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# A Critical Review of Consumer Behaviour and Credit Supply: Evidence from an Australian FinTech Lender

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***ABSTRACT***

*This study critically reviews the relationship between consumer behaviour and credit supply decisions, focusing on evidence from an Australian FinTech lender. FinTech lenders increasingly use alternative data, such as bank transaction patterns, to assess creditworthiness beyond traditional metrics. The reviewed literature indicates that specific behaviours, notably gambling and intensive cash usage, negatively impact the offered loan amounts. While lenders generally favour mature demographics, these preferences are moderated by risky consumption signals. However, this critical review identifies several limitations in current research, including observational designs that prevent causal claims and potential data selection bias. Furthermore, the modest economic impact of these behavioural variables raises questions about their incremental predictive value. Crucially, penalizing cash usage and repeated borrowing may inadvertently foster algorithmic bias, disproportionately disadvantage vulnerable populations, and conflict with broader financial inclusion objectives. Future research must prioritize causal identification, default analysis, and algorithmic fairness. Ultimately, the integration of alternative data requires robust regulatory frameworks to balance technological innovation with consumer protection.*

***Keywords***: *alternative data ;consumer behaviour ; credit supply ; financial inclusion ; fintech lending*

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## INTRODUCTION

This research (Gao et al., 2023) investigates the relationship between consumer behaviour and credit supply decisions using proprietary data from a leading Australian FinTech lender. The study (Gao et al., 2023) examines how spending patterns, payment methods, borrower demographics, and loan characteristics influence lending outcomes through the lens of soft information extracted from bank statements. The paper (Gao et al., 2023) contributes to the emerging literature on FinTech lending by demonstrating that consumer behaviour significantly impacts credit allocation decisions, extending beyond traditional hard information such as credit scores.

The landscape of credit assessment has undergone substantial transformation with the rise of financial technology (Roy & Vasa, 2025). Researches indicate that FinTech-based lending has rapidly expanded in emerging economies, offering convenience and inclusion opportunities while simultaneously raising concerns about over-indebtedness and behavioural risks (Del Sarto & Ozili, 2025; Kemala et al., 2025; Warokka et al., 2025). The integration of alternative data sources has become central to modern credit risk assessment (Karami & Igbokwe, 2025), yet the mechanisms through which consumption patterns influence lending decisions remain insufficiently explored in existing literature.

## METHODS OF RESEARCH

This study employs a critical review methodology to systematically evaluate, synthesize, and critique the existing literature (Gao et al., 2023). Unlike a systematic literature review that primarily aggregates empirical findings, a critical review is designed to rigorously assess the theoretical foundations, methodological rigor, and conceptual inconsistencies within the current body of knowledge (Anh, 2024; Dede et al., 2026; Franzke et al., 2022; He et al., 2026; Magnuson et al., 2026; Marks et al., 2026; Mêda et al., 2026; Sawant et al., 2024; Thomas et al., 2026). The primary objective is to identify theoretical gaps, resolve contradictory perspectives.

## RESULT AND DISCUSSION

### Information Asymmetry and Alternative Data in FinTech Lending

The foundational challenge of information asymmetry in credit markets suggests that asymmetrical information between borrowers and lenders generates adverse selection and moral hazard, resulting in credit rationing (Ioannidou et al., 2022; Selcuk, 2025). FinTech lenders have developed innovative approaches to address these challenges through alternative data sources including smartphone metadata, social media interactions, e-commerce behaviours, and, in the context of the study paper (Gao et al., 2023) detailed transaction patterns from bank statements.

Alternative data proves particularly valuable for "invisible primes" borrowers with thin credit files and low credit scores but low default risk (Maggio & Ratnadiwakara, 2021). These individuals are often excluded from traditional lending models despite demonstrating genuine creditworthiness (Tigges et al., 2024). AI and machine learning models enable lenders to incorporate alternative data sources like digital transactions, mobile usage patterns, and behavioural indicators, significantly reducing default rates while expanding credit access (Duvalla, 2025).

**Consumption Patterns and Lending Behaviour**

The study paper's (Gao et al., 2023) focus on specific consumption categories warrants attention within the context of existing research on consumer behaviour. FinTech-based lending expansion has been accompanied by growing signs of risky borrowing behaviour, including late payments, high debt-to-income ratios, and poor credit discipline (Warokka et al., 2025). The paper's (Gao et al., 2023) finding that gambling expenses significantly reduce lending willingness connects to broader literature on how consumption choices reveal borrower reliability.

Research on online consumer credit consumption identifies financial literacy as a key determinant influencing individuals' rational consumption, with implications for how lenders perceive borrower reliability (Rehman & Mia, 2024). The study's (Gao et al., 2023) nuanced treatment of consumption categories moves beyond aggregate spending measures to examine specific expenditure patterns as signals of creditworthiness.

**Strengths of the Research Design**

The paper's (Gao et al., 2023) utilization of a proprietary dataset from an approved loan application set (70,140 observations) provides several methodological advantages. First, the availability of both requested and offered loan amounts enables measurement of lender willingness to supply credit through a continuous offer-to-requested ratio, a more nuanced metric than binary approval/rejection measures. Second, the categorization of bank transactions into seven spending categories plus cash usage proxies provides granular behavioural data typically unavailable in academic research.

The fixed effects linear regression (Gao et al., 2023) approach with heteroskedasticity-robust standard errors clustered by applicant and time period represents appropriate econometric handling of the data structure. The baseline specification controls comprehensively for loan and borrower characteristics while examining the independent effects of consumption patterns and repeated borrowing.

**Limitations and Concerns**

- Data Selection Bias: The dataset comprises only approved loans, introducing potential selection bias (Gao et al., 2023). Loan applications rejected at earlier stages are entirely absent from analysis, preventing assessment of whether consumption patterns influence initial screening decisions differently than final approved offers. This limits generalizability to the full pool of applicants.
- Observational Rather Than Causal: The authors (Gao et al., 2023) acknowledge that the study demonstrates association but not causation between consumer behaviour and lending outcomes. Alternative explanations remain plausible—for instance, gambling spending might serve as a proxy for unobserved characteristics rather than directly influencing lender behaviour. Instrumental variable approaches or quasi-experimental designs would strengthen causal claims.
- Limited Temporal Scope: The data (Gao et al., 2023) spans April 2017 to August 2018, capturing only pre-pandemic lending conditions. Economic shocks, regulatory changes, or technological disruptions since this period may have substantially altered FinTech lending practices. Generalizability to current lending environments requires caution.
- Soft Information Definition: The paper's (Gao et al., 2023) classification of consumption categories as "soft information" is partially debatable. While transaction patterns may capture behavioural

dimensions, they also contain objective factual elements (verifiable purchases). This blurs the traditional distinction between soft and hard information in credit assessment.

**Consumer Behaviour Effects on Lending**

The paper's (Gao et al., 2023) primary findings demonstrate that gambling spending significantly reduces offer-to-requested loan ratios by approximately 0.002 (0.59% of sample standard deviation), while cash usage (proxied by ATM withdrawals) reduces ratios by 0.004 (1.37% of sample standard deviation). These represent statistically significant but economically modest effects.

A one-standard-deviation (Gao et al., 2023) increase in cash usage reduces the offered amount by approximately A$25 given a mean requested amount of A$6,179. While seemingly small in absolute terms, this amount exceeds average monthly transportation spending in the sample, suggesting meaningful economic significance for borrowers.

The heterogeneous effects analysis reveals important interactions with borrower demographics (Gao et al., 2023). For married borrowers, cash usage's negative effect approximately doubles in magnitude compared to unmarried applicants. Similar patterns emerge for borrowers with dependents or aged over 30. These findings suggest that lenders interpret identical behavioural signals differently depending on borrower maturity status.

**Borrower Demographics and Lending Preferences**

The lender exhibits preferences for mature borrowers (married, with dependents, or aged over 30), granting higher offer-to-requested ratios (Gao et al., 2023). However, these mature borrowers' apparent preferential treatment reverses when they exhibit risky consumption patterns or repeated borrowing tendencies, suggesting that demographic characteristics moderate behaviour interpretation rather than universally guaranteeing superior terms.

**Alignment with Existing Research on Alternative Data**

Research demonstrates that alternative data substantially improves perceived precision of AI/ML credit ratings, resulting in heightened confidence in automated conclusions (Desai, 2024). The Australian FinTech lender's reliance on transaction-based soft information aligns with global trends toward alternative credit scoring (Gao et al., 2023). However, the modest effect sizes raise questions about whether consumption pattern analysis provides material predictive improvements over traditional approaches.

Innovative approaches leveraging social media analytics and behavioural data for credit assessment have shown promise for expanding credit access to individuals without traditional credit histories (Alamsyah et al., 2025). The paper's (Gao et al., 2023) findings on gambling and cash usage contribute to this expanding evidence base but deserve scrutiny regarding whether these patterns truly reflect creditworthiness or merely proxy for socioeconomic characteristics.

**Concerns Regarding Algorithmic Fairness and Discrimination**

Alternative credit scoring systems function as calculative infrastructure enabling some institutions to bypass barriers to risk-based pricing, but this infrastructure becomes a site for potential inequity. The paper's (Gao et al., 2023) findings regarding differential treatment of cash users and repeated borrowers

warrant fairness analysis. Alternative data use raises concerns about fair lending goals, particularly when data utilization patterns may disproportionately disadvantage protected classes (Tigges et al., 2024).

Machine learning algorithms can inherit and amplify evaluator biases from training data (Kumar et al., 2026). The lender's preference for reduced cash usage and aversion to repeated borrowing may systematically disadvantage specific demographic groups, though the paper (Gao et al., 2023) provides limited analysis of whether effects vary by race, ethnicity, or gender.

**Cash Usage as a Behavioural Signal**

The paper's (Gao et al., 2023) treatment of cash usage merits deeper scrutiny. Research on payment behaviour indicates that cash usage relates to transaction size, merchant characteristics, and consumer protection preferences rather than exclusively reflecting financial reliability (Brown et al., 2022). Intensive cash users are disproportionately likely to be older, lower-income individuals, suggesting that cash usage penalties may perpetuate financial exclusion of vulnerable populations despite alternative data's intended inclusion objectives (Gao et al., 2023).

**FinTech Lending Ecosystem Development**

FinTech lenders operate under different regulatory frameworks than traditional banks, enabling alternative credit scoring and real-time risk adjustments, but also introducing challenges including algorithmic governance, concept drift problems where models become outdated during economic changes, bias in lending decisions, and data poverty problems excluding people with few digital footprints (Vijayagopal et al., 2024). The paper's (Gao et al., 2023) findings demonstrate that FinTech lenders indeed utilize soft information from alternative data sources, validating theoretical predictions about technological displacement of traditional screening methods. However, the selective use of consumption patterns (Gao et al., 2023), accepting certain categories while penalizing others, suggests potentially subjective decision-making that may warrant regulatory scrutiny.

**Financial Inclusion Paradox**

Sustainable fintech innovations facilitate broader financial inclusion, support green finance, and align with Sustainable Development Goals (Mamun & László, 2025). Yet the paper's (Gao et al., 2023) findings on repeated borrower penalties and cash usage aversion suggest potential exclusionary effects. While FinTech lending has improved financial inclusion by expanding credit access, it simultaneously introduces new risks of over-indebtedness, predatory lending, weak data protection, and limited financial literacy (Ha et al., 2025).

Effective fintech implementation depends on adaptive regulatory frameworks, consumer protection measures, and integration with traditional financial institutions (Bhattacharya & Sachdev, 2024). The Australian findings suggest current FinTech lending practices may require stronger guardrails to ensure inclusion objectives are genuinely served (Gao et al., 2023).

**Regulatory Considerations**

Privacy regulation impacts fintech lending substantially (Doerr et al., 2023). The California Consumer Privacy Act (CCPA) introduction reduced fintech loan rates relative to other lenders while

increasing application denial rates and expanding alternative credit scoring use (Doerr et al., 2023). Similar regulatory approaches may constrain consumption pattern-based lending but could strengthen consumer protections (Bea & Bley, 2022).

Legal frameworks governing algorithmic transparency and fairness remain underdeveloped for consumption-based credit assessment (Perdana et al., 2025). Indonesian and other emerging economy regulations increasingly require explainable AI and consumer right to explanations for automated decisions, frameworks potentially applicable to consumption pattern analysis (Revolusi & Febriandy, 2025).

**Methodological Extensions Needed**

- Causal Identification: Quasi-experimental or instrumental variable approaches could address causality questions. Natural experiments (e.g., regulatory changes affecting data access) might enable causal inference.
- Default Analysis: The study focuses on offer-to-requested ratios without examining whether consumption patterns actually predict loan default. Out-of-sample default prediction accuracy would strengthen credit risk assessment justification.
- Temporal Dynamics: Multi-year panel data tracking borrower outcomes would illuminate whether consumption pattern effects persist, reverse, or amplify over loan lifecycles.
- Comparative Analysis: Cross-country or cross-lender analysis would clarify whether FinTech lending practices converge toward universal norms or reflect jurisdiction-specific regulatory environments and cultural preferences.

**Substantive Research Questions**

- Mechanism Clarity: Do consumption patterns directly signal creditworthiness, or do they merely proxy for unobserved characteristics (e.g., financial stability, risk aversion)?
- Fairness Implications: How do gambling spending and cash usage penalties affect specific demographic groups? Do effects disproportionately burden disadvantaged populations?
- Macroeconomic Effects: What are aggregate consequences of reduced access for repeated borrowers and cash users? Does screening stringency impede financial inclusion progress?
- Alternative Approaches: Could enhanced financial literacy programs or behavioral nudges address lender concerns about gambling without restricting credit access?

## CONCLUSION

This research provides important empirical evidence that consumer behaviour affects FinTech lending decisions, extending beyond traditional credit bureau information to incorporate transaction-based soft information. The paper makes valuable contributions to understanding FinTech lending mechanisms, particularly regarding how Australian lenders interpret consumption patterns and borrower demographics.

However, the analysis also reveals important limitations and concerns. The modest economic effect sizes suggest consumption pattern analysis provides limited incremental predictive value. The differential treatment of repeated borrowers and cash users raises fairness questions potentially conflicting with

financial inclusion objectives. The observational study design prevents definitive causal claims. The absence of default analysis leaves credit risk assessment justification incomplete.

Future research should address causal identification through quasi-experimental designs, incorporate default prediction analysis, examine fairness implications across demographic groups, and situate findings within broader regulatory and macroeconomic contexts. The intersection of AI-driven credit assessment with blockchain-based transparency and fairness frameworks represents a promising avenue for enhancing both innovation and consumer protection.

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