

# PERSPECTIVE

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## Financial Inclusion and Consumer Finance in Vietnam: Challenges and Approaches to Credit Scoring

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People walking past a local commercial bank in downtown Hanoi on 7 January 2015. Photo: HOANG DINH NAM, AFP.

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## **EXECUTIVE SUMMARY**

- Consumer finance has grown rapidly in Vietnam despite millions of its citizens being unbanked.
- A key prerequisite for boosting consumer finance and financial inclusion is the application of credit scoring technologies in the lending process.
- Credit scoring technologies have expanded considerably in Vietnam, owing to the production of credit data, technological improvements, and the digitalization of the economy.
- Consumer lenders continue to face challenges in deploying credit scoring, in particular for verifying applicants' identity and income data, and assessing creditworthiness.
- Lenders take variegated approaches to data verification and risk assessment, which involve statistical models, machine learning analytics and human discretion.
- The application of credit scoring in consumer finance raises important technical and policy issues related to effectiveness, miscalculation, data privacy, data protection and cyber security.

## **INTRODUCTION**

Financial inclusion and consumer finance are hot topics in Vietnam, with the government and the consumer finance industry seeking to include millions of unbanked citizens in financial markets and to facilitate access to consumer loans.

Credit scoring is a prerequisite for financial inclusion as it helps lenders determine borrowers' creditworthiness – or the likelihood they will repay a loan – and standardize and enhance lending decisions. This scoring technology has expanded considerably in Vietnam in recent years, owing to the production of a broader variety of traditional and alternative data, a rising demand for enhanced computing ability brought by machine learning analytics, and the digitalization of the economy boosted by the Covid-19 pandemic. Consumer lenders increasingly use credit scoring to accept or reject loan applicants, determine loan pricing, and tailor financial products and recovery strategies. However, they encounter challenges when deploying this technology at scale due to a pervasive lack of knowledge where customers with no credit history are concerned.

This article describes the challenges lenders encounter in verifying personal and income data and assessing applicants' creditworthiness, and the solutions they use to address these obstacles and gain competitiveness in a thriving consumer finance market.

Credit scoring has policy implications. It is essential for policy makers to understand the effectiveness and accuracy of this technology and to address possible errors and miscalculations in risk assessment and in the sanctioning of consumer credit. In addition, the production of traditional and alternative data for scoring purposes raises concerns about data privacy, protection and security. These issues can put borrowers at risk and hamper financial inclusion.

Data for this article comes from in-depth interviews conducted in-person and online with 36 informants from Hanoi and Ho Chi Minh City. The convenience sample comprises 14 bankers working for public banks, joint-stock commercial banks and financial companies, and 22 borrowers who took consumer loans, including twelve informants who purchased vehicles and electronic devices on instalment plans or obtained cash loans from FE Credit, the leading financial company in Vietnam.

## **KNOWING CUSTOMERS AND ASSESSING CREDIT RISK**

Vietnam has been consolidating its financial sector within the last three decades, moving from centrally planned goals to an independent industry guided by local and global market forces<sup>1</sup>. Today, Vietnam's banking sector comprises a broad mix of players: large state-owned banks such as BIDV, Vietcombank and Vietinbank; smaller joint-stock commercial banks including VPBank, PVCombank and Sacombank; foreign banks such as ANZ, Citibank and Shinhan Bank; and financial companies including FE Credit, Home Credit, HD Saison, and Shinhan Finance. These actors are boosting consumer finance and bombarding consumers with offers for secured and unsecured loans sent via SMS, phone calls, emails and social media<sup>2</sup>. This sector was virtually non-existent a decade ago. With an average annual growth rate of 20 per cent, it has grown steadily to account for 20.5 per cent of the total outstanding loans in the economy, 2.5 times higher than the figures in 2012.<sup>3</sup>

However, it only accounts for 8.7 per cent of the total outstanding loans if housing loans are excluded, far behind Malaysia, Thailand and Indonesia, where consumer finance (excluding mortgage) accounts for 15 to 35 per cent of the total outstanding balance. Therefore, comparatively speaking, consumer finance still has much room for growth in Vietnam<sup>4</sup>. However, obstacles stand in the way of consumer lenders, including information asymmetry and sheer uncertainty.

Consumer lenders operate in a challenging environment marked by high financial exclusion. Today, between 61<sup>5</sup> to 70 per cent<sup>6</sup> of Vietnam's 98 million population still have no bank accounts and credit history. This situation results from a long-standing lack of trust in the banking system after years of changes in government, and inflation bounds. Today, banks and financial companies strive to show transparency and change public attitudes, especially among young people.<sup>7</sup> They also entice new customers by offering high – yet volatile – interest rates for saving accounts, which the Covid-19 pandemics have brought close to zero, to support the economy.<sup>8</sup> Meanwhile, the preference for cash and gold transactions remains strong.<sup>9</sup> To curb these trends, the government has recently approved the national inclusive finance strategy to raise the percentage of adults with bank accounts to 80 per cent by 2025.<sup>10</sup> Meanwhile, financial exclusion remains a significant obstacle for consumer lenders and credit bureaus, including the Credit Information Center (CIC).<sup>11</sup> the national credit bureau under the State Bank, and the Vietnam Credit Information Joint Stock Company (PCB). Credit bureaus are expanding their activities and databases, but still lack credit data about tens of millions of citizens.

This lack of knowledge transpires in customer identification – or KYC for Know Your Customer – procedures, an issue rooted in administrative problems. To identify loan applicants, lenders require identification documentation such as an updated ID and household certificate. However, not all applicants can provide proper documentation. Many internal migrants cannot secure temporary residence or modify the address in their household certificate.<sup>12</sup> In addition, citizens can have multiple IDs with different numbers. The recent shift from IDs with nine digits to IDs with 12 digits has led to confusion and fraudulent use of loopholes. A senior officer from the CIC mentioned that “borrowers may try to conceal their information by using different papers to try and apply for different loans”. He pointed out the existence of a black market for genuine and counterfeit IDs, and the fact that lenders do not share information about fraudulent applicants for the Ministry of Public Security to press charges and for credit bureaus to flag them. As a result, identification fraud proliferates due to a lack of government agency coordination. The National Population Database in the Ministry of Public Security is currently building a unified database based on new identity cards with 12 digits, a chip, and a QR code. This system will significantly improve customer identification. Meanwhile, lenders and credit bureaus will continue to struggle to identify borrowers, exposing lenders to fraud risk.

To determine applicants' creditworthiness, make credit appraisals, and to get to know their customers, lenders assess their income situation as well. Collecting and verifying labour and income data can be challenging as not all workers have contracts and records for their income, in particular informal workers. While big companies pay salaries through bank transfers, smaller companies mix bank and cash payments, and informal employers use cash payments only. The second and third scenarios are challenging for lenders. In addition, some applicants embellish their loan applications by manipulating data and forging certificates.

For example, in order to secure a mortgage without having a recorded income, an informant deposited money in her bank account and asked a friend for help: “I called up my friend like: ‘sign me a labour contract, make me a salary table’. I crafted my own application: a salary table, with bonuses, a title, back then I said I was ‘Head of Sales’, which means I get a manager’s salary... So, I made up all of that, typed it up, printed it, estimated the amount of money, gave it to my friend who had it signed and stamped”. Another conundrum lenders face is worker’s unstable career paths and income, especially those of many informal workers who live day by day.<sup>13</sup> Financial companies target these risky customers whereas banks focus on smaller but growing groups of urban, highly-educated and middle-class workers who build linear and future-oriented careers.<sup>14</sup> Overall, high financial exclusion, administrative barriers, informality and precarity generate uncertainty, exacerbate risk and slow consumer finance growth. However, the under-development status of consumer finance in a country with a hundred million citizens offers excellent prospects for profit and expansion.

### **SOLUTIONS FOR KNOWING CUSTOMERS AND ASSESSING CREDIT RISK**

For consumer finance to thrive and reach millions of banked and unbanked customers in Vietnam, consumer lenders race to improve know-your-customer (KYC) procedures, build customer knowledge, and standardize credit scoring tools. Scoring systems are not homogeneous across the banking industry. Most public and joint-stock commercial banks provide housing, car, credit card and a limited range of unsecured loans to low-risk customers with stable income positions. On the contrary, financial companies such as FE Credit take a riskier approach and offer instalment plans, cash and credit card loans to millions of unbanked, low-income and ‘at-risk’ consumers. Overall, depending on their size, status, risk appetite and business model, banks and financial companies use different tools to know their customers, assess their creditworthiness and mitigate risk through pricing.

Many banks use traditional economic data and regression models to rank applicants. The Bank for Investment and Development (BIDV), a large state-owned bank founded in 1957 and a major player in retail banking, is breaking into the consumer finance sector by providing home, car, overseas education, and instalment loans to low-risk customers. According to a branch office manager, BIDV offers unsecured loans and credit cards to known customers. The requirement is that the customer opens a salary-receiving account to monitor cash flows and to set up automatic monthly deductions. To generate risk scores, BIDV uses a three-page long table with over 50 lines. Variables include demographic data (age, marital status, number of children, education level, etc.), labour status, income and repayment capacity (spouse who may contribute to repayment, debt burden ratio, and whether income is transferred through a bank or not, etc.), standing loans (with BIDV and other lenders), financial situation (savings), credit and payment history with BIDV if relevant, and other lenders based on reports from the CIC.<sup>15</sup> All these data facilitate credit appraisal. BIDV’s scoring table is under permanent revision to match evolving policies from the State Bank and market conditions. Other public and joint-stock banks apply similar credit scoring systems based on a limited number of economic variables and regression models. These lenders have a moderate risk flavour, meaning they prioritize secured loans and choose customers with low-risk profiles.

Financial companies like FE Credit, the consumer finance branch of VPBank, holds a more aggressive and technologically-oriented approach. In 2010, FE Credit was the first credit institution to target risky yet lucrative segments ignored by banks, and to offer an array of financial products to the masses. In 2020, it held a database of 14 million customers and a consumer debt market share of 55 per cent, with a total outstanding loans value of VND66 trillion. FE Credit performs traditional KYC procedures based on paperwork and personification. It also checks through referees. As standard practice, it requires applicants to provide the details of two to three referees, preferably close relatives, friends and employers. This KYC verification procedure based on personal networks has shortcomings as applicants may provide fake referees.

FE Credit has a first-mover advantage. It asserts its dominance by investing in risk methods based on traditional and alternative data and machine learning analytics. It takes advantage of the recent introduction of digital technologies and high internet penetration rate to glean traditional and alternative data from consumers in order to assess risk.<sup>16</sup> FE Credit's risk assessment model combines multiple scores that help draw intimate 'customer portraits'. The in-house score is based on demographic data, ID documents, and labour and income data. Brokers provide additional data on taxable income, social insurance, phone number registration, and debt status with unofficial credit providers for verification purposes. While many banks purchase scoring models based on standard sets of variables from foreign providers like McKinsey, FE Credit has developed an in-house model based on insights from its Vietnamese customers. This model takes into account its customers' unique characteristics including identification and fraud issues, labour precarity, and income instability. This in-house score determines the interest rate, ranging from 20 to 40 per cent per annum, which also depends on loans' characteristics and package. It complements other data for appraisal, including the amount requested, down payment if relevant, the proportion of the loan relative to the good's price, and the value of the debt contract.

FE Credit also relies on a vendor score based on behavioral data provided by Trusting Social, a fintech start-up based in Hanoi and Singapore. This firm gleans call/SMS metadata (when, where and how long), top-up data and value-added service transactions to determine borrowers' income, mobility patterns, financial skills, consumption profile, social capital and life habits. In addition, FE credit uses two other risk scores that are new to Vietnam. The first is a fraud score to detect suspicious behaviour and fraudulent orders based, for instance, on fake identification. The second is a repayment score based on behavioural data about the customer's interaction with the firm that helps in determining an optimal recovery strategy. To analyze data and generate scorecards, FE Credit uses machine learning analytics. This technology allows for adjusting the inputs (variables) to maximize the outputs (scores). The most predictive variables inform selections and decisions for each case.

Despite their popularity, not all banks use regression and machine-learning tools to rank applicants. A case in point is Shinhan Bank Vietnam, a subsidiary of Shinhan Bank Korea. This bank has recently entered the burgeoning consumer finance sector in Vietnam. It proposes housing, car and unsecured loans to qualified low-risk customers, and conducts credit appraisal based on four criteria: character, collateral, loan purpose, and financial situation including 'bad debt' history. As opposed to most consumer lenders, Shinhan Bank does not use credit scoring to assess applicants' creditworthiness. According to a loan

appraisal officer, its thorough appraisal process suffices to limit risk. However, Shinhan Bank plans to improve its risk management tools while keeping non-performing loans low.

Another case worth mentioning is Shinhan Finance, a small financial company tied to Shinhan Card Korea, which originated from the acquisition of Prudential Vietnam Finance in 2019. Shinhan Finance provides cash loans to workers who can prove their salary and who work for ‘red listed’ companies whose workers show low delinquency rates. Although it markets its unsecured credit offer as ‘salary-based loans’, it does not collateralize workers’ salaries. According to a credit support officer, Shinhan Finance’s philosophy is that, “if you don’t have enough money to live, how could you have money to repay loan interest?”. To apply for loans of up to 6-8 times their salary, workers must provide an ID, a household registration certificate and income proof. They must also agree to meet a loan officer for an interview. The lender requires referees for data verification. Like Shinhan Bank, Shinhan Finance does not use credit scoring to assess risk. It relies on appraisal based on the employer’s status, the applicant’s credit and ‘bad debt’ history with other banks and Shinhan Finance if relevant, and officers’ evaluation.

Shinhan thus seeks a reliable consumer base, which is likely to be unbanked, at the cost of having less market share. Altogether, whereas FE Credit leverages alternative data and machine-learning analytics to improve customer knowledge and risk prediction, and lend money to millions of unbanked consumers, Shinhan Finance challenges the standardization of statistically based and automated scoring systems by prioritizing income levels and human discretion to cater to a small customer base. The variety of risk assessment models and technologies shows that lenders go through an intense phase of experimentation, competition and adaptation to a relatively nascent environment.

## CONCLUSION

This article described the variegated approaches to data verification and creditworthiness assessment that Vietnamese lenders adopt to address technical obstacles and position themselves in a rapidly expanding consumer finance market. It showed that this emerging sector is large and untapped enough to cater to diverse risk philosophies, technologies and procedures incorporating human discretion, regression models and cutting-edge machine learning analytics.

Credit scoring raises important technical issues in Vietnam. This technology has made substantial progress in turning radical uncertainty caused by high financial exclusion into calculable and priceable risk. However, credit scoring is subject to a permanent process of contestation and improvement<sup>17</sup> and its efficiency and accuracy are contingent upon available data and evolving political, economic and regulatory conditions.<sup>18</sup> Besides, the transfer of credit scoring technologies designed in rich countries like South Korea and Singapore to emerging economies like Vietnam raises technical challenges. Global standard models often rest on assumptions that do not apply to Vietnam, such as labour and income stability, data verification ease, and availability of credit history data.<sup>19</sup>

Credit scoring also raises a string of policy issues. Since the technology is imperfect and there is a lack of sufficiently large numbers of past observations for extrapolations about

the future, we should expect lenders to make miscalculations and errors and for them to require adjustment and experience if they are to rank tens of millions of citizens who are new to consumer finance. The regulator has a key role to play. Vietnamese law requires creditors and regulators to continually assess and categorize debtors and loans in risk categories. However, it does not adequately protect borrowers from miscalculation and sensitive groups (the poor, women, ethnic and religious groups, etc.) from unfair discrimination and rejection. The advent of credit scoring based on alternative data and machine-learning analytics raises new concerns about opacity, algorithmic discrimination, and the loss of individual autonomy and privacy.<sup>20</sup> The current regulation on credit scoring is unprepared to deal with the challenges raised by machine-learning analytics. However, the State Bank is launching a pilot regulatory sandbox programme for five key fintech sectors, including machine learning-based credit scoring.<sup>21</sup> We can only hope that the regulator and consumer lenders realize the urgent need to update regulation on credit scoring and to find a balance between efficiency in risk prediction and consumer protection.

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<sup>1</sup> Jens Kovsted, John Rand, and Finn Tarp, *From Monobank to Commercial Banking: Financial Sector Reforms in Vietnam* (Singapore: NIAS Press, Institute of Southeast Asian Studies, 2004).

<sup>2</sup> In addition, digital lenders including peer-2-peer platforms provide microloans to consumers through easy-to-use apps.

<sup>3</sup> Van Luc Can, "Landscape Shift in Consumer Finance," *Vietnam Investment Review*, March 30, 2021, <https://vir.com.vn/landscape-shift-in-consumer-finance-83411.html>.

<sup>4</sup> Ibid.

<sup>5</sup> Hai Yen Nguyen, "Fintech in Vietnam and Its Regulatory Approach," in *Regulating FinTech in Asia*, ed. Mark Fenwick, Steven Van Uytsel, and Bi Ying, Perspectives in Law, Business and Innovation (Singapore: Springer, 2020), 124.

<sup>6</sup> World Bank, *The Little Data Book on Financial Inclusion 2018* (Washington DC: World Bank, 2018), 160

<sup>7</sup> Allison Truitt, "Banking on the Middle Class in Ho Chi Minh City," in *The Reinvention of Distinction: Modernity and the Middle Class in Urban Vietnam*, ed. Van Nguyen-Marshall, Lisa B. Welch Drummond, and Danièle Bélanger, ARI - Springer Asia Series (Dordrecht: Springer Netherlands, 2012), 129–41

<sup>8</sup> Vietnam+, "Deposit Interest Rate Proposed to Gradually Lower to 0 Percent," *Vietnam+*, June 25, 2021, <https://en.vietnamplus.vn/deposit-interest-rate-proposed-to-gradually-lower-to-0-percent/203622.vnp>.

<sup>9</sup> Allison Truitt, "Banking on Gold in Vietnam," *Journal of Cultural Economy* 14, no. 4 (July 4, 2021): 403–15

<sup>10</sup> VNA, "PM Ratifies National Financial Inclusion Strategy until 2025," *Vietnam Investment Review*, February 3, 2020, <https://www.vir.com.vn/pm-ratifies-national-financial-inclusion-strategy-until-2025-73554.html>.

<sup>11</sup> The CIC gathers credit data from 30.8 million individuals with existing credit history and provides credit reports to consumer lenders.

<sup>12</sup> World Bank, VASS, *Vietnam's Household Registration System* (Hanoi: Hong Duc Publishing House, 2016); see Nicolas Lainez et al., "'Easy to Borrow, Hard to Repay': Credit and Debt in Ho



Chi Minh City’s Sex Industry,” Research Report no. 5 (Ho Chi Minh City: Alliance Anti-Traffic, 2020).

<sup>13</sup> Nicolas Lainez, “Treading Water: Street Sex Workers Negotiating Frantic Presents and Speculative Futures in the Mekong Delta, Vietnam,” *Time & Society* 28, no. 2 (2019): 804–27; Lainez et al., “‘Easy to Borrow, Hard to Repay’: Credit and Debt in Ho Chi Minh City’s Sex Industry.”

<sup>14</sup> Catherine Earl, *Vietnam’s New Middle Classes: Gender, Career, City* (Copenhagen: NIAS Press, 2014).

<sup>15</sup> The CIC separates Non-Performing-Loans (NPL) or ‘bad debt’ (*nợ xấu*) from borrowers into five groups: 1 (‘current’, debt is overdue less than ten days), 2 (‘special mentioned’, debt is unpaid from 10 to 90 days), 3 (‘sub-standard’, debt is overdue 91 to 180 days), 4 (‘doubtful’, debt is due from 181 to 360 days) and 5 (‘loss’, debt is overdue more than a year). Lenders reject borrowers from groups 3, 4 and 5, and may consider those in group 2, depending on their risk appetite. Credit blacklisting lasts for two years after the borrower has paid off an arrear.

<sup>16</sup> In 2016, Vietnam’s internet penetration rate had reached 52 per cent while smartphone ownership 72 and 53 per cent in urban and rural areas, respectively (Nguyen, Hai Yen. 2020. “Fintech in Vietnam and Its Regulatory Approach.” In *Regulating FinTech in Asia*, edited by Mark Fenwick, Steven Van Uytsel, and Bi Ying, 121. Singapore: Springer).

<sup>17</sup> Donncha Marron, “‘Lending by Numbers’: Credit Scoring and the Constitution of Risk within American Consumer Credit,” *Economy and Society* 36, no. 1 (February 2007): 103–33

<sup>18</sup> C. Zaloom, “How to Read the Future: The Yield Curve, Affect, and Financial Prediction,” *Public Culture* 21, no. 2 (April 1, 2009): 245–68.

<sup>19</sup> Dawn Burton, “Credit Scoring, Risk, and Consumer Landscapes in Emerging Markets,” *Environment and Planning A: Economy and Space* 44, no. 1 (January 2012): 111–24

<sup>20</sup> Nicolas Lainez, “The Prospects and Dangers of Algorithmic Credit Scoring in Vietnam: Regulating A Legal Blindspot,” Regional Economic Studies Working Series (Singapore: ISEAS, 2021), <https://www.iseas.edu.sg/category/articles-commentaries/iseas-economics-working-papers/>.

<sup>21</sup> Linh Chi Dang and Mai Nhu Thuy Pham, “Vietnam’s Evolving Regulatory Framework for Fintech,” *Perspective*, no. 75 (June 7, 2021): 10.

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