1994; Gottschalk and Moffit 2009). These findings suggest the importance of a dynamic perspective for family economic wellbeing. Besides the United States, scholarship based on other contexts, especially from non-democratic countries, are rare.

The previous literature indicates three shortcomings, including inadequate attention to non-democratic settings, inconsistent concept and measure, and insufficient attention to objective and subjective economic insecurity.

Puzzle 1. Inadequate attention to Non-democratic and Low/middle-income Context

Understanding family economic hardship or instability in non-democratic and *low/middle-income* countries rather than in democratic and high-income countries is crucially important.

First, most low-income and non-democratic countries have a less stable economy and labor market, and hence individuals may face more insecure employment. Despite the rapid economic growth in transitional countries, the structures of industry and labor market are quite different from those in developed ones. Labor-intensive industries rise quickly because of lower labor costs. Low levels of earnings and unstable employment make individuals or families face a higher risk of economic insecurity.

Second, the lack of an efficient social welfare system may increase the risk of family economic insecurity and amplify the negative consequences as well in low/middle-income and non-democratic countries. Social welfare provides families, particularly poor families, with financial support for maintaining secure family life. For instance, the unemployment insurance system offers backup support for families with members laid-off and stabilizes family earnings over time. However, relative to developed countries, low/middle-income countries have inefficient and incomplete systems of welfare support.

Thirdly, in many non-democratic countries, a lack of democratic rule makes family income and assets insecure. Unlike advanced and developed countries, on the one hand, from a macro perspective, political institutions in authoritarian and low-income countries may not react to the economic insecurity of families with in-time policy or legislative actions. It further increases the risk of family financial hardship or income instability. On the other hand, the protection of private income and assets is not well executed in non-democratic countries, such as China. Political power may make individual income and assets, especially those of immigrant groups or other disadvantaged groups, insecure in many ways.

These reasons make investigating economic insecurity in low/middle-income and non-democratic countries relevant theoretically.

Puzzle 2: Inconsistency of the Concept and Measures

Scholars do not distinguish income instability and economic insecurity. An unstable family income trajectory does not necessarily mean the insecure financial situation of families. One standard definition of economic insecurity is that the family may face a precarious economic situation when its members experienced a job loss or dramatic income loss (Western et al. 2012). This definition does not posit a precise measure of economic insecurity; instead posits a social

phenomenon in contemporary society. However, the essential component of economic insecurity is a dynamic perspective of the financial situation over time, specifically income decrease across periods. Scholars have not reached an agreement on the measure. Some researchers have adopted a straightforward test by calculating income loss between two-time points as the indicator of economic insecurity (Hacker 2008). Western et al. (2016) show that the increased income instability among US children and nearly one-half the increase in extreme income losses is related to trends in single parenthood and parental employment.

Income loss is a short-term part of the income trajectory. For a family experiencing an income loss within one year or one month, this income change is a part of the long-term (say multiple years) income trajectory. Short-term income loss may not be equivalent to economic insecurity because wealthy families may not negatively be influenced by short-term income loss compared with low-income families. That is, besides the trend of income changes, family economic resources play another crucial role in determining the level of economic insecurity. Previous literature has argued that economic insecurity is more severe among low-income families without a financial safety net (Hacker 2011). However, there is still no theoretical work in framing the relationship between income instability and economic insecurity.

Puzzle 3. Inadequate attention to Objective and Subjective Economic Insecurity

The relationship between the subjective and objective economic insecurity is not well understood.

There are two separate lines of literature on economic insecurity. One line of research focuses on the measure of income instability and tries to understand the trend and distribution of economic insecurity across social groups. Another line of research focuses on how individuals perceive the economic insecurity and how such perceptions relate to their social values or

behaviors. However, very few studies aim to distinguish the feeling and experiences of economic insecurity and let alone the relationship between them. The perception of economic insecurity is not only determined by the actual experiences of income and wealth instability but also shaped by the social and institutional contexts. For instance, in a non-democratic society, the overall perception of economic insecurity may be higher than in a democratic society if the income and wealth assets are not protected well.

The key to resolving the literature gaps above is to propose a complete understanding of economic insecurity by distinguishing it from income instability and investigating the economic insecurity in a middle-income and non-democratic country.

1.2. Understanding Economic Insecurity in China

As a main non-democratic and low/middle-income country in the world, China provides a unique opportunity to extend the line of the literature on economic insecurity. China is not a welfare country (Croll 1999; Naughton 2017). Since its market transition in 1978, China is still on the highway of economic development but lacks an efficient and complete system to maintain the justice of the redistribution system. For instance, despite the high speed of economic development, the official count of laid-off workers increased from 3 million in 1993 to 17.24 million in 1998 because of the reform of state-owned enterprises (Chinese Labor Statistics 1999). For these populations, unemployment leads to collective resistance against the state policy because of the insecurity of their economic wellbeing (Cai 2002). However, there are still limited findings on the relationship between unemployment experiences and the economic insecurity in the low/middle-income context. To what extent Chinese families experience unstable income dynamics and how the social institutions shape the inequality of family economic insecurity is valuable to expand the scope of studying economic insecurity to the non-western world.

Studying family economic insecurity in China is also an urgent task. First, the intergenerational transfer of wealth may enhance income inequality and explains the rise of income inequality in China. Wealth inequality is more concentrated than income inequality because of intergenerational transfer. Figure 1.1 shows the trend of wealth and income shares by the top 10% and bottom 20% population in China. Wealth transfer across generations is an essential channel of inequality reproduction because the younger generation may inherit the wealth from parents so that they have the advantages in the process of social mobility. To what extent wealth inequality is related to income inequality in China is a theoretical and empirical issue remaining unclear.

[Figure 1.1 about here]

Second, the transformation from the planning economy to the market economy makes income instability an important social issue. The extent of income volatility in China is still a myth and demands scholarship to understand the fact and its causes and consequences as well.

[Figure 1.2 about here]

Thirdly, the fact that personal wealth and income are still at a relatively low level makes income instability a vital factor influencing the security of family economic life. Figure 1.2 presents the average personal wealth and income of China compared with those of India, Russia, France, and the United States. Although the average personal wealth and income increase rapidly since 2000, private wealth and income are far lower than those in France, Russia, and the United States. Family or individuals with lower income or wealth are affected by income or wealth volatility more because of the ability to maintain secure economic wellbeing (Western et al. 2012). Chinese individuals or families may face more negative effects of income or wealth loss.

The families with low income or wealth levels in China are especially insecure in economic wellbeing.

[Figure 1.3 about here]

Lastly, income and wealth transfer within rural-urban migrant families is a vital social phenomenon to understand family economic wellbeing in China. China is experiencing the world's most massive flow of internal migration (Chan 2013). Typically, labor forces from rural families work in urban areas and transfer income and wealth to their families (Liu and Reilly 2004). Previous research on economic inequality in China overlooks the role of migration families and hence fails to offer accurate estimates of rural-urban income gaps. Taking wealth and instability into account is valuable to deal with this issue by providing a more detailed and dynamic understanding of family income and wealth. Also, it helps to make it clear to what extent family income and wealth come from transfers within the family and how such transfer accounts for the rural and urban difference in economic wellbeing.

1.3. A Framework of Economic insecurity

This project proposes a dual-dimension framework of economic insecurity to overcome the shortcoming of previous literature, merely focusing on income. In terms of conceptualization, I argue that the two dimensions offer a complete figure of family economic insecurity. The first dimension, namely the static dimension, is the amount of family economic resources, including net family income and family net wealth. From previous literature, as family income and wealth increases, the family is more able to tolerate an unstable income trajectory in the long run through wealth-to-income transformation. For low-income families, such ability is weak because low income and wealth indicate a low level of saving or investment for future economic risk.

Hence, the static dimension determines not only the level of family economic life but also the ability to absorb the potential negative impact of income instability.

The second dimension, namely the dynamic dimension, is the level of family income instability. This dimension describes the level of income volatility over a period. Given the amount of family income and wealth, a more stable income trajectory indicates a more predictable level of income. It hence helps the family to plan future expenditures and maintain a steady level of family economic life. The dynamic dimension only includes income instability but not wealth instability. Wealth instability is not only related to the family itself but also more unpredictable and closely related to other unobserved factors, such as market volatility and house market variation across regions (Killewald et al. 2017). Hence, unlike income instability, wealth instability reflects a more complex social and economic mechanism. This framework assumes that family income is the only source of expenditure, and wealth is related to income instability through wealth-income transformation.

The framework implies several sociological insights in understanding economic inequality and its consequences. For instance, if income instability is higher among families with low income or wealth (Björkenstam et al. 2017; Western et al. 2012), the negative consequences of income instability will be more severe in one society with a higher level of income and wealth inequality. Second, if the negative consequences of income instability are amplified in countries with inefficient social welfare systems, the social cost of income and wealth inequality through the channel of economic insecurity will be higher. In countries with efficient social welfare supports, families in a lower position of income and wealth distribution may benefit from government transfers, which decreases the negative influence of unstable income. However, in

societies with fewer support programs, families in a lower position of income and wealth distribution may face a more insecure economic situation.

1.4. Data Sources

This project uses the China Family Panel Studies to empirically examine income instability and the relationship between income and wealth at the family level. As the first national-representative household survey with detailed income and wealth information, China Family Panel Studies is conducted by Peking University beginning from 2010. The survey adopts a multi-stage random sampling to form a national representative sample and re-interviews the initial sample every two years. To the date of finishing this project, there are four waves of the survey, conducted in 2010, 2012, 2014, and 2016, publicly available to researchers. This form the primary data source of this project.

Besides, this survey also has two features. First, the survey contains detailed information on income and wealth by types. As will be discussed in Chapter 2, income and wealth components are crucial to resolving the puzzle two stated in the prior section at the level of measurement. By investigating how different income components contribute to the unidimensional income instability, this project can distinguish the sources of family income instability in China. Moreover, by linking the income and wealth at the family level, this project can incorporate wealth into the understanding of economic insecurity.

Second, the survey also has individual questionnaires and provide detailed information on social values. This section of information helps understand the relationship between objective and subjective economic insecurity in this non-democratic society. This project is not able to directly examine the relationship due to the lack of information on the subjective rating of economic insecurity. Instead, this project can show that the link may not be the same as in

democratic society by examining the relationship between objective economic insecurity and social trust and comparing the findings with the general conclusions based on Western contexts.

In Chapter 2, I evaluate the data quality and propose empirical measures based on the data information. This chapter forms the methodological basis of the whole dissertation.

1.5. Structure of the Empirical Chapters

The first empirical study (Chapter 3) explores the family economic being by describing the relationship between two dimensions. That is, what is the relationship between family economic resources and income instability? Families with more income have a more stable income trajectory. Contrary to common sense, those low-income families with more wealth have a more unstable income trajectory. Further analysis shows that the majority of this group belongs to self-employment with owned business.

The second empirical chapter (Chapter 4) studies how the household registration system shapes family economic insecurity. What accounts for the fact of family economic insecurity in China? There has been a vast body of literature that studying regional inequality (See Li and Gibson 2013; Xie and Hannum 1996), rural-urban inequality (Sicular et al. 2007; Yang 1999), and gender inequality (Bauer et al. 1992; Chen et al. 2013). Among them, one unique institutional factor well studied in previous literature is the household registration system, namely the *hukou* system, profoundly shapes economic inequality in China (Chan 2009; Liu 2005). The importance of *hukou* status at family life has been well documented in previous research since the 1980s. However, previous literature on the relationship between this institutional factor and economic inequality mainly focuses on the individual level. It investigates the role of individual *hukou* status on human capital accumulation, social mobility,

and income. This project provides an evaluation of how *the hukou* status structure of its members for one family is related to family income, wealth, and income instability.

The effects of the *hukou* system on family economic security can be defined as the differentiating effect of agricultural and non-agricultural *hukou* in family economic sources and income stability. It is because two types of *hukou* status lead to the inequality of life opportunities and economic benefits. The empirical evaluation is based on a typology of families based on *hukou*/residence of family members with jobs: rural families (all family members with jobs living in rural areas and hold agricultural *hukou*), urban families (all family members with jobs living in urban areas and hold non-agricultural *hukou*), rural-urban migrant families (all family members with jobs hold agricultural *hukou*, and at least one among them lives in urban area), rural-urban *hukou* conversion families (at least one family member with jobs experienced the conversion from agricultural to non-agricultural *hukou* status and all other family members with jobs hold agricultural *hukou*), and other families.

After studying family economic insecurity as the primary outcome of interest, the last empirical chapter (Chapter 5) shifts the focus to the consequences of family economic security by re-evaluating the insecurity-distrust thesis. The negative relationship between economic insecurity and social trust has been an essential topic in academia and public policy field. It focuses on economic security as an objective measure rather than a subjective measure. Previous literature relies on subjective measures of economic insecurity, namely perception of insecurity status in economic wellbeing, to study the relationship. This approach derives from the social psychology approach, which argues that perceiving insecurity may increase awareness of individuals about environments and makes individuals more likely to attribute the insecure

situation to institutions (Tormos 2019). This chapter seeks to understand whether the actual economic insecurity rather than the subjective feeling matters for one's trust.

Through these empirical investigations, this project advances the literature on inequality and stratification in the following aspects. First, rather than focusing on a single element of family economic wellbeing, this study adopts a compositional view to understanding family income, wealth, and stability of income. It shows the relationship between these three aspects (Chapter 3). Second, this project contributes to the understanding of how institutions shape economic insecurity by focusing on how the *hukou* status of family members is related to family income, wealth accumulation, and family income volatility (Chapter 4). This chapter meets the gap that previous literature exclusively focuses on democratic settings and overlooks the impact of institutions in shaping economic insecurity in non-democratic societies. Third, this project evaluates how objective economic insecurity is related to the social trust of its family members in China (Chapter 5). This chapter advances the literature by implying that the relationship between objective and subjective economic insecurity in non-democratic settings should demand more research.

Figures and Tables

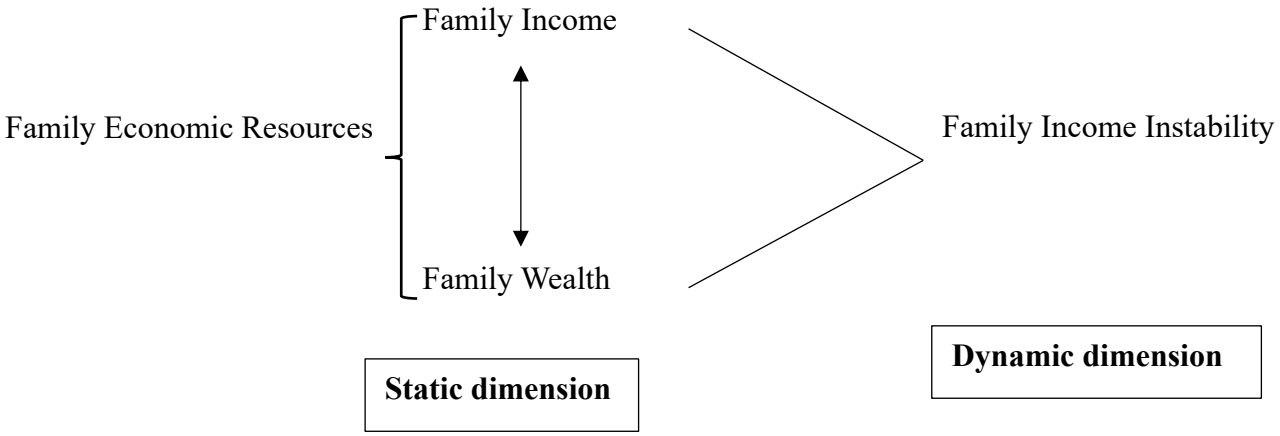


Figure 1.1. A Dual-Dimension Framework of Economic Insecurity

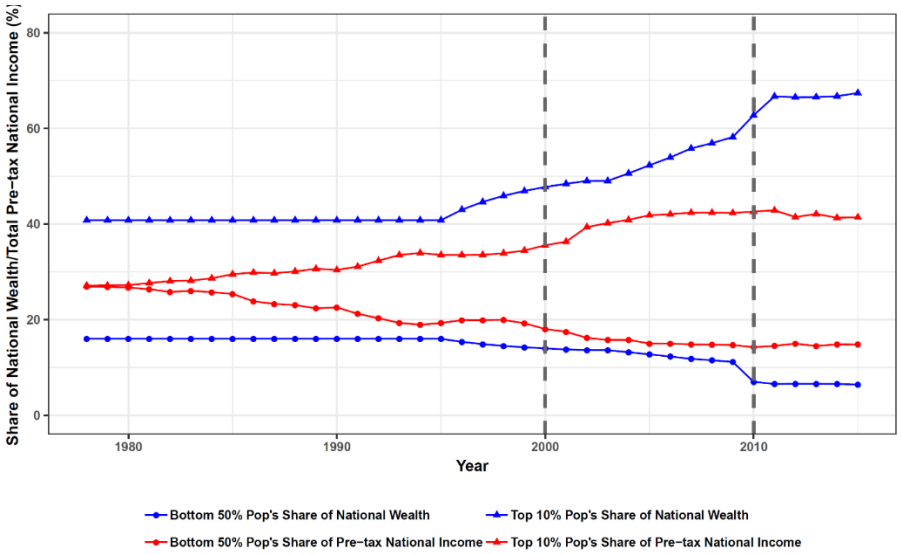


Figure 1.2. Top 10% and Bottom 50% Population's Wealth and Income Shares in China, 1978-2017.

Source: World Inequality Database (WID). See wir2018.wid.world for data series and notes.

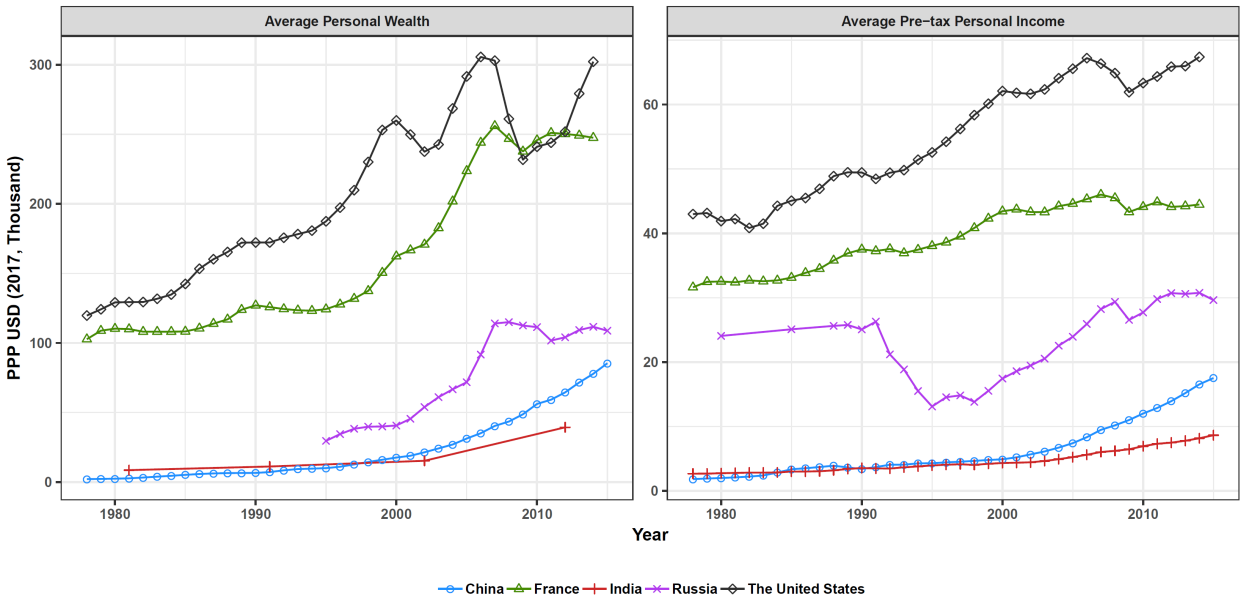


Figure 1.3. Average Individual Income and Wealth in Selected Countries.

Source: World Inequality Database (WID). See wir2018.wid.world for data series and notes.

Chapter 2. Data and Measure

2.1. Introduction

This chapter introduces the primary data source and the method of quantifying economic insecurity. The primary data source is the China Family Panel Studies (henceforth, CFPS) (2010 to 2016), a nationally representative household survey designed to collect general demographic and socioeconomic information longitudinally in China. Given its focus on the dynamic financial situation of families, this study only uses the sample of families appearing in all four waves of the survey from 2010 to 2016. This sample restriction ensures the analysis of income and wealth consistent across families but brings the sample selection bias issue. This chapter covers the discussion of this issue.

Economic insecurity, following the dual-dimension framework in Chapter 1, is a multidimensional rather than unidimensional concept and demands a more careful investigation in the empirical analysis. The primary indicator is the family income instability from 2010 to 2016, while income and wealth levels are also essential components of economic insecurity. To be noted, this study does not attempt to reach a single indicator of economic insecurity but aims to understand the relationship between income and wealth and how such a relationship is associated with the family's financial situation. Hence, this chapter also analyzes to what extent different types of income and wealth components contribute to the family income instability.

Research on income or earnings volatility has been rising in recent decades. Relying on high-quality longitudinal household surveys, scholars quantifies the dynamic change of family income over a certain period as the essential indicator of family economic insecurity. The advance of this line of literature highly depends on the collection of longitudinal family financial

information. Hence, previous literature exclusively focuses on developed societies, such as the United States, West Europe, and others, because of the availability of longitudinal social surveys.

When it turns to low/middle-income countries, a crucial challenge is the lack of longitudinal social surveys. It has been a long-term goal for international organizations, including World Bank, the United Nations, and other institutions, to collect household demographic and socioeconomic data in a cross-nation setting. These efforts have brought the large-scale and cross-nation data series, including Living Standards Measurement Study Surveys (LSMS) by World Bank (United Nations Statistics Division 2005) and Household Consumption and Expenditure Surveys by the International Household Survey Network (IHSN) (Fiedler et al. 2012). However, longitudinal data are still rare due to the difficulty in executing panel surveys in such countries. Therefore, the economic risk of families in low/middle-income countries at the micro-level is overlooked in the stratification and inequality literature.

Fortunately, China provides a unique opportunity to meet this gap thanks to the availability of the latest longitudinal household survey, namely CFPS. With a nationally representative sample of families, CFPS collects social, economic, and demographic information and activities since 2010 and follows these families every two years. By now, there are four rounds of data that are made public, including waves of 2010, 2012, 2014, and 2016. It should be admitted that the period of CFPS is relatively short compared with well-known longitudinal household surveys in the United States, such as Panel Study of Income Dynamics (PSID) covering more than five decades. However, it provides a rare opportunity to understand family income dynamics in a rapidly changing and non-democratic society.

The goal of this chapter is to offer a systematic and cautious evaluation of CFPS for studying family income inequality and instability and how to quantify economic insecurity in the

context of China. Even if CFPS makes it possible for scholars to investigate dynamic changes in family financial resources, there are three methodological issues to be answered. First, what is the survey design of CFPS, and to what extent CFPS provides the knowledge of China's family income and wealth inequality? Second, after restricting the sample of the study within families included all rounds of CFPS, to what extent this restricted sample is different from the whole sample in terms of family socioeconomic and demographic characteristics? How do such differences affect the interpretation of findings in the empirical chapters based on the restricted sample? Third, how biased is CFPS in covering migrant families in survey design? Also, how does the sampling bias affect the interpretation of findings in this project? Fourth, which method is adopted to measure income instability? What are the advantages and disadvantages of this method? Answering them not only leads to a more robust and careful examination of family income instability in this project but also offers some insights into the future study using longitudinal survey data in the context of China.

2.2. Data

2.2.1. China Family Panel Studies (CFPS)

This study uses the longitudinal household data from CFPS, which have made waves (2010, 2012, 2014, and 2016) available. Funded by the 985 Program of Peking University and carried out by the Institute of Social Science Survey of Peking University (Xie and Hu 2014), this survey is a (nearly) national probability sample of Chinese families based on multi-stage probability proportional to size sampling with implicit stratification. Three stages of sampling include county/administrative district (primary sampling unit), neighborhood community/administrative village, and the household, separately.

[Table 2.1 about here]

The initial wave (2010) covers 25 out of 34 province-level regions (Xie, Hu & Zhang 2014). The population of these provinces makes up 95% of the total Chinese population; Hainan, Inner Mongolia, Ningxia, Qinghai, and Xinjiang were excluded from the sampling procedure (Xie 2012: 14). Five large provinces are self-representative of province populations, while the other 20 provinces are collapsed as a large residual group from which a large subsample is drawn (Xie and Lu 2015). Hence, CFPS is *nearly* a national representative.

One prominent feature of CFPS is its high response rate of initial wave and high tracking rate in follow-up surveys. The actual sample size was enlarged to 19,986 households in the baseline survey (2010). 14,960 households were successfully interviewed and distributed over 635 urban neighborhoods or villages in 162 administrative counties or equivalent districts. 55,155 eligible family members were identified, and interviews with 42,590 of them were complete. Together, the response rate of the 2010 baseline survey is 81.3% at the household level and 84.1% at the individual level (Xie and Hu 2014). In the follow-up waves, the households were interviewed in 2012, 2014, and 2016. To be noted, the household could be the same ones in the prior wave but could also be those newly formed. The successful tracking rates of 2010 households are 80.14% in 2012, 72.14% in 2014, and 65.48% in 2016.

[Figure 2.1 about here]

Considering that CFPS is not an *ideal* nationally representative survey, the comparison of demographic characteristics of CFPS and census statistics may offer further information on the data quality. Figure 2.1 offers the comparison of population structure between the baseline survey (2010) and the census. The age-sex structures of two data sources are nearly identical. It indicates a high quality of the data in representing the population structure of China.

2.2.2. Comparison of CFPS to Other National Representative Data

There are several advantages of CFPS used to study income and wealth dynamics in China, compared with other available nationally representative surveys on China, such as China Health and Nutrition Study (CHNS) and Chinese General Social Survey (CGSS). First, it represents the most recent data on income and wealth of Chinese families and is conducted every two years. As a high-frequency longitudinal survey, the survey topics and measures, especially socioeconomic status and social demographic characteristics, are relatively consistent across time. It offers an excellent source to study the trend of individual and family life experiences over time. Second, this survey contains fruitful and complete records of individual and family income sources, wealth, and expenses. This information allows investigating the dynamics and stability of the family and individual income and wealth over time and makes it possible to offer the first evidence on actual income and wealth instability in China. Third, the sample size is more significant compared with other nationally representative social surveys, such as the China General Social Survey (CGSS).

2.2.3. The Sample of the Study: Procedure of Generation and Selection Bias

This project focuses on the dynamic family income trajectory. A longitudinal sample of families based on CFPS forms the sample of the study. Figure 2.2 shows the procedure.

[Figure 2.2 about here]

First, the sample of families that did not miss any round of CFPS from 2010 to 2016 is extracted. Beginning with the baseline wave of CFPS, which has a sample of 14,798 families, I only keep those families that completed all rounds of surveys. Through this step, 7,960 families remain, while 6,838 families are excluded. To be noted, it is likely that new families may be generated from original families through marriage, separation, or divorce. Hence, those new families are excluded from the sample because they are only included in CFPS after 2012.

Second, Given the focus in this project, I further restrict families to those with non-missing values in income and wealth measures. Family income is measured as the net family income, consisting of wage income, operational income, property income, transfer income, and other income. Family wealth is measured as the net family wealth, calculated based on financial assets, business assets, land assets, house assets, house debts, and non-house debts. After excluding families with missing values in family income and wealth, 6,368 families remain and consist of the sample of the study.

Two types of selection bias arise during this procedure. The first bias comes from the drop-out of families in the follow-up surveys. It is also known as attrition bias (Amato and Anthony 2014). Besides random drop-out, one crucial reason is internal migration, particularly rural-urban migration. That is, families may change their addresses during these years and cannot be re-interviewed successfully. Migration is not a random demographic process. Socioeconomic, spatial, community, and various other factors may influence the migration decision of families. When it turns to the potential influence on family income instability, it is reasonable to expect that missing families not successfully tracked may have different features in income and wealth compared with those in the sample of study because the economic situation may influence the family migration activities.

Another type of selection bias comes from missing values in family income and wealth. CFPS collects family income and wealth through interviewing with the family member who is familiar with the family's financial situation. Missing values of income and wealth may depend on the sex and educational level of this family member, unstable income sources, and other factors. Mainly, for those families with members working at other places, family income and

wealth are more likely to be missing because the family member answering these questions may not know the income or wealth of members working outside.

To what extent the sample of the study is different from the full sample in terms of family characteristics should be evaluated before the empirical chapters based on this data are presented.

2.2.4. From CFPS to the Sample of Study: Evaluation

It is necessary to figure out which families are excluded from the full sample. Table 2.2 presents the missing rate by province by comparing CFPS 2010 and the sample of the study. Chongqing has the highest missing rate (0.70), while Shandong has the lowest missing rate (0.41). For provinces with a missing rate above the national average (0.57), most of them are relatively developed in terms of economy, including Guangdong, Fujian, Shanghai, Tianjin, Beijing, and Zhejiang. Table 2.3 presents the statistics of missing rates by residence. The missing rate (0.60) in urban areas is higher than that (0.54) in rural areas.

[Table 2.2 about here]

[Table 2.3 about here]

Despite the variation in missing rates across regions, I evaluate whether individual characteristics, including educational levels, Communist Party Membership, and *hukou* status, are associated with whether the family is excluded. I employ a simple logistic regression with whether the family is excluded as the dependent variable. The results are shown in Table 2.4. There are two findings. First, the higher educational level of individuals may lead to a higher probability that the family is excluded. Second, relative to individuals with rural *hukou* and residence, the families with rural migrants and urban *hukou* are more likely to be excluded, and those with rural-urban conversion are less likely to be excluded. Also, there is no evidence that

communist party membership is associated with the probability that the family is excluded. These findings may further indicate the selection issue of the sample of the study.

[Table 2.4 about here]

In sum, there is evidence that the sample of study has the selection bias when compared with CFPS 2010. Families in the final sample have more wealth and a lower income. The excluded families are more likely to be rural-urban migrants' families and urban origin families. Also, excluded families tend to be those with higher educational levels of family members. The spatial or geographic distribution of excluded families is also unbalanced. Excluded families are mainly in those well-developed provinces and urban areas. These features of excluded families also explain the income and wealth difference between CFPS 2010 and the sample of the study.

2.3. Measure Economic Insecurity

CFPS collects detailed income and wealth sources of families from its initial wave. The survey collects income and wealth sources from last year. However, the items of income sources vary across waves. For example, the first wave (2010) of the survey does not include the income from the temporary work of peasants, which is covered by the following waves. This study employs the measures of family financial resources in waves of 2012, 2014, and 2016, which are comparable with the variables in the 2010 wave. Although this method ignores some income sources of some families, it indeed provides valid measures of income instability and consistent wealth measures as well. The operationalization of family income and wealth is shown in Table 2.5.

[Table 2.5 about here]

2.3.1. Distribution of Family Income and Wealth

I begin with the distribution of family income and wealth among Chinese families. The trend and structure of family income and wealth in China have several features to be noted. The upper panel of Table 2.6 presents the average value of family income and wealth by components using the complete sample of all waves of data adjusted by national representative weights. The average income in the 2010 wave is 32529.93 *yuan*, and, from 2010 to 2016, family income increased more than 65% and reached 53716.81 *yuan*. This rapid increase may be accounted for both economic growth and inflation during this period. As for the structure of family income, salaries make up the most substantial part. In 2010, the average reported wage income is 21763.84 *yuan*, about 67% of total family income; by 2016, the average value increases to 36546.31 *yuan*, nearly 72% of total family income. It indicates that wage income is the primary income source of family consistently. In terms of the trend of different income sources, what should be noted is that property income, mainly including income from renting lands, houses, and other property, declines significantly. In 2010, the average property income was 6906.073 *yuan* and decreased to 3758.419 *yuan*. Such a decrease of this income source is also compensated by transfer income from government transfer or retirement programs, besides wage income. Although business income increases by roughly 65% from 2010 to 2016, its proportion of total income is small. Income from other sources is stable over this period.

[Table 2.6 about here]

When it turns to net family wealth, these six years (2010-2016) saw the dramatic changes. The average family wealth increases from 214,521.1 *yuan* to 462,167.8 *yuan*, and the increase rate is more than 100%. In terms of the structure of family wealth, the house asset takes the dominant proportion across the period. In 2010, the average house asset was 182,766.4 *yuan*, about 85% of net family wealth, and increases to 406,222.4 *yuan*, nearly 88% of net family

wealth. Although house asset is the essential component, other types of family asset, including company asset and finance liquid asset, and debts increase even faster than house asset. For instance, liquid assets increased by about 3.3 times from 2010 to 2016, and house debts increase by about six times in this period. This finding reflects the fact that wealth accumulation of Chinese families rises quickly, especially in the house and liquid assets. Different forces may drive them. For house assets, the housing market may play a more determinant role because of the sharp rise in house prices across urban areas. For liquid assets, income increase may play a more visible role because families may save more from the rapidly increasing family income.

What should be noted is that the wealth-income (WI) ratio is exceptionally high compared with other societies and still rises quickly. The ratio is about 6.6 in 2010 and rises to 8.6 in 2016. The ratio based on the sample used in this study is closer to the recent estimate by Piketty, Zucman, and Yang (2017), about 7 in 2015. Either estimate here or other estimates on China's WI ratio is higher than that in the United States, France, and other countries that previous literature has studied. The high WI ratio highlights the importance of family wealth in income dynamics and families' economic security.

The analysis above is based on the complete sample of all waves of data adjusted by national representative weights. The lower panel of Table 2.6 presents the difference between family income and wealth by comparing the sample in this study and the complete data of CFPS adjusted by national representative weights. The family income in the complete data is higher a little bit. The most significant difference is that family wealth in the study sample is larger, which is mainly contributed by house assets. This finding is reasonable because families without or with limited house assets are more likely to move to other places and hence difficult to track over time.

[Table 2.7 about here]

Two questions to be answered come from the observation stated above: to what extent are family income and wealth unequal in China? Moreover, to what extent family income rank is related to family wealth rank? To answer these two questions, I use the complete sample of all waves of CFPS adjusted by national representative weights. Table 2.7 presents the estimates of inequality level for family income and wealth. I report two types of estimates: share of income and wealth based on percentile rank and Gini index. In terms of income, the inequality changes a little and stays at the Gini index 0.5 within this period. The income share by the top 1% of families is around 10%, and the bottom 20% of families only hold about 2% of total income. The inequality of wealth is a different picture. Based on the Gini index, wealth inequality is far larger than income inequality at any given year and increases significantly over these six years. In 2010, the Gini index of wealth was about 0.67, and the value is about 0.74 in 2016. The wealth share by the top 1% of families is above 15%. For the bottom 20% of families, the wealth share changes from a positive value to negative because of these families holding more debts than assets. These facts reflect that wealth inequality rises, although income inequality is stable. They also imply the importance of family wealth in economic security in China.

[Figure 2.3 about here]

Panel A of Figure 2.3 presents the relationship between wealth and income at each percentile for four waves of data. Panel B further shows the overlap between family quantiles of income and wealth in four waves. One observation from this plot is that the rank position of family income is not necessarily the same with family wealth position, despite a positive relationship. This is consistent with findings in the United States (Keister and Lee 2017). The difference between family income and wealth ranks also indicates that income and wealth are

distinct in China, and their relationship should be taken into account when studying the economic security of families.

2.3.2. Family Income Instability

How to measure income instability is still a debating issue in the field. One standard approach follows the permanent income hypothesis and separates permanent and transitory components. In the empirical practice, scholars calculate the coefficient of variation of income across periods to approximate the level of instability of transitory income (Dahl, DeLeire & Schwabish 2011). Compared with the standard deviation of income, the coefficient of variation of income gets rid of the influence of income level and makes it comparable across income classes. This study adopts this approach to measure family income instability in China. The equation can be expressed:

$$Instability_i = 100 * \frac{\sqrt{\frac{\sum_{t=1}^{n}(Income_{it} - \overline{income_i})^2}{n}}}{\overline{income_i} + 1}$$

Where i indicates family, *t* represents the wave number of CFPS data.

[Figure 2.4 about here]

Family income instability ranges from 0.955 to 85.296. One possible reason for the very low family income instability is zero or meager family income for more than two years. Panel A of Figure 2.4 graphs the distribution of income instability, which is nearly normally distributed. Panel b of Figure 2.4 shows the bivariate relationship between family income or wealth and family income instability. The decreasing trend with family income quantiles is steeper than the trend with family wealth quantiles.

[Figure 2.5 about here]

Given that CFPS has detailed information on each component of family income, I conduct a counterfactual analysis to show the relative importance of each component in determining family income instability. Figure 2.5 presents the results. Holding each component constant across waves, I re-calculate family income instability and then minus the original value to obtain the contribution of each component to the level of family income instability. The left panel presents the results by family income quantile while the right one presents by wealth quantile. Not surprisingly, wage income plays the most important role in determining the level of income instability among all quantiles of family income and wealth. By holding wage income constant, the average family income instability for each quantile decreases by about 10 to 15. Property income, transfer income, and other income have minimal influence on family income instability. The interesting finding is on operational income. With the quantile rank of family income increases, the influence of operational income decreases. For the bottom 20% family, holding operational income constant decreases family income instability by about 7.5 while this value is nearly 0 for the top 20% families. One explanation behind this is that operating income in CFPS does not include income from owned companies or businesses. Hence, for families with high family income quantile rank, operational income only takes a small proportion and influences family income instability at a minimal level.

2.4. Summary and Discussion

This chapter provides an evaluation and description of the data used in this project. China Family Panel Studies (CFPS 2010-2016) are used as the primary data source of empirical analysis. Compared with other social surveys in China, CFPS is the only longitudinal national representative survey with income and wealth information. By restricting the sample to those families who are successfully tracked from 2010 to 2016, I discussed the selection bias during

this procedure. Rural-urban migrant and urban families are less likely to participate in four waves of surveys relative to rural residence families. The higher educational level of a family member also leads to a higher probability of failure of tracking in the following rounds of surveys. The selection bias from the CFPS to the sample of study demands attention in empirical analysis in the rest of the dissertation.

It is necessary to take the selection bias into account in this project. Previous literature has produced various methods to deal with it. For instance, a propensity score approach is used to estimate weights of observations based on the probability of entering the analytical sample given explanatory variables. The most common approach is to employ the Heckman selection model (Heckman 1979). For example, to estimate the influence of working hours on wages, one may doubt that employment is a selective process, and hence merely regressing wages on working hours may meet the challenge of endogenous employment. Heckman selection model proposes a two-step estimation procedure to account for the endogeneity with the first step to estimate a function of employment on selected individual characteristics. In the second step, the probability of entering the analytical sample serves as the additional explanatory variable in the analysis and correct the selection bias to obtain coefficient estimates of working hours on wage. Heckman selection model is employed in this project as a robustness check to deal with the selection issue of the sample of the study. The main findings from the general regression approach, namely OLS and logit regressions, are consistent with the results using the Heckman selection model. The limits of the sample selection bias are discussed in each empirical chapter.

Building upon the framework of this project, I operationalize family income, wealth, and income instability based on the availability of income and wealth information in CFPS. For family income instability, the coefficient of variation is used to measure the level of income

instability, which is comparable across income levels. Descriptive analysis shows a positive association between family income and wealth and negative associations between family income, wealth, and income instability. Moreover, counterfactual analysis shows that wage income plays a vital role in determining the level of income instability.

Figures and Tables

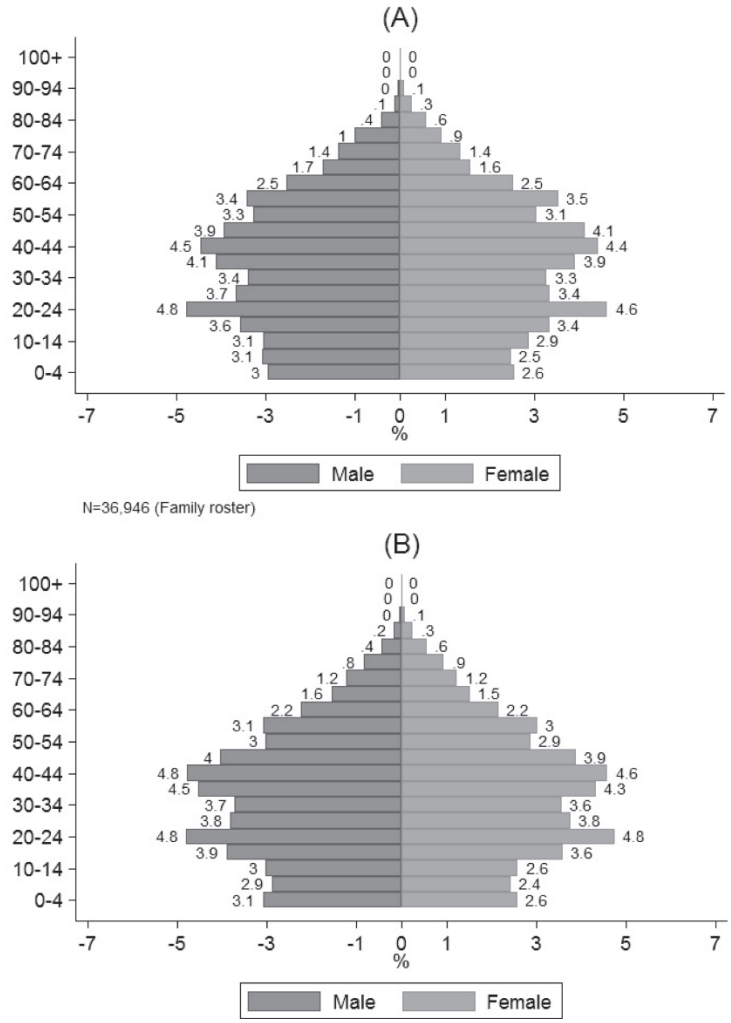


Figure 2.1. Age-Sex Structure of CFPS (2010) (A) and Census 2010 (B)

Source: Xie and Hu (2014): 11.

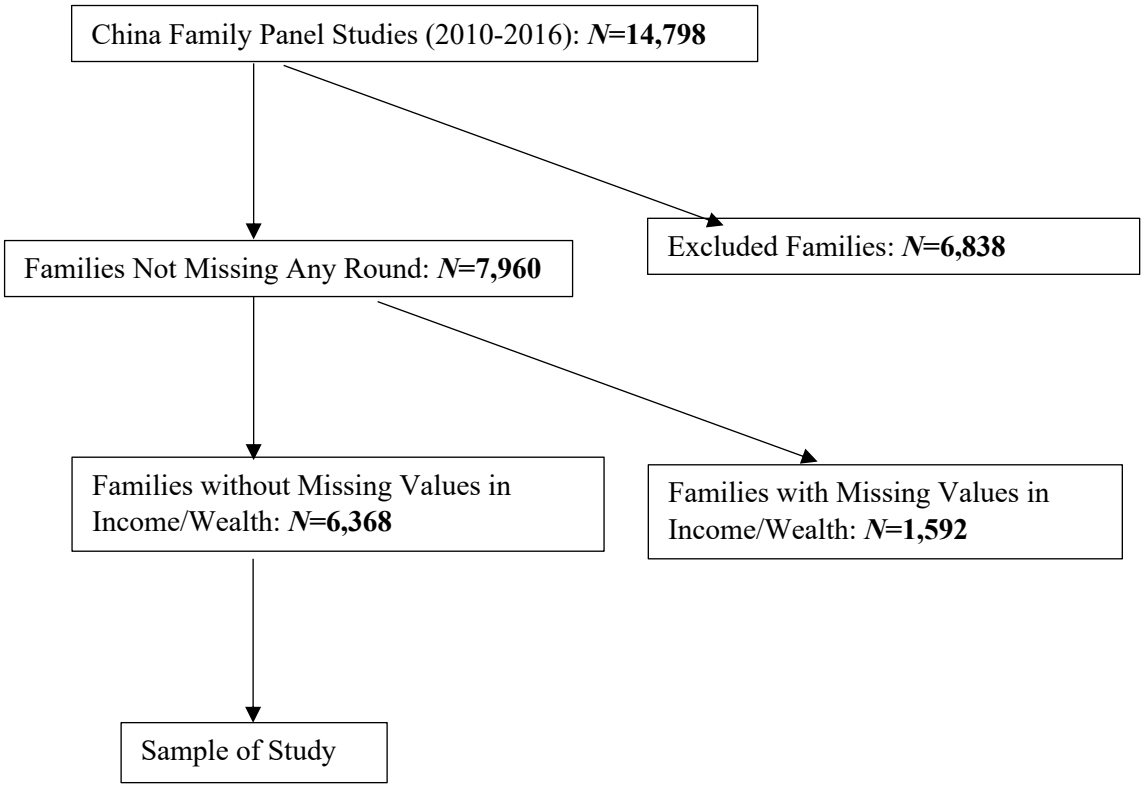
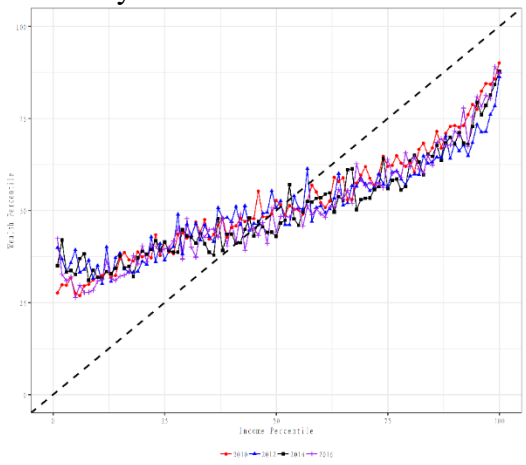


Figure 2.2. Sample Restriction based on China Family Panel Studies

Panel A. Relationship between Family Income and Wealth based on Rank Percentiles



Panel B. Overlap between Family Income and Wealth Quantiles

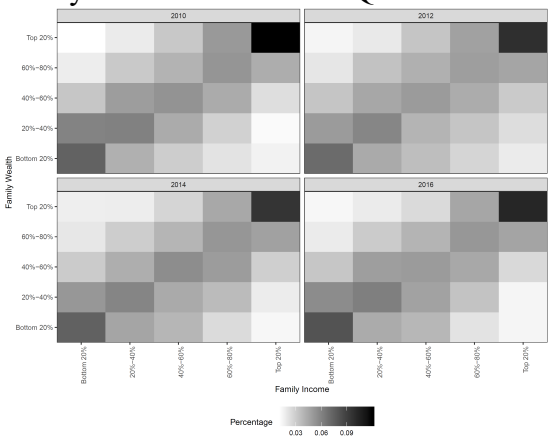
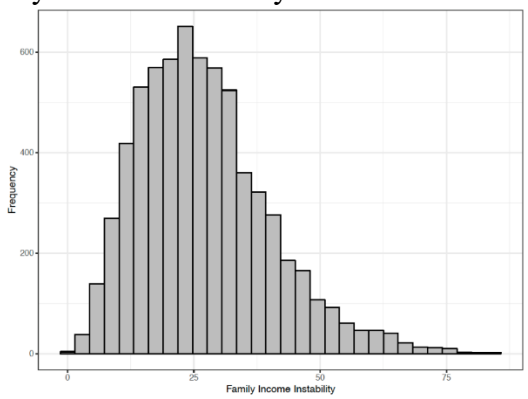


Figure 2.3. Relationship between Family Income and Wealth

Note: Full sample; calculation based on national representative weights.
Sources: China Family Panel Studies (2010, 2012, 2014, 2016).

Panel A. Distribution of Family Income Instability



Panel B. Average Income Instability by Family Income and Wealth Quantiles

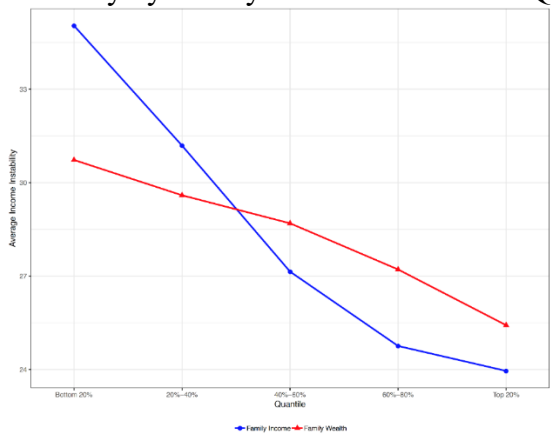


Figure 2.4. Family Income Instability in China, 2010-2016

Sources: Author's calculation based on China Family Panel Studies (2010, 2012, 2014, 2016).

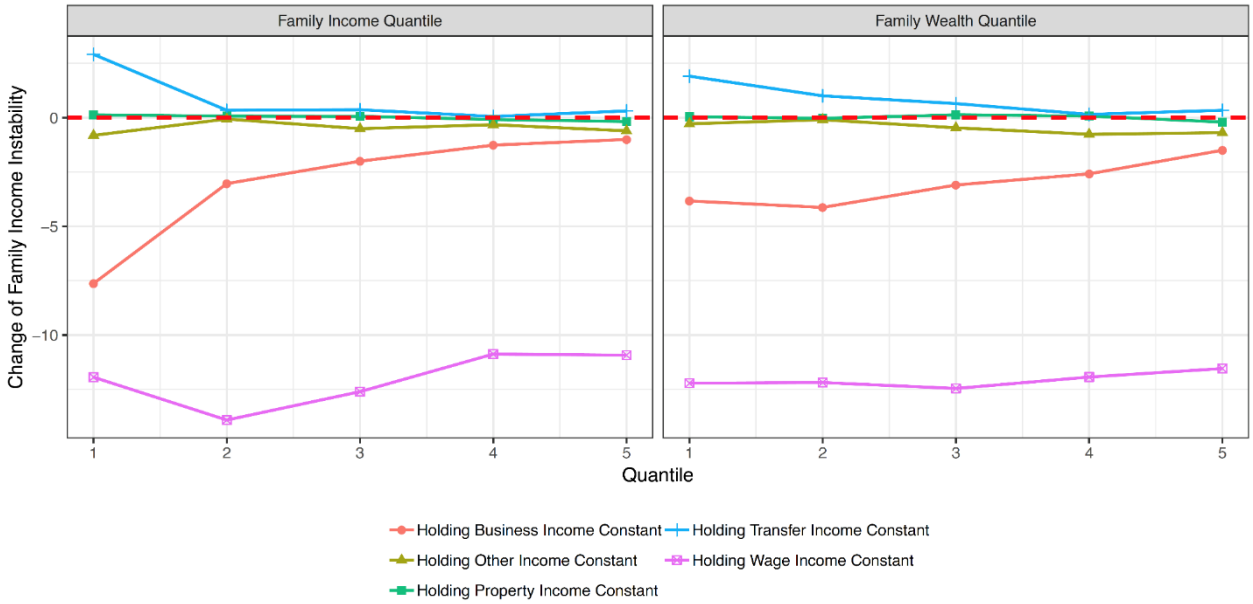


Figure 2.5. Contributions of Income Components to Income Instability by Family Income and Wealth Quantiles

Sources: China Family Panel Studies (2010, 2012, 2014, 2016).

Table 2.1. classification of the 25 provinces in CFPS (2010)

Type of Provinces	**Provinces/Municipalities/Autonomous Regions**	**Target Number of Households**	**Final Sample Size**
Large Provinces (Self-representative)	Shanghai	1,600	1,405
	Liaoning	1,600	1,478
	Henan	1,600	1,506
	Gansu	1,600	1,537
	Guangdong	1,600	1,394
Small Provinces (Non-self-representative)	Jiangsu, Zhejiang, Fujian, Jiangxi, Anhui, Shandong, Hebei, Shanxi, Jilin, Heilongjiang, Guangxi, Hubei, Hunan, Sichuan, Guizhou, Yunnan, Tianjin, Beijing, Chongqing, Shaanxi	8,000	7,478

Source: Xie and Lu (2015): 473.

Table 2.2. Missing Rate from CFPS 2010 to the Sample of Study by Province

Province	***N* (CFPS 2010)**	**Missing Rate**
Chongqing	178	0.70
Guangdong	1,394	0.68
Fujian	162	0.68
Shanghai	1,405	0.64
Guangxi	289	0.63
Guizhou	459	0.62
Hunan	451	0.61
Sichuan	771	0.60
Tianjin	91	0.59
Hubei	286	0.59
Beijing	102	0.58
Zhejiang	255	0.58
Heilongjiang	542	0.57
Shanxi	649	0.56
Hebei	734	0.56
Henan	1,506	0.56
Jiangsu	282	0.56
Jiangxi	271	0.55
Anhui	295	0.54
Liaoning	1,478	0.53
Jilin	312	0.52
Shaanxi	293	0.51
Gansu	1,537	0.49
Yunnan	385	0.44
Shandong	671	0.41
Total	**14,798**	**0.57**

Table 2.3. Missing Rate from CFPS 2010 to the Sample of Study by Rural/Urban Residence

Residence	***N* (CFPS 2010)**	**Missing Rate**
Rural	7,694	0.54
Urban	7,104	0.60
Total	14,798	0.57

Table 2.4. Coefficient Estimates of Individual Characteristics on Whether Family is Excluded

VARIABLES	DV: Family is Excluded as 1
Educational Level (2010) (with No Schooling as reference)	
Primary School	-0.046
	(0.032)
Junior High School	0.066*
	(0.030)
Senior Higher School	0.213***
	(0.039)
3-year College	0.276***
	(0.063)
Bachelor's Degree	0.547***
	(0.081)
Master's Degree	0.819*
	(0.327)
Hukou Category (2010) (Rural Origin as Reference)	
Rural Migrants	0.672***
	(0.072)
Urban *Hukou* (Origin)	0.108**
	(0.036)
Urban *Hukou* (Rural-Urban Conversion)	-0.092**
	(0.034)
Communist Party Membership (2010)	-0.031
	(0.045)
Constant	0.155***
	(0.021)
Observations	32,817

*Note: Standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05, + p<0.1.*

Table 2.5. Operationalization of Family Income and Wealth

Dimensions	Components	Definitions
Family Income	Wage Income	Sum of wage income of all family members, including wage, bonus, subsidy, dividend, etc.
	Property Income	Rent income from owned houses, land, and other family property; Income through selling family property.
	Transfer Income	Pension from retirement, social security income from government institutions, companies, or other institutions.
	Operational Income	Income from agricultural activities.
	Other Income	Gift income, income from economic support of relatives (parents, brothers, sisters, etc.) and friends.
Family Wealth	Liquid Asset	Savings, stock, funds, money borrowed by others.
	Business Asset	Value of company asset held by all family members.
	House Asset	Value of residence house and other houses.
	Land Asset	Land values calculated based on agricultural products
	Housing Debts (-)	Total amount of housing debts.
	Non-Housing Debts (-)	Total amount of debts besides housing, including educational debts, consumption debts, medical debts, daily life debts, and other debts.
Family Income Instability		Coefficient of Variation of family income from 2010 to 2016.

Table 2.6. Family Income and Wealth in China, by Components of Income and Wealth

Full Sample

		2010	2012	2014	2016
Income					
	Family Net Income	32529.93	39640.11	45327.01	53716.81
	Family Net Income per capita	10265.79	11749.71	14337.36	17614.66
	Wage Income	21763.84	25789.74	33149	38931.89
	Property Income	6906.073	3873.379	3625.584	3758.419
	Operational Income	776.7155	927.7507	939.6086	1286.803
	Transfer Income	3157.046	5184.047	6326.503	7779.342
	Other Income	1528.636	1395.56	1286.313	1960.353
Wealth					
	Family Net Wealth	214521.1	305896.6	369493.5	462167.8
	Family Net Wealth per capita	70057.11	97979.97	116782.5	142175.7
	Land Asset	17608.95	24152.02	22513.54	23961.94
	House Asset	182766.4	240481.3	322332.6	406222.4
	Company Asset	9908.493	26023.89	13380.34	21655.04
	Liquid Asset	14610.79	34531.2	42754.83	62295.38
	House Debts	4557.167	7339.085	19568.69	39412.33
	Non-Housing Debts	5816.379	11952.75	11919.21	12554.66

Analysis Sample

		2010	2012	2014	2016
Income					
	Net Family Income	29462.41	38828.76	45190.22	53461.74
	Total Family Income per capita	9486.11	11128.62	13316.92	16302.61
	Wage Income	19098.46	24597.95	30599.59	36546.31
	Property Income	6612.12	4475.02	4006.76	3576.46
	Operational Income	849.32	1070.78	1162.56	1602.52
	Transfer Income	3319.89	5350.55	7319.55	8771.67
	Other Income	1332.62	1312.30	1126.86	1570.52
Wealth					
	Total Family Asset	238610.01	327685.71	411244.51	546794.76
	Total Family Asset per capita	79279.11	103148.06	130503.39	174888.94
	Land Asset	19384.76	27943.78	24907.05	23538.42
	House Asset	212218.97	261160.77	360097.44	488028.30
	Company Asset	5092.36	20899.57	14822.79	18118.24
	Finance Asset	14818.31	36740.20	46370.24	66575.24
	House Debts	4093.16	6061.04	17323.99	29726.98
	Non-Housing Debts	5254.27	11478.28	11232.07	12043.00

Sources: China Family Panel Studies (2010, 2012, 2014, 2016).

Table 2.7. Inequality Estimates of Family Income and Wealth in China, 2010-2016

		2010	2012	2014	2016
Income					
	Top 1%	0.113046	0.09014	0.073186	0.096153
	Top 5%	0.263635	0.230119	0.209064	0.23981
	Top 10%	0.383302	0.351128	0.328046	0.352085
	Top 20%	0.545781	0.52875	0.513438	0.518277
	Bottom 50%	0.166261	0.154873	0.166235	0.16001
	Bottom 20%	0.027654	0.016512	0.018771	0.019319
	Bottom 10%	0.007377	0.003405	0.003855	0.00402
	Gini Coefficient	0.51161	0.51043	0.48741	0.50419
Wealth					
	Top 1%	0.180706	0.167511	0.150046	0.215588
	Top 5%	0.396045	0.379142	0.372986	0.452008
	Top 10%	0.526922	0.513573	0.511002	0.586976
	Top 20%	0.685612	0.673575	0.677401	0.739062
	Bottom 50%	0.085023	0.093274	0.084773	0.049642
	Bottom 20%	0.001622	0.004641	-0.00126	-0.02346
	Bottom 10%	-0.00595	-0.00504	-0.00821	-0.02872
	Gini Coefficient	0.66806	0.65221	0.66107	0.74349

Sources: China Family Panel Studies (2010, 2012, 2014, 2016). The calculation is based on the sample included into the analysis in this study.

Chapter 3. Family Financial Resources and Income Instability in China: A Micro Analysis of Economic Insecurity

Abstract

A secure economic situation is an essential dimension of family wellbeing and leads to various family and individual outcomes. Previous research on this topic is limited to the developed and democratic context. Moreover, it overlooks the role of family wealth in determining economic insecurity. This study advances the literature by taking family wealth into account and explores the relationship between family wealth and income instability in a transitional and non-democratic context. Using the longitudinal data of China Family Panel Studies (2010-2016), this study shows that family wealth is associated with family income instability, and the association depends on the level of family income. For the bottom 20% income group, family wealth is positively associated with income instability. As the family income increases, the association becomes negative, and the magnitude enlarges. Further analysis shows the variation in the relationship between components of family wealth and income instability, given the family income level. These findings suggest that the features of family wealth combination should be included in future research on economic insecurity and inequality.

3.1. Introduction

Economic insecurity is a vital factor influencing the life cycle of families. The levels of income and wealth determine the family expenditure and the investment plan and allow families to enjoy health care with higher quality (Smith and Kington 1997) and to invest more in human capital accumulation (Blau 1999; Schneider, Hastings, and LaBriola 2018). Besides, the level of income instability plays a vital role in a family's economic wellbeing. It has been attracting academic and public attention in recent decades (See a review by Western et al. 2012). Unstable income, especially economic loss beyond one's expectation, may increase the risk of family economic security and exert negative influence in various aspects, such as child health (Hill et al. 2013) and family instability (Nunley and Seals 2010).

The importance of income instability is evident since recent scholarship has shown a rising or stable trend of income instability in major developed societies. Gottschalk and Moffitt (1994, 2009) posits an increase in the variance of transitory income among in the United States. Other scholars either confirm the rise of income instability (Celik at al. 2012; Dynan et al. 2012; Haider 2001; Hardy and Zilliak 2014; Morduch and Siwicki 2017) or find a stable trend (Dahl et al. 2011). Western et al. (2016) show the increased income insecurity among US children and nearly one-half the increase in extreme income losses is related to trends in single parenthood and parental employment. The rise of income instability is also occurring in Canada (Baker and Solon 2003; Morissette and Ostrovsky 2005), Italy (Cappellari and Leonardi 2016), Germany (McManus and DiPrete 2000), and other major industrial countries.

Scholars have posited various factors associated with the experience of income instability. Human capital is a crucial factor accounting for long-run income trajectory. Using the 1972 change in compulsory schooling in the UK that increased the minimum school leaving age

from 15 to 16 as a natural experiment, Delaney and Devereux (2019) find that educational attainment decreases income instability. Occupation stability also plays a vital role in maintaining income stability. A long-term contract may lead to downward flexibility of income (Cabrales et al. 2008). Although within one's expectation, retirement may also decrease income sharply. Besides micro factors, sociologists have posited that benefit programs and social welfare policies may help relieve poverty and stabilize family income dynamics (DiPrete and McManus 2000). As they remark, "We believe that more national-level knowledge must be obtained about social mobility along principal stratification dimensions (including income) for households as well as individuals" (p.365).

Despite the abundant literature on income instability, there are two drawbacks to previous research. First, scholars fail to distinguish economic insecurity and income instability theoretically. Income instability is generally equivalent to economic insecurity in previous literature. However, what role family financial resources, primarily debts and assets, play in the economic hardship is discussed inadequately. Notably, the relationship between family income and wealth, which may depend on context characteristics, has not been studied well in the transitional and non-democratic contexts. Second, exclusive focus on developed and democratic countries makes the understanding of economic insecurity restricted to such contexts. Whether the conclusions from these research findings can be generalized to low/middle-income and non-democratic contexts remain unclear. This literature gap is mainly attributed to the lack of high-quality longitudinal surveys containing income and wealth information in the underdeveloped contexts.

This study advances this line of research in two aspects. First, it links family economic resources, especially family wealth, to income instability. The distribution of wealth is more

concentrated than income distribution (Quadrini and Ros-Rull 1997; Davies and Shorrocks 2000). Family wealth, especially liquid assets, may play an essential role in stabilizing income dynamics through wealth-to-income transformation. If that is the case, wealth inequality may amplify income instability among low-income families because they generally hold fewer family assets and are not able to absorb the risk of insecure income through wealth. Such a mechanism may be more evident among societies with higher wealth inequality and wealth-to-income ratios, such as China. Hence, the second research question is whether wealth is associated with family income instability, given family characteristics. Second, it sets the context in a transitional economy, namely China, and offers the first empirical investigation of family economic insecurity outside developed societies. Compared with developed economies, rapid economic change in a transitional society may not accompany social reforms and the efficient welfare system and legal protection of private property. It may lead to higher income instability and amplify the harmful effects of income instability.

Moreover, a non-democratic institution may lead to the insecure situation of family financial resources. For example, the reform of state-owned enterprises in China leads to 17.23 million laid-off workers in 1998. The actual number could be much more significant because of misreporting or narrowly defining unemployment (Solinger 2001). The families with members laid-off faced the insecure economic situation and hence actively participate in the resistance to governments (Cai 2002).

Using the longitudinal household data from China Family Panel Studies (2010-2016), this study measures family income instability as the coefficient of variation of family income in 2010, 2012, 2014, and 2016. Also, by calculating family net wealth based on four types of assets (house asset, land asset, liquid asset, business asset) and two types of debts (housing debts and

non-housing debts), this study documents family wealth dynamics in this transitional society. Furthermore, this study tests how the income level and family wealth are associated with income instability to present a complete figure of economic insecurity in China and evaluate how static income and wealth inequality is related to the stability of family economic wellbeing over time.

3.2. Background

3.2.1. Economic Insecurity: Family Wealth Matters

Income instability is not equivalent to economic insecurity. Besides income, wealth has been recognized as an essential dimension of economic resources in recent decades (Keister & Moller 2000; Spilerman 2000; Zucman 2019). Serious influential work by Piketty and his collaborators (Piketty 2011; Piketty and Zucman 2014; Piketty et al. 2006) shows the trend of rising wealth inequality in the developed countries since the 1970s.

Wealth is distinct from income, although they are correlated (Killewald, Pfeffer & Schachner 2017). Wealth can be defined as the remaining value of total owned assets minus debts. At the same time, income includes salaries/wages, returns to capital or property, transfer incomes from government or others, and other income. It is believed that wealth and income may have a highly positive association. However, recent studies indicate a relatively low positive correlation, at least in the context of the United States. Killewald, Pfeffer, and Schachner (2017) find that the wealth-income correlation ranges from 0.20 to 0.68 using different survey data and variable transformation techniques, and wealth remains distinct from various measures of income. Focusing on the top 1% income and wealth households, Keister and Lee (2017) reach a similar conclusion. They show that the overlap of the top 1% income and wealth households is roughly 50% in the United States.

Whether wealth is related to family income instability is an essential question to understand economic insecurity in the current era. Following the lifecycle earning theory (Modigliani and Brumberg 1954[2005]), family wealth and income trajectories are closely related. Rauscher and Elliott (2016) find that the initial wealth at a young age helps stabilize income and wealth changes among higher-income households, which in turn reduces economic insecurity in the United States.

Which component of wealth is more important in explaining the association between wealth and income instability? For instance, liquid wealth mainly includes cash, stock, checking, and saving accounts, which may directly change incomes in the short run through the fast wealth-to-income transformation. Suppose one family with higher total wealth but little liquid wealth, the wealth-to-income transformation may be slow because illiquid wealth, such as housing or retirement accounts, is not easily transformed into income. In such sense, the proportion of liquid wealth given a certain level of total wealth may play a more central role in income stabilization. The families with little liquid wealth and a huge total wealth are not rare in the United States. Kaplan, Weidner, and Violente (2014) show that about 20% of households in the United States belong to wealthy *hand-to-mouth* households who hold little or no liquid wealth, despite owning sizable amounts of illiquid assets. Cross-nation analysis shows that the proportions of wealthy hand-to-mouth households in Anglo-Saxon countries are similar and around 20% of total households.

Given the importance of wealth, it is essential to study the relationship between wealth and income instability. A family may have a volatile wealth trend over time and may have a more insecure financial situation, especially for those with little wealth. An underlying assumption in previous literature on family wealth is that family financial security is directly

affected by the market and rarely influenced by political intervention. This assumption is reasonable in societies with well-developed institutions, in which private property rights are protected well. However, in the underdeveloped world, especially non-democratic countries, political power exerts tremendous influence in private life and is likely to take control of the private property for specific motivations. An evident example is the socialization of private property in socialist countries during the 20th century. Although the socialization of the economy is not common in the modern era, the influence of institutions on the security of family wealth is enduring and should not be overlooked. Due to the exclusive focus on family income in the literature of economic insecurity, scholars pay inadequate attention to the relationship between institutions and family financial security and what is the implication this relationship has to understand family economic insecurity in the non-democratic context.

3.2.2. Institutional Contexts and Economic Insecurity in China

The study context is China, a major transitional economy with the largest population in the world. Since its economic reform in 1978, income and wealth inequality rise at a faster speed compared with developed countries. At the same time, although growing fast, the average level of income and wealth is still low relative to developed countries such as the United States and Western European countries. Moreover, the reform of social welfare system is lagged behind the rapid growth of income and wealth. Another important social issue in China related to wealth and income is housing inequality, particularly in the gap of house assets between metropolitan and rural areas. It can be expected that house assets make a large proportion of family wealth and grow fast as house price overgrows in recent years. House debts may decrease family wealth to some extent, especially among low-income or middle-income families. It may also increase the risk of economic insecurity because house debts may decrease liquid wealth, such as cash or

savings. These facts imply that economic insecurity is a more urgent issue than in countries with well-established welfare systems.

The tension between communist politics and market economy arises and increases the overall insecurity of Chinese families' wealth. During the era of the planned economy, governments under the control of the communist party arranged the economic life of individuals and families (Whyte 1995). Private property right was abandoned, and the public ownership dominated. During the transformation from the planned economy to the market economy, the rapid economic development increases family income and wealth, and, on the other hand, the communist political power does not establish and execute the protection of family income and wealth well. For instance, land property and house ownership are not secure as governments seek to speed up the urbanization process (Tao and Xu 2008). Families are placed in a disadvantaged position when negotiating with governments in terms of compensation for demolition and relocation (de la Rupelle et al. 2010). That is, it is likely that families are forced to transfer land use right and house assets to governments and hence face an insecure financial situation (Tao and Xu 2008). The influence of political power on family income and wealth in this context is different from the Western context, where private property right is protected better. Hence, the tension between communist political power and market economy increases the risk of family financial insecurity.

Given the rising economic inequality and insecure financial situation among Chinese families, it is theoretically relevant to examine to what extent family income and assets are insecure and how family income and assets are related to each other. The difference between Chinese and Western contexts implies that an exclusive focus on income instability to study economic insecurity is far from satisfying to understand economic hardship in non-democratic

contexts. The key is to bring family wealth into the framework of economic insecurity and study the income-wealth relationship.

3.3. Data, Measure, and Method

3.3.1. Data

This study uses longitudinal China Family Panel Studies (CFPS) data, which provides four available waves in 2010, 2012, 2014, and 2016. Funded by the 985 Program of Peking University and carried out by the Institute of Social Science Survey of Peking University (Xie and Hu 2014), this survey is a (nearly) national probability sample of Chinese families based on a multi-stage design. The initial wave (2010) covers 14,798 families from 25 provinces (Xie, Hu & Zhang 2014). The population of these 25 provinces make up 95% of the total Chinese population; Hainan, Inner Mongolia, Ningxia, Qinghai, and Xinjiang were excluded from the sample (Xie 2012: 14). The families surveyed in the initial wave are followed by every two years, and detailed information on family income and wealth, individual life events and characteristics, is updated in following-up surveys.

Given the focus on income instability at the family level over time, this study restricted the analysis to the families that appear in all four waves of data. This restriction ensures the measure of income instability comparable across families and increases the robustness of findings. Another issue related to the analytical sample is demographic changes in families. Split of one family into two or more may increase family income instability due to the potential decline of family income. In CFPS, new families generated from their original families are also included in the follow-up surveys (Xie at al. 2017). The original families may experience an increase in income instability because of this dissolution process. Given the research questions in this study, those families that experience dissolution from 2010 to 2016 are excluded. To ensure

the comparability of family wealth and income, we only include those families with non-missing values of these variables. Conducting this process leaves a sample of 6,337 families with complete records of family wealth and income over four waves.

Given the procedure of generating the sample of the study, it is likely that the sample of the study is not random. That is, excluded families from CFPS may be specific families. Chapter 2 has shown that, relative to rural residence families, urban families and rural-urban migrant families are more likely to be excluded. To deal with the sample selection bias, I adopt the Heckman selection model throughout the regression analysis.

3.3.2. Measures

Income Instability

Based on the discussion in Chapter 2, this study adopts the coefficient of variation to measure family income instability in China. The equation can be expressed:

$$Instability_i = 100 * \frac{\sqrt{\frac{\sum_{t=1}^{4}(Income_{it} - \overline{income_i})^2}{4}}}{\overline{income_i} + 1}$$

Where *i* indicates family, *t* represents the wave number of CFPS data.

Family Wealth

One unique feature of CFPS data is the fruitful information on family wealth. CFPS collects family wealth in the following aspects: land assets, business assets, house assets (value of resident house and value of other houses), liquid assets (savings, stock, funds, and debt from others), durable assets, house debts, and non-house debts (education debts, consumption debts, medical debts, daily life debts, and other debts). Similar to the income information, items of family wealth also vary across waves. To construct a consistent measure of net family wealth, this study only focuses on land assets, business assets, house assets, liquid assets, house debts,

and non-house debts. The net family wealth is calculated by the total value of assets minus total debts.

$$\text{family net wealth} = \underbrace{(\text{liquid assets} + \text{land assets} + \text{house assets} + \text{business assets})}_{\text{Family total assets}} - \underbrace{(\text{house debts} + \text{non}_{\text{house}}\text{debts})}_{\text{Family total debts}}$$

With a right-skewed distribution, family wealth needs to be transformed for further analysis. Following the discussion by Killewald, Pfeffer, and Schachner (2017), this study adopts the inverse hyperbolic sine (IHS) transformation to adjust the wealth variable. This method fits the wealth data well. Family wealth could be a negative value. The general practice of logged transformation may exclude observations with negative wealth and may overlook a certain proportion of families, which should have been the focus of studying economic insecurity. IHS transformation keeps these observations and also adjust the extreme values to a reasonable scale. The explanation of IHS is akin to the logged transformation in a regression model (Pence 2006: 6).

Family wealth is measured as the IHS-transformed value of average net family wealth from 2010 to 2016. As Killewald, Pfeffer, and Schachner (2017) posit, "given measurement error concerns, wealth measures would ideally be averaged across several years to reduce attenuation bias when used as a predictor variable" (p. 381). Given the research question in this study, this study follows the advice and calculates the average wealth of family as the primary predictor variable.

Another key independent variable related to family wealth is the value of liquid wealth. Although liquid wealth is always non-negative, this study still employs the IHS transformation to ensure the consistency of measures on wealth variables. Further analysis shows similar results after adopting a logged transformation.

Income Level

The measure of income level follows two steps. First, average family income from 2010 to 2016 is calculated. Still, the comparable family income from 2010 to 2016 is used to calculate the average. Second, families are divided into four groups based on the percentile rank: top 10% income, upper middle income; lower middle income; bottom 10% income. The choice of these cutoffs is mainly from the persistent interest in wealthy and very low-income families.

Covariates

Income instability could be associated with other variables. To reduce the risk of the spurious relationship between family wealth and income instability, this study controls a series of covariates.

Both family size and number of working members are expected to relate to both income instability and family wealth. For families with a larger number of members, income could be more stable to support the expenditure of daily life and hence is associated with more stable income dynamics. This potential association is also correlated with the number of family members having a job because more family members with jobs may help stabilize family income given family size. For instance, a wife's earnings play an important role in dampening year-to-year variation in resources at the family level (Hryshko, Juhn & McCue 2017). Hence, this study controls both family size and the number of family members currently working. Family size is calculated as the average size from 2010 to 2016, and the number of family members currently working is measured as the average number of working members.

Age and educational attainment of the major labor forces in the family is also related to family wealth and income instability. Based on the life-cycle wage growth model (Mincer 1974), individual earnings vary across years of age and the level of education. Given that income is one

primary source of wealth accumulation, age and educational attainment are essential predictors of wealth level. The challenge of measuring age in this study is that CFPS does not identify the household head. To obtain a more reasonable measure of age variable at the family level, this study identifies the head of a family in different scenarios using the 2010 wave of data: 1. The eldest male family member having a job is identified as the head; 2. If one family has no male labor force, the eldest female family member having a job is identified as the head; If no family member had a job, the eldest male family member is identified as the head. The assumption behind this identification process is that gender and working status are associated with bargaining power within the family. After identifying the "head" of a family, I use the year of age and educational level at the 2010 wave of data as covariates. Besides age and educational attainment, communist party membership in China represents an essential dimension of social capital (Li and Walder 2001).

In the context of China, rural-urban and regional inequality is massive and leads to different patterns of life trajectory (Chan and Wang 2008; Fan 2006, 2007; Xie and Zhou 2014). Living in rural or urban areas may imply different income trajectories and wealth accumulation process. To account for such consideration, this study controls the province and residence (rural/urban) that one family lived in 2010.

Given the measure of income instability, it does not reflect the pattern of income changes over time. For instance, suppose there are two families with the same average income from 2010 to 2016. One family experiences a consistent income loss while the other experiences a consistent income increase during this period. Although the level of family income instability is the same, the substantive meaning may be very different because income loss may have negative consequences on family life. To control this potential issue, the regression analysis adds three

dummy variables into the model: income increase from 2010 to 2012; income increase from 2012 to 2014; income increase from 2014 to 2016.

3.3.3. Analytical Strategy

Given the issue of sample selection, the empirical analysis adopts the Heckman selection model to estimate the relationship between family economic resources and income instability. The association between family wealth and income instability is estimated based on an ordinary least squared regression model:

$$Instability_i = \alpha + \beta inc\_level_i + \theta wealth_i + \boldsymbol{\gamma X_i} + \epsilon \quad [1]$$

Where i indicates family and $\boldsymbol{X_i}$ includes income level, family size, number of members with jobs, years of age, educational level, rural/urban residence, and province. The coefficient θ estimates the relationship between family wealth and income instability. To examine the moderation effect of income level, the equation above is revised by adding the interaction term of income level and family wealth:

$$Instability_i = \alpha + \beta inc\_level_i + \theta wealth_i + \phi wealth_i * inc\_level_i + \boldsymbol{\gamma X_i} + \epsilon \quad [2]$$

Where the coefficient ϕ estimates what extent the relationship between family wealth and income instability varies across the income level of the family.

The next part shifts the focus to the components of family wealth:

$$Instability_i = \alpha + \beta inc\_level_i + \boldsymbol{\sigma Component_{ij}} + \boldsymbol{\gamma X_i} + \epsilon \quad [3]$$

From this model, $\boldsymbol{\sigma}$ represents coefficient estimates of a vector of wealth components, including liquid assets, land assets, house assets, company assets, house debts, and non-housing debts.

The last model further explores how the relationship between liquid asset and income instability relates to income level by adding the interaction term between liquid asset and income based on the model [3]:

$$Instability_i = \alpha + \beta inc\_level_i + \boldsymbol{\sigma Component_{ij}} + \boldsymbol{\pi Component_{ij}} * inc\_level_i + \boldsymbol{\gamma X_i} + \epsilon$$

[4]

Given the issue of sample selection bias, this study adopts the Heckman selection model to correct the bias. This model is suited for the situation that the dependent variable, family income instability, is not observed for all families. Hence, there is a selection equation, and the family is enrolled in the sample of study if:

$$Instability_i' \boldsymbol{Z} + \mu > 0$$

Where $\boldsymbol{Z}$ is a vector of covariates that affects the probability of families in the sample of the study, and μ is normally distributed. The correlation between ϵ and μ is denoted as ρ. When $\rho \neq 0$, the Heckman selection model is preferred and provides consistent coefficient estimates of parameters in Model [1] to [4].

3.4. Results

3.4.1. Descriptive Findings

[Table 3.1 about here]

Table 3.1 reports descriptive statistics of dependent and independent variables. Family income instability ranges from 0.943 to 86.6. One possible reason for very low family income instability is zero or little family income for more than two years. Among all types of family assets, average house assets are the highest and reach 12.248 (IHS transformed). Liquid and land assets are also important parts of family assets. In terms of debts, house assets and non-housing assets may lead to the family net assets to be negative, as shown in the table. The minimum of family net assets

is -15.361, and 0.9% of the sample have negative family net assets. In terms of family characteristics, the average family size is around 3.79, and the average number of working family members is 1.64. 7.1% of the sample have no active working family members.

3.4.2. Multivariate Analysis

[Figure 3.1 about here]

[Table 3.2 about here]

Table 3.2 presents coefficient estimates of parameters based on the Heckman selection model. Model 1a includes all covariates and does not include the income level. With a one percent increase in family net wealth, family income instability decreases by 0.117. The result is statistically significant at a p-value of 0.05. After adding income levels in Model 1b, the coefficient estimate of family wealth is not statistically significant anymore. It indicates that the relationship between wealth and income instability shown in Model 1a may be explained by the level of family income. Model 1c further examines the mutual relationship between family income, wealth, and income instability by adding the interaction terms between family wealth and income levels based on Model 1b. From the results, the mutual relationship is different by family income levels. For the bottom 20% income group, there is a positive relationship between family net wealth and income instability. With a one percent increase in family net wealth, family income instability increases by 0.402. However, for 20% to 40% and above 60% income groups, the relationship becomes positive. For the group of 40% to 60% income, the magnitude of the association (0.01) is nearly 0, although it is still negative. These results indicate that the relationship between family wealth and income instability depends on the family income levels.

Figure 3.1 plots the predicted family income instability based on income and wealth quantiles. The families with the highest income and wealth have the most stable income

trajectory. Interestingly, those with the highest income instability are among families with low income and high wealth. One explanation is that wealthy families with low income may tolerate more unstable income based on the ability of wealth-to-income transformation. Also, very low-income families may have a more stable income because they have to work hard to stabilize income for the demand for necessary family expenditure. Figure 3.2. provides the version of predicted probability with net family wealth as a continuous measure.

[Figure 3.2 about here]

3.4.3. Further Analysis based on Components of Family Wealth

[Table 3.3 about here]

The results above only show the role of family net wealth in explaining the family income instability but do not consider the various combination of assets and debts across families. It is necessary to consider how the structure of family wealth is related to family income instability. Answering this question helps explain which components drive the relationship above.

Table 3.3 presents the coefficient estimates of family net wealth and covariates by using family assets and debts as independent variables. Model 2a only controls covariates and includes family total assets and family total debts. To be noted, family net wealth is based on family total assets minus family total debts. Controlling for covariates, a one percent increase in family assets indicates a 0.064 decrease in family income instability. The coefficient estimate is not statistically significant. With a one percent increase in family debts, family income instability increases by 0.187. The coefficient is statistically significant at a p-value of 0.05. Hence, it is mainly family debts that drive the negative relationship between family net wealth and income instability. Model 2b employs all components of family assets and debts as independent variables. We find that with a one percent increase in liquid assets, family income instability

decreases by 0.244, while with a one percent increase in land and business assets, family income instability increases by 0.201 and 0.383 separately. In terms of family debts, the coefficient estimate of non-housing debts is significant statistically. It indicates a 0.114 increase in family income instability, with a one percent increase in this type of debt. These findings further show that the association between family net wealth and income instability in Model 1a of Table 3.2 is not consistent across family wealth components. For liquid assets and non-housing debts (family net wealth decreases with debts increasing), higher (lower) assets (debts) is associated with a lower income instability. However, the increase in land assets and business assets is associated with higher family income instability.

As the covariate of the income level included in Model 2c, the coefficient estimate of liquid assets is no longer statistically significant, and the coefficient estimates of land assets, business assets, and non-housing debts are still statistically significant. Hence, the positive relationship between non-housing debts may cancel the positive relationship between land assets and business assets. It may explain the insignificant relationship in Model 1b in Table 3.2.

[Table 3.4 about here]

[Figure 3.2 about here]

To explore whether the association between family wealth and income instability depends on family income, Table 3.4 presents the results of series of models with each adding the interaction term between each component of family wealth and income quantiles. Figure 3.3 plots the marginal effects of these interaction terms by the components of family wealth. In terms of liquid assets, the association with family income instability is positive for families in the bottom 20% of income, and for other quantiles, the associations are negative. A similar pattern of the association is found in the marginal effects of house assets. For land assets, the association

with family income instability is negative in the bottom 20% of income and becomes positive for familiar with more income. For company assets, the associations are positive for all family income quantiles, but the magnitude decreases as income increases. There is little evidence that the relationship between debts and family income instability depends on family income.

These results show the heterogeneity in associations across family income levels in terms of these two types of assets. Notably, for the bottom 20% of families in terms of the income distribution, those holding more liquid assets and house assets have a more volatile income over time. For business assets, we may see that the association is positive across all family income levels. It indicates a consistent trend of a positive association between business assets and family income instability. One explanation is that holding more business or company assets allows families to tolerate a higher level of family income instability.

The role of land assets is different from other types. For the bottom 20% of families, more land asset means a lower family income instability while for other quantiles, the association is positive. Land assets take a large proportion of rural family wealth but nearly zero in urban family wealth because the land reform since 1978 guarantees rural families for the rural productivity. Hence, for rural families with low income, land assets ensure a stable family life from agricultural activity and hence indicates a more stable income trajectory. However, this may not apply to those families with higher income because they have more income sources beyond agricultural activities. In terms of family debts, there is no significant heterogeneity in the associations with family income instability.

These results should be interpreted with caution in terms of a causal mechanism. As discussed in the framework part, the relationship between wealth and income is more like a reciprocal process rather than a single direction from wealth to income or from income to wealth.

Although the results from this study imply that wealth indeed stabilizes family income. Nevertheless, the analysis here does not separate the routine from income to wealth. This routine likely plays a role in decreasing or increasing the stabilization effect of family wealth on income. Future studies may resolve this question with a more extended period of family income and wealth records and dynamic modeling strategies.

3.5. Discussion and Conclusion

Economic insecurity has been an important social issue across countries. Even in societies with a well-established social welfare system and benefit programs, families, especially those from lower social class, face the risk of unstable family income dynamics, which may increase economic pressure in the long run. The issue may be more vital when one society has no efficient protection of private property and welfare system and is experiencing a shift in economic and labor market structure. Families are fragile if they have overall low income and wealth levels and a high probability of job insecurity. High level of income instability may be more catastrophic because of low flexibility in income and wealth transformation due to the low level of income.

Understanding economic insecurity in low- and middle-income contexts is also essential theoretically. Social stratification and mobility researches argue that the macro social environment, especially the social welfare system and legal protection of private property, is vital for maintaining household income stability and ensure the secure family economic wellbeing (DiPrete and McManus 2000; DiPrete 2002). However, few studies pay attention to low- and middle-income societies, which has different settings in social institutions.

This study meets the literature gap by presenting the first empirical research on income instability and wealth-income relationship in transitional societies. The high wealth-income ratio in China implies a more crucial role of wealth in family economic wellbeing. Research in recent

years has documented a high level of inequality in house, the dominant component in Chinese family wealth (Hiroshi 2004; Song and Xie 2014; Walder and He 2014). Especially in recent years, the rapid rise in house prices makes the distribution of family wealth more concentrated. Income instability is higher for low-income families. If family wealth indeed increases economic insecurity, as this study implies, the trend of wealth concentration in China may amplify the risk of economic insecurity among Chinese families. Also, given the relationship between wealth and income, policymakers aiming to reduce poverty and increase family economic security should not only care about the level of family income, but also take house price, return to the property, and other factors shaping family wealth dynamics into account.

The study here only makes a small step in understanding this critical issue in China. It provides some clues for future studies to understand the social mechanisms behind the findings here. For instance, the household registration system and work-unit system have been recognized as two important social institutions that shape economic inequality in China. These two systems may also shape the distribution of economic insecurity. With urban *hukou* status, individuals may enjoy more employment benefits and have more access to stable employment trajectory. This ensures families with urban *hukou* to maintain more stable income dynamics. Moreover, recent studies also show local or nonlocal *hukou* matters for economic opportunities for residents and migrants because a lot of social welfare programs are localized and only accessible to local families (Chan and Buckingham 2008; Li, Gu & Zhang 2015; Liu 2005). How income instability and family wealth are different across *hukou* status is a potential direction to understand the influence of social institutions on economic security. The work-unit system is another institution that shapes family economic wellbeing through job security, access to welfare benefits, and wealth accumulation. A job within the work-unit system is more secure and is traditionally

believed as permanent employment, although the situation changes during the market reform (Gu 1999). Walder and He (2014) show a phenomenon that urban residents in the work-unit system are more likely to have access to the privatization of public housing and hence gain more wealth. Besides the social institutions directly related to the economic insecurity of family, demographic policies may also influence economic insecurity through family structure changes. One example is the one-child policy established since the 1970s. Most families are only allowed to have one child during this period[2]According to recent research on the intergenerational persistence of wealth and wealth accumulation, this policy may potentially increase wealth concentration in the long run. Marital homogamy matches male and female from similar family backgrounds to form a family. A child may inherit more wealth from parents and amplify the trend of wealth concentration across generations. In sum, these demand more efforts in the future to understand the inequality of economic insecurity in China.

Except for economic insecurity and its causes, the potential consequences of economic insecurity on families and individuals in non-Western contexts demand more attention. For instance, economic hardship may bring negative effects to child development and ultimately make social inequality persist across generations (Hill et al. 2013). Also, previous research comes up with an insecurity-distrust thesis and shows that perceived economic insecurity may decrease individual support for political institutions and trust in others (Wroe 2016). However, almost no research examines the consequences of economic insecurity in non-Western contexts.

Some limits make the findings of this study invalid at the level of the whole population. As Chapter 2 posits, the sample of the study, families tracked successfully from 2010 to 2016, is

[2]. The number of children each couple may have depends on periods of the one-child policy, ethnicity, and family structure of husband and wife. The detailed description of the one-child policy can be found in Meng and Gregory (2002) and Meng, Shen & Xue (2013).

selective. Rural-urban migrant and urban families are less likely to participate in four waves of surveys relative to rural residence families. The higher educational level of a family member also leads to a higher probability of failure of tracking in the following rounds of surveys. To minimize the effect of the selection bias, this study and adjusts the regression results based on the first-stage analysis of the Heckman selection model. Future research should pay attention to the best adjustment strategy to the sample selection issue when studying the dynamic features of family economic resources and insecurity.

Figures and Tables

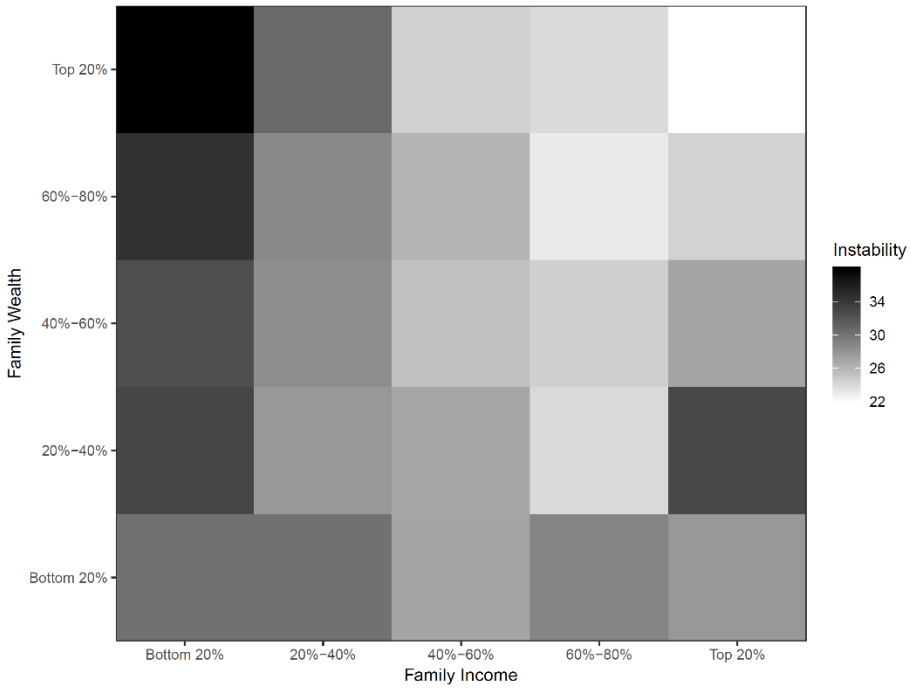


Figure 3.1. Predicted Family Income Instability by Income and Wealth Quantiles

Notes: as the color of the cell is darker, the magnitude of family income instability is higher. Predicted family instability is based on Model 1c in Table 3.2.

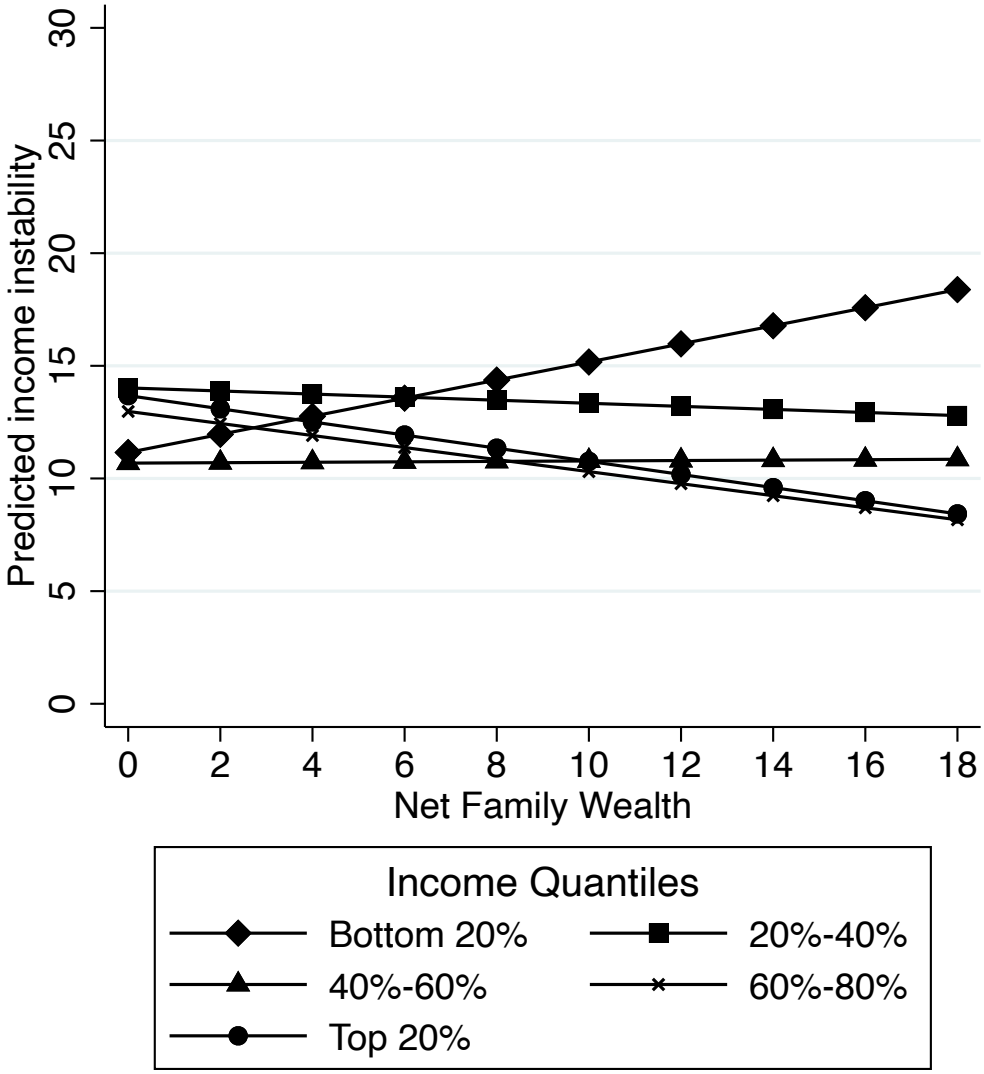


Figure 3.2. Effect of Family Asset/Debts on Family Income Instability by Family Income Quantiles

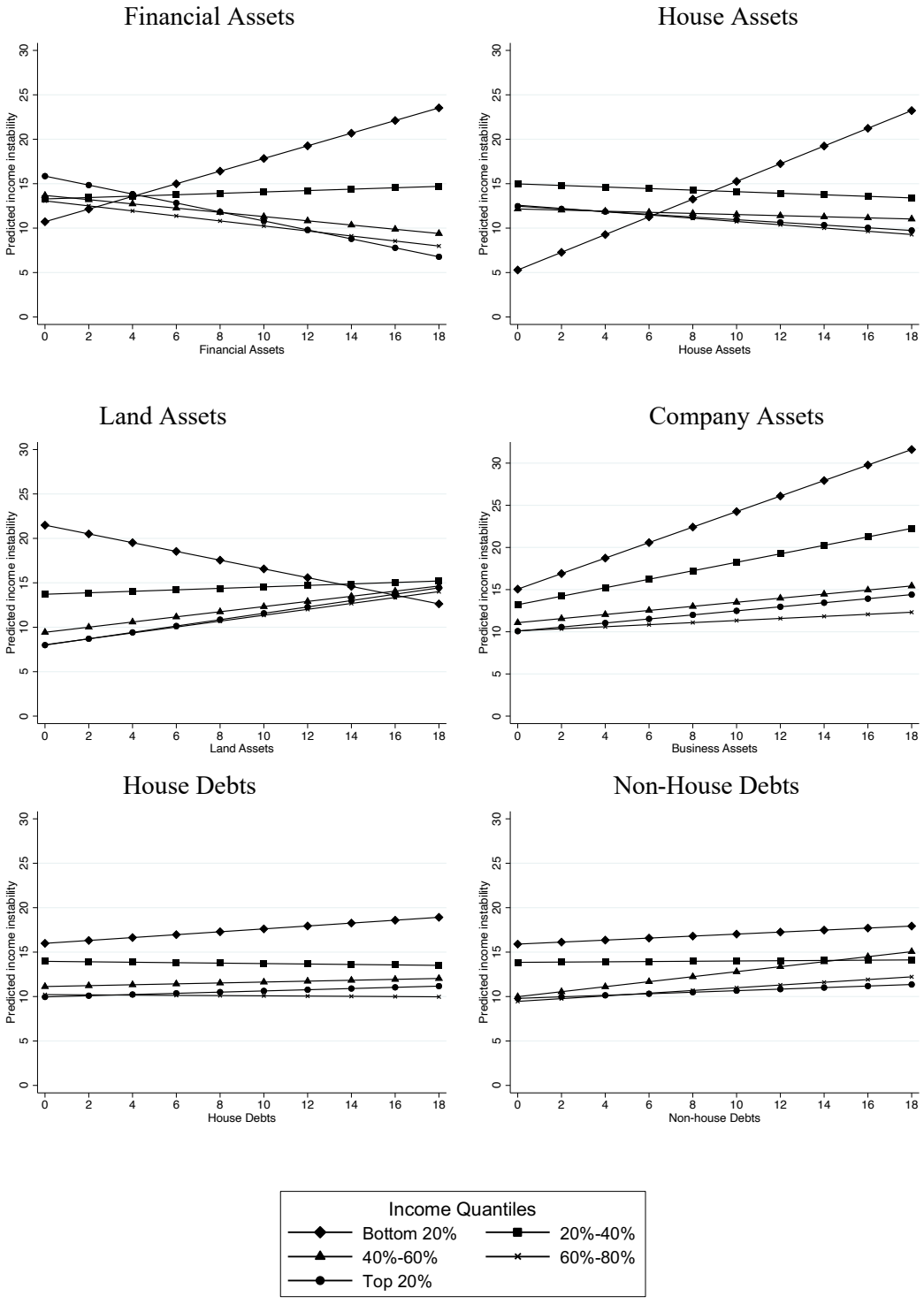


Figure 3.3. Effect of Family Asset/Debts on Family Income Instability by Family Income Quantiles

Note: Marginal effects are obtained from Coefficient estimates in Table 3.3.

Table 3.1. Descriptive Statistics of Dependent and Main Independent Variables

Variable	Mean	Std. Dev.	Min	Max
Family Income Instability	28.314	14.152	0.943	86.600
Family Asset	11.723	4.860	-15.361	17.499
Liquid Asset	9.589	2.336	0.241	15.399
Land Asset	7.136	4.946	0	15.159
Business Asset	1.530	3.752	0	15.970
House Asset	12.248	2.081	0	17.496
House Debts	3.485	4.925	0	14.623
Non-Housing Debts	4.385	4.823	0	15.243
Income Level				
Bottom 20%	0.205	0.403	0	1
20%-40%	0.202	0.402	0	1
40%-60%	0.200	0.400	0	1
60%-80%	0.199	0.399	0	1
Top 20 %	0.194	0.395	0	1
Family Size	3.787	1.598	1	14.25
Working Family Members	1.640	0.907	0	6.25
Family Residence at 2010 (Rural Residence as Reference)				
Rural	0.493	0.500	0	1
Urban	0.423	0.494	0	1
Rural-Urban or Urban-Rural Migration	0.084	0.277	0	1
Dummy variables of Income Increase				
From 2010 to 2012	0.583	0.493	0	1
From 2012 to 2014	0.624	0.485	0	1
From 2014 to 2016	0.586	0.493	0	1
Characteristics of Major Economic Supporter within Family				
Age at 2010	47.398	14.567	16	90
Age Squared	2448.02	1409.82	256	8100
Communist Party Membership (2010)	0.091	0.288	0	1
Educational Level at 2010				
No Schooling	0.158	0.365	0	1
Primary School	0.200	0.400	0	1
Junior Middle School	0.337	0.473	0	1
High School	0.201	0.401	0	1
College and Above	0.104	0.305	0	1

Sources: China Family Panel Studies (2010, 2012, 2014, 2016).
Notes: The full sample size with excluded families is 13,919 and the sample size of the study is 6,337. The full sample is used as the first stage of Heckman selection model to predict the probability that the family remains in the sample of study. This table only presents the statistics of the second stage of the model. As for the descriptive features of the sample of study and excluded families, see the discussion in Chapter 2.

Table 3.2. Coefficient Estimates of Family Income and Wealth on Family Income Instability

VARIABLES	Model 1a	Model 1b	Model 1c
Main Model			
Family Net Wealth	-0.117*	-0.006	0.402**
	(0.054)	(0.058)	(0.138)
Family Income Quantiles (Bottom 20% as References)			
20%-40%		-2.512***	2.865
		(0.489)	(1.994)
40%-60%		-4.895***	-0.473
		(0.510)	(2.439)
60%-80%		-6.145***	1.823
		(0.540)	(2.497)
Top 20%		-5.971***	2.524
		(0.620)	(2.582)
Wealth Interacts with Family Income Quantiles (Bottom 20% as References)			
20%-40%			-0.470**
			(0.166)
40%-60%			-0.392*
			(0.199)
60%-80%			-0.669***
			(0.200)
Top 20%			-0.693***
			(0.199)
Family Size	-1.500***	-1.075***	-1.075***
	(0.154)	(0.155)	(0.155)
Family Residence at 2010 (Rural Residence as Reference)			
Urban Residence	-3.082***	-2.438***	-2.395***
	(0.499)	(0.493)	(0.492)
Rural-Urban/Urban-Rural Migrant	0.389	0.767	0.755
	(0.547)	(0.551)	(0.551)
Number of Family Members with Job	-0.205	-0.186	-0.199
	(0.147)	(0.147)	(0.147)
Educational Level of Household Head at 2010 (No Schooling as Reference)			
Primary School	0.160	0.562	0.555
	(0.751)	(0.734)	(0.733)
Junior Middle School	-0.747	0.295	0.282
	(0.719)	(0.707)	(0.706)
High School	-2.625**	-1.104	-1.146
	(0.801)	(0.793)	(0.792)
College and above	-8.221***	-6.098***	-6.043***
	(0.957)	(0.962)	(0.961)
Age at 2010	0.259**	0.260***	0.260***
	(0.080)	(0.078)	(0.078)

Age Squared at 2010	-0.003***	-0.003***	-0.003***
	(0.001)	(0.001)	(0.001)
Communist Party Membership at 2010	-1.891***	-1.571**	-1.554**
	(0.518)	(0.521)	(0.521)
Income Increase from 2010 to 2012	-2.771***	-2.206***	-2.238***
	(0.326)	(0.325)	(0.325)
Income Increase from 2012 to 2014	-0.650*	-0.354	-0.332
	(0.318)	(0.321)	(0.321)
Income Increase from 2014 to 2016	0.241	0.487	0.493
	(0.301)	(0.303)	(0.303)
Province Dummies	Yes	Yes	Yes
Constant	14.914***	15.679***	11.006**
	(3.446)	(3.377)	(3.665)
First-Stage Model			
Family Size	-0.090***	-0.091***	-0.091***
	(0.007)	(0.007)	(0.007)
Age at 2010	0.016***	0.017***	0.017***
	(0.004)	(0.004)	(0.004)
Age Squared at 2010	-0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)
Educational Level at 2010 (No Schooling as Reference)			
Primary School	0.124***	0.127***	0.127***
	(0.036)	(0.036)	(0.036)
Junior Middle School	0.093**	0.097**	0.099**
	(0.034)	(0.034)	(0.034)
High School	0.013	0.024	0.025
	(0.038)	(0.038)	(0.038)
College and above	-0.178***	-0.161***	-0.160***
	(0.045)	(0.046)	(0.046)
Urban residence at 2010	-0.107***	-0.105***	-0.106***
	(0.024)	(0.025)	(0.025)
Family Types (Rural *Hukou* and Residence as reference)			
Rural Migrant Families	-0.216***	-0.242***	-0.239***
	(0.045)	(0.047)	(0.047)
Urban *Hukou* and Residence Families	0.093***	0.070**	0.070**
	(0.025)	(0.026)	(0.026)
Rural-Urban Conversion Families	0.124***	0.100***	0.100***
	(0.023)	(0.024)	(0.024)
Province Dummies	Yes	Yes	Yes
Constant	-0.187	-0.182	-0.177
	(0.158)	(0.158)	(0.158)
ρ $(corr(\epsilon_1, \epsilon_2))$	0.963	0.957	0.956
LR test of indep. eqns. ($\rho = 0$): χ^2	761.43	732.62	676.41
$[p > \chi^2]$	[0.000]	[0.000]	[0.000]
Full Sample size (Sample Size of Main Model)	13,919 (6,337)	13,919 (6,337)	13,919 (6,337)

Standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05, + p<0.1
Source: China Family Panel Studies (2010, 2012, 2014, 2016).

Notes: a. family net wealth is taken IHS transformed; b. the table presents the results from the main model (second stage) and first-stage estimates of the Heckman selection model. The first stage employs whether the family is in the sample of study as the dependent variable and employs family residence, educational level, age, age squared, family size, *hukou* status as independent variables.

Table 3.3. Coefficient Estimates of Family Income and Wealth on Family Income Instability

VARIABLES	Model 2a	Model 2b	Model 2c
Main Model			
Total Family Asset	-0.037		
	(0.031)		
Liquid Asset		-0.244***	0.012
		(0.073)	(0.078)
Land Asset		0.201***	0.178***
		(0.046)	(0.046)
House Asset		-0.025	0.119
		(0.075)	(0.079)
Business Asset		0.383***	0.367***
		(0.041)	(0.041)
Total Family Debts	0.187***		
	(0.031)		
Housing Debts		0.003	0.041
		(0.031)	(0.032)
Non-Housing Debts		0.114***	0.131***
		(0.034)	(0.034)
Family Income Quantiles (Bottom 20% as References)			
20%-40%			-2.570***
			(0.495)
40%-60%			-5.136***
			(0.523)
60%-80%			-6.296***
			(0.559)
Top 20%			-6.244***
			(0.655)
Family Size	-1.598***	-1.627***	-1.223***
	(0.154)	(0.153)	(0.154)
Family Residence at 2010 (Rural Residence as Reference)			
Urban Residence	-3.035***	-2.136***	-1.779***
	(0.497)	(0.531)	(0.523)
Rural-Urban/Urban-Rural Migrant	0.245	0.450	0.701
	(0.546)	(0.555)	(0.557)
Number of Family Members with Job	-0.254+	-0.284+	-0.284+
	(0.147)	(0.148)	(0.149)
Educational Level of Household Head at 2010 (No Schooling as Reference)			
Primary School	0.200	0.186	0.476
	(0.748)	(0.734)	(0.717)
Junior Middle School	-0.709	-0.810	0.036
	(0.715)	(0.706)	(0.694)
High School	-2.560**	-2.377**	-1.115

	(0.797)	(0.793)	(0.783)
College and above	-8.288***	-7.258***	0.209**
	(0.952)	(0.964)	(0.077)
Age at 2010	0.234**	0.216**	-0.002**
	(0.080)	(0.079)	(0.001)
Age Squared at 2010	-0.003**	-0.003**	-1.571**
	(0.001)	(0.001)	(0.525)
Communist Party Membership at 2010	-1.899***	-1.757***	-2.000***
	(0.517)	(0.523)	(0.325)
Income Increase from 2010 to 2012	-2.812***	-2.614***	-0.125
	(0.326)	(0.325)	(0.323)
Income Increase from 2012 to 2014	-0.607+	-0.435	0.615*
	(0.318)	(0.321)	(0.305)
Income Increase from 2014 to 2016	0.313	0.370	0.209**
	(0.300)	(0.304)	(0.077)
Province Dummies	Yes	Yes	Yes
Constant	13.483***	15.333***	13.908***
	(3.398)	(3.437)	(3.376)
First-Stage Model			
Family Size	-0.090***	-0.092***	-0.092***
	(0.007)	(0.007)	(0.007)
Age at 2010	0.016***	0.016***	0.017***
	(0.004)	(0.004)	(0.004)
Age Squared at 2010	-0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)
Educational Level at 2010 (No Schooling as Reference)			
Primary School	0.124***	0.127***	0.129***
	(0.036)	(0.036)	(0.036)
Junior Middle School	0.094**	0.102**	0.107**
	(0.034)	(0.034)	(0.035)
High School	0.015	0.028	0.038
	(0.038)	(0.038)	(0.039)
College and above	-0.173***	-0.149**	-0.135**
	(0.045)	(0.046)	(0.046)
Urban residence at 2010	-0.107***	-0.099***	-0.097***
	(0.024)	(0.025)	(0.025)
Family Types (Rural *Hukou* and Residence as reference)			
Rural Migrant Families	-0.205***	-0.219***	-0.246***
	(0.045)	(0.047)	(0.049)
Urban *Hukou* and Residence Families	0.085***	0.042	0.023
	(0.025)	(0.028)	(0.029)
Rural-Urban Conversion Families	0.121***	0.094***	0.072**
	(0.023)	(0.025)	(0.026)
Province Dummies	Yes	Yes	Yes
Constant	-0.180	-0.163	-0.167
	(0.158)	(0.158)	(0.159)
ρ $(corr(\epsilon_1, \epsilon_2))$	0.963	0.956	0.948
LR test of indep. eqns. ($\rho = 0$): χ^2	751.67	627.74	565.13
$[p > \chi^2]$	[0.000]	[0.000]	[0.000]

Full Sample size (Sample Size of Main Model)	13,919 (6,337)	13,919 (6,337)	13,919 (6,337)

Standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05, + p<0.1
Source: China Family Panel Studies (2010, 2012, 2014, 2016).
Notes: a. family asset and debt variables are taken IHS transformed; b. the table presents the results from the main model (second stage) and first-stage estimates of the Heckman selection model. The first stage employs whether the family is in the sample of study as the dependent variable and employs family residence, educational level, age, age squared, family size, *hukou* status as independent variables.

Table 3.4. Interaction Effects of Family Income and Wealth on Family Income Instability

VARIABLES	Model 3a	Model 3b	Model 3c	Model 3d	Model 3e	Model 3f
Liquid Asset	0.712***	-0.019	0.045	-0.004	0.009	0.016
	(0.157)	(0.078)	(0.078)	(0.078)	(0.078)	(0.078)
Land Asset	0.169***	0.183***	-0.492***	0.166***	0.179***	0.176***
	(0.046)	(0.046)	(0.095)	(0.046)	(0.046)	(0.046)
House Asset	0.119	0.114	0.184*	0.997***	0.115	0.114
	(0.079)	(0.079)	(0.080)	(0.181)	(0.079)	(0.079)
Business Asset	0.367***	0.920***	0.352***	0.371***	0.369***	0.370***
	(0.041)	(0.093)	(0.041)	(0.041)	(0.041)	(0.041)
House Debts	0.031	0.043	0.041	0.045	0.163*	0.038
	(0.032)	(0.032)	(0.032)	(0.032)	(0.082)	(0.032)
Non-House Debts	0.126***	0.127***	0.124***	0.129***	0.129***	0.113
	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.075)
Family Income Quantiles (Bottom 20% as References)						
20%-40%	2.565	-1.845***	-7.776***	9.690**	-2.026***	-2.052**
	(1.885)	(0.535)	(1.090)	(3.080)	(0.585)	(0.675)
40%-60%	2.960	-3.977***	-12.057***	6.869*	-4.861***	-5.919***
	(2.007)	(0.561)	(1.066)	(2.894)	(0.609)	(0.692)
60%-80%	2.348	-4.948***	-13.458***	7.291*	-5.769***	-6.444***
	(2.262)	(0.595)	(1.055)	(2.971)	(0.645)	(0.705)
Top 20%	5.133*	-4.979***	-13.500***	7.176*	-6.029***	-6.107***
	(2.350)	(0.695)	(1.105)	(2.876)	(0.734)	(0.789)
Interaction Terms						
Interaction with Liquid Asset						
20%-40%	-0.633**					
	(0.212)					
40%-60%	-0.950***					
	(0.217)					
60%-80%	-0.994***					
	(0.236)					
Top 20%	-1.216***					
	(0.231)					
Interaction with Business Asset						
20%-40%		-0.417**				
		(0.128)				
40%-60%		-0.678***				
		(0.124)				
60%-80%		-0.797***				
		(0.126)				
Top 20%		-0.679***				
		(0.119)				
Interaction with Land Asset						
20%-40%			0.575***			
			(0.115)			
40%-60%			0.782***			
			(0.111)			
60%-80%			0.824***			
			(0.110)			
Top 20%			0.850***			
			(0.113)			
Interaction with House Asset						
20%-40%				-1.084***		
				(0.262)		
40%-60%				-1.059***		
				(0.243)		
60%-80%				-1.180***		
				(0.245)		

Top 20%				-1.148***		
				(0.231)		
Interaction with House Debts						
20%-40%					-0.188+	
					(0.104)	
40%-60%					-0.112	
					(0.104)	
60%-80%					-0.176+	
					(0.102)	
Top 20%					-0.095	
					(0.099)	
Interaction with Non-House Debts						
20%-40%						-0.098
						(0.100)
40%-60%						0.169+
						(0.099)
60%-80%						0.041
						(0.099)
Top 20%						-0.026
						(0.098)
Constant	8.475*	13.896***	19.858***	4.041	13.763***	13.900***
	(3.527)	(3.357)	(3.426)	(3.833)	(3.380)	(3.383)
Full Sample size	13,919	13,919	13,919	13,919	13,919	13,919
(Sample Size of Main Model)	(6,337)	(6,337)	(6,337)	(6,337)	(6,337)	(6,337)

Source: China Family Panel Studies (2010, 2012, 2014, 2016).

Notes: a. Standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05, + p<0.1; b. The table only presents the coefficient estimates of key independent variables in the main model. The first stage results of the Heckman selection model are not shown here. The results from the first stage regressions show that the Heckman selection model is preferred. c. all models control individual/family covariates and province dummies; c. family asset and debt variables are taken IHS transformed.

Source: China Family Panel Studies (2010, 2012, 2014, 2016).

Chapter 4. The Household Registration System and Family Economic Insecurity in China

Abstract

Social institutions influence family not only through the redistribution of economic resources but also through the inequality of unstable earnings dynamics. This study examines the relationship between the household registration system, also known as the *hukou* system, and the family economic insecurity in contemporary China. The system leads to inequality in labor market opportunities, social welfare access, educational opportunities, and other social resources. The status of family members not only affects the dispersion of family income and wealth but also affects the differentiation of risks of economic security. Families with rural residence not only lie at the bottom of the income distribution but also face the highest risk of family income instability. Urban families have higher income and also more stable income trajectories. Rural-urban migrant families have higher family assets and lower family income instability, although their income is not significantly different from rural families. These findings at the family level meet the gap of previous literature exclusively focusing on the impact of the system on the individual life opportunities and achievement.

4.1. Introduction

Social institutions play a vital role in shaping the life opportunities of individuals. The household registration system (henceforth, the *hukou* system) in China represents one example. It leads to the unbalanced distribution of life opportunities, including educational resources and job opportunities, and economic resources by the types of registration status. Individuals with urban *hukou* have more access to labor market opportunities, better educational resources, and more social welfare benefits. During the transition from the planned economy to the market economy, the existence of this social institution has been leading to a substantial rural-urban gap of family income and wealth (Boffy-Ramirez and Moon 2018).

Public policies since the beginning of this system guarantee the priority of urban residents in access to social welfare and educational resources and hence widen the rural-urban gap in income, wealth, and other aspects (Zhang and Wu 2017). Although recent reforms of *the hukou* system attempt to deal with the rural-urban inequality by discarding the differences of agricultural and non-agricultural *hukou* status in benefits, there are still restricted rules of *hukou* transition to metropolitan areas, such as Beijing, Shanghai, and Shenzhen. The discrimination to the non-local *hukou* still exists among the labor market and education systems among urban areas. As a consequence, the enduring impact on the inequality of life opportunities is still an essential driver of economic inequality. (Chan and Buckingham 2008; Chan 2009).

Despite the adequate literature documenting the enduring impact, two issues are remaining unclear. First, how the system shapes income and wealth distribution at the *household* level remains unclear. Although *hukou* status is individual-based, the system was established to identify the type of families. How to distinguish types of families based on an individual's h*ukou* status has rarely been studied. One important reason is the lack of high-quality income and

wealth data at the household level. Therefore, previous literature exclusively focuses on individual-level inequality in income and wealth, and little attention is paid to family-level inequality.

Second, few studies examine whether the *hukou* system shapes the risk of family financial situation. Under this social system, urban *hukou* implies an advantage in income. Through rural-urban *hukou* conversion, those with rural origins make upward mobility through the selective *hukou* conversion. Except for the family income, the unequal opportunities of economic life by types of *hukou* status may lead to the dispersion of family economic security. That is, rural families not only have a lower level of income but also have less wealth and a higher level of income instability, compared with those urban families. Unfortunately, the existing literature still exclusively focuses on either family income or wealth and fails to offer a comprehensive understanding of economic insecurity.

This study meets the literature gaps. In doing so, I distinguish five *hukou* types at the household level: rural families, urban families, rural-urban migrant families, rural-urban *hukou* conversion families, and other families. Based on this typology, I document the differences in family income, wealth, and income instability across types of families. The findings posit that rural families not only lies in the lowest rank of family income and wealth but also have the highest income instability. This finding indicates the highest economic insecurity for this type of family. After controlling socioeconomic and demographic characteristics, particularly educational levels, the results find the difference in family wealth and income instability decreases, and income difference persists. These findings indicate the educational level as an indirect channel through which the *hukou* system shapes family financial security.

4.2. Background

4.2.1. the Hukou *System and Inequality of Life Opportunities in China*

The *hukou* system is one of the prominent institutions influencing social stratification and mobility in China (Chan 2009; Chan and Zhang 1999; Wu and Treiman 2004). The actual consequences of this system are very different from its initial purpose, "to maintain social peace and order, safeguard the people's security, and protect their freedom of residence and movement" (Cheng and Selden 1994: 662). The establishment of the *hukou* system in 1958 is closely related to economic growth. To carry out the Big Push industrialization, the socialism regime gave strong support to urban areas with the most industrial sector located and conducted a strict policy of urban-in migration (Chan 1992). In other words, the practice of the *hukou* system "tend[s] to reinforce urban-rural disparities and protect existing privileges of urbanites" (Chan 1992: 276).

Hukou registration provides the principal basis of establishing social identity, citizenship, and official status, and is essential for family life (Cheng and Selden 1994). Under the *hukou* system, the rights and benefits, such as permanent employment, medical insurance, housing, pensions, and educational opportunities, are conferred on urban residents exclusively by the socialist state (Wu and Treiman 2007: 418). To control the growth in the urban population, governments conduct strict policies in rural-to-urban status transition by setting a quota on the conversion rate (Lu 2003). Such uneven access to resources widens the divide of the rural-urban gap in economic wellbeing and opportunities of upward mobility.

In terms of life opportunities, one key mediation factor to be noted is that the *hukou* system may shape the family economic insecurity through individual educational attainments. The human capital theory has shown that educational level plays a vital role in the success of the labor market, accumulation of wealth, and competence at the marriage market as well. According

to the Compulsory Education Law, the funding for rural compulsory education is guaranteed. However, the lower level of governments struggled to cover the necessary operational expenses of rural compulsory education, given the lack of appropriate financing (Yu 2001). As a consequence, the quality of teachers in rural areas is generally lower than that in urban areas (Wang 2003). Except for compulsory education, high schools are mainly located in urban areas so that it costs more for rural students to attend high schools due to location and economic issues. For rural-urban migrants, although they move to cities for the sake of stable economic wellbeing, it is difficult for the children in such families to share the benefits of school education in urban areas due to the policy restriction. Hence, given the vital role of education in economic success, the rural-urban divide of educational attainments could be an essential reason driving the dispersion of economic insecurity by types of family *hukou* status.

Another important channel through which education shapes the family's financial situation is the process of selective *hukou* conversion and migration. In general, the local *hukou* is more likely to be obtained when one attends the colleges in metropolitan areas (Chan et al. 1999). The high skill selectivity of *hukou* migration or transition implies that the educational level is a crucial driver for the *hukou* status change and hence explains the dispersion of family economic advantages by types of *hukou*.

Previous literature has documented the social and economic mobility at the individual level. An apparent reason behind this is that *hukou* status is individual-based rather than household-based. For instance, an individual holding a non-agricultural *hukou* does not necessarily mean that all of his or her family members have non-agricultural *hukou*s. Instead, assortative mating could occur between those with different types of *hukou* (Qian and Qian 2017; Zhou 2019). Until 1998, for children of a couple with different *hukou*, they will follow the *hukou*

status and place of the mother (Chan and Zhang 1999; Wu & Treiman 2007). Hence, given the difference between individual and household levels, how the structure of family *hukou* status is related to family economic wellbeing is unclear by now.

Understanding the relationship between *hukou* status and economic wellbeing at the household level demands more attention for the following reasons. First, this approach makes it possible to investigate the family wealth inequality by *hukou* types. Family wealth is an important dimension of economic wellbeing in China. Wealth inequality is higher than income inequality. However, family wealth is more difficult to be measured at the individual level because some wealth components, such as property and house, are shared by family members (Killewald, Pfeffer, and Schachner 2017). Second, distinguishing the structure of family *hukou* status is substantively meaningful to understand family economic security and wellbeing. It can be expected that one rural family with one or more rural-urban migrants is different from a rural family without rural-urban migrants in terms of family income instability and level. However, it is not likely to fully understand family economic sources by merely focusing on individual *hukou* status because family members may strategically balance work and family life to maintain a secure level and stability of economic life.

4.2.2. a Typology of **Hukou** *Status at the Household Level*

This study aims to answer this question by conceptualizing different types of families based on the structure of the *hukou* status of family members. By focusing on three dimensions of family economic wellbeing, including family income, family wealth, and family income instability, this study explores the variation of economic insecurity across types of families.

[Figure 4.1 about here]

Figure 4.1 presents the types of individual *hukou* status by taking residence and *hukou* conversion into account. Three types of source information are used to distinguish the types: original *hukou* status (agricultural/non-agricultural), current *hukou* status (agricultural/non-agricultural), and current residence (rural/urban). There are four types of *hukou* based on the three factors: consistent rural *hukou*, consistent urban *hukou*, rural-urban *hukou* conversion, and urban-rural *hukou* conversion. Implied by previous mobility literature and empirical findings, I put the focus on the first three types, which are dominant in contemporary China. By taking residence into account, those with consistent rural *hukou* can be divided into two groups: rural *hukou* holders living in rural areas and rural-urban migrants. The latter group forms the majority of internal migrants in China. Chan (2012) estimated the size of rural-urban migrants staying at least six months is 205.6 million, which is more than 30% of the total population living in urban areas.

[Table 4.1 about here]

Building upon the types of *hukou* status at the individual level, I distinguish five types of families listed in Table 4.1. The first type is called *consistent rural families*, in which all family members with jobs hold agricultural *hukou* since their birth dates and live in rural areas. The reason why I focus on family members with a job because they support their families by contributing to economic sources, which is the main interest of this study. It is likely that one family member from a rural family attends college in an urban area and hold non-agricultural *hukou* but does not make earnings. The second type is named *rural-urban migrant families*, in which all family members with jobs hold agricultural *hukou*, and at least one among them lives in urban areas. This type of family is of interest to this study because the differences of economic wellbeing between consistent rural families and this type of families reflect the association

between the rural-urban migration and the family financial situation. The third type is defined as "*consistent urban families*", in which all family members with jobs hold non-agricultural hukou and live in urban areas. This group of families is traditionally believed endowed with advantages in the redistribution system and social welfare system. The fourth type is named "*rural-urban hukou conversion families*", in which at least one of the family members with job experienced rural-urban *hukou* conversion and the rest of them hold agricultural *hukou*. The difference in economic wellbeing from this group to consistent rural families reflects the improvement effect of rural-urban *hukou* mobility. Besides these four types, I group the rest of the families into the category "*Other families*". A certain proportion of the Chinese family has a more complex structure of *hukou* combination among its members. For instance, one rural family likely has both members of rural-urban migration and rural-urban *hukou* conversion. Also, one urban family may have members experiencing rural-urban *hukou* conversion, particularly because of assortative mating among rural women and urban men. This study focuses on the first four major types of the family because they have more straightforward structures of *the hukou* status to infer the relationship between the *hukou* system and family economic wellbeing.

4.2.3. **Hukou *Status and Family Economic Insecurity***

Understanding family economic wellbeing is especially essential to evaluate economic security in the contemporary era. Western et al. (2012) recommend household-based research in terms of economic hardship and insecurity because job loss, for instance, will not only change the income situation of individuals but also has negative impacts on various aspects of family life, such as consumption, family stability, and child development. Also, besides family income, the stability of earnings over time and family wealth as well are important indicators of family economic wellbeing. Recent research has shown a rise of income instability in recent decades in most

countries and argues that volatile income, particularly, due to unexpected reasons, may threaten family, especially those from lower social class (Western et al. 2012). Moreover, wealth has been increasingly recognized as an important and distinct dimension of economic wellbeing relative to income (Killewald et al. 2017). To fully understand family economic wellbeing, research should pay all these dimensions rather than merely family income.

Family Income

Given the previous findings on the impact of the *hukou* system on income inequality, the levels of family income could be different across the four types. For consistent rural families, all family members hold rural *hukou* and live in rural areas. Hence, the family income of this group may be the least because they barely gain benefits from urban development and rely on agricultural activities as the primary income source. In terms of rural-urban migrant families, one or more members work in cities and make earnings based on non-agricultural jobs. Compared with rural families, this group may have a higher level of family income because rural-urban migrant family members can provide more economic supports to their families (Liu and Reilly 2004). It is also possible that rural-urban migrants move to urban areas due to economic hardship (Rozelle et al. 1999). That is, rural-urban migrant families belong to a selective group based on their economic situation in rural areas. It is different from those families experiencing rural-urban *hukou* conversion. Previous literature has shown that *hukou* conversion is a selective process. Most of those successfully obtaining urban *hukou* because they attended universities or had jobs in the work-unit system. (Chan et al. 1999). In other words, it is regarded as a process of upward mobility and indicates the status transformation from economically disadvantaged to the advantaged group (Wu and Treiman 2004). Hence, the family with rural-urban *hukou* conversion has income advantages relative to the consistent rural and rural-urban migrant families. In terms

of urban families, there is no doubt that they gain the most benefits from the redistribution system because all family members with jobs own non-agricultural *hukou* (Zhou 2000*)*.

Family Wealth

Family wealth may have different features compared with family income in terms of the difference between the four types of family. A key difference between rural and urban family wealth is that rural ones may have more land assets, and urban ones have higher values of houses. This difference is attributed to the reform of the contract responsibility system since 1978 and the rapidly rising house price in urban areas. Besides, consistent rural families may have the least amount of liquid assets because of their focus on agricultural activity, and urban families may have the highest level of liquid assets because of advantages in the labor market. If we take debts into account, urban families may face more pressure on house debts. Hence, taking the structure of family wealth into account, whether families with different structures of *hukou* status have unequal wealth are not very clear in the context of China. Employing the 2012 wave of CFPS, Xie and Jin (2015) have shown a rural-urban gap in different components of wealth. Their findings posit that urban families have higher house assets, financial assets, housing debts, and fewer land assets, fixed assets for production compared with rural families. This study will use the four waves of CFPS from 2010 to 2016 and takes the *hukou* system into account to understand family wealth inequality.

Family Income Instability

Families with different structures of *hukou* status also face different levels of insecurity risk in income. Income stability is an essential dimension of family economic wellbeing, especially for low-income families lacking the ability to deal with a sudden loss of income. A large body of literature shows the negative association between income level and income instability in different

settings (Western et al. 2016; Björkenstam et al. 2017). Given the hypotheses in family income, it is reasonable to expect that rural families have the highest level of income instability. In contrast, urban families have the lowest level of income instability. In terms of rural-urban migration and rural-urban *hukou* conversion families, we may expect that their income instability lies in the middle level compared with those two types of families.

4.3. Data, Measure, and Method

4.3.1. Data

This study draws on the China Family Panel Studies (CFPS), a longitudinal and nationally representative household survey conducted by the Institute of Social Science Survey of Peking University. The initial wave was surveyed in 2010, and by now, four waves (2010, 2012, 2014, and 2016) are released to the public research. The advantage of this survey is that it attempted to collect detailed information on family income, wealth, and consumption over time. This survey provides a unique opportunity of investigating the three dimensions of family economic wellbeing. The detailed information on each component of family income, assets, and debts makes it possible to understand how the structure of family income and wealth is different across types of families. Moreover, the longitudinal data makes the measure of the volatility of family income over time possible and helps understand how family features of *hukou* status are related to income instability. In sum, CFPS is appropriate to evaluate the theses of this study.

The initial wave has 14,798 families from 25 provinces, which cover the regions of 95% population in China (Xie 2012). Considering this study is interested in all three dimensions of family economic wellbeing, I restrict the sample of analysis to the families that appear in all four waves of the survey. This leaves a sample of 6104 families. The final sample sizes of regression models are slightly different, given the missing information on family income and wealth.

Given the procedure of generating the sample of the study, it is likely that the sample of the study is not random. That is, excluded families from CFPS may be specific families. Chapter 2 has shown that, relative to rural residence families, urban families and rural-urban migrant families are more likely to be excluded. To deal with the sample selection bias, I adopt the Heckman selection model throughout the regression analysis.

4.3.2. Measure

Types of Families based on Hukou Status

Following the conceptual framework in Figure 4.1, I employ the adult data, which include all available family members of the households, to distinguish types of *hukou* status for individuals with jobs. The original *hukou* status is defined as the type of *hukou* at age 3. The current status is measured as the type of *hukou* in 2010. I employ the residence type of individuals in 2010 to identify whether individuals live in rural or urban places. Based on these three variables, I group individuals with jobs into four categories. To construct the structure of *hukou* status at the household level, I follow table 3.1 and take all family members with jobs into account. I first identify the first four types of families and then label the rest of families as the fifth one. The final sample sizes for each of five types of families are 2,306 (rural families), rural-urban migrant families (771), rural-urban *hukou* conversion families (513), urban families (525), and other families (1,989).

Family Economic Resources

The first dimension, family income, is measured as the average family income from 2010 to 2016. Family income includes five components, wage income (all wage earnings plus bonus, benefit and so on. from all jobs of family members), property income (income from family property assets), operational income (income from non-agricultural operations), transfer income

(income from transfer of governments, individuals, and other institutions), and other income. What should be noted is the underestimation of operational income, especially for urban families, because business and company income is dropped due to inconsistent measures across four waves. The second dimension, family wealth, includes four types of assets and two types of debts. Also, they are measured as the average value across four waves. The third dimension, family income instability, is measured as the coefficient of variation of family income across these six years. The method has been described in Chapter 2.

Measure of Covariates

I include family size, number of family members with jobs, age of household head, educational level of household head, and province dummies as covariates. Family size is measured as the average number of family members from 2010 to 2016. The number of family members with jobs is measured as the average number of family members with paid jobs from 2010 to 2016. Age of household head is measured as the years of age of household head in 2010, and the educational levels include no schooling, primary school, junior middle school, high school, and college and above. Provinces of location are measured from the 2010 wave. The summary statistics are shown in Table 4.3.

[Table 4.3 about here]

4.3.3. Analytical Strategy

I estimate a series of OLS regression models with each of the dimensions of family economic wellbeing as dependent variables. The standard model in the empirical analysis is:

$$Y_i = \alpha + \beta_1 FamType_i + \boldsymbol{\beta X_i} + \epsilon_i$$

Where Y_i is the outcome variable indicating the level of family economic wellbeing. For income and wealth measures, I take the inverse hyperbolic sine (IHS) transformation, which is similar to

logarithm transformation but may include negative and zero values. For wealth, I separately estimate the models for family assets and debts. For family income instability, I also include the average family income, asset, and debts from 2010 to 2016 into covariates because they may be important predictors of the level of income instability.

Given the issue of sample selection bias, I adopt the Heckman selection model to correct the bias. This model is suited for the situation that the dependent variables, family income, wealth, and income instability, is not observed for all families. Hence, there is a selection equation, and the family is enrolled in the sample of study if:

$$Y_i' \boldsymbol{Z} + \mu > 0$$

Where $\boldsymbol{Z}$ is a vector of covariates that affects the probability of families in the sample of the study, and μ is normally distributed. The correlation between ϵ and μ is denoted as ρ. When $\rho \neq 0$, the Heckman selection model is preferred and provides consistent coefficient estimates of parameters.

4.4. Results

4.4.1. Family Income, Wealth, and Income Instability

The summary statistics of family income are shown in the upper panel of Table 4.2. As expected, among nearly all components of family income, urban families have the highest amount, while rural families have the least amount. The only exception is operational income, which indicates a reverse trend. As explained above, this is due to the removal of business or company income. Hence, the measure of family income may underestimate the rural-urban earning gap. The summary statistics of wealth components by family types are shown in the second panel of Table 4.2. In terms of family assets, rural-urban *hukou* conversion and urban families have relatively similar amounts and hold a significant advantage over the consistent rural and rural-urban

migrant families. In terms of asset types, the wealth advantages of these two families lie in liquid assets and house assets. Although consistent rural and rural-urban migrant families have a more substantial amount of land assets, the proportion that it takes in all assets is not high compared with house assets. In terms of debts, rural-urban *hukou* conversion and urban families have higher housing debts and lower non-housing debts. In sum, rural-urban *hukou* conversion and urban families have a considerable advantage in net family wealth, especially in liquid assets and house assets. The last panel of Table 4.2 shows the index of income instability. Consistent rural and rural-urban migrant families have higher income instability relative to consistent urban and rural-urban *hukou* conversion families.

From the findings of these three dimensions, one conclusion that can be drawn is that *hukou* conversion plays a crucial role in explaining the difference in family economic wellbeing in China. Among the four types of family, consistent rural and urban families are two groups with the least and most economic advantages. The vast difference between the rural-urban migrant and rural-urban *hukou* conversion families implies the significance of *hukou* conversion rather than rural-urban migration as the process of upward social mobility. However, it is also possible that *hukou* conversion is a signal of family advantages in human capital and other socioeconomic characteristics and hence does not drive the difference between these two families. That is, socioeconomic and demographic characteristics, such as educational levels and regional variation, are the factors influencing *hukou* conversion and hence drive the difference in economic wellbeing.

4.4.2. Multivariate Analysis

[Table 4.4 about here]

Table 4.4 presents the main results from multivariate analysis with the Heckman selection model correcting sample selection bias. Rural families are treated as the reference group in all models. Model 1a presents coefficient estimates of family types for the model with family income as the dependent variable. The pattern of family income difference across types follows the expectation: controlling socioeconomic and demographic characteristics, relative to rural families, rural-urban migrant families have a 6.8% higher family income. However, the coefficient estimate is not statistically significant, rural-urban hukou conversion families have a 10.4% higher family income, and urban families have a 20.6% higher family income. In terms of other families, they also have a higher income than rural families by 8.9%. The findings show that rural families indeed belong to the most deprived group in China. Also, it is not surprising that urban families have the hugest income advantage compared with all other types.

The second column in Table 4.4 presents coefficient estimates for the model with family assets as the dependent variable. Interestingly, after controlling all covariates, coefficient estimates of rural-urban conversion and urban families are not statistically significant, albeit positive. Further analysis indicates that the educational level of the household major labor force leads to this finding. After excluding the covariate of educational level, rural-urban hukou conversion and urban families have higher family assets. It may imply that the educational level is an important mediator explaining the difference of family assets across types. However, it does not mean that rural-urban *hukou* conversion or urban *hukou* is not that important as human capital. First, rural families are still the most disadvantageous group. Second, the educational opportunity also closely relates to the *hukou* status because urban residents with non-agricultural *hukou* enjoy better educational sources than rural residents. The accumulation of family assets is likely through the channel of educational levels, which is influenced by the *hukou* status. The

third column in Table 4.4 shows the estimates for the model with family debts as the dependent variable. There is no evidence that family debts are different across types after controlling covariates.

[Figure 4.2 about here]

Figure 4.2 presents the coefficient estimates with each component of family income and wealth as dependent variables. In terms of family income, the income advantages of consistent urban and rural-urban *hukou* conversion families mainly lie in wage income and transfer income. Considering that these two components form the majority of family income, it is reasonable that these two families have a higher total family income shown in Model 1a. For family wealth, shown in the lower panel, relative to rural families, all other families hold higher liquid asset controlling covariates.

Interestingly, when controlling covariates, rural-urban migrant, and rural-urban *hukou* conversion, families have higher house assets but not urban families. Also, urban families have the least amount of land assets, although this component is not as crucial as liquid assets and house assets. These findings imply that urban families do not have the highest family asset shown in Model 1b. In terms of family debts, all coefficient estimates are not statistically significant. The last column (Model 1d) in Table 3.4 presents the coefficient estimates with family income instability as the dependent variable. The first finding is that urban and rural-urban *hukou* conversion families have lower income instability (statistically significant at a p-value of 0.1). In terms of rural-urban migrant families, their income instability is lower than that of rural families by 1.343.

Taking these findings together, rural families are the most disadvantageous group in China in all three dimensions of family economic wellbeing. For rural-urban migrant families,

although having more family assets and earn more than rural families, they still have a high risk of income instability. Urban families and rural-urban *hukou* conversion families belong to the group with economic advantages in family income, asset, and income instability. Although these findings show the different patterns of family economic wellbeing by identifying four major types of family, it is still unclear whether one additional family member with jobs holding each of four *hukou* status contributes to the economic wellbeing of a family.

[Table 4.5 about here]

To answer this question, I use the number of family members with jobs for each type of *hukou* status as independent variables. The coefficient estimates are shown in Table 4.5. Covariates are the same in Table 4.4. Model 2a shows with one more rural resident or rural-urban migrant with a job, family income increases by 1.2% and 2.1% separately, but both coefficient estimates are not statistically significant. With one more urban resident with a job, family income is higher by 11.1%. With one additional member with jobs experiencing rural-urban *hukou* conversion, family income is higher by 6.1%.

In terms of family assets, one more rural resident with jobs indicates 2.7% lower family assets, which is not statistically significant. One more rural-urban migrant with jobs indicates a 23% increase in family assets. One more working member experiencing rural-urban *hukou* conversion indicates a 42.5% increase in family assets, but the coefficient is not statistically significant. One more urban resident with a job does not have a significant effect on family assets. For family debts, only coefficient estimates of rural resident and rural-urban migrants are statistically significant. They indicate that more rural residents and rural-urban migrants among family members lead to an increase in family debts. In terms of the family income instability, members of rural-urban migrants, rural-urban *hukou* conversion, and urban residents are

associated with a decrease in family instability. However, rural residents do not have a statistically significant association with family income instability.

4.5. Discussion and Conclusion

Income and wealth inequality have proliferated over the last four decades in China. Previous literature studying economic inequality has examined the dispersion of social and economic resources between individuals with rural and urban *hukou* status. Their findings posit that this social institution plays a crucial role in explaining the rural-urban income gap. However, few studies examine the inequality of economic security at the household level, although the *hukou* system is established to distinguish the type of families.

This study employs a narrative typology of family types based on the *hukou* status of family members: consistent rural families, rural-urban migrant families, rural-urban *hukou* conversion families, consistent urban families. Building upon this typology, it examines whether family income, wealth, and income instability are different across types of families. Descriptive analysis shows that consistent rural families have the highest risk of economic insecurity because they have the lowest income, wealth, and the highest level of family income instability. Also, rural-urban conversion families and urban families have higher levels of family income.

To examine the channels through which the system shapes the economic risk of families, this study conducts multivariate analysis by controlling a series of family and individual characteristics implied by previous literature. After controlling covariates, the difference in the wealth of rural and urban families is not statistically significant, and the difference in income instability of rural families and rural-urban conversion families is not statistically significant. Further analysis based on components of income and wealth shows that the difference in family income and wealth across family types shows different patterns based on types of income and

wealth components. Notably, the role of educational opportunities differentiated by the *hukou* status should be emphasized. It explains much of the difference in the family economic situation by family types. Although this study does not establish the causal mechanism, future research should pay more attention to through which channels the *hukou* system leads to the difference of family economic insecurity.

The relationship between institutional contexts and family economic insecurity has not been studied well in previous research. Although scholars find that families in the disadvantaged social groups, such as low-income families, have a high risk of economic insecurity, few studies pay attention to the impact of institutional settings. This study implies two relevant channels that institutions shape the differentiation of family economic insecurity. First, social institutions may directly influence the redistribution system and lead to the inequality of family economic situation. That is, the *hukou* system, combined with related social policies, lead to those with urban and local *hukou*, enjoy more economic advantages in income and employment from the rapid development in the past four decades. Second, social institutions may indirectly affect the economic risks of families through its impacts on human capital accumulation and other aspects, including educational opportunities and financial supports of local governments. This study indicates a possible mediation channel of educational level in explaining the inequality of the family income, wealth, and income instability. Together with the previous research showing the link between educational opportunities and the *hukou* system, this study implies that the indirect channel of educational level should be emphasized in future research on the family economic insecurity of China.

Although this study has presented the differentiation effect of the *hukou* system on family economic insecurity, there are several limits to be noted. Due to the sample selection bias of the

sample of the study, the findings here should be interpreted with caution. This study relies on the sample of families that were successfully tracked from 2010 to 2016. As Chapter 2 shows, this sample is different from the full sample in terms of educational levels, residence, and other characteristics. Mainly, it is likely that those families changing residence address or experiencing family division have a lower tracking rate. This may make the findings of this study not generalized to the whole population but the population with a stable residence. This study adopts the Heckman selection model to minimize bias due to the sample selection issue. Future research should not overlook this issue when studying the dynamic characteristics of the family economic situation.

Figures and Tables

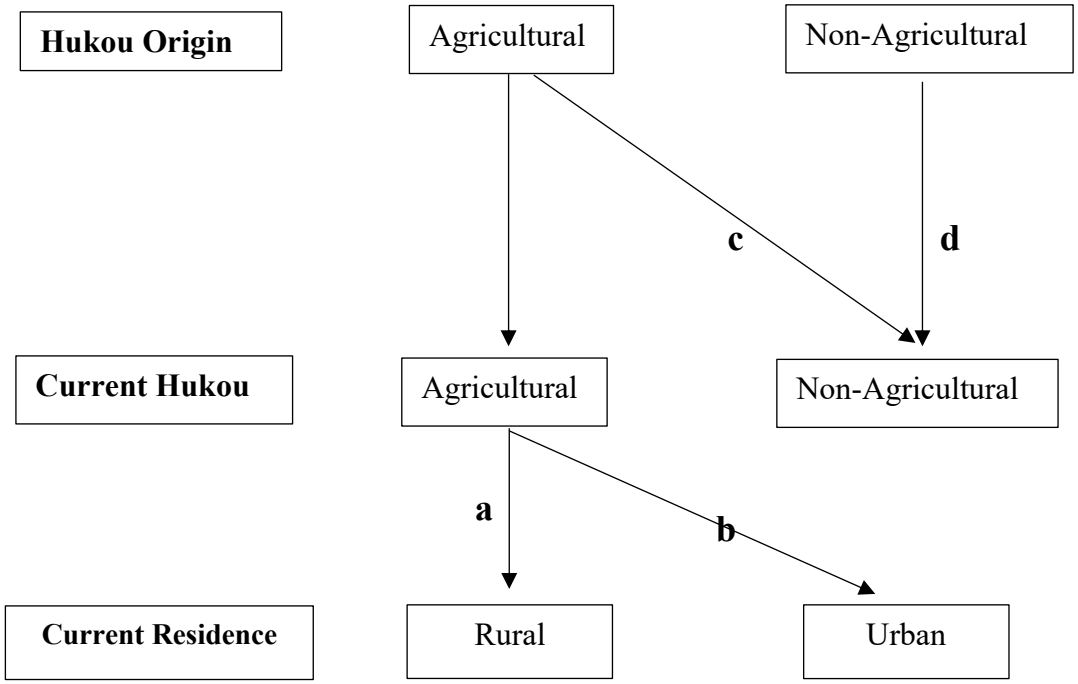
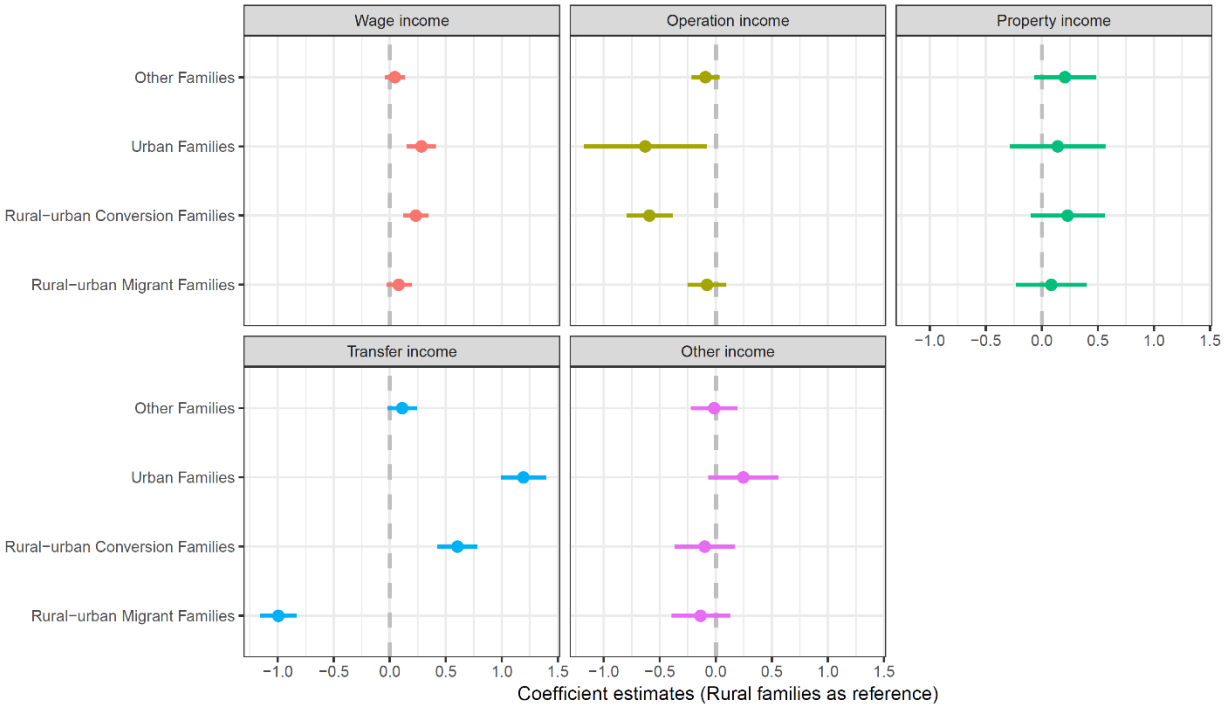


Figure 4.1. Illustration of main *Hukou*/Residence Status

Notes: a. Rural *Hukou* and Residence;
b. Rural-Urban Migrant;
c. Rural-Urban *Hukou* Conversion;
d. Urban *Hukou* and Residence.

Panel A. Family Income



Panel B. Family Wealth

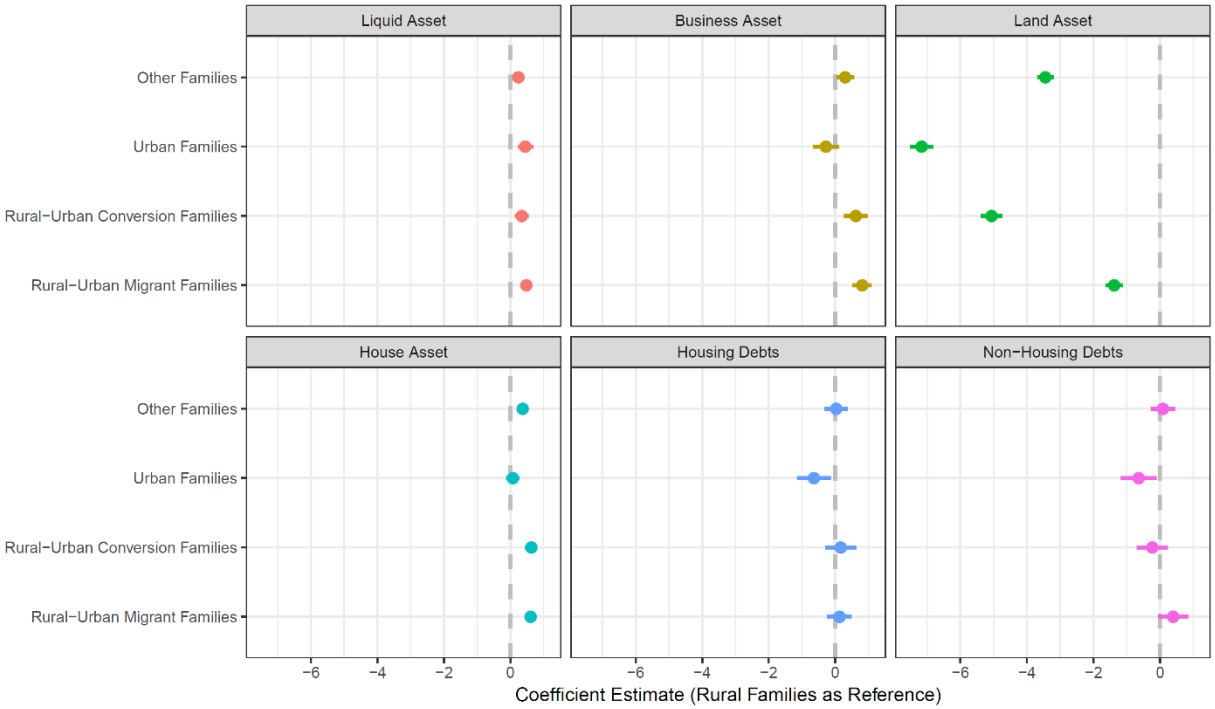


Figure 4.2. Coefficient Estimates of Types of Family on Family Income and Wealth by Components

Notes: All coefficient estimates are based on the model controlling all covariates listed in Table 4.4.

Table 4.1. Category of Family Type based on *Hukou*/Residence Status

Family Type	**Definition**
Rural Families	All family members with jobs live in rural areas and have agricultural *hukou* status.
Rural-Urban Migrant Families	All family members with jobs have agricultural *hukou* status, but one or more members with jobs living in urban areas.
Rural-Urban *Hukou* Conversion Families	All family members with jobs have agricultural *hukou* status, but one or more members with job experience rural-urban *hukou* conversion.
Urban Families	All family members with jobs live in urban areas and have non-agricultural *hukou* status.
Other Families	Family with a more complex structure of *hukou* status.

Table 4.2. Wealth and Income by *Hukou* Status of Family, 2010-2016

	Rural Families	Rural-Urban Migrant Families	Rural-Urban *Hukou* Conversion Families	Urban Families	Other Families
	N=2,306	N=771	N=513	N=525	N=1,989
Income					
Family Income	32315.97	39075.19	57293.32	69162.37	38786.77
Wage	22429.62	29659.23	43554.48	47837.32	21473.1
Property Income	368.9722	1784.87	2745.106	1491.37	1115.484
Operational Income	8079.47	3923.861	1568.907	334.037	3144.941
Transfer Income	1409.233	2920.823	8400.325	17240.87	11883.12
Other Income	914.5788	1123.752	1173.998	2269.961	1344.782
Wealth					
Family Net Wealth	178539.3	403276.2	750529.5	773809.5	401123
Family Asset	195582.2	428427.4	779476.4	804800.9	420126.8
Liquid Asset	16653.53	42237.41	74106.95	102892.8	40768.43
Land Asset	41709.48	19376.49	7041.597	1638.759	16783.74
House Asset	129199.4	349514.6	684327.9	683617.2	353627.1
Business Asset	8019.783	17298.91	13999.93	16652.07	8947.564
Family Debts	17042.9	25151.2	28946.9	30991.4	19003.8
Housing Debts	8344.658	13454.1	21014.39	23306.41	11488.9
Non-housing Debts	8698.287	11697.14	7932.513	7684.957	7514.899
Family Income Instability	28.950	27.542	23.138	21.870	26.451

Source: China Family Panel Studies (2010, 2012, 2014, 2016); This table reports average income and wealth from 2010 to 2016.

Table 4.3. Summary of Selected Covariates by *Hukou* Status of Family

Variable	Rural Families N=2,306	Rural-urban migrant Families N=771	Rural-urban Conversion Families N=513	Urban Families N=525	Other Families N=1,989
Family Size	4.288	3.953	3.900	3.250	3.420
Number of Family Members with Job	2.037	1.948	1.788	1.44	1.111
Age at 2010	45.634	45.715	43.154	39.434	53.111
Educational Level of Major labor force					
No Schooling	0.163	0.118	0.035	0.005	0.222
Primary School	0.252	0.213	0.067	0.024	0.199
Junior Middle School	0.418	0.420	0.292	0.187	0.268
High School	0.150	0.209	0.331	0.356	0.180
College and above	0.017	0.040	0.280	0.427	0.123
Communist Party Membership	0.045	0.036	0.142	0.135	0.140

Source: China Family Panel Studies (2010, 2012, 2014, 2016)

Table 4.4. Coefficient Estimates of *Hukou* Type of Family on Income, Wealth, and Income Instability

Dependent Variable	Model 1a Family Income	Model 1b Family Asset	Model 1c Family Debts	Model 1d Family Income Instability
VARIABLES				
Main Model				
Hukou Status of Family (Rural *Hukou* and Residence as Reference)				
With Rural Migrants	0.046	0.696***	0.102	-1.343*
	(0.029)	(0.189)	(0.298)	(0.569)
With Rural-urban Conversion	0.104**	0.782***	-0.015	-1.046
	(0.035)	(0.236)	(0.289)	(0.641)
Urban *Hukou* and Residence	0.206***	0.097	-0.568	-1.214+
	(0.039)	(0.264)	(0.000)	(0.710)
Other Family	0.089**	0.247	0.172	-0.904+
	(0.027)	(0.180)	(0.223)	(0.486)
Average Family Asset				0.002
				(0.032)
Average Family Debts				0.228***
				(0.031)
Average Family Income				-2.518***
				(0.225)
Family Size	0.149***	0.038	0.665***	-1.083***
	(0.007)	(0.047)	(0.165)	(0.156)
Number of Family Members with job	0.044***	0.077	0.252***	-0.293
	(0.011)	(0.071)	(0.072)	(0.178)
Educational Level of Major Labor Force (2010) (No Schooling as Reference)				
Primary School	0.255***	0.307	-0.521	0.569
	(0.030)	(0.192)	(0.353)	(0.738)
Junior Middle School	0.467***	0.642***	-0.527+	0.088
	(0.029)	(0.185)	(0.304)	(0.708)
High School	0.640***	0.858***	-0.360+	-1.547+
	(0.033)	(0.211)	(0.195)	(0.796)
College and Above	1.023***	1.688***	0.263	-6.509***
	(0.040)	(0.273)	(0.000)	(0.977)
Age at 2010	0.021***	-0.011	0.113*	0.282***
	(0.003)	(0.022)	(0.049)	(0.079)
Age^2 at 2010	-0.000***	0.000	-0.002***	-0.003***
	(0.000)	(0.000)	(0.001)	(0.001)
Communist Party Membership at 2010	0.287***	0.134	-0.099	-1.513**
	(0.031)	(0.210)	(0.231)	(0.525)
Income Increase from 2010 to 2012	0.363***	-0.172	0.107	-2.365***
	(0.018)	(0.121)	(0.123)	(0.326)
Income Increase from 2012 to 2014	0.161***	0.189	-0.086	-0.356
	(0.019)	(0.126)	(0.146)	(0.322)
Income Increase from 2014 to 2016	0.107***	0.193	-0.213	0.516+
	(0.018)	(0.119)	(0.136)	(0.304)
Province Dummies	Yes	Yes	Yes	Yes
Constant	9.477***	11.811***	4.443	37.203***
	(0.144)	(0.970)	(0.000)	(4.037)
Observations	14,203	14,203	14,203	13,919
	(6,104)	(6,104)	(6,104)	(6,104)

Source: China Family Panel Studies (2010, 2012, 2014, 2016).

Note: a. Standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05, + p<0.1. Income and wealth variables are average of 4 waves with IHS transformed; b. The table only presents the coefficient estimates of key independent variables in the main model. The first stage results of the Heckman selection model are not shown here. The results from the first stage regressions show that the Heckman selection model is preferred.

Table 4.5. Coefficient Estimates of *Hukou* Status of Family Members on Income, Wealth, and Income Instability

VARIABLES	Model 2a Family Income	Model 2b Family Asset	Model 2c Family Debts	Model 2d Family Income Instability
Number of Working Family Members with the Following *Hukou*/Residence Status at 2010				
Rural Hukou and Residence	0.012	-0.027	0.224***	0.178
	(0.010)	(0.064)	(0.064)	(0.172)
Rural-Urban Migrant	0.021	0.230*	0.254**	-0.667**
	(0.014)	(0.090)	(0.091)	(0.253)
Urban *Hukou* and Residence	0.111***	-0.023	0.072	-0.677*
	(0.019)	(0.131)	(0.131)	(0.335)
Rural-Urban *hukou* Conversion	0.061**	0.425**	0.146	-0.771*
	(0.019)	(0.130)	(0.131)	(0.334)
Average Family Asset				0.002
				(0.032)
Average Family Debts				0.228***
				(0.031)
Average Family Income				-2.529***
				(0.225)
Family Size	0.150***	0.036	0.685***	-1.073***
	(0.007)	(0.046)	(0.044)	(0.154)
Educational Level of Household Head (2010) (No Schooling as Reference)				
Primary School	0.259***	0.323+	-0.534**	0.648
	(0.030)	(0.192)	(0.205)	(0.732)
Junior Middle School	0.479***	0.669***	-0.530**	0.188
	(0.029)	(0.184)	(0.196)	(0.691)
High School	0.650***	0.866***	-0.338	-1.306+
	(0.033)	(0.209)	(0.222)	(0.772)
College and Above	1.030***	1.669***	0.312	-6.129***
	(0.040)	(0.270)	(0.280)	(0.950)
Age of Household Head (2010)	0.021***	-0.011	0.116***	0.044
	(0.003)	(0.022)	(0.022)	(0.057)
Age^2 of Household Head (2010)	-0.000***	0.000	-0.002***	-0.001
	(0.000)	(0.000)	(0.000)	(0.001)
Communist Party Membership at 2010	0.286***	0.111	-0.086	-1.531**
	(0.031)	(0.210)	(0.210)	(0.525)
	0.361***	-0.184	0.111	-2.329***
	(0.018)	(0.121)	(0.121)	(0.325)
	0.161***	0.185	-0.083	-0.327
	(0.019)	(0.126)	(0.126)	(0.321)
	0.107***	0.195+	-0.204+	0.524+
	(0.018)	(0.119)	(0.119)	(0.303)
Province Dummies	Yes	Yes	Yes	Yes
Constant	9.539***	12.053***	4.379***	41.626***
	(0.144)	(0.959)	(0.974)	(3.815)
Observations	14,203	14,203	14,203	13,919
	(6,104)	(6,104)	(6,104)	(6,104)

Source: China Family Panel Studies (2010, 2012, 2014, 2016).
Note: a. Standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05, + p<0.1; Income and wealth variables are average of 4 waves with IHS transformed; b. The table only presents the coefficient estimates of key independent variables in the main model. The first stage results of the Heckman selection model are not shown here. The results from the first stage regressions show that the Heckman selection model is preferred.

Chapter 5. Economic Insecurity and Social Values: Evaluating the Insecurity-Distrust Thesis based on the Objective Economic Insecurity

Abstract

An extensive literature argues that economic insecurity is associated with a lower level of social trust and political trust. However, few studies have investigated this thesis in the non-democratic context. This article examines the link between family income, wealth, income instability, and various types of trust. Utilizing the longitudinal household data of China Family Panel Studies (2010-2016), this study finds evidence that family income and income instability are related to trust in strangers and political cadres but no evidence on the relationship between family economic insecurity and generalized trust. These findings contribute to the literature on the insecurity-distrust thesis by providing evidence using objective measures of economic insecurity in a non-democratic context.

5.1. Introduction

Social trust indicates that members of society "act according to and are secure in the expected futures constituted by the presence of each other or their symbolic representations" (Lewis and Weigert 1985a: 968). Trust is instrumental in the formation of social groups (Parsons 1970). Besides state enforcement of contracts (Cook, Hardin and Levi 2007), High levels of social trust generally indicate that an individual can expect more cooperation behaviors with unfamiliar others (Barber 1983). Hence, at the societal level, social trust serves as an indicator of social capital (Coleman 1988).

In recent decades, scholars pay attention to the relationship between economic insecurity and trust values. Economic insecurity is closely related to loss aversion, an essential feature of human psychology. Individuals are more sensitive to economic insecurity rather than improvement (Hacker et al. 2013). Such negative bias may have essential implications in the formation of social values. Particularly, feeling insecurity may lead individuals to evaluate their expectations about social justice, institutional fairness, and even the trustworthiness of others because they may relate their experiences to the general state of social and political institutions (Tormos 2019).

There is adequate evidence that economic hardship has negative impacts on individual social values, including political trust and trust towards others. For instance, unemployment has been regarded as one source decreasing political trust because individuals attribute such experience to the political institutions (Polavieja 2013). Recent studies focus on individual perception of insecurity based on subjective measures. They show that awareness of their economic situation increases uncertainty about their future and hence decreases political and social trust (Mughan and Lacy 2012).

There are two issues behind these findings. First, scholars exclusively focus on subjective feelings of economic insecurity but rarely pay attention to the objective measure of economic insecurity. Admittedly, it is reasonable to argue that the subjective feeling of economic insecurity is more directly related to one's trust values. The finding is still inconclusive when it turns to the question of whether experiencing rather than feeling economic insecurity harms trust. One's feelings about the insecure state and their actual experiences may not match. For instance, individuals with high-level and stable earnings may still feel insecure given their personality traits, environment, and individual socioeconomic status. On the other hand, those with low income may feel secure because they hold a low expectation about their consumption and earnings and feel satisfactory about their current states.

Thirdly, whether the insecurity-distrust thesis holds across contexts remains unclear. Unlike in the democratic context, the risk of economic insecurity in non-democratic countries may be higher because political power can threaten the safety of individual wealth due to the lack of or inefficient laws protecting property rights. If that is the case, the relationship between the objective measure of economic insecurity and the subjective measure may be weak because the institutional environments can influence the individual's feelings of an insecure economic situation. That is, although previous literature finds a robust relationship between the economic insecurity and social trust in the democratic countries, the conclusion may not apply to the non-democratic contexts due to the institutional differences.

This study addresses the shortcomings of previous literature by examining the relationship between the objective family economic insecurity and individual trust values in post-socialism China. Based on objective measures of family economic insecurity, this study aims to examine the relationship between economic insecurity and trust values. The measure of family

economic insecurity has three dimensions: family income level, family wealth level, and family income instability. The prior two dimensions state the ideal economic situation of one family in maintaining the quality of family life. In contrast, the third dimension indicates whether one family has a stable and secure income trajectory over time. These three dimensions are derived from a vast literature on economic inequality (See reviews by Killewald et al. 2017; Western et al. 2012; Zucman 2019).

5.2. Background

5.2.1. the Insecurity-Distrust Thesis

The relationship between economic hardship and individual social values has been a central topic of social science research. Experiencing economic hardship is a vital factor decreasing one's generalized trust or trust in political institutions. Economic insecurity may decrease generalized trust because the insecurity in employment undermines social integration and hence lowers the expectations of trustworthiness (Ngyen 2017). It is reasonable in terms of the relationship between economic hardship and political trust because individuals may attribute their feelings of economic insecurity to political institutions (Wroe 2014, 2016). Moreover, scholars reveal that the relationship between economic insecurity and trust values could be a mediation mechanism explaining the impacts of economic insecurity on mental health and other outcomes (Ritcher and Näswall 2019). The insecurity-distrust thesis has been supported in many Western countries. The findings in the democratic contexts lead to an explanation that individual experience of economic insecurity violated "a 'psychological-democratic' contract between workers and the state (Wroe 2014: 90)". Such a decrease in trust values is exacerbated as one has a negative perception of the macro-level economic performance.

5.2.2. Objective Economic Insecurity

The challenge in understanding the relationship between economic insecurity and social trust lies in how economic insecurity is defined and measured. Some studies argue that the perception of economic insecurity is more important than objective criteria (Citrin, McClosky, Shanks, & Sniderman 1975; Dalton 2004; Lawrence 1997; Wroe 2016). Most empirical research on this topic is centered on the perception of economic insecurity and indeed suggests a negative relationship between such perception and level of social trust.

Although there is evidence that perceiving an insecure economic situation is associated with a lower trust level, what factors influence the individual perception of economic insecurity is a "black box". Various factors determine individual perception. Perceiving economic insecurity is potentially influenced by economic insecurity in the real world, including individual own economic hardship (such as job loss or income loss) and nation-level economic performance (such as unemployment rate). Moreover, the negative relationship between such perception and social trust may be driven by personality. That is, perceiving economic insecurity is likely to be the consequence of negative personality, which is related to a low level of social trust. Besides the actual experiences and personality, social networks may also bring individuals feelings of economic insecurity through spillover of emotions within the network. Hence, the argument that the perception of economic insecurity is more important than objective criteria confounds the causal mechanism and association. The relationship between perception of economic insecurity and social trust is probably the result of the compositional effects of other factors, including individual-level economic insecurity, nation-level economic performance, personality, and social influence.

The relationship between the individual-level experience of economic insecurity and social trust is still unclear. The challenge to examine this relationship is how to measure

economic insecurity. As Rosenstone et al. (1986: 177) state, "While relatively trustworthy measures of aggregate economic conditions are readily available, the reliability and validity of individual measures of personal financial security are largely untested". Merely relying on a static measure of income is not adequate to define the risk of economic insecurity because wealth and long-term income trajectories also play an essential role in determining economic wellbeing.

Recent advance in understanding economic insecurity offers a potential direction to examine this relationship. Social stratification literature defines economic insecurity as the risk of job or income loss without financial safety (Hacker 2011; Western et al. 2012). The framework in this project extends the previous literature and involves three aspects of the economic situation: income level, financial assets, and long-term change of income. With the development of household surveys in recent decades, it is possible to examine the relationship by operationalizing objective economic insecurity as a set of indicators on income and wealth.

5.2.3. Generalized Trust and Group-Specific Trust

Besides the issue of objective and subjective economic insecurity, distinguishing generalized trust from trust in specific groups, such as friends, strangers, and political institutions is necessary.

In empirical settings, generalized trust, namely trust in “most people” (Rosenberg 1956), indicates the extent to which one individual trusts unspecified others (Nannestad 2008). Such a measure (Hardin 2002: 60-61) can be regarded as an embedded moral value (Uslaner 2002) or as a type of social capital (Coleman 1988) that is "the attitudinal ground… for acceptance of solidary relationship" (Parsens 1970: 142). Generalized trust is regarded as a relatively stable value. Such value is exclusively learned through parents, as they are generally the primary socialization agents and exert the most substantial influence on attitude formation of children

(Glass, Bengtson, and Dunham 1986; Maccoby 2007). Uslaner (2002: 76-77) argued that trust must be learned rather than earned.

Sociological insights lead to the introduction of additional trust dimensions and measures. Different from the generalized trust, measures of group-specific or particularized trust "are not simply reflective of generalized trust but are pivotal to its creation" (Glanville and Paxton 2007: 240). Trust in distinct social groups, including family, neighbors, strangers, and foreigners, reflects individuals' expectations about cooperation or risk in interactions with members of specific groups. Such a measure of trust values takes the two-part relation (Hardin 2002) into account. That is, we trust only in certain social groups rather than others (Hardin 2002: 60). In Fukuyama's analysis (1995), he defined the trust radius as the boundary within which individuals have trust. According to the trust radius perspective, trust in parents, neighbors, and friends reflect in-group trust, while trust in strangers, foreigners, and others reflect out-group trust.

5.2.3. Understand the Insecurity-Distrust Thesis in China

Although the insecurity-distrust thesis is appealing in explaining the decline of social trust in democratic societies, the research fails to take the non-democratic context into account. The experience and perception of economic insecurity are substantively distinct between the non-democratic and democratic contexts. The differences in institutional settings lead to a more insecure financial situation for individuals because the protection of private wealth and income may not be as efficient as in the western countries (Bai et al. 2006). The level of the actual economic hardship and the perception of economic insecurity may be higher in non-democratic countries. Moreover, even if the relationship holds at the non-democratic countries, the psychological-democratic contract between workers and the state may not be valid in this context (Mattila and Rapeli 2018) so that the insecurity-distrust thesis demands a new explanation.

This study sets the context of contemporary China, a middle-income country. As a country with rapid economic development, China also has an authoritarian regime that lasts since 1949. Despite the economic reform since 1978, political reforms are lagged behind its speed of economic development, and the tension between political power and market power still exists. One necessary consequence of this tension is the lack of strong institutions protecting private property rights (Bai et al. 2006), and the risk of economic insecurity is higher than the Western societies. That is, due to the high risk of economic insecurity resulting from the institutional settings of China, the objective economic insecurity, defined as the level of family income and wealth and the level of family income instability, may not be strongly associated with perceived economic insecurity. The insecurity-distrust thesis supported in the democratic contexts may be questionable in China. Moreover, as a country with a family-oriented culture, the level of social trust in China is exceptionally higher compared with that in other societies. Given its authoritarian regime, trust in political institutions may also be determined by different factors compared with democratic societies. Together with these backgrounds, it is valuable to evaluate the validity of the insecurity-distrust thesis in this context.

I hypothesize a negative relationship between the objective economic insecurity and trust values following the previous literature. Those with an insecure economic situation, namely a high level of income volatility and low income and wealth, are more likely to hold a lower level of trust. This hypothesis is built upon a link from objective economic insecurity to the feelings of an insecure situation. That is, the objective situation of economic wellbeing is consistent with the perception of economic insecurity. Likely, objective economic insecurity is not the only source of feeling insecure economic situation. For instance, bad economic situation at the macro level may increase individuals' concern of future economic wellbeing, although they have not had

such experiences of insecurity yet. Also, psychological depression from other sources or experiences, such as workplace stress or personality, may lead to feelings of economic insecurity. If these underlying factors are the primary source of perceiving economic insecurity, we may not observe a significant relationship between objective economic insecurity and trust values. That is, the relationship between the perception of economic insecurity and trust values in previous findings may not be driven by economic insecurity in the real world.

Moreover, besides the economic insecurity based on the framework of this project, one may argue that an individual's feelings may be influenced by a dramatic change in income or wealth in a short time rather than the level of volatility of income in a certain period. That is, a sudden drop in income may cause a lousy feeling of the economic situation, especially for those with a low level of income and little wealth. Hence, besides the dual-dimension economic insecurity, income and wealth changes should be taken into account when examining the objective economic insecurity and trust values. I hypothesize that income or wealth increase has a positive relationship with trust values.

5.3. Data, Measures, and Method

5.3.1. Data

This study uses data from the China Family Panel Study (2010-2016). The description of CFPS can be found in previous chapters. In this study, I rely on families who appear in four waves as the primary family sample. Building on this sample, I calculate family income quantiles, family wealth quantiles, and family income instability (coefficient of variation of family income from 2010 to 2016). Then, I match this family sample to the data of family members based on the family's unique identification number. This leaves a sample of 10,079 individuals with measures of family economic security and individual socioeconomic and demographic information.

Given the procedure of generating the sample of the study, it is likely that the sample of the study is not random. That is, excluded families from CFPS may be specific families. Chapter 2 has shown that, relative to rural residence families, urban families and rural-urban migrant families are more likely to be excluded. To deal with the sample selection bias, I adopt the Heckman selection model throughout the regression analysis.

5.3.2. Measures

The outcome measures include three variables. For the generalized trust, the survey asks respondents, "In general, do you think that most people are trustworthy, or do you think we must be careful when getting along with others?" The variable is coded as one if one respondent thinks most people are trustworthy, and otherwise 0. The latter two types of trust values, trust in strangers, and political trust are based on the question, "To what extent of you trust the following people? Let '0' be very untrustworthy, while '10' be very trustworthy. Do you trust strangers? Do you trust cadres (refer to local government officials)?". These two variables are coded as a numerical variable ranging from 0 to 10. I use the trust measures from the latest wave (2016) as dependent variables.

The measures of independent variables are similar to those in Chapter 3. Family income quantiles are measured as the quantile position of average family income from 2010 to 2016. Family wealth quantiles are measured as the quantile position of average net family wealth from 2010 to 2016. Killewald et al. (2017) suggest that family wealth as an independent variable should be measured as the average across years if possible because it reflects the stable family wealth situation and decreases the bias from wealth volatility. For family income instability, I measure it as the coefficient variation of family income from 2010 to 2016, as described in Chapter 2.

I include series covariates at the individual level to reduce the risk of spurious relationships in regression analysis. The first set of demographic characteristics include gender, age, and marital status in 2014. Socioeconomic characteristics include whether an individual was currently working in 2014, political identity (whether Communist Party Member), and educational level. Also, I control individual *hukou* status and rural/urban residence at the year of 2014. Lastly, to account for province-level variation, I include dummies of provinces in 2014. The summary statistics of the main variables are shown in Table 5.1.

[Table 5.1 about here]

Besides the main analysis, I pool the sample of 2012, 2014, and 2016 to examine whether the income or wealth changes from the last wave are related to trust values at the current wave. The dependent variable is measured as the trust values at the current wave (2012, 2014, and 2016), including three types of trust. The independent variable is measured as income or wealth changes from the last wave by using inverse hyperbolic sine (IHS) transformed income/wealth of the current wave minus the value of the last wave. The value can be explained as the proportional change in income/wealth. For instance, when the value is 1, it approximately means that the income/wealth this wave is two times of the income/wealth last wave.

5.3.3. Analytical Strategy

I adopt logit (for generalized trust) and OLS (for trust in strangers and political trust) models to understand the relationship. Building on the variables described above, the equation can be written:

$$Trust_i = \alpha + \boldsymbol{\beta FamSecurity_i} + \boldsymbol{\gamma X_i} + \epsilon_i$$

$Trust_i$ represents each of the three trust values described above. $\boldsymbol{\beta}$ presents the coefficient estimates of two dimensions of family economic insecurity. $\boldsymbol{X_i}$ are a series of covariates described above.

Given the issue of sample selection bias, I adopt the Heckman selection model to correct the bias. This model is suited for the situation that the dependent variable, family income instability, is not observed for all families. Hence, there is a selection equation, and the family is enrolled in the sample of study if:

$$Trust_i'\boldsymbol{Z} + \mu > 0$$

Where $\boldsymbol{Z}$ is a vector of covariates that affects the probability of individuals in the sample of the study, and μ is normally distributed. The correlation between ϵ and μ is denoted as ρ. When $\rho \neq 0$, the Heckman selection model is preferred and provides consistent coefficient estimates of parameters.

5.4. Findings

Table 5.2 presents coefficient estimates with generalized trust as the dependent variable in logit models with the Heckman selection model correcting selection bias. Model 1a reports the coefficient estimates of objective economic insecurity measures with covariates controlled. There is nearly no statistically significant relationship between all three variables and generalized trust. One exception is the coefficient estimate of families with wealth in the top 20% relative to the bottom 20% of families. It indicates the individuals in families of the top 20% in wealth have a higher probability of generalized trust than those in families of the bottom 20% by 4.3% ((= $e^{0.42} - 1$). Model 1b adds the interaction terms between family income quantiles and income instability. There is no evidence of a significant relationship between family income instability, income quantiles, and generalized trust. Model 1c adds the interaction between family wealth

quantiles and income instability to examine whether family wealth level hides the relationship between family income instability and generalized trust. All coefficient estimates of objective economic insecurity measures are not statistically significant. Together these findings, there is nearly no evidence on the association between objective economic insecurity and generalized trust.

[Table 5.2 about here]

Table 5.3 reports the results with trust in strangers as the dependent variable in OLS models with the Heckman selection model correcting selection bias. Similar to the strategy in Table 4.1, I begin with the baseline model, Model 2a. From Model 2a, still, no significant association is found between family income instability, family income quantiles, and trust in strangers. For the family wealth level, all coefficient estimates are positive, and estimates of 20%-40% and the top 20% of wealth quantiles are statistically significant. This finding provides partial evidence that trust in strangers is higher as family wealth becomes higher. Model 2b adds the interaction term between family income quantiles and family income instability to examine whether there is a marginal effect of income instability given income level. The results show a negative relationship between family income instability and trust in strangers for individuals from families in the bottom 20% income group. For those in families of 20% to 40%, 40% to 60%, and the top 20% income groups, the relationship between family income instability and trust in strangers becomes positive. However, despite the statistical significance, the magnitudes of coefficient estimates are nearly zero. Model 2c adds the interaction between family income level and income instability. There is no significant association between family income instability and trust in strangers by family wealth quantiles. Table 5.4 presents results with

political trust as the dependent variable. The results are pretty similar to the findings in Table 5.3, in which trust in strangers is the dependent variable.

[Table 5.3 about here]

[Table 5.4 about here]

Taking these findings together, I find a fragile relationship between objective economic wellbeing and social trust. For the generalized trust, no evidence has been found on the relationship between any measure of family economic wellbeing and any type of social trust values. For trust in strangers and trust in political cadres, the analysis only finds moderate evidence that the association between family income instability and trust values varies by income levels. In terms of family wealth, more family wealth indeed associates with a higher level of trust in strangers and in political cadres.

[Table 5.5 about here]

Although the economic insecurity measured by family income volatility has been widely accepted, short-term dramatic changes in income and wealth may have stronger effects on trust values than long-term income volatility. For individuals, they may perceive the increase or decrease of income rather than the extent of income volatility in the long run. I adopt an alternative measure of economic insecurity by calculating income and wealth changes from the last wave of the survey to the current wave. Table 5.5 reports the coefficient estimates using this measure as key explanatory variables. Each model uses one type of trust value as the dependent variable. Across three models, the positive association between family wealth change and trust values is supported. However, the magnitudes of coefficient estimates are very small. With the family wealth doubled from the last wave, the probability of having the generalized trust

increases 0.002, trust in political cadres increases by 0.011, and trust in strangers increases by 0.1.

5.5. Conclusion

This study examines the relationship between family economic insecurity and an individual's trust values. Unlike previous literature measuring economic insecurity as the feelings of an insecure economic situation, this study employs objective measures based on family income level, wealth level, and income instability. The findings here are very different from previous literature, which generally posits a negative relationship between feeling economic insecurity and trust values. First, there is no statistically significant association between income instability, an essential measure of economic insecurity, and all trust values. That is, individual trust values possibly do not depend on the family's economic situation. Second, the roles of family income and wealth are different depending on the types of trust. For the generalized trust, there is nearly no evidence that family income and wealth matter in terms of individual trust value. In terms of trust in strangers and political trust, family income levels and income instability jointly relate to trust values despite the small magnitudes of associations.

Why are the findings in this study inconsistent with the general conclusion of the previous literature? The relationship between subjective economic insecurity and social trust could be driven by other factors, such as nation-level economic performance, personality, or social influence, rather than individual own economic wellbeing. According to the framework in this study, subjective feelings of economic insecurity are consequences of multiple factors. In this paper, objective economic insecurity is measured based on family income and wealth over a period. It is also possible that other types of insecurity experiences, such as unemployment, rather than income and wealth, are related to trust values. As Nguyen (2017) states, the

relationship between economic insecurity and generalized trust can be explained as a social integration problem because labor market insecurity decreases the social integration of individuals.

In the context of China, the institutional settings could be a vital factor explaining the insignificant relationship between the objective economic insecurity and social trust. Chinese families may perceive an insecure economic situation due to the limited protection of their financial resources. Hence, the relationship between the objective measure of economic insecurity and subjective feelings may be different from that in the Western contexts. This possible channel may explain the findings in this study. Given the limit of data, this study is not able to test this hypothetical explanation. Future researches may pay this critical question of whether the relationship between objective and subjective economic insecurity is consistent across contexts.

Besides, it is also possible that unexpected individual experiences of job or income loss are more related to the feelings of economic insecurity rather than the income volatility or income and wealth changes captured by the method in this study. It is reasonable to expect that unexpected income or job loss has more significant influences on personal feelings of economic insecurity. However, it is not likely to examine the thesis because identifying unexpected income or job loss is methodologically challenging. Future studies may rely on experimental designs to examine the relationship.

Except for these explanations, the findings in this study may not be generalized to the whole population given the limit of the sample selection bias. This study only focuses on the families and their members, which are successfully followed from 2010 to 2016. As Chapter 2 posits, this restriction may exclude the most disadvantaged families in China, such as homeless

families and mobile families across regions. These families may have the highest risk of economic insecurity. By excluding this portion of the population, the findings here may only reflect the population group, which are relatively stable in terms of residence. This study adjusts the regression coefficients and standard errors based on the Heckman selection model to minimize the effect of sample selection. Future research should rely on the unbiased longitudinal sample to investigate the insecurity-distrust thesis in China.

Figures and Tables

Table 5.1. Summary Statistics (*N*=10,079)

Variable	Mean	Std. Dev.	Min	Max
Generalized Trust (2016)	0.56	0.50	0	1
Trust in Strangers (2016)	1.89	2.09	0	10
Political Trust (2016)	5.10	2.67	0	10
Family Income Instability	26.24	12.79	0.94	82.77
Family Income Quantile				
Bottom 20%	0.20	0.40	0	1
20%-40%	0.20	0.40	0	1
40%-60%	0.20	0.40	0	1
60%-80%	0.20	0.40	0	1
Top 20%	0.21	0.40	0	1
Family Wealth Quantile				
Bottom 20%	0.19	0.39	0	1
20%-40%	0.20	0.40	0	1
40%-60%	0.20	0.40	0	1
60%-80%	0.21	0.40	0	1
Top 20%	0.20	0.40	0	1
Currently Working	0.75	0.44	0	1
Urban Residence (2010)	0.46	0.50	0	1
Non-Agricultural *Hukou* (2010)	0.31	0.46	0	1
Male	0.49	0.50	0	1
Age (2010)	47.87	14.44	17	90
Marital Status (2010)				
Not Married	0.08	0.28	0	1
Currently Married	0.90	0.30	0	1
In Cohabitation	0.00	0.05	0	1
Divorced	0.01	0.11	0	1
CCP member (2010)	0.02	0.15	0	1
Educational Level (2010)				
No Schooling	0.31	0.46	0	1
Primary School	0.22	0.42	0	1
Junior Middle School	0.27	0.44	0	1
High School	0.13	0.34	0	1
College and above	0.07	0.25	0	1

Data Source: China Family Panel Study (2010, 2012, 2014, 2016).

Table 5.2. Coefficient Estimates of Family Income Instability on Generalized Trust

VARIABLES	Model 1a	Model 1b	Model 1c
Family Income Instability	0.000	-0.000	-0.000
	(0.000)	(0.001)	(0.001)
Family Income Quantiles (Bottom 20% as References)			
20%-40%	0.023	-0.004	0.022
	(0.016)	(0.038)	(0.016)
40%-60%	0.012	-0.013	0.013
	(0.016)	(0.038)	(0.017)
60%-80%	0.001	0.005	-0.002
	(0.017)	(0.039)	(0.018)
Top 20%	0.025	0.049	0.025
	(0.020)	(0.039)	(0.020)
Family Wealth Quantiles (Bottom 20% as References)			
20%-40%	-0.008	-0.006	-0.008
	(0.016)	(0.016)	(0.038)
40%-60%	0.024	0.026	0.003
	(0.016)	(0.017)	(0.037)
60%-80%	-0.010	-0.007	0.000
	(0.017)	(0.017)	(0.037)
Top 20%	0.042*	0.046*	-0.000
	(0.019)	(0.020)	(0.037)
Interactions			
With Family Income Quantiles (Bottom 20% as References)			
20%-40%		0.001	
		(0.001)	
40%-60%		0.001	
		(0.001)	
60%-80%		-0.000	
		(0.001)	
Top 20%		-0.001	
		(0.001)	
With Family Wealth Quantiles (Bottom 20% as References)			
20%-40%			0.000
			(0.001)
40%-60%			0.001
			(0.001)
60%-80%			-0.000
			(0.001)
Top 20%			0.002
			(0.001)
Gender (Male=1)	0.043***	0.043***	0.043***
	(0.010)	(0.010)	(0.010)

Age (at 2010)	0.001**	0.001*	0.001*
	(0.000)	(0.000)	(0.000)
Urban Residence	-0.033**	-0.033**	-0.030*
	(0.012)	(0.012)	(0.012)
Currently Working	-0.029*	-0.029*	-0.030*
	(0.012)	(0.012)	(0.013)
Hukou Status at 2010 (Non-agricultural *hukou*=1)	0.000	0.000	0.001
	(0.015)	(0.015)	(0.015)
CCP Membership	0.015	0.017	0.014
	(0.033)	(0.033)	(0.033)
Marital Status at 2010 (Not Married as Reference)			
Currently Married	-0.064**	-0.065**	-0.065**
	(0.022)	(0.022)	(0.022)
In Cohabitation	-0.013	-0.014	-0.011
	(0.115)	(0.115)	(0.114)
Divorced	-0.057	-0.056	-0.059
	(0.047)	(0.047)	(0.047)
Educational Level (2010) (No Schooling as Reference)			
Primary School	-0.011	-0.011	-0.011
	(0.014)	(0.014)	(0.014)
Junior Middle School	0.063***	0.063***	0.063***
	(0.015)	(0.015)	(0.015)
High School	0.085***	0.085***	0.085***
	(0.019)	(0.019)	(0.019)
College and Above	0.164***	0.160***	0.165***
	(0.025)	(0.025)	(0.025)
Province Dummies	Yes	Yes	Yes
Constant	0.255***	0.259***	0.271***
	(0.076)	(0.078)	(0.078)
Observations	30,218	30,218	30,218
	(10,079)	(10,079)	(10,079)

Note: a. Standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05, + p<0.1. b. The table only presents the coefficient estimates of key independent variables in the main model. The first stage results of the Heckman selection model are not shown here. The results from the first stage regressions show that the Heckman selection model is preferred.

Table 5.3. Coefficient Estimates of Family Income Instability on Trust in Strangers

VARIABLES	Model 2a	Model 2b	Model 2c
Family Income Instability	-0.001	-0.008**	-0.001
	(0.002)	(0.003)	(0.004)
Family Income Quantiles (Bottom 20% as References)			
20%-40%	-0.059	-0.450**	-0.063
	(0.068)	(0.158)	(0.068)
40%-60%	0.020	-0.310*	0.013
	(0.070)	(0.158)	(0.070)
60%-80%	0.049	-0.106	0.044
	(0.074)	(0.163)	(0.074)
Top 20%	0.053	-0.278+	0.059
	(0.085)	(0.163)	(0.085)
Family Wealth Quantiles (Bottom 20% as References)			
20%-40%	0.137*	0.146*	0.139
	(0.067)	(0.067)	(0.157)
40%-60%	0.082	0.092	0.226
	(0.069)	(0.069)	(0.155)
60%-80%	0.039	0.045	0.053
	(0.073)	(0.073)	(0.154)
Top 20%	0.266**	0.272**	0.129
	(0.083)	(0.083)	(0.156)
Interactions With Family Income Quantiles (Bottom 20% as References)			
20%-40%		0.012**	
		(0.004)	
40%-60%		0.010*	
		(0.005)	
60%-80%		0.003	
		(0.005)	
Top 20%		0.010*	
		(0.005)	
With Family Wealth Quantiles (Bottom 20% as References)			
20%-40%			-0.000
			(0.005)
40%-60%			-0.005
			(0.005)
60%-80%			-0.001
			(0.005)
Top 20%			0.005
			(0.005)
Gender (Male=1)	0.448***	0.448***	0.448***
	(0.043)	(0.043)	(0.043)

Age (at 2010)	-0.005**	-0.006**	-0.005**
	(0.002)	(0.002)	(0.002)
Urban Residence	0.036	0.042	0.037
	(0.052)	(0.052)	(0.052)
Currently Working	-0.107*	-0.111*	-0.108*
	(0.052)	(0.052)	(0.052)
Hukou Status at 2010 (Non-agricultural *hukou*=1)	-0.101	-0.092	-0.099
	(0.063)	(0.063)	(0.063)
CCP Membership	-0.030	-0.024	-0.030
	(0.138)	(0.138)	(0.138)
Educational Level (2010) (No Schooling as Reference)			
Primary School	-0.114+	-0.113+	-0.115+
	(0.060)	(0.060)	(0.060)
Junior Middle School	0.021	0.026	0.020
	(0.061)	(0.061)	(0.061)
High School	0.186*	0.186*	0.185*
	(0.078)	(0.078)	(0.078)
College and Above	0.783***	0.791***	0.791***
	(0.105)	(0.106)	(0.106)
Marital Status at 2010 (Not Married as Reference)			
Currently Married	-0.376***	-0.363***	-0.376***
	(0.090)	(0.091)	(0.090)
In Cohabitation	-0.710	-0.705	-0.702
	(0.467)	(0.467)	(0.467)
Divorced	-0.436*	-0.429*	-0.440*
	(0.195)	(0.195)	(0.195)
Province Dummies	Yes	Yes	Yes
Constant	1.944***	2.166***	1.944***
	(0.316)	(0.326)	(0.327)
Observations	30,218 (10,079)	30,218 (10,079)	30,218 (10,079)

Notes: a. Standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05, + 0.1; b. The table only presents the coefficient estimates of key independent variables in the main model. The first stage results of the Heckman selection model are not shown here. The results from the first stage regressions show that the Heckman selection model is preferred.

Table 5.4. Coefficient Estimates of Family Income Instability on Trust in Cadres

VARIABLES	Model 3a	Model 3b	Model 3c
Family Income Instability	-0.001	-0.007*	-0.001
	(0.002)	(0.004)	(0.004)
Family Income Quantiles (Bottom 20% as References)			
20%-40%	-0.076	-0.452*	-0.073
	(0.086)	(0.200)	(0.086)
40%-60%	-0.118	-0.448*	-0.117
	(0.088)	(0.200)	(0.088)
60%-80%	-0.129	-0.424*	-0.131
	(0.093)	(0.205)	(0.093)
Top 20%	-0.110	-0.280	-0.110
	(0.107)	(0.206)	(0.107)
Family Wealth Quantiles (Bottom 20% as References)			
20%-40%	0.233**	0.243**	0.128
	(0.085)	(0.085)	(0.199)
40%-60%	0.163+	0.175*	0.268
	(0.087)	(0.088)	(0.196)
60%-80%	0.211*	0.219*	0.284
	(0.092)	(0.092)	(0.195)
Top 20%	0.129	0.134	0.109
	(0.105)	(0.105)	(0.197)
Interactions With Family Income Quantiles (Bottom 20% as References)			
20%-40%		0.011*	
		(0.006)	
40%-60%		0.010+	
		(0.006)	
60%-80%		0.009	
		(0.006)	
Top 20%		0.004	
		(0.006)	
With Family Wealth Quantiles (Bottom 20% as References)			
20%-40%			0.004
			(0.006)
40%-60%			-0.004
			(0.006)
60%-80%			-0.003
			(0.006)
Top 20%			0.001
			(0.006)
Gender (Male=1)	0.036***	0.035***	0.036***

	(0.002)	(0.002)	(0.002)
Age (at 2010)	0.033***	0.033***	0.033***
	(0.002)	(0.002)	(0.002)
Urban Residence	-0.465***	-0.458***	-0.465***
	(0.065)	(0.065)	(0.065)
Currently Working	-0.106	-0.111+	-0.106
	(0.066)	(0.066)	(0.066)
Hukou Status at 2010 (Non-agricultural *hukou*=1)	-0.200*	-0.190*	-0.202*
	(0.079)	(0.080)	(0.079)
CCP Membership	0.495**	0.505**	0.495**
	(0.174)	(0.174)	(0.174)
Educational Level (2010) (No Schooling as Reference)			
Primary School	-0.026	-0.025	-0.026
	(0.075)	(0.075)	(0.075)
Junior Middle School	-0.104	-0.100	-0.105
	(0.077)	(0.077)	(0.077)
High School	-0.024	-0.023	-0.023
	(0.098)	(0.098)	(0.098)
College and Above	0.273*	0.266*	0.272*
	(0.133)	(0.134)	(0.133)
Marital Status at 2010 (Not Married as Reference)			
Currently Married	-0.375**	-0.364**	-0.376***
	(0.114)	(0.114)	(0.114)
In Cohabitation	-0.059	-0.058	-0.061
	(0.589)	(0.589)	(0.589)
Divorced	-0.539*	-0.529*	-0.543*
	(0.246)	(0.246)	(0.246)
Province Dummies	Yes	Yes	Yes
Constant	3.559***	3.759***	3.550***
	(0.400)	(0.413)	(0.415)
Observations	30,218	30,218	30,218
	(10,079)	(10,079)	(10,079)

Notes: a. Standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05, + p<0.1; b. The table only presents the coefficient estimates of key independent variables in the main model. The first stage results of the Heckman selection model are not shown here. The results from the first stage regressions show that the Heckman selection model is preferred.

Table 5.5. Coefficient Estimates of Trust Values on Income and Wealth Changes

VARIABLES	Model 4a Generalized Trust (logit)	Model 4b Trust in Strangers (OLS)	Model 4c Trust in Political Cadres (OLS)
The proportion of Income Change from the Last Wave	0.002	0.006	0.003
	(0.005)	(0.006)	(0.005)
Proportion of Wealth Change from Last Wave	0.006**	0.010**	0.011***
	(0.002)	(0.003)	(0.002)
Income Last Wave	-0.000	0.004	0.008
	(0.006)	(0.008)	(0.007)
Wealth Last Wave	0.013***	0.008*	0.014***
	(0.003)	(0.004)	(0.003)
Individual Covariates	Yes	Yes	Yes
Province Dummies	Yes	Yes	Yes
Survey Years	Yes	Yes	Yes
Constant	-0.757***	4.688***	1.970***
	(0.144)	(0.180)	(0.146)
R-squared	-	0.046	0.055
Observations	45,225	45,225	45,225

Notes: a. Standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05, + p<0.1. b. The regression results are estimated based on the pooled sample from 2012 to 2016. c. Income and wealth measures are IHS transformed. c. The proportion of income/wealth change is calculated by using IHS transformed income/wealth minus IHS transformed income/wealth last wave. For instance, a 1-unit increase indicates that family income is two times of that at last wave.

Chapter 6. Conclusion

Economic insecurity is a common social phenomenon as economic inequality rises in recent decades. The rise of economic inequality aggravates the economic hardship of families at the bottom of income and wealth distribution. As a consequence, the instability of family or individual welfare may increase and have various social consequences in the long run.

The insecure economic situation derives from a lot of economic sources. At the micro-level, the direct cause could be the unstable employment trajectories of family members. Unemployment could bring a sharp decrease in family economic resources. From a sociological perspective, the unstable income and employment trajectories are determined by various socioeconomic and demographic characteristics, including educational levels, divorce, or sudden life events. Hence, the inequality of economic insecurity among families should be derived from the social institutions that lead to the inequality of life opportunities. Besides, the macro-level economic performance may have different effects on the risk of economic insecurity across social groups. In terms of families at the bottom of the social class system, the lack of financial resources makes them more vulnerable to diminish the negative impact of the economic recession. It has been supported in the empirical research based on the United States and other developed societies.

There are three shortcomings implied by the discussion above. The first issue lies in the study setting of economic insecurity. There is no doubt that some factors influencing the risk of economic insecurity are consistent across social contexts, such as unemployment, economic recession, etc. However, from a sociological perspective, what is essential to understand this phenomenon is the issue of contexts. For instance, in developed and democratic contexts, the social welfare system is relatively efficient so that unemployment is mainly a consequence of

economic performance. However, in a rapidly changing society, such as China, unemployment could be a result of the institutional reform (the unit system reform in China). Moreover, the lack of an efficient social welfare system may amplify the insecurity of family economic resources because political power may take over private properties under the authoritarian rule. Without taking a comparative perspective into account, the findings on the economic insecurity at the developed context are not convincing to apply to the other contexts.

The second issue is the inconsistency of concepts and measures. Economic insecurity is regarded as the equivalent term of income instability in the literature of economics. Moreover, there is no agreement on the definition of economic insecurity so that scholars mainly rely on a convenient and unidimensional measure, including the short-term decrease of income, to quantify the level of economic insecurity. The problem is that the level of insecurity is not only determined by the unstable income dynamics but also a composite concept that involves the level of economic resources and the stability of income. Exclusively focusing on one single dimension of economic insecurity does not help identify and locate the most economically disadvantaged groups in society and brings practical difficulty in policy implantation targeting low-income families.

The third issue is that the relationship between the experiences and feelings of economic insecurity is rarely investigated in previous literature. The psychological perception may be determined by other factors, despite actual experiences of economic hardship, such as the relative deprivation, perceptions of macro-economic performance, etc. Given the various sources of perceiving economic insecurity, the relationship between the objective and subjective economic insecurity in understanding the consequences of economic insecurity should be emphasized. That is, it is likely that the relationship between perceptions of economic insecurity

and social and psychological outcomes is driven by other factors rather than actual economic hardship.

These three shortcomings in the previous literature form the motivation of this project. By focusing on a middle-income and authoritarian country, this study extends the literature of economic insecurity to the non-Western world. To highlight the importance of understanding the economic insecurity in a multi-dimension way, it examines the relationship between family economic resources and the experiences of unstable income trajectories. By focusing on the differentiation effects of a unique social institution on the family economic insecurity, this project brings institutional contexts into the understanding of family economic hardship. Moreover, to prove the importance of distinguishing the objective and subjective meaning of economic insecurity, this project evaluates the widely accepted insecurity-distrust thesis in the social context and implies that the study on the consequences of economic hardship should not only distinguish the objective from subjective economic insecurity but also pay attention to the role of institutional contexts in shaping the relationship between the objective and subjective economic insecurity.

6.1. Summary of the Findings

Using the latest longitudinal household survey from 2010 to 2016, Chapter 2 evaluates the sample quality and measures of economic insecurity to present the methodological efforts of validating the findings of this project. For the longitudinal study, the essential issue is the sample selection bias of the longitudinal sample. The families did not randomly drop out from 2010 to 2016 so that the sample of the study does not represent the national representative sample. For instance, rural-urban migrant families, which belong to the bottom social class in the context of China, are more likely to be not tracked successfully during the period. Thus, the sample

selection bias should be emphasized in the whole project. Moreover, built upon the previous literature on economic insecurity, I develop a dual-dimension measure by taking both the static and dynamic dimensions of economic wellbeing into account. The static dimension includes the level of family income and wealth, while the dynamic dimension indicates the level of income volatility over a period. This chapter operationalizes the measures based on detail income and wealth information of families. Specifically, it discussed the contribution of each income component to the family income instability and shows that wage income plays a vital role in determining the level of income instability. This finding also supports the previous literature, which shows the importance of job security in maintaining stable family economic wellbeing.

Chapter 3 pays attention to the internal relationship between static and dynamic aspects of economic insecurity based on the exploration of Chapter 2. The chapter examines the relationship between the amount of net family wealth and family income instability and the moderation role of family income levels. The theoretical motivation of this chapter is that the volatility of family income should not be the indicator of economic insecurity because it could be adjusted by the family economic resources, such as savings and other types of assets. This chapter finds that the relationship between family wealth and income instability is heterogeneous across the levels of family income. For the bottom 20% of families, the association is positive. With more family wealth, the income trajectory of one family is more volatile. For the rest of the families, the association becomes negative and indicates that the more family wealth is linked to a more stable family income trajectory. This chapter further explores which components of family wealth explain the heterogeneity in the relationship between family wealth and income instability. The role of land assets is different from other components of family wealth. For the bottom 20% of families, more land asset means a lower family income instability while for other

quantiles, the association is positive. Land assets take a large proportion of rural family wealth, but nearly zero in urban family wealth because of the land reform since 1978 guarantees these land values to rural families for rural productivity. Hence, for rural families with low income, land asset ensures a stable family life from agricultural activity and hence indicates a more stable income trajectory. However, this may not apply to those families with higher income because they have more income sources beyond agricultural activities. The findings of this chapter imply that previous literature on economic insecurity does not deliver the social mechanism by merely the simple measure of income instability or a sudden drop in income. Moreover, the findings also emphasize the necessity of including component analysis of family economic resources to understand the economic hardship.

Chapter 4 shifts the attention to the relationship between social institutions and family economic insecurity. Chapter 3 presents a detailed investigation of the relationship between family economic resources and income instability and posits the importance of taking institutional contexts into account. This chapter meets this gap by focusing on the *hukou* system, one of the prominent institutions shaping life opportunities of Chinese families and studying how this system differentiates the risk of economic insecurity. The findings prove that the institution not only increases the rural-urban income inequality, as previous literature shows but also brings the inequality of income volatility. Rural families and rural-urban migrant families have a lower level of family wealth and income and also face a more volatile income trajectory compared with those urban ones. This finding indicates the high risk of Chinese rural families and migrant families together with the findings in Chapter 3, which shows a close relationship between family wealth and income. Moreover, further analysis of this chapter shows the educational opportunity as an essential channel that makes the differentiation mechanism of the *hukou*

system work. These results expand the literature on economic insecurity by showing the vital role of social institutions in a non-democratic context.

Chapter 5 turns to the consequences of family economic insecurity. Although Chapter 4 presents the shaping effect of a specific institution on the family economic insecurity, how social institutions change individuals' perceptions of economic insecurity despite their actual experiences of economic hardship is not answered. That is, due to the lack of an efficient protection of private property, individuals may perceive economic insecurity independent of the actual economic hardship. Previous literature rooted in the social welfare states shows that the perception of economic insecurity is associated with a lower level of generalized and political trust. This chapter re-evaluates this thesis by focusing on the context without the efficient protection law. The findings find merely no evidence on the relationship between family income, wealth, income instability, and trust values. These results are not surprising if one takes the authoritarian institutions into account. The authoritarian rule links the objective and subjective economic insecurity weak so that the null findings in this study do not imply the nonexistence of a relationship between perception of economic insecurity and trust values. One crucial task for future study is to investigate the relationship between economic hardship and perceptions of economic insecurity in the context of China.

6.2. Summary of the Limits

There are several limits to be noted. First, the sample selection bias due to the nonrandom drop-out of families in the longitudinal survey may make the conclusions of this project not generalized to the whole population. Although this study adopts the Heckman selection model to adjust the effect of selection bias, future research should pay attention to a better strategy, such as the quality control of survey execution and more appropriate bias-adjustment models. Second,

due to the short period of longitudinal data, the measure of income instability may not be robust as it in other countries, such as the United States. This limit decreases the confidence of the findings on family income instability. As the longitudinal survey used in this project is an ongoing project, the release of new data will deal with this limit in the future. Third, the causal mechanism of how the institutions shape the family economic insecurity is still unclear despite the findings of this project. On the one hand, the role of the education system in explaining the relationship between the *hukou* system and the economic insecurity demands more explorations in the future. On the other hand, the impact of social institutions on the consistency of objective and subjective economic insecurity should be put into the research agenda from a comparative perspective.

6.3. Future Directions from This Project

Although the empirical analysis is still limited to the association analysis of family income and wealth, this project is the start of a broader research agenda on the family economic insecurity and its effects on family and economic wellbeing. The last section of this chapter will demonstrate the potential directions in which this agenda could be developed in the future.

One area that could be expanded is to study the effects of family economic insecurity on demographic changes, including the assortative mating, fertility behaviors, and family dissolution. Economic hardship in China could be a key determinant of delaying marriage and fertility and family instability. In the cultural setting of China, the house asset and stable sources of income are key factors determining the time of marriage (Yu and Xie 2015). Hence, for those with a more volatile income trajectory and without house assets, they may be at the disadvantaged position of the marriage market and further influence the population dynamics in China.

Another arena to be expanded is the institutional impacts on how the Chinese perceive economic insecurity. As this project argues, the authoritarian rule may increase individuals' concern about their private properties. Whether such concern is a general phenomenon or heterogeneous across social groups is an urgent task for understanding the consequences of economic insecurity. It is also a pivotal step to distinguish the different mechanisms determining the perception of economic insecurity in democratic and authoritarian countries.

The last area I plan to explore is the causal mechanism of institutional effects on family economic insecurity. As Chapter 4 shows, the effects of the *hukou* system could work through the channels of shaping educational opportunities. Understanding the causal mechanism will link the research on economic insecurity to the literature on social mobility.

6.4. Concluding Remarks

Economic insecurity has been attracting much attention in recent years because of its implications for social policies. This project expands the scope of previous literature, which exclusively focuses on democratic and developed contexts, and provides the very first study on economic insecurity in a middle-income society. The two contributions this project makes include a sociological explanation of economic insecurity and the importance of institutional contexts in understanding this social phenomenon. Building upon the efforts of this project, I intend to establish a wide range of research that understands the economic insecurity of Chinese families, especially those at the bottom of the social class system. I hope to add more new knowledge for the design and implementation of social policies targeting poverty reduction and welfare improvement.

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