

DETERMINANTS OF CONSUMER DEBT PROPENSITY IN THE ERA OF FINTECH EXPANSION AND THE RISE OF BUY NOW, PAY LATER (BNPL)

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Purpose: To identify and synthesize the determinants of consumers' propensity to incur debt, focusing on the impact of FinTech expansion and the rapid growth of buy-now-pay-later (BNPL) services.

Design/methodology/approach: Narrative literature review of over 30 peer-reviewed articles and reports (2010-2024) from international databases and Polish sources, integrating economic, socio-demographic, and psychological/behavioral perspectives.

Findings: Consumers' propensity to incur debt results from the interaction of three factor groups: economic (e.g. income, credit availability), socio-demographic (e.g. age, household composition, level of education), and especially psychological/behavioral (e.g. impulse-buying propensity, limited financial literacy, present bias, social norms). Buy Now, Pay Later (BNPL) services substantially elevate the risk of indebtedness by broadening access to credit, obscuring its true cost, leveraging cognitive biases, and promoting impulsive purchasing behavior, particularly among younger consumers.

Research limitations/implications: Narrative (not systematic) review; many BNPL studies are cross-sectional and context-specific. Longitudinal research combining transactional and psychological data is needed.

Practical implications: Urgent need for regulation of BNPL services (including affordability assessments and enhanced transparency), for responsible lending practices by FinTech companies and banks, and for strengthened financial literacy programs.

Societal implications: Risk of increasing over-indebtedness, exacerbation of financial inequality, and reinforcement of materialistic consumption is particularly pronounced among younger individuals and those with low financial literacy.

Originality/value: One of the first integrative reviews linking traditional and behavioral determinants of consumer indebtedness with the transformative role of BNPL and FinTech companies, with particular relevance for Central and Eastern European markets.

Keywords: consumer indebtedness, buy now pay later (BNPL), FinTech companies, behavioral finance, financial literacy.

Category of the paper: Literature review.

1. Introduction

Increasing consumer indebtedness represents a critical challenge for contemporary economies, as its level directly affects consumption, macroeconomic stability, and societal well-being. In 2023, U.S. credit card debt surpassed \$1 trillion (Ackert et al., 2024), highlighting the magnitude of this phenomenon. Understanding the mechanisms that drive individuals' decisions to incur debt has thus become essential for promoting long-term economic stability (Waliszewski et al., 2024).

Prior research on household indebtedness has predominantly relied on rational economic frameworks, often overlooking the complexity of human behavior. Empirical studies—primarily from European countries, including Poland—have typically focused on economic determinants such as income, employment, education level, and credit policies. These studies frequently employ household resource-optimization models to explain debt-related decisions (Anioła, Gołaś, 2011; Wałęga, Wałęga, 2016; Sztaudynger, 2018). For example, macroeconomic analyses have highlighted the influence of unemployment and industrial production on credit risk, treating household indebtedness as a function of external economic indicators (Panciszko, 2016).

While the extant literature has meticulously catalogued the economic determinants of indebtedness through the lens of rational optimization models—most notably in the Life-Cycle Hypothesis (Modigliani, Brumberg, 1954) and the Permanent Income Hypothesis (Friedman, 1957)—and parallel research streams have examined psychological biases affecting financial decision-making (Kahneman, Tversky, 1979), a substantial theoretical gap persists in understanding how these domains interact within contemporary digital ecosystems.

The originality of this paper lies in its integrative analytical approach. In contrast to prior studies that tend to conceptualize economic constraints and psychological predispositions as orthogonal determinants, this review demonstrates how FinTech and Buy Now, Pay Later (BNPL) services leverage behavioral biases—such as present bias and mental accounting—to erode, circumvent, or recalibrate traditional economic constraints. By juxtaposing the rigid, resource-based constraints posited by neoclassical economic theory with the fluid, psychologically driven forms of accessibility characteristic of modern LendTech (Sng, Tan, 2022; Di Maggio et al., 2022), this study develops a novel, multidimensional framework for explaining individuals' propensity to incur debt.

Furthermore, this article is among the first to situate these global mechanisms within the distinct regulatory and economic context of Central and Eastern Europe, focusing specifically on Poland. It examines the unique complementarity between banking-sector stability and FinTech-driven innovation during periods of economic turbulence (Waliszewski et al., 2024), thereby offering an empirically grounded regional extension to predominantly Western-centric debates on digital indebtedness.

Based on the current literature, this review identifies three main groups of determinants influencing consumers' propensity to incur debt: economic, socio-demographic, and psychological-behavioral factors.

The remainder of the article is organized as follows: in the second part of the article, the most relevant economic theories underpinning the discussed topic are highlighted, and studies confirming the significance of the factors identified within these theories for consumer indebtedness are presented. The third part outlines the methodology employed in the literature review. The fourth part presents the conclusions drawn from a critical review of the literature on the determinants of indebtedness, along with the proposed key theoretical and practical implications. The fifth part of the article presents a discussion with the existing literature. Finally, the sixth part formulates the overall conclusions, identifies the limitations of the review, and suggests directions for future research.

2. Theoretical Foundations of Consumer Indebtedness Determinants

Understanding consumers' decisions to incur debt requires reference to several fundamental economic and psychological theories, which provide the framework for analyzing this phenomenon. The present article is grounded in the following theories:

- Life-cycle theory, the permanent income hypothesis, and rational choice theory – with regard to economic factors.
- Relative income hypothesis, social influence concepts, family life-cycle theory, and household economics – with regard to socio-demographic factors.
- Behavioral finance and prospect theory, self-control and self-regulation theories, and financial knowledge and competence models – with regard to psychological and behavioral factors.

The life-cycle theory, developed by Modigliani and Brumberg (1954), posits that individuals aim to smooth consumption over their lifetime. Consequently, households incur debt in the early stages of their working life, when incomes are low and needs are high (e.g., housing purchases, education), in order to repay it during peak earning periods (Strzelecka, Zawadzka, 2020a; Strzelecka et al., 2020b). Similarly, Friedman's (1957) permanent income hypothesis suggests that consumption depends not on current, but on expected future income, and that credit serves as a tool for consumption smoothing over time (Strzelecka, Zawadzka, 2020a). These models, based on the assumption of rationality, provide a starting point for analyzing the economic motives of indebtedness.

Duesenberry's (1949) relative income hypothesis indicates that the level of consumption (and thus the propensity to incur debt) depends not only on an individual's absolute income but also on the income and living standards of reference groups—such as family, neighbors,

or peers (Strzelecka, Zawadzka, 2020a). The “keeping up with the Joneses” phenomenon encourages borrowing to finance conspicuous consumption, aimed at social status and group identification (Cosma, Pattarin, 2011; Livingstone, Lunt, 1992). In this context, social norms—both empirical (what others do) and normative (what others consider appropriate)—are particularly significant. Research indicates that the perception of BNPL use as socially acceptable significantly reinforces consumers’ propensity to adopt this form of financing (Ackert et al., 2024). At the same time, family life-cycle theory (Glick, 1947; Hill, 1986) and the new household economics approach (Becker, 1965) emphasize that financial needs and the propensity to incur debt change across different stages of household development (forming a couple, having children, children leaving home, retirement). During phases of intensive expenditure growth (e.g., housing purchases, children’s education), households are more likely to borrow as a means of consumption smoothing, consistent both with Becker’s (1965) classical time and resource allocation model and with empirically observed higher levels of indebtedness in multi-person households with dependent children (Strzelecka, Zawadzka, 2020a; Strzelecka et al., 2020b).

Classical economic theories, including rational choice theory (Becker, 1976), assume fully rational consumers maximizing utility. Behavioral finance and prospect theory challenge this assumption, highlighting systematic cognitive errors and emotional biases. Consumers exhibit myopia, excessive optimism regarding future repayment capacity, loss aversion, and a preference for immediate gratification over delayed benefits (Kahneman, Tversky, 1979; Ackert et al., 2024; Sng, Tan, 2022). BNPL products, which provide immediate satisfaction at a deferred and often underestimated cost, fully exploit these behavioral mechanisms (Ziemba, 2024). Another key factor is weak self-control and difficulties in self-regulation (Baumeister et al., 1998; Hoch, Loewenstein, 1991). The inability to resist purchasing impulses during moments of strong desire leads to excessive use of readily available credit forms, including BNPL (Ackert et al., 2024). Furthermore, low financial knowledge and literacy, measured through standard assessments (Lusardi, Mitchell, 2014), represent one of the best-documented risk factors for over-indebtedness. Consumers with low financial literacy are particularly susceptible to opaque credit product terms and marketing strategies emphasizing “no interest” or “pay later” schemes (Ackert et al., 2024; Ziemba, 2024).

Based on a review of the literature addressing determinants of consumers’ propensity to incur debt, three main groups of factors were identified—economic, socio-demographic, and psychological/behavioral—and the key associated theories were mapped into the following classification (see Table 1).

Table 1.*Determinants of Consumers' Propensity to Incur Debt – Theoretical Foundations*

Factor Category	Specific Determinants	Key Theoretical Frameworks
Economic	<ul style="list-style-type: none"> - Household income level. - Credit availability. - Cost of credit. 	<ul style="list-style-type: none"> - Life-cycle hypothesis (Modigliani, Brumberg, 1954). - Permanent income hypothesis (Friedman, 1957). - Rational choice theory (Becker, 1976).
Socio-demographic	<ul style="list-style-type: none"> - Age and life-cycle stage. - Household structure. - Gender. - Education level. - Socio-economic characteristics of occupation. 	<ul style="list-style-type: none"> - Relative income hypothesis (Duesenberry, 1949). - Conspicuous consumption (Veblen, 1899). - Social influence theory (Cialdini, 2001). - Family life-cycle theory (Glick, 1947; Hill, 1986). - New household economics (Becker, 1965, 1976).
Psychological and Behavioral	<ul style="list-style-type: none"> - Attitudes toward debt. - Locus of control. - Low financial literacy. - Impulsivity and consumerism. - Risk propensity. 	<ul style="list-style-type: none"> - Behavioral finance, including prospect theory (Kahneman, Tversky, 1979). - Self-control and self-regulation theories (Baumeister et al., 1998; Thaler, Shefrin, 1981). - Financial literacy and competence frameworks (Lusardi, Mitchell, 2007, 2014).

Source: Authors' elaboration.

Among the economic factors influencing consumers' propensity to incur debt, the most significant are household income level (Strzelecka, Zawadzka, 2020a; Wałęga, Wałęga, 2016; Anioła, Gołaś, 2011), credit availability (Waliszewski et al., 2024; DiMaggio et al., 2022), and the overall cost of credit (Fišerová, 2018; Sng, Tan, 2022; Ziemba, 2024).

Income level and stability constitute fundamental determinants of creditworthiness and debt propensity. Empirical studies indicate a statistically significant relationship between average monthly household income and debt holding (Strzelecka, Zawadzka, 2020a). Higher-income households are more likely to take on mortgage debt, whereas lower-income households tend to rely on loans for day-to-day consumption (Strzelecka, Zawadzka, 2020a). Although banks remain the primary providers of credit despite the FinTech expansion, new FinTech actors (LendTech) have emerged, offering not only traditional loans but also innovative products such as Buy Now, Pay Later (BNPL) services. These new providers primarily target consumers with irregular incomes, such as gig-economy workers, who may be excluded from traditional banking systems (Sng, Tan, 2022). BNPL services have grown rapidly in e-commerce; in Poland, they have become the second most popular payment method after BLIK (Ziemba, 2024).

The rapid development of FinTech enterprises, including PayTech and LendTech firms, has significantly increased individuals' access to consumer credit. Digital platforms provide loans without stringent credit history requirements, using alternative data for risk assessment (Bian et al., 2023; Di Maggio et al., 2022). Market analyses in Poland indicate a complementarity effect: during crises ("black swan" events), when banks tighten credit policies, lending firms and BNPL services fill the gap, ensuring continued consumer access to financing (Waliszewski et al., 2024).

While high interest rates charged by non-bank lenders can be a deterrent, research shows that financially constrained consumers are willing to take out short-term, high-cost loans, especially immediately prior to personal bankruptcy (Fišerová, 2018). A key driver of BNPL popularity is marketing emphasizing the “interest-free” initial period, leading consumers to perceive BNPL more as a payment method than as a loan, and as a cheaper, lower-risk alternative to credit cards (Sng, Tan, 2022; Ziemia, 2024).

Among socio-demographic factors affecting debt propensity, the literature most frequently highlights age and life-cycle stage, household structure, educational attainment, and the socio-economic nature of employment.

Debt is strongly associated with consumer age. The highest debt levels are observed in the so-called productive age group (35-60 years), consistent with life-cycle theory (Strzelecka, Zawadzka, 2020a; Fišerová, 2018), with debt propensity declining thereafter (Strzelecka et al., 2020b). Younger generations, such as Millennials, demonstrate an aversion to traditional credit cards, making them the primary target group for BNPL services (Sng, Tan, 2022). In Poland, according to the Credit Information Bureau (BIK) data at the end of 2024, nearly 39% of BNPL users were under 34 years old, and an additional 32% were aged up to 44 (Cholewa, 2025).

Household size also affects indebtedness. Studies show that debt is more frequent and higher in multi-person households, especially those with dependent children. The household's life-cycle stage (e.g., young married couples with children) is one of the strongest predictors of debt holding (Strzelecka, Zawadzka, 2020a; Strzelecka et al., 2020b).

The effect of gender on debt propensity is ambiguous. BIK data (Cholewa, 2025) indicate that BNPL users are predominantly female (59.3%). Ackert et al. (2024) additionally show that women are more likely than men to take out loans. Conversely, Czech consumer bankruptcy data suggest that men tend to have higher average debt, albeit with higher repayment rates (Fišerová, 2018).

Education level is positively correlated with indebtedness. Individuals with higher education generally have higher income prospects and greater financial literacy, leading to more deliberate credit use (Strzelecka, Zawadzka, 2020a). In Poland, possessing economic education statistically increases the likelihood of holding debt (Strzelecka et al., 2020b).

Type of employment also influences debt. Self-employed individuals and farmers exhibit higher debt propensity than wage earners, likely due to investment needs associated with their activities. Pensioners and retirees are least likely to incur debt (Strzelecka, Zawadzka, 2020a; Strzelecka et al., 2020b).

The third group of determinants comprises psychological and behavioral factors. The literature most frequently identifies attitudes toward credit/debt, locus of control, financial illiteracy, impulsivity and consumerism, and risk propensity.

A key psychological determinant is attitude toward credit. Studies in Italy reveal that consumer loan holders have significantly more positive attitudes toward indebtedness than non-borrowers (Cosma, Pattarin, 2011). This attitude can be decomposed into three components:

cognitive (beliefs and knowledge), affective (emotions and feelings), and behavioral (intentions and preferred actions). Conversely, the main reasons for rejecting student loans in Poland are reluctance to incur debt and fear of non-repayment (Misterec, 2017).

Locus of control describes the extent to which individuals believe they can influence events in their lives. Findings are mixed: some studies indicate that individuals with an external locus of control (believing their fate depends on external factors) are more indebted. However, an Italian study found the opposite for deliberate use of consumer credit: individuals with an internal locus of control (believing in personal agency) more often use credit as a tool to achieve goals (Cosma, Pattarin, 2011).

Financial illiteracy is a well-documented risk factor for excessive indebtedness. Consumers with low financial knowledge are more vulnerable to complex and opaque credit conditions, a vulnerability exploited by credit providers, including BNPL services (Ackert et al., 2024).

The ease of financing purchases via BNPL fosters impulsive buying and promotes consumerism, driven by immediate gratification and deferred payment obligations (Ziemba, 2024; PIE, 2021).

Finally, risk propensity is associated with debt behavior. A U.S. study found that individuals more willing to take financial risks to achieve higher returns are also more likely to finance purchases through credit (Ackert et al., 2024).

3. Methodology of the Literature Review

The present narrative literature review is based on over thirty peer-reviewed articles and research reports published between 2010 and 2024, selected for their direct relevance to the determinants of consumer and household indebtedness, particularly in the context of FinTech and BNPL services.

Sources were identified through systematic searches of major academic databases and repositories, including Scopus, Web of Science, ScienceDirect, NBER Working Papers, SSRN, and RePEc, as well as authoritative industry and central-bank reports. The search strategy employed a set of primary keywords in both English and Polish, including: “consumer debt”, “household debt”, “household indebtedness”, “buy now pay later (BNPL)”, “deferred payment”, “FinTech lending”, “LendTech”, “digital credit”, “psychological factors”, “behavioral finance”, “financial literacy”, “impulse buying”, “self-control”, “social norms”, and “locus of control”, along with their Polish equivalents (e.g., “zadłużenie konsumentów”, “zadłużenie gospodarstw domowych”, “kup teraz, zapłać później”).

The review incorporated empirical articles, theoretical studies, and analytical reports, primarily from the last decade, in order to capture recent trends in the digitalization of financial services. Publications in both Polish and English from various countries and regions

(e.g., Poland, Czech Republic, China, Singapore, Italy, and the United States) were included, allowing for the identification of both universal and culturally specific determinants of consumers' propensity to incur debt.

The most frequently applied research methods in the reviewed studies included secondary data analysis, surveys, and interviews. Specific research tools employed were:

- Online and telephone surveys, often targeting specific demographic groups (e.g., households, students, indebted individuals).
- Structured questionnaires containing closed-ended questions and demographic information.
- Narrative and biographical interviews, enabling the collection of detailed information on respondents' experiences.
- Statistical data from public institutions (e.g., Central Statistical Office [GUS], National Bank of Poland [NBP], European Central Bank, OECD, Ministry of Finance).
- Transactional data analysis using e-wallet and BNPL provider data.
- Horvitz-Thompson estimator – a statistical method applied to data analysis.
- Legislative analyses and international case studies, incorporating legal and regulatory aspects.
- Demographic studies and economic models, examining relationships between indebtedness and other social factors.
- Household budget surveys, including the “Social Diagnosis” study.
- Data from debtor registers, such as BIG InfoMonitor, BIK, and the National Debt Register.

Table 2 provides a summary of the methodology applied in the literature review.

Table 2.
Summary of Literature Review Methodology

Criterion	Specification
Keywords	<ul style="list-style-type: none"> - “consumer debt”, - “household debt”, - “household indebtedness”, - “buy now pay later”, - “BNPL”, - “FinTech lending”, - “LendTech”, - “psychological factors”, - “behavioral finance”, - “financial literacy”, - “social norms”, - “locus of control” (and Polish equivalents).
Languages of source material	<ul style="list-style-type: none"> - English, - Polish.

Cont. table 2.

Countries represented in the reviewed studies	<ul style="list-style-type: none"> - Poland, - Czech Republic, - China, - Singapore, - Italy, - United States.
Primary research methods employed in the reviewed studies	<ul style="list-style-type: none"> - secondary data analysis, - survey methods, - in-depth interviews.
Main data sources and research tools used in the reviewed studies	<ul style="list-style-type: none"> - Online and telephone surveys. - Structured questionnaires with socio-demographic sections. - Narrative and biographical interviews. - Official statistics (Statistics Poland – GUS, National Bank of Poland – NBP, ECB, OECD). - Transactional data from e-wallet and BNPL providers. - Horvitz–Thompson estimator. - Legislative and regulatory analyses, international case studies. - Econometric and demographic modelling. - Household budget surveys (incl. “Social Diagnosis” panel). - Credit bureau and debtor register data (BIK, BIG InfoMonitor, KRD).

Source: Authors' elaboration.

The analytical approach adopted in this article is based on a thematic synthesis of research findings. The determinants of consumers' propensity to incur debt were categorized into three main groups: economic, socio-demographic, and psychological-behavioral factors. This structure enabled a comprehensive and systematically organized presentation of the conditions influencing consumer borrowing behavior.

Addressing the heterogeneous character of the source material—which encompasses rigorous econometric analyses of household budgets (e.g., Strzelecka, Zawadzka, 2020a) as well as qualitative psychological studies and industry reports (e.g., PIE, 2021; Cholewa, 2025)—this review adopts a structured approach to evidentiary weighting. While systematic reviews often exclude qualitative data, a narrative approach was deemed essential to capture the nascent and rapidly evolving nature of the BNPL phenomenon, where longitudinal quantitative data is still scarce.

The analysis adopts a triangulated hierarchy of evidence comprising three complementary tiers:

1. **Theoretical Foundation (Primary Weight).** Causal mechanisms derived from peer-reviewed economic models—such as the Life-Cycle Hypothesis—and from established behavioral finance theories, including Prospect Theory, constitute the structural core of the analytical framework (Ackert et al., 2024; Friedman, 1957).
2. **Empirical Corroboration (Secondary Weight):** Statistical data from credit bureaus (BIK, BIG InfoMonitor) and national statistical offices (GUS, NBP) are used to validate the prevalence of theoretical mechanisms in the actual market population (Cholewa, 2025).

3. **Contextual Insight (Tertiary Weight).** Industry reports and qualitative survey evidence are used to interpret nuances of consumer sentiment and patterns of technological adoption, thereby offering contextual depth that purely quantitative approaches may overlook (Ziemba, 2024).

This hierarchical configuration enables a nuanced synthesis in which “hard” economic data delineate the scope and distribution of indebtedness, whereas “soft” behavioral insights explain the psychological mechanisms through which debt accumulates in the digital environment.

4. Key Findings and Implications from the Literature Review

The synthesis of research findings from various countries allows for the formulation of several key observations regarding contemporary determinants of consumer indebtedness.

Decisions to incur debt rarely result from a single factor. Rather, they reflect the complex interaction of economic conditions, demographic characteristics, and the psychological profile of the consumer. For instance, a young individual (demographic factor) with low but stable income (economic factor), a positive attitude toward credit, and strong peer influence (psychological factors), coupled with easy access to BNPL services (technological-economic factor), represents an archetypal candidate for regular utilization of deferred payment options.

Among the most significant phenomena shaping the consumer credit market in recent years, and substantially influencing consumers’ propensity to incur debt, are the expansion of FinTech enterprises (including PayTech and LendTech) and, in particular, the growth of BNPL services. These developments have contributed to:

- Democratization of credit access: Credit has become available to previously financially excluded groups, such as individuals with no credit history, irregular incomes, or the youngest consumer cohorts (Bian et al., 2023; Sng, Tan, 2022).
- Shifts in the perception of credit: BNPL is often perceived not as a form of credit but as a payment method, reducing the psychological barrier to borrowing. The ease and speed of transactions embedded in the purchasing process encourage impulsive decisions (Ziemba, 2024).
- Complementarity with traditional banking: Non-bank financial providers, particularly LendTech firms, complement the banking sector. Evidence from the Polish market indicates that during periods of economic instability, when banks tighten credit policies, LendTech fills gaps in consumer financing, stabilizing the market. In stable periods, the two sectors serve distinct customer segments—banks focus on larger loans and older clients, while LendTech targets smaller loans and younger cohorts (Waliszewski et al., 2024).

The impact of BNPL on consumer finances appears highly context- and culture-dependent. In the Chinese market, where BNPL services are integrated into super-app platforms, increased access to credit leads to higher consumption, but users—especially those excluded from traditional banking—manage their debt cautiously when interest applies. In this model, BNPL does not necessarily increase overall indebtedness (Bian et al., 2023). Conversely, in developed countries such as the USA and the UK, concerns exist that BNPL may negatively affect consumers' financial health, as debt from BNPL is often rolled over onto high-interest credit cards (deHaan et al., 2024; Guttman-Kenney et al., 2023).

The literature review unequivocally indicates that neglecting the psychological aspects of indebtedness results in an incomplete understanding of the phenomenon. Behavioral and social factors—such as attitudes, social norms, and cognitive biases—play a critical role in borrowing decisions. Non-transparent conditions offered by some BNPL providers and marketing targeting uninformed consumers highlight the need for regulatory intervention (Ackert et al., 2024). The lack of unified regulations governing BNPL services in many countries, including Poland and across the European Union, poses risks to consumers and constitutes a legal gap requiring urgent legislative action to enhance borrower protection (Sng, Tan, 2022; Ziemba, 2024).

The literature review yields important theoretical and practical implications. From a theoretical perspective, the dynamic growth of BNPL services provides a fertile ground for testing and advancing behavioral finance theories. It demonstrates how cognitive biases (e.g., the present-bias effect) can be leveraged in the design and deployment of financial products, challenging assumptions of consumer rationality and underscoring the need to integrate economic models with psychological frameworks.

From a practical perspective, implications can be categorized into three main groups:

- For regulators and policymakers: It is essential to establish regulatory frameworks for the BNPL market that ensure transparency, mandate creditworthiness assessments, and provide adequate consumer protection. Promoting financial literacy is also crucial to enhance awareness of the risks associated with “easy credit”.
- For financial institutions: Traditional banks face competition from flexible PayTech and FinTech enterprises. They must adapt business models, invest in technology, and better understand the needs and psychological profiles of younger clients. PayTech and LendTech firms, particularly those offering BNPL, should implement responsible lending mechanisms to prevent over-indebtedness, which could undermine trust in the sector in the long term.
- For consumers: Greater awareness is needed that BNPL services constitute a form of credit and that their excessive or imprudent use can lead to a debt spiral. Developing household budget management skills and critically evaluating financial offers are therefore key competencies in today's financial environment. Addressing the regulatory deficits identified by Sng and Tan (2022), as well as the practical need for a coherent policy framework, this study proposes a three-tier typology of regulatory interventions tailored to the specific risk architecture of the BNPL model.

Table 3.*Typology of Regulatory Interventions for BNPL and FinTech Services*

Regulatory Tier	Mechanism / Tool	Theoretical Target	Implementation Context
Tier 1: Informational (<i>Soft Paternalism</i>)	Standardized Disclosure (APR): Mandating the conversion of "fees" into Annual Percentage Rate. Friction Injection: "Cool-off" warnings at checkout.	Cognitive Bias / Mental Accounting: Counteracts the framing of BNPL as "free" (Thaler, 1999) and interrupts impulsive "hot-state" decision-making (Baumeister et al., 1998).	Implementation of "Schumer Box" disclosures on mobile interfaces (Ackert et al., 2024).
Tier 2: Structural (<i>Market Conduct</i>)	Affordability Checks: Mandating income verification for all deferred-payment transactions. Credit Register Reporting: Full integration with bureaus (e.g., BIK).	Rational Choice / Budget Constraint: Enforces the alignment of borrowing with repayment capacity. Asymmetric Information: Prevents "debt stacking" across opaque or unreported BNPL lenders	Closing the "reporting loophole" that allows small consumer loans to bypass credit-bureau systems (Cholewa, 2025; Sng, Tan, 2022).
Tier 3: Prudential (<i>Systemic Stability</i>)	Capital Adequacy: Aligning LendTech reserves obligations with banking standards.	Systemic Risk: Mitigates insolvency risks and liquidity pressures during macroeconomic downturns.	Safeguarding the stability of the complementary role played by FinTechs within the broader financial ecosystem (Waliszewski et al., 2024).

Source: Authors' elaboration.

The proposed typology of regulatory interventions implies the need to reorient regulatory responses to the development of BNPL and FinTech companies. At present, regulatory efforts concentrate predominantly on Tier 1 interventions, emphasizing transparency and consumer information. However, the findings of this review indicate that such informational remedies are insufficient given the behavioral nature of BNPL i.e. where consumers often incur liabilities knowingly, driven by present bias and other behavioral distortions. Consequently, a regulatory shift toward Tier 2 structural mechanisms is warranted. In particular, the mandatory reporting of BNPL obligations to national credit registries (e.g., BIK) emerges as the single most critical factor in preventing consumer over-indebtedness and enhancing market discipline.

5. Discussion

The findings of this review necessitate a fundamental re-evaluation of the Life-Cycle Hypothesis (LCH) in the context of digital lending ecosystems. Traditionally, LCH posits that indebtedness constitutes a rational mechanism for intertemporal consumption smoothing: households borrow against anticipated future income to finance essential, utility-enhancing assets such as housing or education (Modigliani, Brumberg, 1954; Strzelecka, Zawadzka, 2020a). The rapid diffusion of BNPL services, however, challenges the assumption of rational debt allocation. Evidence presented in this review indicates that FinTech-enabled liabilities are

increasingly decoupled from strategic asset accumulation and instead facilitate impulsive consumption of low-durability goods.

This shift signals a transition from strategic indebtedness—consistent with Friedman's Permanent Income Hypothesis—to behavioral indebtedness. The underlying mechanism is the technologically induced attenuation of the “pain of paying” (Ziembra, 2024). By fragmenting payments and deferring immediate cash outflows, BNPL architectures artificially inflate perceived purchasing power, thereby circumventing the cognitive and budgetary checks typically constraining consumption (Ackert et al., 2024). As a consequence, the rational, utility-maximizing consumer of Becker (1976) is supplanted by a myopic decision-maker whose intertemporal preferences are systematically distorted by the gratification-oriented design of FinTech applications.

A distinct demographic pattern further illustrates this behavioral transformation. Whereas traditional bank loans in Poland remain concentrated among individuals in the “productive age” cohort (35-60 years), consistent with Family Life-Cycle Theory (Glick, 1947), the FinTech sector disproportionately attracts the youngest consumers. Data from BIK indicate that nearly 70% of BNPL users are under 44 years of age (Cholewa, 2025), mirroring global adoption trends documented in the United States and Singapore, where Millennials and Generation Z dominate the user base (Sng, Tan, 2022).

The motivational structure underlying this indebtedness reveals a digital reformulation of Duesenberry's (1949) Relative Income Hypothesis. The “demonstration effect”—traditionally anchored in physical social comparison—has been amplified by social media ecosystems and embedded e-commerce platforms. In this environment, the “FinTech effect” effectively democratizes access to conspicuous consumption for demographic groups previously constrained by insufficient creditworthiness (Ackert et al., 2024).

A particularly salient finding emerges in the Polish context. Contrary to patterns observed in several Western markets, where FinTech providers often cannibalize the market share of incumbent banks, LendTech firms in Poland frequently function as a stabilizing “safety valve” during credit contractions and macroeconomic disruptions (so-called “black swan” events). This complementarity effect (Waliszewski et al., 2024) indicates that while the behavioral drivers of digital indebtedness—impulsivity, social comparison, and present bias—are broadly universal, the systemic role of FinTech credit in Poland exhibits a structurally distinctive, countercyclical character.

Overall, the integrative review confirms the implicit hypothesis that psychological determinants have become the dominant predictors of debt propensity within digital financial channels, outweighing traditional economic indicators. While income stability remains a necessary determinant for access to long-term credit instruments such as mortgages (Strzelecka, Zawadzka, 2020a), it is the psychological profile—specifically locus of control and susceptibility to framing effects—that most strongly predicts engagement with BNPL services (Cosma, Pattarin, 2011; Ziembra, 2024). These findings reinforce the conclusion that FinTech

expansion does not merely satisfy pre-existing demand for credit; rather, it actively manufactures such demand by strategically exploiting cognitive biases, including present bias and over-optimism (Kahneman, Tversky, 1979).

6. Conclusions

Consumer propensity to incur debt is a complex phenomenon, determined by a broad spectrum of economic, socio-demographic, psychological, and behavioral factors. The literature review indicates that none of these categories alone can fully explain credit behavior; understanding this phenomenon requires analyzing the interactions among them.

A key finding highlights the significant role of modern financial technologies in facilitating access to credit. Services such as Buy Now, Pay Later (BNPL) have revolutionized credit accessibility, making it more convenient, faster, and increasingly integrated into consumers' daily lives. While these services contribute to greater financial inclusion, they also introduce new risks associated with over-indebtedness, stemming from increased impulsive consumption and cognitive biases.

Among the principal determinants of consumer debt propensity in contemporary contexts are:

- Economic stability and credit accessibility: The level and regularity of income remain the most important determinants of indebtedness. However, the growing availability of loans provided by FinTech companies enables individuals without traditional creditworthiness to obtain credit.
- Life-cycle and demographic factors: Empirical studies indicate that age, household composition, and the presence of children significantly influence consumers' likelihood of incurring debt.
- Psychological profile and social context: Individual attitudes toward debt, self-control, and prevailing social norms can be decisive in shaping borrowing behavior, particularly when financial products are readily accessible.

Key limitations of the present review include its narrative nature, which is inherently more subjective than a full meta-analysis. Moreover, many cited studies, especially those concerning BNPL services, are cross-sectional and describe an economic phenomenon in its early stage of development. The long-term consequences of using such services have not yet been fully examined. Research findings are often context-dependent, reflecting specific cultural and regulatory environments, which complicates the formulation of universal conclusions.

Future research on consumer borrowing behavior could focus on:

- Examining the long-term relationship between BNPL usage and debt levels to assess the real impact of such services on consumers' financial stability, credit history, and overall indebtedness.
- Conducting in-depth comparative analyses of BNPL providers' business models and their influence on consumer behavior, including debt propensity, across different economic and cultural systems.
- Integrating transaction data analysis with quantitative survey-based research on consumers' psychological profiles and attitudes to better understand underlying decision-making mechanisms.
- Analyzing regulatory approaches to BNPL services in terms of their effectiveness in protecting consumers.

On the basis of the limitations identified in this review, future research should prioritize three strategic directions aimed at advancing theoretical understanding and enhancing the evidence base for consumer protection in digital credit markets:

- **Longitudinal Panel Studies:** Future work should move beyond cross-sectional analyses and employ longitudinal panel designs to track cohorts of BNPL users across multiple life stages. Such designs are essential for empirically testing the “gateway” hypothesis—that early engagement with BNPL services predicts elevated default risk or diminished creditworthiness in later adulthood, particularly with respect to mortgages and other long-term credit instruments (deHaan et al., 2024).
- **Experimental UI/UX Analysis:** Experimental economics and controlled interface testing should be used to quantify the causal influence of specific UI/UX design features—such as “one-click” purchasing versus multi-step verification—on debt uptake. This approach would allow researchers to isolate the impact of digital “friction” on self-control mechanisms, thereby testing theoretical claims regarding impulsivity and hot-state decision-making (Baumeister et al., 1998).
- **Cross-Cultural Comparative Analysis:** Comparative studies should contrast the Polish “complementarity model” (Waliszewski et al., 2024) with financial systems in which FinTech innovation functions primarily as a disruptive force (e.g., the United States or the United Kingdom). Such cross-national analyses would clarify the extent to which institutional characteristics—particularly banking-sector structure and regulatory depth—buffer consumers from FinTech-induced over-indebtedness.

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