



Center for Social Development

GEORGE WARREN BROWN SCHOOL OF SOCIAL WORK

Financial Literacy in China: Priorities and a Direction

Yiqing Yuan and Minchao Jin
New York University

2017

CSD Working Papers
No. 17-37



Washington University in St. Louis

Acknowledgments

The authors acknowledge the support from New York University Research Challenge Fund.

Financial Literacy in China: Priorities and a Direction

Abstract

Growing income disparity, a shrinking social welfare system, expanding financial markets, and diversifying financial products have pushed economically vulnerable groups in China into greater disadvantage in recent decades. The government has acknowledged the urgency of this situation, which underscores the micro- and macro-level importance of financial literacy and of its study. In general, there are two priorities in efforts to study financial literacy in China. One is theoretical, and the other is empirical. The theoretical priority, which comes from Western research, is to develop conceptual precision; the financial-literacy framework is not well defined, fails to differentiate among related concepts, and impedes the process of measuring and exploring interactions. This paper presents results from a review of the Chinese literature and proposes adoption of a financial capability framework whose intended end is financial well-being. The empirical priority, which has emerged from China's social and economic context, is to develop evidence-based, contextually informed research and practice to improve financial literacy.

Key words: financial literacy, financial capability, financial well-being, financial access, China

In recent decades, China has undertaken a social and economic transformation of historic proportions, but this transformation has been accompanied by dramatic growth in income disparity. From 1995 through 2012, the nation's Gini coefficient rose from 0.45 to 0.73 (Xie & Zhou, 2014) and reforms reduced social welfare provisions, which are now highly connected with *Hukou* (a household registration record) and employment status (Deng, Sherraden, Huang, & Jin, 2013).¹ These changes have increased institutionalized discrimination against socioeconomically vulnerable groups. Urban residents and employees in the large state-owned sector are often eligible for various welfare schemes while rural residents are either excluded from the welfare system or receive only a fraction of the benefits (Deng et al., 2013).

The recent expansion of Chinese financial markets has coincided with intertemporal and intersectoral resource mobilization. A diverse complement of financial products and services has become increasingly accessible to small investors, adding complexity to financial decision making. But access to financial offerings and information is not distributed equally across socioeconomic groups: These developments have exacerbated economic vulnerability by increasing the difficulty of acquiring, maintaining, and growing wealth.

Income disparity in China is directly tied to differences in the sources of income. *The China Household Income Disparity Report* (Survey and Research Center for China Household Finance, 2013) revealed that income from wages and salaries actually narrowed income disparity but that income from

¹ Social welfare is distributed to registered residents at the local level. The nature of benefits and access to them differ by whether the applicant lives in an urban area or a rural one (benefits are more generous in urban areas; Deng et al., 2013).

investment was a main contributor to such disparity. The report also showed that households with incomes in the top 10% receive 67.21% of their incomes from investments.

Trends are rather different at the other end of the income distribution. Low-income households have difficulty making ends meet, live in debt, and make financial mistakes. Compared with more affluent counterparts, they are less likely to participate in financial markets or to use mainstream financial services and more likely to use informal or private financial services; research from the United States suggests that they also are more likely to become victims of financial schemes (Sherraden, 2013). The difficulties that prevent low-income households from accumulating assets are exacerbated by low financial literacy, insufficient social welfare, and inadequate financial services (Sherraden, 2013). All of these developments have heightened the importance of financial literacy and financial participation. Thoughtful, rigorous responses are needed from researchers and practitioners.

In general, there are two priorities in efforts to study financial literacy in China. The first is a theoretical priority that originates from Western research; the second is an empirical priority in which the importance of socioeconomic context is key.

The Theoretical Priority: Expanding Financial Literacy

Financial literacy

Financial literacy initially developed as a theoretical framework that stood in contrast to the concept of financial illiteracy, which was proposed by Bernheim and Garrett (1996). Bernheim's studies in 1994 and 1995 illustrated that many individuals had limited understanding of their economic vulnerabilities and incentives (Bernheim & Garrett, 1996; see also Bernheim 1994, 1995). This insight led Bernheim and Garrett to measure financial knowledge with a series of factual and conceptual items. The factual items assessed knowledge of unemployment rates, "inflation, taxation ... interest ... the minimum wage, the federal deficit, federal debt per household, and Dow Jones average"; the conceptual items examined "the respondent's understanding of real vs. nominal investment returns and risk-return tradeoffs" (Bernheim & Garrett, 1996, p. 7n9).

Recognizing that financial knowledge is an essential domain of financial literacy, Lusardi and Mitchell (2014) conceptualized financial literacy as a type of human capital, defining it as "peoples' ability to process economic information and make informed decisions about financial planning, wealth accumulation, debt, and pensions" (Lusardi & Mitchell, 2014, p. 6). They identified three fundamental concepts of financial literacy: "(i) numeracy and capacity to do calculations related to interest rates, such as compound interest; (ii) understanding of inflation; and (iii) understanding of risk diversification" (p. 10). Those concepts underpinned the three questions that Lusardi and Mitchell have used to measure financial literacy:

- Suppose you had \$100 in a savings account and the interest rate was 2 percent per year. After 5 years, how much do you think you would have in the account if you left the money to grow: [more than \$102; exactly \$102; less than \$102; do not know; refuse to answer.]
- Imagine that the interest rate on your savings account was 1 percent per year and inflation was 2 percent per year. After 1 year, would you be able to buy: [more than, exactly the same as, or less than today with the money in this account; do not know; refuse to answer.]

- Do you think that the following statement is true or false? “Buying a single company stock usually provides a safer return than a stock mutual fund.” [true; false; do not know; refuse to answer.] (2014, p. 10).

The questions have been adopted by various studies conducted in the United States and elsewhere.² Their wide use suggests that research is formulating a composite definition of financial literacy and a systematic way to measure it.

Others have elaborated upon those efforts. Hung, Parker, and Yoong (2009), designers of the Wave 64 questionnaire for RAND Corporation’s American Life Panel, explained financial literacy as “knowledge of basic economic and financial concepts, as well as the ability to use” it (p. 12). They expanded upon Lusardi and Mitchell’s financial literacy measure by including items on life insurance and annuity products, finding that those measures showed good internal consistency and test–retest reliability; the underlying construct proved strong across waves (Hung et al., 2009).

Analyzing differences in the definition and measurement of financial literacy, Huston (2010) adopted a logical analysis approach and reviewed 71 studies published from 1996 to 2008. She came to define financial literacy as “a component of human capital that can be used in financial activities to increase expected lifetime utility from consumption (i.e., behaviors that enhance financial well-being)” (2010, p. 307). In her conceptualization, financial literacy encompasses the four distinct content areas found in previous articles: money basics, borrowing, investing, and protecting resources.

Another notable research effort has come from the International Network on Financial Education of the Organization for Economic Cooperation and Development (OECD). The network’s goal is to compare “key information about the financial knowledge, attitudes and behaviour of adults, as well as levels of financial inclusion and indicators of financial well-being across a wide range of countries” (OECD, 2015b, para. 2). To that end, it developed the *Toolkit for Measuring Financial Literacy and Financial Inclusion* (OECD, 2015a), which included a questionnaire as well as criteria specifying methods for collecting and submitting comparable data from all over the world. The toolkit defined financial literacy as “a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing” (OECD, 2015a, p. 5). Consistent with this comprehensive definition, the questionnaire covered day-to-day money management, financial planning, choosing appropriate products, and financial knowledge and understanding (Kempson, 2009).

This brief review reveals ongoing development in the concept of financial literacy, with a trend toward broadening the definition to make it increasingly comprehensive. As more domains have been included, however, consensus on a definition has become increasingly difficult. Box 1 summarizes the reviewed research, showing that financial literacy has been defined as ability (Lusardi & Mitchell, 2014); knowledge and ability (Hung et al., 2009); human capital (Huston, 2010); and a combination of awareness, knowledge, skill, attitude, and behavior (OECD, 2015b) that relates to economic information (Lusardi & Mitchell, 2014), financial resources (Hung et al., 2009), financial activities (Huston, 2010), and financial decisions (OECD, 2015b). These differences have been further reflected in the diversity of measures and the unclear boundaries between related concepts.

² Examples include the 2004 Health and Retirement Study, the 2007–2008 waves of the National Longitudinal Survey of Youth, the RAND American Life Panel, and the 2009 and 2012 waves of the National Financial Capability Study (Lusardi & Mitchell, 2014).

*Box 1***DEFINITIONS AND MEASURES OF FINANCIAL LITERACY IN AMERICAN LITERATURE****BERNHEIM AND GARRETT (1996)**

<i>Concept</i>	Economic and financial knowledge
<i>Definition</i>	NA
<i>Measure content</i>	1. Factual questions; 2. Conceptual questions
<i>Items</i>	1. Rates of unemployment, inflation, taxation, and interest; minimum wage levels, the federal deficit, federal debt/household, and Dow Jones average; 2. Understanding of real vs. nominal investment returns and risk-return trade-offs

LUSARDI AND MITCHELL (2014)

<i>Concept</i>	Financial literacy
<i>Definition</i>	People's ability to process econ. information and make informed decisions about financial planning, wealth accumulation, debt, and pensions
<i>Measure content</i>	1. Fundamental concepts; 2. Sophisticated concepts
<i>Items</i>	1.1. Numeracy and capacity to calculate; 1.2. Understanding of inflation; 1.3. Understanding of risk diversification; 2.1 Asset pricing; 2.2 Understanding of mortgages

HUNG, PARKER, AND YOONG (2009)

<i>Concept</i>	Financial literacy
<i>Definition</i>	Knowledge of basic econ. and financial concepts, ability to use that knowledge and other financial skills to manage financial resources effectively for a lifetime of financial well-being
<i>Measure content</i>	1. Basic financial literacy; 2. Sophisticated financial literacy; 3. Life insurance
<i>Items</i>	1. Five basic financial literacy items; 2.1. Eight sophisticated financial literacy items; 2.2. Five items on investment markets and products; 3. Four items on life insurance and annuity products

HUSTON (2010)

<i>Concept</i>	Financial literacy
<i>Definition</i>	Component of <i>human capital</i> that can be used in <i>financial activities</i> to increase expected <i>lifetime utility</i> from consumption (i.e., behavior that enhances <i>financial well-being</i>)
<i>Measure content</i>	1. Money basics; 2. Borrowing; 3. Investing; 4. Protecting resources
<i>Items</i>	1. Time value of money, purchasing power, personal financial accounting concepts; 2. Bringing future resources into the present through the use of credit cards, consumer loans, or mortgages; 3. Saving present resources for future use through the use of savings accounts, stocks, bonds, or mutual funds; 4. Insurance products or other risk management techniques

ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT (2015A)

<i>Concept</i>	Financial literacy
<i>Definition</i>	A combination of awareness, knowledge, skill, attitude, and behavior necessary to make sound financial decisions and ultimately achieve individual financial well-being
<i>Measure content</i>	1. Day-to-day money management and financial planning; 2. choosing appropriate products; 3. Financial knowledge and understanding
<i>Items</i>	1. Thirteen items on daily fin. decisions, budget, saving, expenditure shock, financial goals, important goal, goal achieving approach, retirement confidence, retirement plans, covering costs, making ends meet, and lost income; 2. A subscale on identifying and choosing financial products; 3.1. One item of self-evaluated knowledge; 3.2. Six items of objective knowledge testing division, inflation, loan interest, simple interest, compound interest, risk, and inflation

*Box 1 (continued)***SHERRADEN (2013)**

Concept	Financial capability
Definition	An individual and a structural idea that combines people's ability to act with their opportunity to act; they are able to understand, assess, and act in their best financial interest
Measure content	1. Financial access; 2. Financial literacy
Items	1. Have a savings account in a bank or credit union; 2. The knowledge, ability, skills, and confidence to make good financial decisions

HUANG, NAM, AND LEE (2015)

Concept	Financial capability
Definition	Financial capability is a concept that captures important elements that positively contribute to an individual's <i>financial well-being</i>
Measure content	1. Financial literacy; 2. Financial access; 3. Financial functioning
Items	1.1. Financial knowledge: compound interest, interest rates, credit card debt, and credit ratings; 1.2. Social program knowledge: benefits and eligibility of Social Security and Medicare; 2.1. Six questions about the respondent's comfort level with formal financial services; 2.2. Seven survey items on respondents' evaluation of banks/credit unions; 3. Set financial goals, stick to financial plans, track spending, hesitant to spend saved money, and have enough set aside for at least 3 months' expenses

Including all of those domains within one concept seems increasingly unrealistic with the addition of each domain. A more explanatory and expressive framework is needed.

A suggested direction: The framework of financial capability

Financial capability is a broad framework for conceptualizing the combination of individual attributes and contextual features required to achieve financial well-being. The framework recognizes the roles of internal qualities, such as “knowledge and skills, attitude, habit, motivation, confidence, self-efficacy, and behavior” (Sherraden, 2013, p. 4), but also captures a relationship between individuals and external “institutional constructs,” which include “access, information, incentives, facilitation, expectations, restrictions, and security” (p. 5). The conceptualization “considers financial knowledge and skills to be the ‘ability to act’ and financial access to be the ‘opportunity to act’” (Huang, Nam, Sherraden, & Clancy, 2015, p. 130; see also Johnson & Sherraden, 2007, p. 122; Sherraden, 2013, p. 3).

Recent work by Huang, Nam, and Lee (2015) contributed further to the theoretical framework by differentiating financial functioning from the matrix of financial literacy and financial access. In their work, “financial capability is a concept that captures important elements that positively contribute to an individual's financial well-being” (p. 240). The concept's definition has three elements:

Financial literacy, financial access, and financial functioning (Sherraden 2013; Birkenmaier and Huang 2013). *Financial literacy* is the understanding of financial concepts on multiple financial domains, such as personal finance (e.g., interest, investment risk), borrowing, saving, and protection (Huston 2010). *Financial access* is viewed as the availability of ... financial products and services (Sherraden 2013; Huang et al. 2013). *Financial functioning* is

defined by behaviors related to finances, such as budgeting, saving [and investing]. (Huang, Nam, & Lee, 2015, p. 240)

Measuring financial capability

The three essential components of financial capability—financial literacy, financial access, and financial functioning—also have served as the three domains in which it is measured.

Financial literacy

Most financial literacy measures that have drawn upon the financial capability framework have focused on the extent of a subject's financial knowledge in specified areas covering three major subjects:

1. Daily management: saving (Zhan, Anderson, & Scott, 2013), budgeting (Sanders, 2013), banking (Sanders, 2013; Zhan et al., 2013), and interest rates (Adams & Beverly, 2013; Zhan et al., 2013).
2. Investment, lending, and credit: investing (Sanders, 2013; Adams & Beverly, 2013; Zhan et al., 2013), credit rates (Adams & Beverly, 2013; Zhan et al., 2013), dealing with creditors (Sanders, 2013), predatory lending (Zhan et al., 2013), and jeopardy of overdrawing an account (Adams & Beverly, 2013).
3. Policy and services: income taxes (Adams & Beverly, 2013), tax income and substantial tax credits, tax preparation options (Romich, Keenan, Miesel, & Hall, 2013), public- and work-related benefits (Zhan et al., 2013), college tuition (Adams & Beverly, 2013), and financial products (Romich et al., 2013).

Among those studies, only the one by Adams and Beverly (2013) included attitudes in the measure of financial literacy. They inquired about length of the money management term, the spending plan for “an ‘extra’ \$200,” and saving-related attitudes about the importance of savings accounts for children and their families (p. 114).

Financial access

The financial capability framework has informed several measures of financial access. One set of measures has used account ownership as an indicator of such access. For example, one study examined ownership of Individual Development Accounts (Sanders, 2013), and others considered ownership of Child Development Accounts (Adams & Beverly, 2013; Huang, Nam, Sherraden, & Clancy, 2015). Other measures have examined access to one-on-one financial counseling services (Sanders, 2013) as well as to information on taxes and financial services (Wagner, 2013).

Financial functioning

Financial behaviors and related outcomes have served as indicators in financial functioning measures informed by the financial capability framework. Financial functioning measures generally cover five areas:

1. Spending and budgeting: retrospective self-assessment of budgeting behaviors (Parker, 2013); observing behaviors related to budgeting, changes in budgeting, and bill paying

- (Zhan et al., 2013); setting financial goals and sticking to financial plans (Adams & Beverly, 2013); and tracking spending (Adams & Beverly, 2013; Zhan et al., 2013).
2. Saving: saving regularly and having regular, direct savings-account deposits (Adams & Beverly, 2013).
 3. Use of services: having places to cash checks, using money orders, relying on tax-refund-anticipation loans, lending to and borrowing from family members in emergencies, sending money to family members, participating in informal saving (Robles, 2013), and making bill payment choices (Zhan et al., 2013).
 4. Desired outcome: basic needs, financial security, saving, and asset building (Wagner, 2013), reduction in financial fraud victimization, and strategies for resolving problematic telephone calls (McCallion, Ferretti & Park, 2013).
 5. Financial fraud vulnerability: donations to fraudulent charities, disclosure of personal information to telemarketers, fraud participation, and revelation of bank account information (McCallion et al., 2013).

The inclusion of financial functioning as a component within the financial capability framework offers a path away from the argument about whether financial behavior should be included as part of financial literacy. In addition, the framework well reflects the person-in-environment and ecological perspectives in social work. Financial literacy refers to ability at the personal level while financial access refers to the opportunity provided by the environment. The environment shapes the development of personal ability, and individuals have to apply financial literacy in the environment to achieve their goals. This process of applying financial literacy is financial functioning, which can be observed through financial behaviors and actions (Huang, Nam & Lee, 2015).

Financial capability and financial well-being

The preceding discussion shows that the framework of financial capability has stronger explanatory power than the framework of financial literacy. Nevertheless, no consensus has emerged to identify standard measures of its core concepts, and this raises three issues. First, studies have disagreed on measures, even on measures of the same element of the framework. More work is needed on the boundaries among those elements and on the interactive dynamics. Second, there is a need to identify and measure the ends of financial literacy and financial capability. Meeting these needs would provide criteria for assessing the validity of measures. Because financial well-being has been mentioned in several definitions of financial literacy and financial capability, it is probably the standout candidate for the desired end. However, the term is vaguely conceptualized. Third, financial well-being, like financial literacy and financial capability, is a context-based construct. Its meaning varies across individuals and groups. Therefore, the corresponding measures should also be based on the population and environment under study. This logic imposes upon us the necessity of reviewing the context in China.

The Context in China

A study has shown that social safety-net benefits and the economic environment can shape people's financial decisions (Lusardi & Mitchell, 2014). In general, social benefits influence

people's financial needs and financial goals. The economic environment may determine access to and availability of financial services. The following discussion will focus on the welfare system and financial markets in China.

The welfare system

The Chinese welfare system has been characterized by a dual track design, with one track for urban areas and another for rural ones. Prior to the transformation from a planned economy to a market economy in 1980s, the urban welfare construct was financed by the state and provided nearly universal work-based aid throughout the lifetime (Deng et al., 2013). Urban welfare included pensions, health care, and disability support (Selden & You, 1997). In contrast, the rural welfare construct was financed by each rural community. As a result, there was wide variation based on different "local resources and practices" (Selden & You, 1997, p. 1658). After the transformation, this welfare system was threatened by the restructuring of state-owned organizations, decline of the rural economy (Deng et al., 2013), aging of the workforce, and large-scale labor migration (Selden & You, 1997). On June 26, 1991, the state started a new pension construct for employees of urban enterprises. That construct has three sources of financing: The state ensures a basic benefit, enterprises provide a supplementary pension stipend, and individual-level programs offer savings vehicles as well as insurance coverage but require people to plan for their retirement (Seldon & You, 1997). In 1991, a voluntary rural pension program was launched nationwide at county level. In 1998, 598,000 recipients received an average annual payment of CNY 42 (Research Group on Rural Social Security System at China Social Science Academy, 2000), which is too low to ensure a basic living. Subsequent efforts were made to improve the coverage and payment level. By 2012, the new rural pension system was established in every county. In 2010, the basic payment was improved to CNY 660 per year, merely 11% of the rural household's average income. But the urban-rural disparity persisted, and the basic pension payment for an urban employee made up 20% of the employee's household income (Choi, 2015).

Before the New Community Medical Scheme's establishment in 2002, rural health care insurance was available in certain wealthy counties but largely absent elsewhere. By the end of 2014, 98.9% of rural residents participated in the scheme (National Bureau of Statistics of China, 2016a). The central government sets the minimum funding level per participant, and counties can make additional funding available by increasing local government subsidy or individual premiums. However, there is no uniform national standard, and individual benefits vary by local governments' funding capability (Choi, 2015). In 2014, urban health-care participants received around CNY 1,361 per capita from the funding but rural participants received CNY 393 on average (authors' calculations based on figures from National Bureau of Statistics of China, 2016a).

This welfare context has had three major impacts on efforts to develop financial literacy in China. First, the transformation has been accompanied by considerable policy change on multiple administrative levels. Different local governments have different interpretations of the policy and have adopted different approaches to screen, issue, and provide benefits. These differences make it difficult and costly for individuals to keep up to date with policy and to accurately calculate payments as well as benefits. Second, the new emphasis on individual responsibility has forced adaptation. Before the transformation, the universal welfare structure provided comprehensive aid throughout people's lives (Deng et al., 2013). Individuals did not have to plan for about their welfare. But now, individuals must know the different welfare packages, types of housing mortgages,

expenses for children's education, and so on. Third, the social welfare gap remains persistent: An individual's social benefits are contingent upon employment and where his or her residence is registered. Disparities in well-being are significant. The system discriminates against residents in rural areas, especially underdeveloped areas. These three impacts require individuals to collect, filter, and understand the changing information, to adapt to their new role as decision makers, and to manage their assets for lifelong well-being. Financial literacy study should be similarly sensitive to policy change.

The financial markets in China

Bank services

Access to banking services and use of such services vary considerably in China. The total amount of banking services has increased significantly, but the distribution is unequal. According to the People's Bank of China (2017), 3.561 billion individual accounts were opened in rural areas by the end of 2016, reaching 3.91 accounts per capita; 2.552 billion bank cards have been issued, amounting to 2.8 cards per capita. Nationally, 6.125 billion bank cards were issued by the end of 2016, and that is roughly equivalent to 4.47 cards per capita. These data indicate that banking coverage is quite preliminary in China, even in rural areas. Nevertheless, the same report (People's Bank of China, 2017) showed that rural bank branches processed a total of 495 million payment transactions in 2016. It is striking to note that 18.23 million corporate accounts and 3.561 billion individual accounts have been opened (People's Bank of China, 2017) but that only a small portion of bank accounts are actively in use in rural areas.

A 2012 report from the China Household Finance Survey showed that 13.94% of urban households had housing loans from banks and that 7.88% of nonrural households borrowed money from nonbank sectors to obtain a house (Survey and Research Center for China Household Finance, 2012). In contrast, 77.88% of households that had individual education loans were rural ones, and that was 3.5 times the rate among urban households. Rural households also were three times more likely than urban counterparts to borrow money from friends and relatives. Moreover, the 2012 report showed that, among the households without a bank loan, 18.89% indicated a need for a bank loan; 14.8% of those households did not apply, and around 4.1% of them applied but were denied a loan. Households gave three main reasons for the decision not to apply: "may be declined," "the process is too complex," and "don't know how to apply" (which implies the lack of financial literacy).

The stock market and the insurance industry

Established in 1990, China's two domestic stock exchanges—the Shanghai Stock Exchange and the Shenzhen Stock Exchange—grew rapidly during most of the ensuing decade. In December 2001, China's admission to the World Trade Organization marked the beginning of a new era characterized by increasing competition from foreign financial institutions as well as more frequent and larger scale capital flows. By December 2016, the Shanghai exchange ranked fifth in total market capitalization among the world's stock exchanges, the Hong Kong Stock Exchange ranked sixth, and the Shenzhen exchange ranked ninth (Stockstotrade, 2016). In addition, two other markets complement the main exchanges. The first is *Er Ban Shi Chang* (second-tier market), a fully electronic market for small and medium enterprises. It opened in June 2004 and listed 119 firms by 2007. The second, *San Ban Shi Chang* (third-tier market), was established to deal primarily with delisting firms and other over-the-counter transactions (Elliott & Yan, 2013).

Despite their rapid development, Chinese stock markets have been suspicious of speculation. The stock market turnover ratio for China in 2015 was 557.04% (World Bank, 2017a), compared to the U.S. ratio of 160.16% (World Bank, 2017b). This is noteworthy because the government owns a certain portion of the shares of Chinese firms, and those shares remain nontradable (Elliott & Yan, 2013). In contrast, the Chinese insurance industry remains relatively underdeveloped. According to the *China Statistical Yearbook of 2016*, annual assets of the insurance industry reached almost CNY 12.4 trillion and accounted for around 18% of China's gross domestic product in 2015 (National Bureau of Statistics of China, 2016b; percentage calculated by authors). Countries with more developed financial systems tend to have larger insurance industries. Take the United States as an example: In 2015, the annual assets of the insurance industry were valued at around \$8.4 trillion (Federal Insurance Office, 2016). That sum accounted for almost 46.9% of the nation's 2015 gross domestic product (authors' calculations based on Trading Economics, 2017). The relatively small insurance market may not be able to effectively counterbalance the risk in Chinese financial markets, which require participants equipped with financial literacy.

According to the 2012 report from the China Household Finance Survey, the stock-market participation rate among households is 8.84%, and other household rates are similarly low: 4.24% of households invest in funds, 1.10% invest in financial management products, 0.77% invest in bonds, and 0.05% invest in derivatives (Survey and Research Center for China Household Finance, 2012). Overall, family financial assets concentrate in low-risk sectors like bank savings (57.75%) and cash (17.93%), exemplifying an investment mistake described as “nonparticipation in risky asset markets” by Campbell (2006, p. 1590). However, considering the characteristics of the stock and insurance markets—underdeveloped and immature but rapidly developing—there is reason to doubt whether those low participation rates should be interpreted as an investment mistake. And there is certainly doubt about whether arbitrary use of Western criteria is appropriate in those contexts.

The informal financial sector

China has a large and diverse informal financial sector, which includes financial activities that are not regulated by any government entity. The absence of regulation has created a legal grey area (Elliot & Yan, 2013; Gao, Xin, & Zhu, 2014). The sector includes pawn shops, credit guarantee companies, microfinance companies, and firms that provide underground intermediation. To some extent, the informal financial sector fulfills private and local companies' borrowing needs, since those borrowers cannot compete with local governments for bank loans and are only able to raise money by issuing bonds or stock (Elliot & Yan, 2013; Hu, 2013). Rural mutual cooperatives have emerged spontaneously to meet residents' credit needs; the organizations have improved the well-being of the individuals and households they serve. The cooperatives also have been considered a great source of support for small business. Those innovative community-based practices are oriented, targeted, and accessible to individuals who are excluded from formal financial services (Ma, Liu, & Wen, 2010; Wang & Chen, 2011; Zuo & Ma, 2005).

Despite the rapid growth of informal financial practices in rural China, fraud and abuse are common, and financially vulnerable populations are frequently targeted (Gao, Xin, & Zhu, 2014; Zuo & Ma, 2005). Many Western scholars would see engagement in informal financial activities as a sign of low financial capability. Beck and De la Torre (2007) have asserted that loans from informal lenders could cost more than those from formal institutions and expose the borrowers to greater financial risk. Research also has shown that the cost and risk fall disproportionately upon those who are

already financially vulnerable: the poor, individuals with low levels of education, and female-headed households in rural areas (Campero & Kaiser, 2013; Deku, Kara, & Molyneux, 2016). Thus, there is a need to critically evaluate the impacts of the informal sector and the financial capability of participants within the Chinese context.

The Empirical Priority: Financial Literacy Study in China

The urgency

Declining welfare in China has prompted citizens to seek protection from the private market, and booming but immature financial markets have provided a variety of investment options. The Chinese government's recent policy agenda has acknowledged these trends. At the end of 2015, the State Council (2015) issued *The Plan for Promoting the Development of Financial Inclusion (2016–2020)*. The plan's general goal was expressed succinctly:

By 2020, an inclusive financial service and a supporting system commensurate with a moderately prosperous society should have been built, which will effectively improve accessibility of financial services, satisfy increasing financial demand from the public, and make affordable, easy and secure financial services available for farmers, small and micro enterprises, the low-income urban population, poverty-stricken population, and the disabled and the elderly, so that China's financial inclusion can reach the upper-middle level in the world. (p. 2)

The plan also endorsed another key goal: to “effectively disseminate basic financial knowledge, and build a long-term mechanism for financial education” (State Council, 2015, p. 7).

The individual- and household-level demand for financial literacy, together with the government's acknowledgment of that demand, conveys the importance of financial literacy. Therefore, studying this topic in the Chinese context is an answer to the imperative call, and the effort is likely to enjoy a favorable environment created by the growing micro- and macro-level awareness of financial literacy's importance.

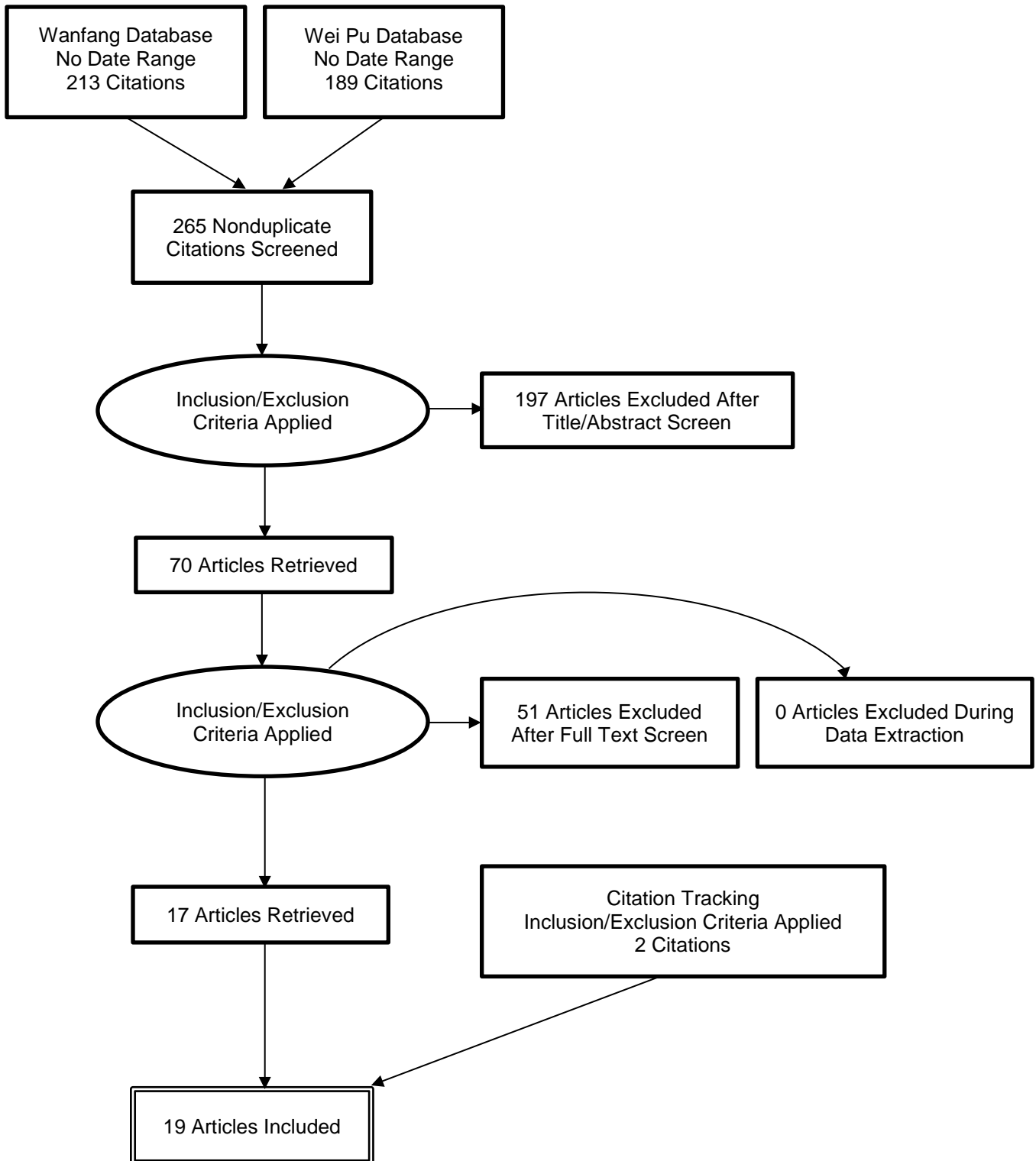
Search method

Studies on financial literacy in China are limited in number. To examine the state of the literature, we performed inclusive and exhaustive searches of two bibliographic databases: Wanfang Data and Wei Pu Data. Through these searches, we identified Chinese journal articles, dissertations, and research center reports that used either or both of two key terms: financial literacy (*jīnróng sùnyang*) and financial knowledge (*jīnróng zhīshì*). The searches were not limited by date. Two additional sources were identified by reviewing the reference lists of works found through the database searches. Through this process, we identified 267 nonduplicate citations. The abstract and full-text screens used two major inclusion criteria: Identified works were empirical studies that included a measure for financial literacy or financial knowledge. Nineteen works were identified through this process, which is illustrated in Figure 1. The 19 study references are listed in the Appendix.

Current findings

The studies generally agreed that financial literacy is more limited among the Chinese population than among the populations of developed countries. One of the largest data sets with a representative

Figure 1. PRISMA flow chart.



sample is the China Household Finance Survey, and it was used by several studies. Because the survey adopted the same three questions used by Lusardi and Mitchell (2014) to measure financial literacy, international comparisons are possible. Estimates from the 2013 China Household Finance Survey indicated that 1.7% of the participants gave correct answers to all three questions and 73.6% of them reportedly did not know the answer to at least one of the three (Yin, Song, & Wu, 2014). In comparison, 30.2% of the sample from the 2011 American National Financial Capability Study gave correct answers to all three questions and 42.2% did not know the answer to at least one (Lusardi & Mitchell, 2014).

The urban–rural disparity in financial literacy is evident in the findings from several of the identified studies. Lv (2014) and Gao (2014) posed the three questions to different urban samples, finding that the percentages of sample members who answered all three correctly were much higher than the percentages of members who did this in the 2013 China Household Finance Survey or in the American sample. The difference between the 2013 sample and the urban samples suggests that financial literacy is low among rural Chinese.

Despite using different measures, several other identified works reported results that were consistent with those studies. Zhang and Lin (2014) concluded that reported financial literacy was lower among rural residents than among their urban counterparts. Other studies found that a significant number of rural respondents were unable to identify counterfeit currency (Chen, Huang, & Fu, 2010; Fan & Ma, 2014; Wu & Pan, 2011; Zhao, Li, & Fan, 2006), yet 42.86% of the rural participants in a study by Chen et al. (2010) reportedly did not know that it was illegal to hold or use counterfeit currency.

Despite these findings on the urban–rural disparity in financial literacy, other findings on the Chinese population are consistent with those on populations from developed countries. In general, the level of financial literacy is higher among the middle-aged than among people in other age groups and higher among employees of state-owned factories than among employees of privately owned factories (Gao, 2014; Han, 2015; Liu, Zhu, & Li, 2015; Lv, 2014; Wang & Fan, 2015; Zhang & Lin, 2014). A monthly income higher than CNY 3,000 (Han, 2015; Wang & Fan, 2015) and completion of middle school (Han, 2015; Gao, 2014) are suggested as the thresholds for high financial literacy.³

In a 2015 study that sampled urban and rural residents, Han found a salient gender gap in the rates at which respondents correctly answered all three of the financial literacy questions from Lusardi and Mitchell (2014). The gender gap in China is mild compared with those in developing countries. In the three studies that adopted Lusardi and Mitchell's questions, the percentage of respondents who correctly answered the three questions was higher among men than women (Gao, 2014; Han, 2015; Lv, 2014). Wang and Fan (2015) added two questions, one on the value of time and another on the value of stock, also finding that men did better. In contrast, Zhang and Lin (2014) adopted 20 financial-knowledge questions for a test fielded with residents of Changchun, finding that the average score among women (8.65) was higher than that among men (7.64).

Liu (2014) collected 300 valid questionnaires in five regions in Northern China, finding that rural-county and city residents reported different attitudes concerning the importance of financial knowledge: 11.6% of rural residents stated that it was important, but only 41.7% of counterparts in

³ Gao (2014) suggested that a monthly income of CNY 5,000 is the threshold for high financial literacy.

Table 1. Definitions of Financial Literacy in Chinese Studies

Reference	Definition (Chinese, original)	Definition (English)
Han (2015)	金融素养是对金融知识的掌握程度和运用能力。	<i>Financial literacy is the ability to master and use financial knowledge.</i>
Li (2014)	金融素养是人们获取和处理相关的金融信息，并据此做出正确投资决策的能力，具体而言，是一种应用金融知识的能力。	<i>Financial literacy is the ability to obtain and process financial information and make the right investment decision according to it. Specifically, it is the ability to utilize financial knowledge.</i>
Liu, Zhu, & Li (2015)	金融素养是金融态度和金融行为的结合。	<i>Financial literacy is the combination of financial attitude and financial behavior.</i>
Lv (2014)	金融素养包含主观和客观两方面。定义为：自信地运用基本金融常识，并做出正确的金融决策，最终取得较好金融满意度的能力。	<i>Financial literacy is the combination of subjective and objective perspectives. It could be defined as the ability to confidently use financial common knowledge to make right financial decisions, and finally, to achieve financial satisfaction.</i>
Ruan, Liu, & Li (2015)	金融素养是使用和管理资金，使得人们能够做出灵活判断和有效决策的能力（美国国家教育研究基金会，2003）。	<i>Financial literacy is the capability to use and manage assets in order to enable people to make flexible judgments and effective decisions (National Foundation for Educational Research, 2003).</i>
Gao (2014)	金融素养是理解相关金融术语及现象的能力和金融交易行为的决策能力。	<i>Financial literacy is the ability to understand financial terminologies and phenomena and to make financial decisions on financial transactions.</i>

cities did the same. The findings point to a persistent source of risk because rural residents also were found to have lower financial literacy and to devote less attention to financial literacy.

In general, the relatively low levels of financial literacy suggest the urgency of efforts to broaden financial capability. The results also reveal heterogeneity in financial literacy: Levels vary by demographics and social context. Despite the findings, it is important to note the lack of consensus concerning measures, and few of the studies are based on nationally representative samples. All of these suggest an urgent need for a carefully planned research agenda. In the next section, we propose questions to be addressed in such research.

Pending questions

What is financial literacy for the Chinese population?

Among the 19 empirical studies found by the authors, six provided clear definitions of financial literacy (see Table 1). Five of the six works defined financial literacy as the ability to use financial knowledge in making financial decisions (Gao, 2014; Han, 2015; Li, 2014; Lv, 2014; Ruan, Liu, & Li,

2015). The remaining study defined it as the combination of attitudes toward financial issues and financial behavior (Liu et al., 2015). Interestingly, all six referred to the English literature in forming their definitions. There seems to exist an underlying logic that definitions offered in Western studies are generally abstract and so lend themselves to high external validity. However, because the Chinese financial and welfare contexts differ remarkably from those in Western countries, it would be imprudent to affirm that those definitions can be adapted to the contexts in China without critical examination.

How should financial literacy be measured?

The abstract nature of the definitions partially avoids the contextual barriers that prevent translation, but those barriers impede efforts to operationalize the definitions as measures. Thus, there is a great need for a comprehensive and accurate way to operationalize financial literacy in the Chinese context.

Five of the 19 identified studies adopted Lusardi and Mitchell's (2014) three financial literacy questions (Gao, 2014; Han, 2015; Lv, 2014; Yin, Song, & Wu, 2014; Wang, 2014), but none addressed the problem of differences between the contexts in China and the United States. The original questions pertained to basic saving and saving for retirement (Lusardi & Mitchell, 2014).⁴ Posing those three questions to a Chinese population may threaten the validity of the research. For instance, the third question was added because stock and mutual funds are two vital investment options in the United States, but access to them is limited in China. Pension funds are managed by the government in China and are separate from the stock market. The individual has limited opportunity to make financial decisions on pension management. Private pension insurance is encouraged but not mandatory. Thus, Chinese respondents may not be able to answer the third question fully, and their responses may not be based on financial literacy within the Chinese context.

Decisions about measures also involve decisions about scoring responses, and there have been two main approaches to scoring responses from the three financial literacy questions. In the first, a user counts 1 for each correct answer, and the total score ranges from 0 to 3. In the second, a user counts 1 if all three answers are correct and 0 otherwise. Among the five studies that adopted the three questions, those by Lv (2014) and Yin et al. (2014) indicated that they followed the first protocol; Han (2015) changed the response options for the third question without explanation; the descriptions provided by Wang (2014) and Gao (2014) lacked the detail needed to determine their methods for scoring. The lack of a consistent scoring method increases the difficulty of examining the validity of the three questions as measures of financial literacy in China.

New financial literacy measures were used by other studies among the 19 we identified. Ruan et al. (2015) designed a multiple-choice test that included nine questions on financial knowledge and nine on application of that knowledge. Wang and Liu (2014) developed a 24-question financial-literacy survey that covered eight domains: economic goals, budgeting, investing for retirement, knowledge of the bank system, understanding of time value, insurance, loans, and basic financial knowledge. Li (2014) used data from the 2011 China Household Finance Survey to evaluate financial literacy via questions about credit cards. The study also examined the reasons why participants did not hold any

⁴ Lusardi & Mitchell (2014) indicated the rationale for posing those questions: The ability to calculate interest rates enables people to compare products, understanding of inflation is needed for lifetime investment, and an understanding of stocks and mutual funds is vital for choosing a pension in the U.S. context.

bond, fund, or other financial product. A few studies focusing on rural populations used items that might be applicable in rural China. Examples of the subjects covered by such items included the ability to identify counterfeit currency (Chen et al., 2010; Fan & Ma, 2014; Li, 2012; Liu, 2015; Yang et al., 2014; Zhang & Lin, 2014) as well as usage of ATMs (Chen et al., 2010; Fan & Ma, 2014; Liu, 2014; Zhao et al., 2006; Zhang & Lin, 2014) and of online banking services (Chen et al., 2010; Fan & Ma, 2014; Wu & Pan, 2011; Zhang & Lin, 2014; Zhao et al., 2006). These new measures raise issues of validity and reliability. For example, content validity is a concern because financial literacy is a multidimensional construct. Items on the usage of online banking services, ATMs, and bank cards can be seen as measures of financial access.

Measures used in the Chinese context but unsatisfactory for it—both traditional measures and new ones—have produced findings whose value is open to question. This prompts restatement of the key question: How should financial literacy be measured? A suitable answer requires the development and validation of measures that fit the context. The heterogeneity of China adds to the difficulty. Certain study designs enable relatively easy reliability testing; however, testing for content and construct validity requires precision in definition and conceptualization. The lack of such precision is a major shortcoming of current Chinese studies. Furthermore, an assessment of criterion validity requires a relationship between an observed concept and another logically relative concept. That requirement brings us to the next question.

What is the end of financial literacy in China?

Financial literacy seems a means, no matter whether it is defined as knowledge, ability, skills, or a combination of them. But there should be an end—a goal or outcome that motivates efforts to promote financial literacy. The question about ends echoes a trend in the history of financial literacy research. The area initially drew scholarly attention because of concerns about the general inadequacy of financial preparations for retirement and about the ability of consumers to avoid investment mistakes.

Those concerns prompted efforts to develop definitions and measures, but the question about ends persists because a sound answer remains elusive. The best candidate seems to be financial well-being. Identifying it as the goal pursued through financial literacy is useful for research because the concept offers criteria for evaluating validity and definitions of financial literacy. Although financial well-being has not been clearly conceptualized and operationalized, including the construct in the research agenda sets clearly the implications of financial literacy research and draws the focus upon targeted populations, especially the vulnerable.

A suggested approach: Context-based financial capability and financial well-being

For the reasons elaborated above, financial literacy is an increasingly problematic construct for understanding the means under discussion here and particularly for understanding it in the context of China. As we have stated, we recommend that future research in this area adopt the framework of financial capability and recognize financial well-being as the desired end. The financial capability framework provides a theoretical path to financial well-being. The framework encompasses three closely related concepts: financial literacy, financial access, and financial functioning. The relatively clear definitions of these neighboring concepts assist in setting the territory of financial literacy. Within the framework, for example, financial behaviors can be categorized as part of financial

functioning. The closely related concepts can serve as the criteria for examining convergent validity, a subtype of construct validity, in the measures of financial literacy.

As we mentioned, the ends in China have been roughly specified by the macro policy and micro needs. The macro policy emphasizes creating a financial environment that is friendly to citizens, especially vulnerable populations. That policy can be understood as an effort to promote financial access. The micro needs remain vague but can be generally expressed as the need for financial well-being. The financial capability framework represents the connection between financial literacy and financial access. In addition, the framework leaves space for exploration of ways to approach financial well-being through financial functioning in the Chinese context.

The following actions are required if financial capability is to be adopted as the framework for pursuing financial well-being. First, financial literacy should be included within the financial capability framework, and research should consider financial literacy's interaction with other concepts. Very few of the studies targeting Chinese populations have done so. Therefore, we strongly recommend examination of the interactive dynamics among financial well-being, financial access, and financial literacy.

Second, study subjects should be included in the effort to develop measures; participants are usually the ones with the best understanding of what financial well-being would mean for them. This kind of research can also empower the subjects. However, we found no studies that reported undertaking such a procedure, and qualitative research is rare. That is another gap to be addressed when applying the framework within a new cultural context (Curry, Nembhard, & Bradley, 2009).

The heterogeneity in China also suggests the need for analysis based on diverse samples, as the meanings of concepts are clearly based in specific contexts. For example, the meaning of financial well-being could vary across populations with different preferences, economic environments, and social benefits (Lusardi & Mitchell, 2014). The existing studies showed such variation. A low-income group was interested in online bank services and ATMs, but the high-income group was interested in personal loans, credit cards, and funds (Liu, 2015). Compared with rural counterparts, urban residents showed more interest in stocks and bonds (Liu, 2014); rural residents overwhelmingly chose to save in banks (Liu, 2014). They were interested in counterfeit currency identification, long-distance transactions, using passports to withdraw cash, setting up and using passwords, applying for loans, and purchasing insurance (Li, 2012). For their part, migrant workers expressed strong interest in new payment tools, debit cards, credit cards, credit records, online and telephone banking services, insurance, and bank card services customized for their needs (Li, 2012). Convenience samples and small samples are feasible, but large and randomized samples are strongly recommended because of the diverse contexts within China. As of this writing, the China Household Finance Survey is the only nationally representative, publically available data set with content related to financial capability.

Conclusion

The shrinking social welfare system and the booming but immature financial market in China call for financial literacy and its study. Increasing individual- and household-level demand for financial literacy—demand acknowledged by the government—indicates the importance of financial literacy study at both micro and macro levels. Research has revealed that the level of financial literacy is

lower in China than in developed countries. The levels of financial literacy and financial functioning are particularly low among such population subgroups as older adults, rural residents, people with low income or low education, and employees of companies that are not state owned.

Studying financial literacy in China poses both theoretical and empirical challenges. A context-based financial capability framework with financial well-being as its end is recommended as a starting point for further research. The framework may guide the research process, especially the conceptualization and operationalization of studies. At least four recommendations are suggested by the possibility of that guidance. First, financial literacy and the interactions among other concepts must be understood as components in the dynamic system of financial capability. Second, research should recognize that the end (or, intended outcome) of financial capability is a criterion for assessing validity. Therefore, financial well-being deserves more attention. Third, the meanings of financial capability and financial well-being are contextually grounded, so efforts to develop the definitions and measures must account for differences in population and environment. Finally, research should focus on representative samples and rigorous study designs in order to improve the quality of insights, enhance the representativeness of results, and identify causal relationships. In conclusion, we suggest that a financial capability framework can inherit the progress made in financial literacy theory and practice but that it is better able to accommodate variation across contexts.

References

- Adams, D. D., & Beverly, S. G. (2013). Low-income parents of preschool children: Financial knowledge, attitudes, behaviors, and ownership. In J. Birkenmaier, M. S. Sherraden, & J. Curley (Eds.), *Financial capability and asset development: Research, education, policy, and practice* (pp. 108–128). New York, NY: Oxford University Press.
- Beck, T., & De la Torre, A. (2007). The basic analytics of access to financial services. *Financial Markets, Institutions & Instruments*, 16(2), 79–117. doi:10.1111/j.1468-0416.2007.00120.x
- Bernheim, B. D. (1994). Personal saving, information, and economic literacy: New directions for public policy. In *Tax policy for economic growth in the 1990s* (pp. 53–78). Washington, DC: American Council for Capital Formation.
- Bernheim, B. D. (1995). Do households appreciate their financial vulnerabilities? An analysis of actions, perceptions, and public policy. In *Tax policy and economic growth* (pp. 1–30). Washington, DC: American Council for Capital Formation.
- Bernheim, B. D., & Garrett, D. M. (1996). *The determinants and consequences of financial education in the workplace: Evidence from a survey of households* (NBER Working Paper No. 5667). Retrieved from National Bureau of Economic Research website: <http://www.nber.org/papers/w5667>
- Birkenmaier, J., & Huang, J. (2013). *A new framework for financial capability: An extension of Nussbaum's capability approach* [Working paper]. St. Louis, MO: Saint Louis University School of Social Work.
- Campbell, J. Y. (2006). Household finance. *Journal of Finance*, 61(4), 1553–1604. doi:10.1111/j.1540-6261.2006.00883.x
- Campero, A., & Kaiser, K. (2013). *Access to credit: Awareness and use of formal and informal credit institutions* (Banco de México Working Paper No. 2013-07). Retrieved from Econstor website: <http://www.econstor.eu/bitstream/10419/83717/1/751106259.pdf>
- Chen T., Huang, H. & Fu, R. (2010). Hainan nong cun di qu jin rong zhi ship u ji li du ji dai ti gao [Financial literacy popularization needs improvement]. *Time Finance*, 2010(11), 135–137.
- Choi, E. K. (2015). *Globalization, development strategies and social welfare for the rural sector in China since the 2000s* (Working Paper). Retrieved from East Asia Institute website: https://www.eai.or.kr/data/bbs/eng_report/2015041418584194.pdf
- Curry, L. A., Nembhard, I. M., & Bradley, E. H. (2009). Qualitative and mixed methods provide unique contributions to outcomes research. *Circulation*, 119(10), 1442–1452. doi:10.1161/CIRCULATIONAHA.107.742775
- Deku, S. Y., Kara, A., & Molyneux, P. (2016). Access to consumer credit in the UK. *European Journal of Finance*, 22(10), 941–964. doi:10.1080/1351847X.2015.1019641
- Deng, S., Sherraden, M., Huang, J., & Jin, M. (2013). Asset opportunity for the poor: An asset-based policy agenda towards inclusive growth in China. *China Journal of Social Work*, 6(1), 40–51, doi:10.1080/17525098.2013.766621
- Elliott, D. J., & Yan, K. (2013). *The Chinese financial system: An introduction and overview* (John L. Thornton China Center Monograph Series, No. 6). Retrieved from Brookings Institution website: <http://>

www.brookings.edu/~media/research/files/papers/2013/07/01-chinese-financial-system-elliott-yan/chinese-financial-system-elliott-yan.pdf

- Fan, C., & Ma, M. (2014). Dang qian nong cun ju min jin rong zhi shi shui ping ji dui ce fen xi [Current financial knowledge level of rural residents and solution analysis]. *China Market Marketing*, 46(3), 175–177.
- Federal Insurance Office. (2016). *Annual report on the insurance industry* [Report]. Retrieved from U.S. Department of the Treasury website: https://www.treasury.gov/initiatives/fio/reports-and-notices/Documents/2016_Annual_Report_FINAL.pdf
- Gao, C. (2014). Beijing ju min jin rong su yang yu yang lao gui hua diao yan bao gao [Beijing residents' financial literacy and pension planning research report] (Master's dissertation). Retrieved from <http://www.qianluntianxia.com/lunwen/487/1825963.html>
- Gao, W., Xin, Li., & Zhu, Y. (2014). Qian xi wo guo fei zheng gui jin rong ji gou de fa zhan [The growth of informal financial institutions in China]. *Shangye Jingji*, 2014(2), 116–118. Retrieved from <http://www.cqvip.com/read/read.aspx?id=48964238#>
- Han, B. (2015). E'erduosi min jian jie dai xing wei: Jin rong su yang de diao cha yu yan jiu [Private loan activity in Ordos: A financial literacy study] (Master's dissertation). Retrieved from Wanfang Data website: <http://www.wanfangdata.com> (F832.4).
- Hu, Y. (2013). Guan yu wo guo nong cun fei zheng gui jin rong fazhan de si kao: Ji yu xian you xin xing nong cun jin rong ji gou de shu liang he gui mo fen xi. [Thoughts of informal finance development in rural China: Based on analysis of current innovative rural financial institutes' quantity and size]. *Agriculture Economics*, 2013(1), 97–99. Retrieved from <http://www.cqvip.com/read/read.aspx?id=44553701#>
- Huang, J., Nam, Y., & Lee, E. J. (2015). Financial capability and economic hardship among low-income older Asian immigrants in a supported employment program. *Journal of Family and Economic Issues*, 36(2), 239–250. doi:10.1007/s10834-014-9398-z
- Huang, J., Nam, Y. & Sherraden, M. S. (2013). Financial knowledge and Child Development Account policy: A test of financial capability. *Journal of Consumer Affairs*, 47(1), 1–26. doi:10.1111/joca.12000
- Huang, J., Nam, Y., Sherraden, M. S., & Clancy, M. (2015). Financial capability and asset accumulation for children's education: Evidence from an experiment of Child Development Accounts. *Journal of Consumer Affairs*, 49(1), 127–155. doi:10.1111/joca.12054
- Hung, A., A. Parker, A. M., & Yoong, J. K. (2009). *Defining and measuring financial literacy* (Labor and Population Working Paper No. WR-708). Retrieved from RAND Corporation website: http://www.rand.org/content/dam/rand/pubs/working_papers/2009/RAND_WR708.pdf
- Huston, S. J. (2010). Measuring financial literacy. *Journal of Consumer Affairs*, 44(2), 296–316. doi:10.1111/j.1745-6606.2010.01170.x
- Johnson, E., & Sherraden, M. S. (2007). From financial literacy to financial capability among youth. *Journal of Sociology and Social Welfare*, 34(3), 119–145.
- Kempson, E. (2009). *Framework for the development of financial literacy baseline surveys: A first international comparative analysis* (OECD Working Papers on Finance, Insurance and Private Pensions No. 1).

- Retrieved from the Organization for Economic Cooperation and Development iLibrary website: <http://dx.doi.org/10.1787/5kmdpz7m9zq-en>
- Li, C. (2014). Jin rong su yang, she hui hu dong yu tou zi fen san hua: Ji yu CHFS shu ju de shi zheng yan jiu [Financial literacy, social interaction, and portfolio diversification: Empirical analysis of CHFS data] (Master's dissertation). Retrieved from Wanfang Data website: <http://www.wanfangdata.com> (F832.48).
- Li, F. (2012). Nong cun ju min jin rong zhi shi pu ji jiao yu xu qiu yu yi yuan de shi zheng yan jiu [The empirical study on the rural residents' demands and wills for the education and popularization of financial knowledge]. *West China Finance*, 2012(8), 26–31.
- Liu, J. (2014). Guan yu gong zhong dui jin rong zhi shi, chan pin ji xiao fei xi guan de diao cha bao gao [Survey on knowledge of finance, public products, and consumer habits]. *Journal of Changchun Finance College*, 2014(4), 65–70.
- Liu, M. (2015). Guan yu jin rong zhi shi pu ji cheng du diao cha fen xi: Yi Jilin sheng Changchun shi wei li [Survey on financial knowledge popularization: The case of Jilin, Changchun]. *Journal of Jilin Financial Research*, 2015(2), 63–66.
- Liu, D., Zhu, T., & Li, S. (2015). Da xue sheng jin rong tai du yu jin rong xing wei yan jiu: Ji yu jia ting jiao yu de shi jiao [College students' financial attitudes and behaviors from the perspective of family education]. *Education Research Monthly*, 2015(6), 77–81, 111.
- Lusardi, A., & Mitchell, O. S. (2011). The outlook for financial literacy. In O. S. Mitchell & A. Lusardi (Eds.), *Financial literacy: Implications for retirement security and the financial marketplace* (pp. 1–15). New York, NY: Oxford University Press.
- Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*, 52(1), 5–44. doi:10.1257/jel.52.1.5
- Lv, H. (2014). Ge ren jin rong tou zi jiao yu yan jiu: Ji yu jin rong jiao yu shi jiao [A study on investment in financial literacy: Based on the perspective of financial education] (Master's dissertation). Retrieved from Wanfang Data website: <http://www.wanfangdata.com> (F830-4 F126.2).
- Ma, J., Liu, H., & Wen, T. (2010). Nong cun xin dai yue shu yu nong cun jin rong ti xi chuang xin [Rural credits restriction and rural financial system innovation]. *Chinese Rural Finance*, 2010(2), 39–41. Retrieved from <http://www.cnki.com.cn/Article/CJFDTotal-ZGNC201002018.htm>
- McCallion, P., Ferretti, L. A. & Park, J. (2013). Financial issues and an aging population: Responding to an increased potential for financial abuse and exploitation. In J. Birkenmaier, M. S. Sherraden, & J. Curley (Eds.), *Financial capability and asset development: Research, education, policy, and practice* (pp. 129–155). New York, NY: Oxford University Press.
- National Bureau of Statistics of China. (2016a). Nian du shu ju [Annual data]. Retrieved from <http://data.stats.gov.cn/easyquery.htm?cn=C01>
- National Bureau of Statistics of China. (2016b). *China statistical yearbook of 2016*. Retrieved from <http://www.stats.gov.cn/tjsj/ndsj/2016/indexeh.htm>
- Organization for Economic Cooperation and Development. (2015a). *2015 OECD/INFE toolkit for measuring financial literacy and financial inclusion*. Paris: Organization for Economic Cooperation and Development.

- Organization for Economic Cooperation and Development. (2015b). *Survey on measuring financial literacy and financial inclusion*. Retrieved from <http://www.oecd.org/daf/fin/financial-education/2015finlitmeasurementexercise.htm>
- Parker, J. (2013). Developing financial capability through IDA saving clubs. In J. Birkenmaier, M. S. Sherraden, & J. Curley (Eds.), *Financial capability and asset development: Research, education, policy, and practice* (pp. 174–191). New York, NY: Oxford University Press.
- People's Bank of China, Payment and Settlement Department. (2017). *China payment system development report*. Retrieved from <http://www.pbc.gov.cn/zhifujiesuansi/128525/128545/128646/3343451/2017071210180882674.pdf>
- Research Group on Rural Social Security System at China Social Science Academy. (2000). Ji ji wen tuo de tui jin nong cun she hui yang lao bao xian [Promoting rural endowment insurance actively and steadily]. *People's Tribune*, 6, 8–10. Retrieved from <http://www.cqvip.com/read/read.aspx?id=15352509>
- Robles, B. J. (2013). Financial and asset-building capabilities of Southwest border working families: An action research approach to culturally responsive economic resiliency behaviors. In J. Birkenmaier, M. S. Sherraden, & J. Curley (Eds.), *Financial capability and asset development: Research, education, policy, and practice* (pp. 228–248). New York, NY: Oxford University Press.
- Romich, J. L., Keenan, N., Miesel, J., & Hall, C. C. (2013). Income tax time as a time to build financial capability. In J. Birkenmaier, M. S. Sherraden, & J. Curley (Eds.), *Financial capability and asset development: Research, education, policy, and practice* (pp. 192–206). New York, NY: Oxford University Press.
- Ruan, R., Liu, D., & Li, S. (2015). Da xue sheng jin rong tai du, jin rong su yang yu jin rong jiao yu yan jiu [College students' attitude towards money, financial literacy, and financial education]. *Time Finance*, 2015(5), 175–177, 179.
- Sanders, C. K. (2013). Financial capability among survivors of domestic violence. In J. Birkenmaier, M. S. Sherraden, & J. Curley (Eds.), *Financial capability and asset development: Research, education, policy, and practice* (pp. 85–107). New York, NY: Oxford University Press.
- Selden, M., & You, L. (1997). The reform of social welfare in China. *World Development*, 25(10), 1657–1668. doi:10.1016/S0305-750X(97)00055-7
- Sherraden, M. S. (2013). Building blocks of financial capability. In J. Birkenmaier, M. S. Sherraden, & J. Curley (Eds.), *Financial capability and asset development: Research, education, policy, and practice* (pp. 3–43). New York, NY: Oxford University Press.
- State Council. (2015). Guo wu yuan guan yu yin fa tui jin pu hui jin rong fa zhan gui hua (2016–2020 nian) de tong zhi [The plan for promoting the development of financial inclusion (2016–2020)]. Retrieved from World Bank website: <http://pubdocs.worldbank.org/en/911391453407695993/CHINESE-Advancing-Financial-Inclusion-in-China-Five-Year-Plan-2016-2020.pdf>
- Stockstotrade. (2016, December 12). Major stock exchanges in the world [infographic]. Retrieved from <http://stockstotrade.com/major-stock-exchanges-in-the-world-infographic/>
- Survey and Research Center for China Household Finance. (2012). Zhong guo jia ting jin rong diao cha bao gao jing xuan [China Household Finance Survey selected report]. Retrieved from <http://money.sohu.com/upload/chinajrdbcg0510.pdf>

- Survey and Research Center for China Household Finance. (2013). Zhong guo jia ting shou ru cha ju bao gao [China household income disparity report]. Retrieved from <http://chfs.swufe.edu.cn/Upload/%E4%B8%AD%E5%9B%BD%E5%AE%B6%E5%BA%AD%E6%94%B6%E5%85%A5%E5%B7%AE%E8%B7%9D%E6%8A%A5%E5%91%8A.pdf>
- Trading Economics. (2017). United States GDP. Retrieved October 12, 2017, from <https://tradingeconomics.com/united-states/gdp>
- Wagner, K. (2013). Building financial capability of Native American households: The role of the EITC. In J. Birkenmaier, M. S. Sherraden, & J. Curley (Eds.), *Financial capability and asset development: Research, education, policy, and practice* (pp. 207–227). New York, NY: Oxford University Press.
- Wang, D. (2014). Beijing ju min jin rong su yang yu tui xiu gui hua xiang guan xing yan jiu [The correlation between residents' financial literacy and retirement planning in Beijing]. *Time Finance*, 2014(8), 40–41.
- Wang, J., & Chen, D. (2011). Nei sheng yu nong min zhuan ye he zuo she de zi jin hu zhu she yun xing ji zhi fen xi: Ji yu bu tong jing ji fa zhan cheng du de kao cha. [Functioning analysis of mutual cooperatives that spontaneously emerged within specialized farmers' cooperatives: Based on the observation of different economics development levels]. *Financial Theory and Practice*, 2011(2), 19–24. Retrieved from <http://www.cqvip.com/read/read.aspx?id=36844638#>
- Wang, Y., & Fan, J. (2015). Xiao fei zhe jin rong su yang ying xiang yin su yan jiu—ji yu Shanghai di qu wen juan diao cha shu ju de shi zheng fen xi [Factors of consumer financial literacy—based on an empirical survey in Shanghai]. *Financial Theory and Practice*, 2015(3), 70–75. 03-0070-06, 1003–4624.
- Wang, H., & Liu, W. (2014). Da xue sheng jin rong xing wei fen xi—yi tian jin tian shi xue yuan wei li [College student financial behavior analysis—the case of Tianjin Tianshi College]. *Time Finance*, 2014(5), 250–251.
- World Bank. (2017a). Stock market turnover ratio (value traded/capitalization) for China. Retrieved September 22, 2017, from FRED, Federal Reserve Bank of St. Louis website: <https://fred.stlouisfed.org/series/DDEM01CNA156NWDB>
- World Bank. (2017b). Stock market turnover ratio (value traded/capitalization) for United States. Retrieved September 22, 2017, from FRED, Federal Reserve Bank of St. Louis website: <https://fred.stlouisfed.org/series/DDEM01USA156NWDB>
- Wu, Y., & Pan, Z. (2011). Nong cun jin rong zhi shi pu ji yu jin rong fu wu xian zhuang de diao cha—yi Shanxi sheng Xinzhou shi Douluo cun wei li [Financial knowledge and financial services in rural area—the case of Douluo Village, Qizhou, Shanxi Province]. *Hebei Finance*, 2011(8), 52–54.
- Xie, Y., & Zhou, X. (2014). Income inequality in today's China. *Proceedings of the National Academy of Sciences of the United States of America*, 111(19), 6928–6933. doi:10.1073/pnas.1403158111
- Yang, H., Zhang, M., Zhang, W., Nan, Y., Li, Y., Li, X., Wang, M., Li, K. & Wang, M. (2014). You xiao jian li jin rong zhi shi pu ji jiao yu ji zhi de yan jiu—yi bao ding shi shi qu wei li [The establishment of effective financial knowledge education institution—the case of urban Baoding]. *Business*, 2014(30), 181.
- Yin, Z., Song, Q., & Wu, Y. (2014). Jin rong zhi shi, tou zi jing yan yu jia ting zi chan xuan ze [Financial literacy, trading experience, and household portfolio choice]. *Economic Research Journal*, 49(4), 62–75.

Retrieved from the National Social Sciences Database website: http://www.nssd.org/articles/Article_Read.aspx?pid=49210669#

- Zhan, M., Anderson, S. G., & Scott, J. (2013). Improving financial capacity among low-income immigrants: Effects of a financial education program. In J. Birkenmaier, M. S. Sherraden, & J. Curley (Eds.), *Financial capability and asset development: Research, education, policy, and practice* (pp. 156–173). New York, NY: Oxford University Press.
- Zhang, X., & Lin, W. (2014). Jin rong zhi shi u ji qu dao fen xi—ji yu Changchun shi 300 ge ju min de wen juan shu ju [The analysis of financial literacy channel—based on the questionnaire data of 300 residents of Changchun]. *Journal of Changchun Finance College*, 2015(1), 64–73.
- Zhao, S., Li, J., & Fan, X. (2006). Nong min jin rong zhi shi kui fa de xian zhuang fen xi [Financial knowledge of farmers]. *Group Economics Research*, 2006(11), 152.
- Zuo, C., & Ma, J. (2005). Zheng hui jin rong yu fei zheng gui jin rong guan xi yan jiu zong shu: Zeng jia nong cun jin rong gong ji de yi ge zhi du shi jiao [Research review of the relationship between formal finance and informal finance: An institutional perspective for increasing rural financial supply]. *Henan Finance Administrative Officer College Journal*, 2005(6), 46–49. Retrieved from <http://www.cqvip.com/qk/80890x/20056/20699134.html>

Appendix

Reference List of 19 Reviewed Chinese Works

1. Chen T., Huang, H. & Fu, R. (2010). Hainan nong cun di qu jin rong zhi ship u ji li du ji dai ti gao [Financial literacy popularization needs improvement]. *Time Finance*, 2010(11), 135–137.
2. Fan, C., & Ma, M. (2014). Dang qian nong cun ju min jin rong zhi shi shui ping ji dui ce fen xi [Current financial knowledge level of rural residents and solution analysis]. *China Market Marketing*, 46(3), 175–177.
3. Gao, C. (2014). Beijing ju min jin rong su yang yu yang lao gui hua diao yan bao gao [Beijing residents' financial literacy and pension planning research report] (Master's dissertation). Retrieved from <http://www.qianluntianxia.com/lunwen/487/1825963.html>
4. Han, B. (2015). E'erduosi min jian jie dai xing wei: Jin rong su yang de diao cha yu yan jiu [Private loan activity in Ordos: A financial literacy study] (Master's dissertation). Retrieved from Wanfang Data website: <http://www.wanfangdata.com> (F832.4).
5. Li, C. (2014). Jin rong su yang, she hui hu dong yu tou zi fen san hua: Ji yu CHFS shu ju de shi zheng yan jiu [Financial literacy, social interaction, and portfolio diversification: Empirical analysis of CHFS data] (Master's dissertation). Retrieved from Wanfang Data website: <http://www.wanfangdata.com> (F832.48).
6. Li, F. (2012). Nong cun ju min jin rong zhi shi pu ji jiao yu xu qiu yu yi yuan de shi zheng yan jiu [The empirical study on the rural residents' demands and wills for the education and popularization of financial knowledge]. *West China Finance*, 2012(8), 26–31.
7. Liu, J. (2014). Guan yu gong zhong dui jin rong zhi shi, chan pin ji xiao fei xi guan de diao cha bao gao [Survey on knowledge of finance, public products, and consumer habits]. *Journal of Changchun Finance College*, 2014(4), 65–70.
8. Liu, M. (2015). Guan yu jin rong zhi ship u ji cheng du diao cha fen xi: Yi Jilin sheng Changchun shi wei li [Survey on financial knowledge popularization: The case of Jilin, Changchun]. *Journal of Jilin Financial Research*, 2015(2), 63–66.
9. Liu, D., Zhu, T., & Li, S. (2015). Da xue sheng jin rong tai du yu jin rong xing wei yan jiu: Ji yu jia ting jiao yu de shi jiao [College students' financial attitudes and behaviors from the perspective of family education]. *Education Research Monthly*, 2015(6), 77–81, 111.
10. Lv, H. (2014). Ge ren jin rong tou zi jiao yu yan jiu: Ji yu jin rong jiao yu shi jiao [A study on investment in financial literacy: Based on the perspective of financial education] (Master's dissertation). Retrieved from Wanfang Data website: <http://www.wanfangdata.com> (F830-4 F126.2).
11. Ruan, R., Liu, D., & Li, S. (2015). Da xue sheng jin rong tai du, jin rong su yang yu jin rong jiao yu yan jiu [College students' attitude towards money, financial literacy, and financial education]. *Time Finance*, 2015(5), 175–177, 179.

12. Wang, D. (2014). Beijing ju min jin rong su yang yu tui xiu gui hua xiang guan xing yan jiu [The correlation between residents' financial literacy and retirement planning in Beijing]. *Time Finance*, 2014(8), 40–41.
13. Wang, Y., & Fan, J. (2015). Xiao fei zhe jin rong su yang ying xiang yin su yan jiu—ji yu Shanghai di qu wen juan diao cha shu ju de shi zheng fen xi [Factors of consumer financial literacy—based on an empirical survey in Shanghai]. *Financial Theory and Practice*, 2015(3), 70–75. 03-0070-06, 1003–4624.
14. Wang, H., & Liu, W. (2014). Da xue sheng jin rong xing wei fen xi—yi tian jin tian shi xue yuan wei li [College student financial behavior analysis—the case of Tianjin Tianshi College]. *Time Finance*, 2014(5), 250–251.
15. Wu, Y., & Pan, Z. (2011). Nong cun jin rong zhi shi pu ji yu jin rong fu wu xian zhuang de diao cha—yi Shanxi sheng Xinzhou shi Douluo cun wei li [Financial knowledge and financial services in rural area—the case of Douluo Village, Qizhou, Shanxi Province]. *Hebei Finance*, 2011(8), 52–54.
16. Yang, H., Zhang, M., Zhang, W., Nan, Y., Li, Y., Li, X., Wang, M., Li, K. & Wang, M. (2014). You xiao jian li jin rong zhi shi pu ji jiao yu ji zhi de yan jiu—yi bao ding shi shi qu wei li [The establishment of effective financial knowledge education institution—the case of urban Baoding]. *Business*, 2014(30), 181.
17. Yin, Z., Song, Q., & Wu, Y. (2014). Jin rong zhi shi, tou zi jing yan yu jia ting zi chan xuan ze [Financial literacy, trading experience, and household portfolio choice]. *Economic Research Journal*, 49(4), 62–75. Retrieved from the National Social Sciences Database website: http://www.nssd.org/articles/Article_Read.aspx?id=49210669#
18. Zhang, X., & Lin, W. (2014). Jin rong zhi shi pu ji qu dao fen xi—ji yu Changchun shi 300 ge ju min de wen juan shu ju [The analysis of financial literacy channel—based on the questionnaire data of 300 residents of Changchun]. *Journal of Changchun Finance College*, 2015(1), 64–73.
19. Zhao, S., Li, J., & Fan, X. (2006). Nong min jin rong zhi shi kui fa de xian zhuang fen xi [Financial knowledge of farmers]. *Group Economics Research*, 2006(11), 152.

Suggested Citation

Yuan, Y., & Jin, M. (2017). *Financial literacy in China: Priorities and a direction* (CSD Working Paper No. 17-37). St. Louis, MO: Washington University, Center for Social Development.

Contact Us

Center for Social Development
Washington University in St. Louis
One Brookings Drive, Campus Box 1196
St. Louis, MO 63130

csd.wustl.edu