How Differentiated Institutional and Geography Setting can Shape Household Financial Behaviour

Titissari#, Philip McCann**, Niels Hermes***, and Viktor Venhorst**

* Faculty of Spatial Sciences, University of Groningen, The Netherlands

** Chair in Urban and Regional Economics at the Sheffield University Management School

*** Faculty of Economics and Business, University of Groningen, The Netherlands; Solvay Business School, Université Libre de Bruxelles, Belgium

Abstract

Financial inclusion refers to both the access and use of financial services provided by formal financial institutions. The demand side relates to how people are aware of what type of financial services and institution they can demand. The supply side deals with what types of financial institution serve the market. This paper aims to examine the extent to which households' financial behavior is related to differences in geographical and institutional factors influencing the households' access to financial services, i.e. how these factors affect their financial inclusion. The study draws on the experience of Indonesia to address these issues. Indonesia is an interesting test case because it displays both enormous geographical heterogeneity as an archipelagic country alongside rapidly decentralizing and differentiated governance and institutional settings.

Keywords: financial inclusion, household financial behaviour, institutional set-up, geography divergence, decentralization

Corresponding author at: Titissari, Faculty of Spatial Sciences University of Groningen, Department of Economic Geography, Mercator building room 232, Landleven 1, 9747 AD, Groningen.

E-mail address: t.rumbogo@rug.nl (Titissari)

Telephone: +31630745516

Introduction

There is a growing literature on financial inclusion in less developed countries which is often linked to the set of policies enabling individuals and business to have access to financial services in a sustainable way to achieve economic welfare. A better engagement in financial system enables people to undertake productive activities such as, e.g. education, investment, or consumption. The lack of access to financial services has also been recognized by policy makers and scholars as a problem that contributes to persistent income inequality and poverty.

Financial inclusion refers to both the access and use of financial services provided by formal financial institutions. The demand side relates to how people are aware of what type of financial services and institution they can demand. The supply side deals with what types of financial institution serve the market. This paper aims to examine the extent to which households' financial behavior is related to differences in geographical and institutional factors influencing the households' access to financial services, i.e. how these factors affect their financial inclusion. The study draws on the experience of Indonesia to address these issues. Indonesia is an interesting test case because it displays both enormous geographical heterogeneity as an archipelagic country alongside rapidly decentralizing and differentiated governance and institutional settings.

Our work makes the following contributions to the financial inclusion literature. The main research question focuses on the extent to which household financial behavior and performance is associated with both geographical and institutional factors. We measure household financial behavior by looking at whether or not households have a bank account and/or whether or not they have bank loans. In the analysis, we specifically examine the relationship between households' financial behavior and geographically different institutional settings that may determine the extent to which households have access to financial services. To the best of our knowledge, there is no research focusing on geographical differences and their impact on the extent of financial inclusion. We focus on geographical differences in terms of the extent of banking concentration, banking solvency and liquidity ratios at the regional level, regional differences with respect own source revenue and government expenditure, geographical differences in social capital, urban and rural areas, etc.

We investigate the following hypotheses:

1. Do households behave differently in using financial services and institutions within geographically different institutional settings?
2. Do geographical differences in bank institutional factors, such as, e.g. bank market concentration, bank solvency, and liquidity ratio, have an impact on the household's decision in using financial services and institution?
3. Do geographical differences in social capital established within community drive household's decisions in using financial services and institutions?
4. Do geographical differences with respect to government fiscal behavior after the fiscal decentralization policies in Indonesia affect financial inclusion of households?

Literature Review

Regarding the institutional and geographical factors, there are only few studies addressed the interaction between stakeholders in financial market by taking into account either institutional or geographical set up. Evidence from 21 European emerging countries exhibits the bank-firm relationships affect the firms' credit constraints located in certain geographical setting during a cyclical downturn within credit cycle (Beck et al, 2014). While the case of Chinese household explain how household's behavior of using informal financial institution in a community with a strong social capital can send a risky signal to Bank and will finally affect Bank credit allocation due to a high informal indebtedness (Li et al, 2015).

In respect of a growing share of informal finance in Asian developing countries, empirical evidence shows the interaction between the formal and informal financial sectors in Asian countries (Ghate, 1992). While China in particular also exhibit an important role played by informal finance (Guarriglia et al, 2016). This study first apply the baseline specification to determine the financial inclusion indicators (account, credit, loan) at household level, then test whether financial inclusion affect household saving behavior.

As a broad-based index on financial inclusion (Demirguc-Kunt & Klapper, 2013) examines financial inclusion in 148 countries as use of formal financial services and suggests key barriers that exclude particular group of people from using formal financial institutions such as cost, distance, and documentation requirement. According to the World Bank Findex wave 2 (2014), high income country group report 91% of account penetration, 47 % formal savings, and 17% of formal borrowing. In addition, the upper-middle income country exhibit 70% of account penetration, 32% of formal savings, and 10% of formal borrowing. However, the lower-middle income country still present a low level of financial inclusion performance, 43% of account penetration, 15 % of formal savings, 8% of formal borrowing.

Data and Method

Indonesia consists of 34 provinces and 416 districts spreading over 17,000 islands. We model the household's decision to access the financial services using the Indonesia National Household Balance Sheet wave 2015 released by the Indonesian central bank, which includes 5,165 respondents from 12 provinces in Indonesia that represents 71% of Indonesia's population. The numbers of households that was made into samples for SNRT in 2015 was 2,990 households from 12 provinces which spread over 299 enumeration area. However, the number of household which can be analyzed is only 2,170 households due to a quality of information provided in questionnaire. The determination for the locations of the sample, from the province level to the enumeration area, was done through multistage random sampling. The samples would further describe the social and economic conditions of the people by classifying the people's income into the lowest 40%, middle 40% and the highest 20%.

Figure 1. Sampling Design Using Multistage Random Sampling

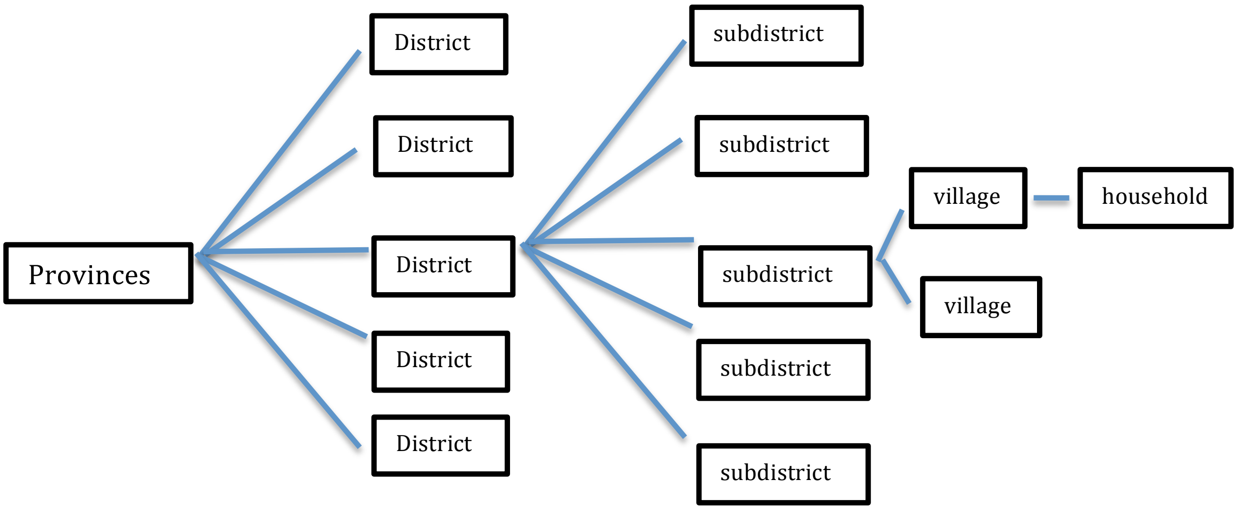
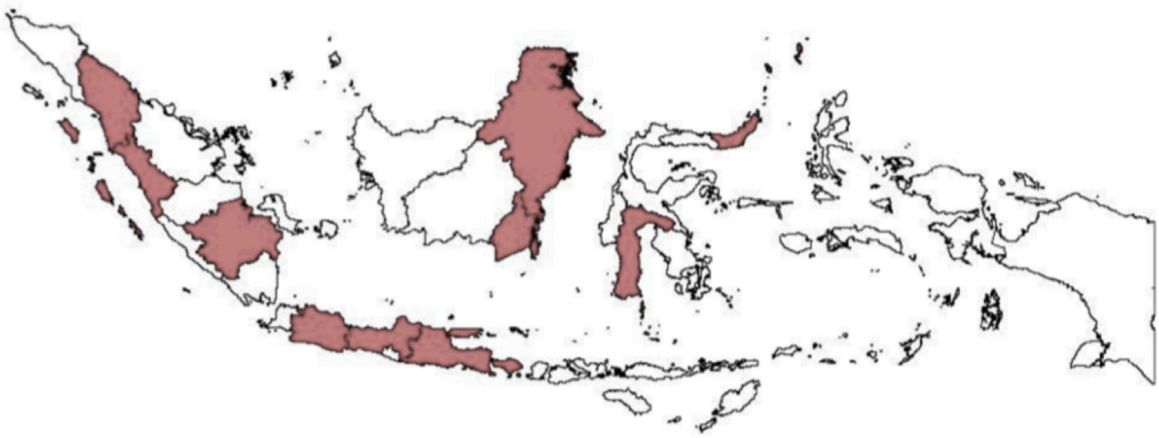


Figure 2. Indonesia Household Balance Sheet Survey Sample Location



Source : National Household Balance Sheet Survey wave 2015

Tabel 1. Total Number and Distribution of Sample in the Selected 12 Province

No	Province	Number of District	Number of Village			Total Village	Number of Sample
			40% bottom	40% middle	20% top		
1	North Sumatera	4	8	10	8	26	260
2	West Sumatera	3	7	9	7	23	230
3	South Sumatera	4	7	10	7	24	240
4	DKI Jakarta	4	8	10	8	26	260
5	West Java	5	9	12	10	31	310
6	Central Java	5	8	12	9	29	290
7	East Java	5	9	12	9	30	300
8	Bali	3	6	8	6	20	200
9	South Kalimantan	4	7	10	7	24	240
10	East Kalimantan	3	6	9	7	22	220
11	North Sulawesi	3	6	9	7	22	220
12	South Sulawesi	3	6	9	7	22	220
		37	87	120	92	299	2,990

Source: National Household Balance Sheet Survey, 2015

To test the variation of one institutional variable, we calculate the bank market concentration using the saving and credit allocation at regional level. The result shows a significant difference across regions in their bank market concentration that can be explained by geographic and economic factors. It shows that only few banks provide financial services in less developed and less populated regions, whereas more developed and populated regions have a higher numbers of banks providing financial services.

As a baseline specification, we use Heckman selection method to estimate the determinants of individual financial decision on saving and borrowing at formal and financial institution. Our preliminary findings suggest that both of propensity to have debt with a bank and to have bank saving account are significantly affected by household characteristics such as employment status, income level, and distance from home to bank facilities.

We also apply a nested-structure (multi-level) model to analyze a uniquely-detailed data on household's financial behavior, institutional set-up of local banking system, governance and institutional data at the regional level, alongside other detailed regional economic data. A multi-level analysis is applied due to the complex patterns of variability found in our data. And we choose the multi-level logistic regression with respect discrete dependent variables in individual financial decision. By incorporating the context of geography and institutional at province and district level, we define province as the macro unit and individual as the micro unit. The individuals are nested within province and we analyze about institutional and geographical effects on individual behavior. The analysis will consider the interactions between these levels.

The remainder of the paper is organized as follows. Section 2 provides literature reviews on financial inclusion. Section 3 develops our main hypotheses. Section 4 presents our data and summary statistics. Section 5 illustrates our baseline specification and methodology. Section 6 describes our empirical results. Section 7 concludes and suggests relevant policy implications.

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