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FINANCIAL ASSERTIVENESS IN EVERYDAY ECONOMIC DECISIONS: A PSYCHO-ECONOMIC PERSPECTIVE

Abstract

This article analyses financial assertiveness as a psycho-economic competence that supports autonomy, prudence and financial well-being in everyday consumer decisions. The point of departure is the critique of the fully rational homo oeconomicus model and the behavioural economics assumption that decisions are made under bounded rationality, cognitive load, social pressure and affective arousal. Financial assertiveness is understood as the ability to establish, communicate and maintain boundaries regarding spending, borrowing, lending, saving, investment participation, subscriptions and requests for financial support.

Keywords: financial assertiveness; behavioural economics; social influence; consumer psychology; financial well-being; decision-making; dark patterns.

JEL classification: D12, D14, D91, G41, G53.

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Introduction

Contemporary research on household financial decisions has moved beyond the assumption that consumers simply calculate costs and benefits and then choose the option that maximises utility. Everyday choices

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concerning money are embedded in relationships, persuasive communication, time pressure, digital interfaces and emotions connected with status, security and belonging. A decision that appears irrational from a narrow optimisation perspective may therefore be understandable when interpreted through behavioural economics and economic psychology. The individual often acts under bounded rationality, that is, with limited information, attention and computational capacity (Simon, 1955).

The concept proposed in this article is financial assertiveness. It is understood as a multidimensional cognitive-behavioural competence enabling an individual to set and maintain boundaries regarding money. These boundaries concern spending, borrowing, lending, saving, investment participation, subscriptions, digital payments and group consumption. Financial assertiveness is not limited to saying “no” in a sales conversation. It also includes the ability to postpone a decision, request written information, compare alternatives, communicate budget limits without shame, refuse socially imposed consumption and protect long-term goals from short-term pressure.

The importance of this competence increases in markets where personalised advertising, persuasive design and credit embedded in shopping processes reduce the distance between impulse and transaction. Financial knowledge alone does not fully explain financial behaviour. Meta-analytic evidence shows that financial education and literacy have limited direct effects on downstream behaviour when they are not supported by mechanisms that strengthen habits, action and self-control (Fernandes et al., 2014). Perceived control and self-efficacy are also important because consumers must believe that they can implement prudent choices under pressure (Bandura, 1997; Perry & Morris, 2005).

The purpose of the article is to develop a psycho-economic interpretation of financial assertiveness and to show how its deficits may lead to sub-optimal choices. The study is conceptual and analytical rather than experimental. It synthesises selected literature from behavioural economics, consumer psychology, financial well-being studies and public consumer-protection reports. This interpretation is consistent with dual-process accounts of judgement and decision-making, in which intuitive responses are fast and effortless, whereas analytical processing requires attention, time and resistance to immediate pressure (Kahneman, 2011; Tversky & Kahneman, 1974).

The contribution of the paper lies in naming and organising a practical competence that is usually dispersed across related constructs such as self-control, financial capability, consumer resistance, negotiation behaviour and refusal skills. The educational implication is equally important. If financial assertiveness can be trained, curricula in entrepreneurship, personal finance and consumer education should go beyond definitions of interest rates

or budgeting rules. The consumer should be treated not only as an information processor, but also as a social actor who must defend financial autonomy in an environment designed to capture attention and accelerate transactions (OECD, 2022; Thaler & Sunstein, 2008).

1. From Rational Choice to Socially Embedded Financial Assertiveness

The classical model of homo oeconomicus assumes a coherent actor who processes information effectively, holds stable preferences and consistently chooses the option that maximises utility. Although this model remains analytically useful, it does not adequately describe many everyday financial decisions involving credit, subscriptions, promotional offers, small loans, investment trends or status consumption. In practice, consumers rarely evaluate all available alternatives. Simon's concept of bounded rationality showed that individuals usually satisfice rather than optimise: they search until an option appears acceptable, not until every possible choice has been examined (Simon, 1955).

Behavioural economics developed this critique further by showing that deviations from rational-choice assumptions are systematic rather than accidental. Tversky and Kahneman (1974) identified heuristics such as availability, representativeness and anchoring, which simplify judgement under uncertainty but may also distort it. Prospect theory added that people evaluate gains and losses relative to reference points, and that losses usually have greater psychological weight than equivalent gains (Kahneman & Tversky, 1979). This is especially relevant for financial assertiveness, because many persuasive offers are designed to manipulate reference points, create a sense of urgency or make refusal appear costly.

Dual-process theory helps explain why assertiveness matters in such situations. System 1 is fast, automatic and emotionally responsive, whereas System 2 is slower, more deliberative and cognitively demanding (Kahneman, 2011). Financial assertiveness may therefore be understood as a practical mechanism that protects deliberation from being bypassed. Statements such as "I need time to think", "please send me the contract by e-mail" or "this is outside my budget" are not only communicative acts. They change the temporal structure of the decision, reduce emotional pressure and create space for comparison.

This perspective also explains why financial literacy, although necessary, is not sufficient. Fernandes et al. (2014) showed that financial education has limited direct effects on later financial behaviour, particularly when knowledge is distant from the moment of choice. Lusardi and Mitchell (2023) describe financial literacy as a form of human capital, but its practical value depends on whether individuals can apply it under pressure. Polish research in economic psychology similarly emphasises that real financial decisions are shaped not only by calculation, but also by uncertainty, emotions, social meanings

and trust (Falkowski & Tyszka, 2009; Tyszka, 2010; Zaleśkiewicz, 2011). Self-control research also confirms that behavioural regulation is closely linked with financial well-being (Strömbäck et al., 2017).

Modern markets are not neutral environments in which consumers simply apply knowledge. Choice architecture influences defaults, salience, timing and friction (Thaler & Sunstein, 2008). Automatic subscription renewal, pre-selected add-ons, countdown timers, one-click credit offers and visually emphasised purchase buttons reduce opportunities for reflection. The problem is therefore not merely consumer irrationality, but the strategic use of predictable limits in attention, self-control and emotional regulation. In this context, financial assertiveness becomes an economically meaningful capability rather than a soft interpersonal skill.

The same applies to social influence. In market interactions, persuasion operates not only through price and product features, but also through reciprocity, authority, liking, scarcity, commitment and social proof (Cialdini, 2021; Cialdini & Goldstein, 2004). These mechanisms are powerful because they are rooted in normal social cognition. They help people function efficiently, but they may also be deliberately activated to increase compliance.

Reciprocity is particularly important in financial services and retail. When an adviser offers a free portfolio review, spends time with the client or frames a recommendation as a favour, the customer may feel obliged to reciprocate. A commercial transaction is then partly reframed as a social exchange, and refusal may appear ungrateful rather than prudent. Authority works in a similar way. In complex markets, consumers often depend on advisers, agents, influencers, reviewers or rankings. This dependency is not problematic in itself, but it becomes risky when authority cues replace independent judgement. Technical vocabulary, institutional symbols and expert confidence may discourage basic questions about costs, risks or cancellation conditions.

Social proof also affects financial decisions. People often infer the value of products, assets or lifestyles from the behaviour of others. This may be useful when others possess relevant information, but it becomes problematic when visible popularity is manufactured, algorithmically selected or unrelated to the consumer's own needs. Messages such as "many people are viewing this offer", "only two items left" or "your friends follow this investor" create a normative signal that encourages quick conformity rather than private evaluation. In this sense, popularity may substitute for suitability.

Commitment and consistency mechanisms further increase compliance. Once a consumer has expressed interest, completed a form, created an account, accepted a trial or placed a product in a basket, withdrawal may feel psychologically inconsistent. Many sales processes are built as sequences of small commitments that make the final purchase appear natural. Financial assertiveness should therefore be activated early, before preliminary actions become psychological traps. A statement such as "I am only collecting

information” or “I do not consent to additional services” helps preserve the consumer’s right to withdraw.

The cultural and relational dimension is equally important. Where harmony, generosity and family solidarity are strongly valued, refusal may be experienced as a threat to identity or belonging. Money is not only a medium of exchange; it may symbolise care, status, fairness, autonomy, trust or dependence (Gašiorowska, 2014; Zaleśkiewicz, 2011). A person may lend money, pay for group activities or join costly rituals not because the decision is financially optimal, but because refusal could disturb a relationship or produce embarrassment.

For this reason, financial non-assertiveness should not be moralised as simple weakness. It is often a predictable response to persuasive contexts, social expectations and emotional pressure. Financial assertiveness lowers the perceived cost of refusal by introducing clear boundaries, delay, written verification and explicit budget criteria. It allows the consumer to recognise the commercial or relational pressure present in a situation without automatically submitting to it.

The move from *homo oeconomicus* to behavioural economics therefore changes the role of assertiveness. It is not external to rationality, but one of the practical conditions that makes more reflective choice possible. Assertiveness protects decision integrity when preferences are unstable, frames are manipulated, authority is persuasive and immediate rewards compete with long-term goals. It also shows why financial education and consumer policy should not rely only on disclosure. Information is valuable, but it does not automatically overcome embarrassment, reciprocity pressure, fear of exclusion or digital urgency. Financial assertiveness fills this gap by transforming knowledge into behaviour under pressure.

2. Fear of Rejection and Conformist Spending

A central source of financial non-assertiveness is fear of rejection. Money decisions are rarely private in their social meaning. They communicate lifestyle, status, generosity, competence and group belonging. A person who refuses an expensive dinner, trip, collective gift or fashionable purchase may fear being perceived as unsuccessful, stingy, boring or distant. From the perspective of stress theory, the individual evaluates not only the financial burden, but also the relational threat associated with refusal (Lazarus & Folkman, 1984).

Conformist spending is especially visible in reference groups. Individuals compare their consumption with peers, colleagues, family members and online networks. When a group defines certain spending patterns as normal, non-participation may feel like exclusion. The consumer buys not only a product or service, but also relief from social discomfort. Financial assertiveness is the ability to tolerate this discomfort without

converting it into unnecessary expenditure. The mechanism can also be interpreted through compensatory consumption. The compensatory consumer behaviour model explains how self-discrepancies can motivate consumption that symbolically repairs perceived deficits in identity or status (Mandel et al., 2017). A person who feels economically insecure may paradoxically engage in visible consumption to signal competence or belonging. Not all status consumption is irrational; some purchases may be strategically useful in professional contexts.

Conformist spending often develops gradually through lifestyle inflation. As income rises, the social environment may redefine what is appropriate: better restaurants, more expensive holidays, higher-quality clothing, larger gifts or premium subscriptions. Without financial boundaries, additional income is absorbed by rising expectations rather than converted into savings, debt reduction or investment. Financial well-being research emphasises that perceived ability to meet current obligations and feel secure about the future is linked to broader well-being (Netemeyer et al., 2018).

Fear of rejection often operates silently. A person may rationalise a purchase as “normal”, “deserved” or “necessary for networking”, while the actual driver is avoidance of embarrassment. Financial assertiveness requires reflective self-diagnosis. Before joining group consumption, the consumer can ask whether the expense would be chosen without social observation, whether it aligns with personal goals and whether a cheaper alternative can be proposed without excessive justification. These questions activate the distinction between preference and pressure.

The educational implication is that budgeting should not be taught as a purely technical instrument. A budget fails when it does not anticipate social pressure. Consumers should practise language for declining invitations, suggesting alternatives and setting limits without apologising excessively. For example: “I am not spending that amount this month, but I can join for coffee afterwards.” Such a statement maintains the relationship while refusing the financial expectation.

Fear of rejection is therefore a strong psychological barrier to prudent money management. Its economic significance lies in repeated small decisions that accumulate over time. Each single act of conformity may appear harmless, but their cumulative effect can reduce savings, increase debt and intensify financial stress. Financial assertiveness transforms refusal from an act of conflict into an act of boundary maintenance.

3. Rules of Social Influence as Catalysts for Compliance

The consumer-seller relationship is a setting in which social influence can be deliberately used. Salespeople, advisers and digital platforms often have better knowledge of the product, pricing structure and purchasing process than the customer. This asymmetry does not necessarily mean

manipulation, but it increases the need for assertiveness: the consumer must be able to ask questions, compare alternatives, resist pressure and withdraw without guilt.

Several influence mechanisms are especially important here. Reciprocity may turn a commercial offer into a perceived moral obligation, for example when a free consultation or personalised recommendation makes refusal feel inappropriate (Cialdini, 2021). Scarcity and urgency shift attention from evaluation to immediate action, encouraging the consumer to focus on losing the offer rather than on total cost, contract duration or cancellation rules (Loewenstein, 1996). In such situations, a simple delay — “I do not decide under time pressure” — restores the possibility of comparison. Authority also weakens assertiveness, particularly in complex financial products. Technical language, institutional symbols and expert confidence may discourage basic questions about fees, risks or cancellation. Commitment mechanisms work in a similar way: registering interest, accepting a trial, completing a form or adding a product to a basket gradually increases psychological involvement and makes withdrawal feel less natural.

Social proof further strengthens compliance. Reviews, popularity rankings and customer counters may be useful, but they can also replace individual evaluation. Availability bias suggests that easily accessible examples may distort judgement (Tversky & Kahneman, 1974). A visible stream of positive opinions or recent purchases can create an exaggerated sense of value, although popularity does not necessarily mean suitability.

Financial non-assertiveness should therefore not be reduced to personal weakness. It is often a predictable reaction to persuasive contexts. Assertiveness changes the rules of the interaction: it allows the consumer to recognise the commercial nature of the exchange, ask for clarification, delay the decision and refuse without treating politeness as an obligation to buy. In this sense, financial assertiveness works as a practical form of consumer self-protection.

4. FOMO and Submissiveness to Aggressive Digital Marketing

Aggressive digital marketing differs from traditional advertising because it can be personalised, repeated, measured and adjusted in real time. The consumer is no longer exposed only to a general message, but placed inside a feedback loop in which browsing history, abandoned carts, demographic data, location, search behaviour and social media engagement shape subsequent prompts. This architecture makes financial assertiveness more difficult because the pressure is not episodic. It follows the consumer across devices and often returns at moments of fatigue, boredom or emotional vulnerability. FoMO is one of the key affective channels through which digital marketing operates. Research associates

FoMO with lower need satisfaction and higher social media engagement (Przybylski et al., 2013). In consumer markets, this translates into sensitivity to messages suggesting that others are enjoying experiences, products or investment opportunities from which the individual is absent. The scarce object is not only the good; it is participation in a socially visible moment. Financial assertiveness must therefore address both the product and the imagined meaning of non-participation.

Online retail often combines FoMO with frictionless payment. Stored cards, one-click purchases, mobile wallets and instalment options reduce the salience of payment. Research on impulse buying shows that buying impulses can be sudden, emotionally charged and difficult to control (Rook, 1987), while self-regulatory resource depletion can increase impulse buying (Vohs & Faber, 2007). Digital platforms exploit this by reducing the steps between impulse and transaction.

The problem is intensified by dark commercial patterns. The OECD (2022) and European Commission (2022) show that digital environments may contain designs exploiting cognitive biases and vulnerabilities. Examples include hidden subscriptions, obstructed cancellation, countdown timers, confirm-shaming, forced registration and confusing opt-out paths. Such practices change the cost of refusal. The consumer may technically retain freedom of choice, yet the interface makes the prudent option harder, slower or more emotionally unpleasant. BNPL mechanisms illustrate how digital marketing can combine instant gratification with future obligation. Such products may be useful when transparent and responsibly used, but the Consumer Financial Protection Bureau (2022) identified risks related to overextension and inconsistent protections. The risk is behavioural as well as contractual. When payment is divided into small instalments, consumers may evaluate affordability at the transaction level rather than at the household cash-flow level. Several small commitments can accumulate into a significant future burden. Investment-related FoMO is another important case. Social media makes speculative gains visible while hiding losses, survivorship bias and risk exposure. The amateur investor may feel that non-participation means missing a unique opportunity. Prospect theory helps explain why imagined regret of missing gains can become more salient than probability of loss (Kahneman & Tversky, 1979). Financial assertiveness in investing means refusing to act on urgency, influencer status or group excitement and relying instead on predefined rules about risk tolerance, diversification and verification.

Digital assertiveness should therefore be taught as part of financial capability. Traditional advice such as “compare prices” is insufficient if the interface is designed to prevent calm comparison. Consumers need behavioural routines: delaying discretionary purchases, disabling marketing notifications, using separate spending accounts, maintaining a cancellation checklist and recording recurring payments. These practices are not signs

of hostility towards business. They are adaptations to an environment in which attention is monetised and hesitation is treated as an obstacle to conversion.

5. The Microeconomics of Relationships: Assertiveness in the Private Sphere

Some of the most difficult tests of financial assertiveness occur outside formal markets. Requests from family members, partners, friends or colleagues cannot be assessed only through prices and contracts. Lending money, guaranteeing a loan, covering shared expenses or supporting relatives may involve affection, loyalty, guilt and family identity. In such situations, refusal is often perceived not as a financial decision, but as a relational threat. Economic psychology shows that money carries meanings beyond purchasing power. It may symbolise care, autonomy, power, dependence, fairness and trust (Gąsiorowska, 2014; Zaleśkiewicz, 2011). A family loan, for example, can be framed as love, while refusal may be interpreted as selfishness. Financial assertiveness helps separate emotional support from financially unsafe commitments. A person may offer empathy, advice or limited help without accepting an open-ended financial burden.

Relational pressure becomes stronger when power asymmetries are present. Parents, partners, adult children or older relatives may use authority, guilt or tradition to influence financial decisions. These mechanisms resemble authority and reciprocity, but they are embedded in long-term relationships rather than market exchange (Cialdini, 2021). As a result, people may agree to financially harmful arrangements simply to avoid conflict or preserve harmony.

Such decisions often bring immediate emotional relief but delayed financial costs. Agreeing to lend money can end an uncomfortable conversation, while the consequences appear later as reduced savings, repayment conflict or difficulty meeting one's own obligations. This resembles intertemporal choice problems, where present relief becomes more attractive than future security (Laibson, 1997; O'Donoghue & Rabin, 1999). For this reason, financial assertiveness in private relationships requires clarity. Informal loans, shared expenses and family support should not remain ambiguous. If money is lent, the amount and repayment terms should be explicit. If support is a gift, it should be named as such. In intimate relationships, assertive communication also helps partners discuss debt, spending priorities, risk tolerance and household budgeting.

The relational dimension is often neglected in financial education. Students may learn how interest works, but not how to refuse a risky request from a close person. Training should therefore include scenarios involving family loans, shared expenses, guilt-based requests and financial conversations between partners. This does not promote egoism; it shows that sustainable help requires boundaries. Financial assertiveness is therefore both

an economic and ethical competence, protecting autonomy without destroying care or trust.

6. The Macroeconomic Perspective: Statistics on Financial Submissiveness

Financial assertiveness is not directly measured in most public statistical systems. There is no standard indicator showing how often consumers refuse unsuitable offers, resist group pressure or cancel manipulative subscriptions. For this reason, macroeconomic analysis must rely on indirect evidence, including household budgets, consumer-credit data, digital sales practices and reports on short-term credit instruments.

Polish household budget data provide a useful background. In 2023, the average monthly disposable income per person was PLN 2,678, while average monthly expenditure reached PLN 1,636, including PLN 1,580 on consumer goods and services (GUS, 2024). These figures do not indicate assertiveness deficits directly, but they show that financial well-being depends on repeated everyday decisions concerning consumption, savings and obligations. Credit-market data add another perspective. Credit may improve welfare when used for housing, education or liquidity management, but it may also finance consumption beyond stable income. According to BIK, at the end of 2024 mortgages and cash loans accounted for more than 91% of debt from bank and non-bank loans in Poland, with mortgages representing 68.9% and cash loans 22.8% (BIK, 2025). These data show the importance of repayment obligations in household balance sheets, although they should not be interpreted as direct evidence of financial non-assertiveness.

Digital and short-term credit practices further illustrate the issue. BNPL services reduce the immediate discomfort of payment by embedding credit into the purchase moment. CFPB reports indicate that such products may offer convenience, but also involve risks such as overextension, data use and weaker consumer protection (Consumer Financial Protection Bureau, 2022, 2025). Although these reports concern the United States, the behavioural mechanism is more general: when credit appears at the moment of desire, assertiveness must be exercised before the transaction is completed. Evidence on digital commercial practices is also relevant. OECD and European Commission reports show that online choice architecture can impair autonomy and exploit consumer vulnerabilities (European Commission, 2022; OECD, 2022). In Poland, UOKiK reported that more than 75% of 642 analysed websites and applications used at least one dark pattern (UOKiK, 2024). This suggests that consumers often make decisions in environments where refusal, comparison or cancellation may be deliberately made difficult.

A macroeconomic perspective therefore points to two levels of analysis. At the individual level, financial assertiveness supports prudent behaviour

by helping consumers resist pressure, delay decisions and maintain boundaries. At the institutional level, markets and regulators influence how difficult assertive action becomes. Hidden cancellation paths, preselected defaults or late cost disclosure may weaken even well-informed consumers. For this reason, financial assertiveness should be treated as a research agenda requiring better measurement, including surveys on refusal behaviour, financial self-efficacy and consumer complaints, combined with data on credit use, subscriptions and missed payments.

7. Synthesis: Assertiveness as a Regulatory Mechanism

Financial assertiveness may be understood as a regulatory mechanism between stimulus and action. A sales offer, family request, peer-group norm, countdown timer, BNPL option or investment trend may trigger excitement, guilt, fear or anxiety about missing out. Without the ability to pause and evaluate, the consumer may comply before reflective judgement takes place. This mechanism can be explained through dual-process theory. System 1 reacts quickly to social and emotional cues, whereas System 2 allows comparison, affordability assessment and consideration of long-term consequences (Kahneman, 2011). Financial assertiveness does not replace deliberation, but protects the conditions in which it can occur. It is also linked to self-control, which often depends on situational strategies rather than willpower alone (Baumeister et al., 2007; Duckworth et al., 2018).

In practice, assertiveness includes actions such as delaying purchases, refusing to store card details, setting spending limits, asking for written terms, cancelling subscriptions or defining rules for family support. Such behaviours strengthen perceived control and financial self-efficacy (Bandura, 1997; Perry & Morris, 2005). They also help individuals maintain relationships without accepting financially unsafe obligations.

At the market level, financial assertiveness limits the influence of persuasive choice architecture, although it cannot replace fair regulation. If cancellation is hidden, costs are disclosed late or pressure is deliberately intensified, responsibility should not be placed only on the consumer. Education and consumer protection should therefore be complementary: the former should strengthen resistance to pressure, while the latter should reduce unfair pressure (Thaler & Sunstein, 2008).

Financial assertiveness can thus be defined as an operational skill that protects decision quality under pressure. It connects communication, self-regulation, financial knowledge and agency, increasing the likelihood that decisions reflect the consumer's own goals rather than external pressure.

8. Consumer Assertiveness-Building Strategies

Financial assertiveness can be strengthened through strategies that translate general intentions into behaviour. Preparation is essential. Many

consumers fail to be assertive not because they reject prudence, but because they lack ready responses in high-pressure situations. When a seller, adviser, friend or interface creates urgency, inventing a response increases cognitive load. Implementation intentions solve this problem by specifying action in advance: "If situation Y occurs, I will do X" (Gollwitzer, 1999).

A second strategy is the use of cooling-off rules. Because urgency and affective arousal weaken deliberation, consumers should introduce mandatory delays for discretionary decisions. The delay may be one hour for small online purchases, twenty-four hours for larger expenses and several days for financial products or loans. This routine is consistent with the idea that self-control can be supported by situational strategies rather than willpower alone (Duckworth et al., 2018). A cooling-off rule is not indecision; it is a deliberate design of the decision environment.

A third strategy is depersonalisation of market interactions. Consumers often treat refusal as a judgement on the seller or adviser, which increases guilt and compliance. The assertive consumer reframes the encounter as a transaction rather than a personal relationship. Politeness remains, but it is separated from agreement.

A fourth strategy is budget-language training. Many people avoid saying that something is outside their budget because they associate budget limits with weakness or low status. This avoidance supports conformist spending. Financial assertiveness requires normalising statements such as: "This is not in my budget this month"; "I am prioritising savings"; or "I can join if we choose a less expensive option." Such language transforms refusal from personal rejection into resource allocation.

A fifth strategy concerns digital hygiene. Consumers can reduce exposure to aggressive marketing by disabling promotional notifications, unsubscribing from retail e-mails, deleting shopping applications used mainly for impulse purchases, removing stored cards from discretionary platforms and checking recurring payments monthly. These behaviours create beneficial friction. Thaler and Sunstein (2008) popularised the idea that choice architecture can guide behaviour; consumers can also design their personal choice architecture.

A sixth strategy is documentation. In financial services, informal lending and shared expenses, written information reduces ambiguity and pressure. Consumers should request contracts, fee schedules, cancellation terms, repayment dates and written confirmation of promises. This is not distrust, but prudence. Documentation gives System 2 material to process, allows comparison and protects against later reinterpretation. In family and peer contexts, written agreements may feel uncomfortable, but they can prevent conflict when amounts are significant.

A seventh strategy is pre-commitment to financial priorities. Consumers should define in advance which goals have priority: emergency fund, debt

repayment, education, housing, retirement, health or investment. When pressure appears, the question becomes whether the expense is compatible with these priorities. This reduces the need to evaluate every offer in isolation and counteracts FoMO by reminding the consumer that saying “no” to one opportunity means saying “yes” to a more important goal. Assertiveness is easier when the individual knows what is being protected.

Finally, assertiveness-building should include reflection after decisions. Consumers can maintain a short diary recording situations in which they refused, delayed, complied or regretted a decision. The aim is pattern recognition rather than self-punishment. Over time, the individual can identify triggers such as authority figures, family requests, loneliness, late-night shopping, group invitations or investment hype. This knowledge allows more precise implementation intentions. Financial assertiveness becomes a learned behavioural repertoire, not a vague personality label.

9. Recommendations for Financial Education

Financial education should integrate behavioural training with technical knowledge. Traditional programmes often focus on budgeting, interest, inflation, diversification, credit scores and retirement planning. These elements remain necessary, but they do not fully address the conditions under which decisions are made. A student may understand compound interest and still accept unnecessary instalment credit during an emotionally charged purchase. A consumer may know how to compare offers and still avoid asking questions in front of an authority figure.

The first recommendation is to include simulations of pressure situations. Learners should practise conversations with sellers, bank advisers, peers, family members and online interfaces. The aim is to rehearse refusal, delay, questioning and negotiation. Such exercises convert abstract recommendations into behavioural fluency, which is consistent with evidence that knowledge must be close to action to influence behaviour effectively (Fernandes et al., 2014).

The second recommendation is to teach recognition of influence principles. Students should learn how reciprocity, authority, scarcity, commitment, liking and social proof operate in consumer markets (Cialdini, 2021). The purpose is not cynicism, but diagnostic competence. When a learner can name the technique, emotional pressure becomes easier to manage. Recognising a countdown timer as scarcity framing allows the consumer to ask whether the offer is genuinely relevant. Recognising confirm-shaming helps the consumer refuse without internalising guilt.

The third recommendation is to include digital consumer protection and dark-pattern literacy. Education should show concrete examples of preselected options, hidden costs, obstructed cancellation, nagging, forced action and interface asymmetry. The OECD (2022), European Commission

(2022) and UOKiK (2024) provide evidence that such practices are not theoretical. Learners should practise auditing a shopping path: Where are costs disclosed? Which option is visually emphasised? Is refusal easy? Are defaults preselected? What happens during cancellation?

The fourth recommendation is to train implementation intentions and personal rules. Learners should leave a course with ready scripts and thresholds, not only general awareness. Gollwitzer and Sheeran's meta-analysis indicates that implementation intentions improve goal achievement because they specify when, where and how to act (Gollwitzer & Sheeran, 2006).

The fifth recommendation is to connect financial assertiveness with well-being. Financial decisions affect anxiety, security, autonomy and life satisfaction. Netemeyer et al. (2018) show that perceived financial well-being is meaningfully connected with broader well-being. Education should therefore avoid presenting budgeting as austerity or refusal as deprivation. Assertiveness can be framed as protection of freedom, mental comfort and future options. Saying "no" to pressure is an investment in resilience rather than a loss of opportunity.

The sixth recommendation is to include relational finance. Courses should address money conversations within families, friendships and partnerships. Learners should practise setting boundaries, documenting loans, discussing shared expenses and refusing guilt-based financial requests. This area is emotionally sensitive, but often decisive for young adults. The ability to manage relational pressure can prevent informal debt, hidden resentment and financial dependency. It also supports ethical communication because clear boundaries are more respectful than vague promises.

The seventh recommendation is assessment reform. If programmes assess only definitions and calculations, students may pass without being able to act assertively. Assessment should include scenario-based tasks: identify the pressure mechanism, formulate an assertive response, compare alternatives and explain the long-term financial consequence. Such tasks measure applied capability and align with the behavioural view that financial competence is not merely knowledge stored in memory, but the ability to use knowledge under real constraints.

In curriculum design, financial assertiveness can be integrated into entrepreneurship, economics, psychology, consumer education and management courses. It is interdisciplinary by nature. For economics students, it illustrates the limits of rational-choice assumptions. For psychology students, it connects self-regulation and social influence. For management students, it shows how ethical market design affects consumer welfare. For all learners, it provides a usable competence in everyday life.

Summary and Conclusions

The article has developed financial assertiveness as a psycho-economic construct connecting behavioural economics, consumer psychology and financial education. The central conclusion is that many everyday decisions are made under conditions that weaken reflective choice. Consumers face social influence, authority cues, reciprocity pressure, scarcity framing, FoMO, digital persuasion, embedded credit and relational obligations. In such contexts, financial knowledge is necessary but insufficient.

Financial assertiveness has been defined as the ability to establish, communicate and maintain boundaries concerning money. These boundaries apply to spending, borrowing, lending, investing, subscriptions, group consumption and family requests. The construct is broader than verbal confidence. It includes cognitive self-regulation, perceived control, resistance to manipulation, budget-language competence and personal choice architecture. In the language of dual-process theory, assertiveness helps protect the activation of System 2 when System 1 is captured by urgency, guilt, excitement or fear (Kahneman, 2011).

The literature review showed that the homo oeconomicus model is insufficient for explaining many everyday financial choices. Bounded rationality, heuristics, loss aversion, present bias and self-control limitations provide a more realistic framework (Kahneman & Tversky, 1979; Laibson, 1997; Simon, 1955; Tversky & Kahneman, 1974). Within this framework, financial non-assertiveness is not a marginal personality issue. It is a predictable vulnerability emerging when social and digital environments exploit human decision limits.

The analysis identified four main areas of vulnerability. First, fear of rejection can lead to conformist spending and lifestyle inflation. Second, social influence principles can transform commercial offers into perceived obligations. Third, digital marketing and FoMO can accelerate impulsive transactions, particularly when interfaces reduce payment friction or obstruct refusal. Fourth, relational pressure in families and peer networks can convert care, guilt or loyalty into financially unsafe commitments.

The empirical and institutional evidence discussed in the article does not directly measure assertiveness, but it demonstrates why the issue matters. Household budget data describe recurring allocation constraints, credit-market data show the material role of repayment obligations, BNPL reports highlight the behavioural risks of embedded short-term credit, and consumer-protection reports document the prevalence of manipulative digital patterns (BIK, 2025; Consumer Financial Protection Bureau, 2022, 2025; GUS, 2024; OECD, 2022; UOKiK, 2024).

The practical implications are clear. Financial education should not be limited to products, interest rates and budgeting categories. It should also train consumers to act under pressure through role-play, scripts,

implementation intentions, dark-pattern recognition, cooling-off rules, digital hygiene and relational boundary-setting. Such training is consistent with evidence that behaviour change depends not only on knowledge, but also on strategies supporting self-control and goal implementation (Duckworth et al., 2018; Fernandes et al., 2014; Gollwitzer & Sheeran, 2006).

At the same time, responsibility should not be placed only on the individual. If market architecture is designed to confuse, rush or shame consumers, education alone is insufficient. Regulation, platform accountability and sludge reduction are necessary complements to assertiveness training (Sunstein, 2022; Thaler & Sunstein, 2008). The most effective consumer protection combines individual competence with fair market design. Assertiveness empowers consumers, but institutions should not make assertiveness unnecessarily difficult.

In conclusion, the ability to say “no”, “not now”, “send it in writing” or “this is outside my budget” is not merely a communication style. It is a financially valuable capability. It protects income, savings, creditworthiness, psychological well-being and relational clarity. In an economy shaped by attention capture, personalised persuasion and frictionless payment, financial assertiveness becomes one of the key competencies of responsible market participation. It should be researched, measured and taught with the same seriousness as other elements of financial literacy.

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ARTICLES

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BANK TAX AND OTHER TAX LEVIES IN THE BANKING SECTOR OF POLAND, THE CZECH REPUBLIC AND HUNGARY

Abstract

The aim of the paper is to compare the types of tax burdens imposed on the banking sector in Poland, the Czech Republic and Hungary and to indicate potential effects in the period 2006-2025 as well as adjustment mechanisms for limiting tax payments by banks.

The main scope of the analysis concerns four types of tax burdens on banks: taxes on certain financial institutions (regarded as the so-called bank tax), corporate income tax (CIT), extraordinary profits, and financial transaction taxes, which were introduced in Hungary. In Poland, banks are subject to a bank tax and a corporate income tax. In the Czech Republic, there is no typical bank tax, but rather a tax on extraordinary profits and CIT. The analysis shows that the impetus for introducing fiscal burdens and changing their levels in the banking sector often came from periods of financial crises and increased state budgetary needs.

Empirical studies indicate that the Polish bank tax changes the asset structure (attempts to reduce the tax base) as part of the adjustment effect of banks, resulting in a decline in profitability, and partial cost transfer to customers. In the Czech Republic, there is no strong ex-post evidence for the classic bank tax. Literature more often focuses on tax or windfall projects. tax rather than the long-term effects of a classic bank tax, the fiscal

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effect (impact on potential budget revenues rather than bank reactions) is emphasized, as well as the risk of weakening credit supply and profitability in forecasting analyses (possible declines in profits and reduced bank activity). In Hungary, research confirms the effects of falling bank profitability, shifting costs onto customers, and an increased propensity for balance sheet changes and risk.

The methods of limiting bank tax payments include mainly: increasing the share of treasury bonds, limiting the growth of assets subject to the tax, and changing the financing structure and balance sheet.

Keywords: banks, bank levy, tax incidence, other burdens on the banking sector, financial sector, methods of limiting bank tax payments.

Jel classification codes: E00, E60, E62, G20, H27, H32, O23.

Introduction

Following the outbreak of the global financial crisis, the idea of implementing a bank tax emerged in economic thought and the real economy, which could discourage banks from taking excessive risks and thus improve financial market stability. J. E. Boscá, R. Doménech, J. Ferri, and J. F. Rubio-Ramírez (2019) indicate that the introduction of the new levy was justified by the idea that implementing the bank tax would allow for the recovery of funds that had been transferred to the sector as public aid. Such action was also motivated by the potential for improving public finances.

Other reasons for introducing the bank tax, according to M. Mielczarek (2020), included equalizing the tax burden on the financial sector relative to other sectors, as well as accumulating funds in the event of other crises. Therefore, as emphasized by C. Martysz and B. Bartlewski (2018), the bank tax is intended to increase revenues to the central budget, while eliminating potential distortions in the financial market and ensuring the stability of the financial system while maintaining its investment attractiveness.

According to A. Karpowicz, Z. Korzeba, and P. Niedziółka (2022), the bank tax meets almost all the requirements of optimal taxation defined by A. Smith and updated by J.A Mirrlees. They stated that the bank tax is fair, effective, and associated with low collection costs, but it is characterized by high variability in terms of revenues obtained compared to other levies such as PIT, CIT, or VAT.

According to K. Kiml (2017), the concept of imposing an additional tax burden has generally been met with criticism. It was argued that implementing a bank tax would lead to intensified activities, banks avoiding the tax burden and shifting it to other entities, i.e., clients and contractors of financial sector institutions.

In the conceptual approach, as defined by M. Mielczarek (2020), among others, the study assumes that a bank tax is a public law burden imposed on a certain group of financial entities, which include banks and certain

parabanking institutions. More broadly, a bank tax can encompass taxes on certain income and operations, as well as bank fees. Therefore, this tax can be either direct or indirect.

Moreover, the bank tax is not a levy on specific capital gains (Milczarek, M., 2020). The basis for assessing the bank tax may be, for example, a change in the level of assets, in the case of the extraordinary profits tax, net income or profit before tax, and in the case of the financial transaction tax, the amount of a payment transaction or a financial transaction carried out through an intermediary institution.

The negative consequences of introducing a bank tax, as cited in the literature and empirical studies, include decreased bank profitability, higher costs for customers, reduced lending, pressure on margins and product offerings, and a weakening of the sector's competitiveness. Positive effects, on the other hand, include additional revenues for the state budget, a greater share of the financial sector in the state's operating costs, incentives for more efficient cost management, a reduction in excessive asset expansion, and a strengthening of the debate on banks' social responsibility.

The aim of the study is to compare the types of tax burdens imposed on the banking sector in Poland, the Czech Republic and Hungary in the period 2006-2025, to indicate the potential effects and adjustment mechanisms of limiting tax payments by banks.

The main scope of the analysis concerns four types of tax burdens imposed on banks, such as:

- tax on certain financial institutions (treated as the so-called bank tax)
- corporate income tax (CIT);
- windfall profits tax;
- financial transaction tax.

Due to differences in the types of bank taxation and their periods of validity, the time dimension of the analysis focuses on different years in the case of:

- Poland for the years 2016-2025;
- Czech Republic in the years 2015-2025;
- Hungary 2006-2025.

1. Evolution of the tax burden on banks in Poland in 2016-2025

In Poland, the bank tax was introduced on 1 February 2016 under the Act of 15 January 2016 on tax on certain financial institutions (Journal of Laws of 2016, item 68).

The tax rate from 2016 is 0.0366% of the tax base per month, which is the surplus of the total value of the taxpayer's assets, resulting from

the statement of turnover and balances, established on the last day of the month, based on entries in the general ledger accounts:

- in the case of domestic banks, branches of foreign banks, branches of credit institutions and cooperative savings and credit unions, the value of tax-free assets is PLN 4 billion;
- in the case of domestic social insurance companies, domestic reinsurance companies, branches of foreign insurance companies and foreign reinsurance companies, and main branches of insurance companies and foreign reinsurance companies, the value of tax-free assets is PLN 2 billion. In the case of lending institutions, it is PLN 200 million.

The following are exempt from paying the tax: state-owned banks, taxpayers in respect of which the Polish Financial Supervision Authority has issued a decision, as well as taxpayers covered by an implemented recovery plan, recovery proceedings program or recovery plan (Journal of Laws of 2016, item 68).

Poland was one of the last European Union member states to introduce a bank tax (Sweden (2009), Hungary (2010), Austria (2011), France (2011), Germany (2011), Portugal (2011), Slovenia (2011), Great Britain (2011), Belgium (2012), the Netherlands (2012), Slovakia (2012), Finland (2013). The structure of the tax differs compared to other EU countries (D. Gajewski, 2016). According to M. Grac (2020), the introduced tax was one of the highest in Europe.

M. Twarowska-Ratajczak and K. Twarowska-Mól (2021) point out that the introduction of this type of tax in Poland generated a lot of emotion because it had never been in force before; although there was already an ongoing public debate about the need for reform and tightening the tax system. According to M. Wiśniewski (2017), imposing new levies on financial sector institutions had already been practiced in other European countries, providing an argument for its introduction in Poland as well.

In the literature on the subject, both positive and negative opinions on the introduction of a bank tax in Poland are presented among researchers of the banking sector.

According to P. Niedziółka, A. Karpowicz, and Z. Korzeba (2023), the tax on certain financial institutions is the most stable source of budget revenue among all sectoral taxes. The authors found that forecasting revenue from this levy is easier, which improves the credibility of declarations regarding the level of budget deficit or surplus.

In A. Chodakowska's opinion (2024), the establishment of the new levy was intended to provide an additional source of funds to enable the launch of social programs. Taxation of financial institutions was also justified by the

need to increase the financial sector's share in financing the state budget (see also: A. Kosztowniak, K. Drapała, 2025).

According to M. Iwanicz-Drozdowska and A.K Nowak (2024), the burden of the bank tax reduces the attractiveness of the Polish banking sector for investors. J. Giżyński (2021) was also critical of the implementation of the bank tax, arguing that the tax significantly contributed to the decline in the profitability of the banking sector and limited its development opportunities. Giżyński also considered the form of the bank tax inappropriate and argued that taxing bank assets could result in reduced lending, lower interest income, and increased prices for banking services. He also pointed out that the introduction of the new tax could also result in, among other things, an increased competitive advantage for eurozone banks due to their lower financing costs and, indirectly, a reduced propensity to save.

J. Giżyński (2021) also pointed out that the act favors cooperative banks, savings and credit unions, and the National Economy Bank. On the other hand, he noted that the introduction of the bank tax contributed to the development of the consumer lending market in Poland. Banks were willing to grant such loans to households, allowing them to increase the share of high-margin products on their balance sheets. This resulted in a change in the banks' risk profile, which affected their loan portfolios. Consequently, for example, clients seeking long-term loans may have somewhat limited access to financing.

It is worth mentioning that Article 14 of the Act on Tax on Certain Financial Institutions contains a provision that reads as follows: "The introduction of the tax cannot constitute a basis for changing the terms and conditions of providing financial and insurance services performed under contracts concluded before the effective date of the Act" (Journal of Laws of 2016, item 68). According to Ł. Furman (2017), such a provision was intended to protect customers from being subjected to the burden of taxation. This issue was analyzed by M. Twarowska-Ratajczak (2018), who argued that the introduced mechanism did not fulfill its intended purpose, merely slowing down the changes in contract terms. After the introduction of the new tax, a decrease in the average interest rate on deposits was observed, as well as an increase in interest rates on loans (particularly for households and non-commercial institutions serving households), even without changes in the NBP's base interest rates, which led to an increase in the interest margin.

According to A. Czajkowska (2016), the introduction of the bank tax in Poland contributed to a decline in the profitability of the banking sector and to changes in the structure of banks' assets. She also stated that the costs associated with the new tax were passed on to customers, but she nevertheless considered the introduction of a tax on certain financial institutions justified.

Borowski J., Jaworski K., Tymoczko D. (2016) and J. Łupińska (2018) pointed to the issues of adaptation of banks in Poland, co-occurring effects on the interbank market and the treasury debt market under the conditions of operation of the bank tax.

According to M. Borsuk, O. Kowalewski, and J. Qi (2023), the introduction of the bank tax in Poland affected loan margins, risk levels, and the supply of loans. They found that banks passed on the costs associated with the new tax to borrowers and limited lending to the private sector. Furthermore, they noted that banks in Poland were increasingly willing to grant consumer loans, which are characterized by higher profitability than mortgage loans. The authors of the study also warned that the introduction of a tax on certain financial institutions could contribute to increased risk in the banking sector. While their attitude toward the bank tax was critical, they also noted its positive aspects. Among the advantages, they highlighted the fact that the tax base is reduced by the value of the bank's equity capital and government securities, which encourages banks to increase their holdings of these assets, thus contributing to the strengthening of capital and liquidity buffers. On the other hand, they believe that increasing the presence of government bonds on banks' balance sheets may be harmful due to the interdependence between public finances and the banking sector.

Other studies on the shifting of the banking tax were conducted by A. Karpowicz, Z. Korzeb, and P. Niedziółka (2022), who concluded that it is impossible to draw clear conclusions that banks passed on the costs associated with the new tax to their customers. The authors did not observe a clear impact of the banking tax on fee and commission income or interest income. According to K. Jarno and H. Kołodziejczyk (2018), the introduction of the tax on certain financial institutions had no impact on bank assets (including loans), employment levels in the banking sector, or the sectoral ROA.

M. Kapuściński's (2022) research on the impact of the bank tax on the Polish banking sector using the difference -in- differences method on panel data shows that banks subject to the tax adjusted the level and structure of assets, especially by increasing their exposure to treasury securities and managing their balance sheets at the end of the month. However, the effects on loan volume were limited or difficult to clearly demonstrate. Based on this research, it is safe to conclude that: there was a statistically significant effect on asset levels and their structure, but the main channel was not a simple "general decline in assets of the entire sector," but rather:

- shifting assets towards government bonds,
- limiting the tax base at the end of the month,
- balance sheet adjustments related to the tax structure.

Moreover, the research by M. Kapuściński (2022) shows that there is no strong, stable empirical evidence of a large decline in the total volume

of loans caused solely by the bank tax, although there are indications that the tax: increased the cost of credit, affected margins, and could weaken the tendency to develop part of the loan portfolio.

Data from the Council of Ministers regarding reports on the implementation of the state budget show that revenues from tax on certain financial institutions grew steadily in the period 2016-2025, except for 2023. Tax revenues in 2024 and 2025 were at a similar level, considering that the data for 2025 does not include December (Table 1).

Table 1. Revenues from tax on certain financial institutions in Poland (PLN million)

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025*
Influence	3506.8	4341.2	4507.4	4700.4	4822.1	5290.7	6078.9	5910.8	6441.3	6431.2

* data until November 2025

Source: prepared based on: Report on the implementation of the state budget for the period from 1 January to 31 December for the years 2016–2025. Overview, Council of Ministers, Warsaw 2017–2025; Operational report on the implementation of the state budget for January–November 2025, Ministry of Finance, State Budget Department, Warsaw 2026, p. 67

The Act of November 6 amending the Corporate Income Tax Act and the Act on Tax on Certain Financial Institutions, signed by the President of the Republic of Poland on November 27, 2025, is significant for the further evolution of the tax burden on the banking sector in Poland (Journal of Laws of 2025, item 1658). Pursuant to the provisions of this Act, from January 1, 2026, corporate income tax (CIT) rates have been increased to the following levels:

- 23% of the tax base for domestic banks, foreign banks and credit institutions (excluding cooperative banks), and in the case of a tax capital group which includes a domestic bank, the rate applies to that part of the income corresponding to the domestic bank's share in the total income of the companies included in the group;
- 21% of the tax base for cooperative banks or cooperative savings and credit unions;
- 11% of the tax base for domestic banks, foreign banks and credit institutions, cooperative banks and cooperative savings and credit unions, whose revenues generated in the tax year did not exceed the PLN equivalent of EUR 2 million.

The Act also includes temporary provisions, which provide for different tax rates for domestic banks, foreign banks, and credit institutions, as well as for tax capital groups that include domestic banks. These rates range from 13% to 30%, depending on the registration period. However, as the Act

states, the temporary provisions do not apply to taxpayers who are implementing a recovery plan or a recovery program.

Under the amendment to the Act on Tax on Certain Financial Institutions, the 0.0366% tax rate (2016-2026) will be reduced to 0.0329% from January 1, 2027, and to 0.0293% from 2028. These rates will be charged on the excess value of a financial institution's assets above certain thresholds: PLN 4 billion for domestic banks and PLN 200 million for cooperative savings and settlement unions.

Thus, as already noted, the bank tax operates independently of the corporate income tax (CIT) and constitutes a monthly burden for the financial sector.

The Council of Ministers justified the changes introduced to the banking tax regulations by citing the significant increase in profitability of the banking sector in the European Union, which would be noticeable from 2022. This was due to several factors, including:

- economic recovery after the pandemic,
- increase in inflation after Russia's aggression against Ukraine,
- and a drastic increase in base interest rates.

Considering the current market circumstances and the need to increase defence spending, the government deemed it appropriate to impose an additional tax burden on a group of taxpayers who achieved record profits in the face of the events that occurred.

The President of the Republic of Poland's arguments were similar, citing the growing needs of the state, including the need to expand the armed forces and strengthen national security, as well as the issue of equitable distribution of the tax burden. He considered it justified for financial institutions generating above-average profits to contribute more to state costs.

T. Białek (2025), President of the Polish Bank Association, expressed criticism of the tax changes. Citing constitutional lawyer R. Piotrowski and the Senate's legislative office, he stated that the introduced regulations are clearly unconstitutional. Furthermore, T. Białek found it unfair that only the banking sector was burdened with financing such a crucial task as defense. He stated that there are industries that are even more profitable than the banking sector, but they were not subject to additional taxes to obtain defense funding. He assessed that raising taxes on only one industry violates the principle of equal treatment of businesses.

According to the Polish Bank Association, the CIT increase will translate into a decrease in dividend payments, a reduction in banks' ability to build equity, and will also contribute to a decrease in lending. The Polish Bank Association emphasized that the introduced solution would bring short-term fiscal benefits but in the long term will contribute to an economic slowdown (T. Białek, 2025).

In empirical terms (data from Table 2), as indicated by the authors of the report "The impact of regulatory factors on banks' financial results in the third quarter of 2025" (K. Sobolewski et al., 2025), higher shares of banks in total CIT revenues in 2023-2025 resulted from higher profits related to increased interest rates. According to the estimates presented in the report, CIT revenues in 2026 are expected to be approximately PLN 9.7 billion higher compared to 2025, of which the banking sector alone will pay PLN 4.06 billion more in CIT compared to the previous year. The share of the banking sector in total CIT revenues in 2026 will be approximately 24%, which resulted from the increased CIT rate for banks.

Table 2. Revenues from CIT tax from the banking sector and total budget revenues in Poland

	2018	2019	2020	2021	2022	2023	2024	2025*	2026*
CIT revenues from the banking sector (PLN billion)	5.18	5.52	4.08	6.14	8.93	13.92	13.23	15.11	19.17
Total CIT revenues (PLN billion)	34.6	40	41.3	52.4	70.1	67.9	60.2	70.7	80.4
Share of banks in CIT revenues (%)	14.97	13.80	9.88	11.72	12.74	20.50	21.98	21.37	23.84

* forecast data for 2025-2026.

Source: own study based on: Sobolewski K., Zatoryb G., Pawlonka T., Nierodka A., Przyborowski B., Lipiński C., Zatoń W. (2025)

According to forecasts from the Polish Bank Association, the banking sector will pay approximately PLN 18.7 billion more in corporate income tax (CIT) and the tax on certain financial institutions by 2035. It is predicted that over the ten projected years, the banking sector will incur the highest costs related to CIT and the tax on certain financial institutions in 2035, at PLN 29.4 billion (Table 3).

Table 3. Forecasted annual level of budget revenues from CIT and banking tax in Poland (in PLN billion)

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Projected revenues before tax changes	19.2	19	19.7	20.7	21.8	22.9	24.1	25.3	26.6	28
Projected revenues after tax changes	26	22.4	20.5	21.6	22.7	23.9	25.2	26.5	27.9	29.4

Source: own study based on: Sobolewski K., Zatoryb G., Pawlonka T., Nierodka A., Przyborowski B., Lipiński Cz., Zatoń W. (2025)

2. Evolution of the tax burden in the Czech Republic in 2015-2025

In the Czech Republic, corporate income tax, including the taxation of income of financial institutions, is regulated by Act No. 586/1992 on Income Taxes. Pursuant to Article 17 of the Act, corporate income tax applies to legal entities, state organizational units, investment funds, pension funds, trust funds,

and funds managed by the Financial Market Guarantee System. Taxpayers may be individuals who are tax residents of the Czech Republic or non-tax residents whose source of income falls within the definition provided in Article 22 of the Act (Act of the Czech National Council No. 586/1992).

As noted by Y. Legierská (2017), the banking sector in the Czech Republic is subject to taxation at the same rate as other enterprises. Pursuant to Article 21 paragraph 1 of the Income Tax Act, the tax rate in 2026 is 21%, unless otherwise specified in paragraphs 2 and 3. The tax is calculated as the product of the tax base reduced by items reducing the tax base, as well as items deductible from the tax base rounded down to the nearest thousand Czech crowns (CZK), and the tax rate. Under Article 21 paragraph 2 of the Act, the tax rate for a basic investment fund is 5%. In turn, as provided in Article 21 paragraph 3 of the Act, the tax rate for a pension fund or pension insurance institution is 0%, except for pension companies or similar entities managing funds like pension insurance funds. Under Article 23 paragraph 2 defines the tax base, which, as in the case of other legal entities, depends on the economic result. It is worth adding that, in accordance with Article 51, paragraph 1 of Act No. 235/2004 (Value Added Tax Act), financial, insurance, and pension services, among others, are not subject to VAT.

Changes in corporate income tax paid in the Czech Republic for the years 2015-2023 are presented in Table 4. It is worth mentioning that the corporate income tax rate in the Czech Republic was 19% during the analyzed period (OECD Countries (2026)). The higher corporate income tax collected from the financial sector in the Czech Republic in the years 2021-2023 could have resulted from the prevailing macroeconomic situation, when interest rates were at an elevated level. In these circumstances, banks recorded higher profits (Síbřtová V., 2023).

Table 4. Corporate income tax (CIT) paid by the financial sector in the Czech Republic (in CZK billion)

	2015	2016	2017	2018	2019	2020	2021	2022	2023
CIT before tax reliefs	19.77	20.48	19.40	23.55	27.29	25.39	33.41	32.50	29.49
Tax relief	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.03	0.02
CIT after considering tax reliefs	19.75	20.47	19.38	23.53	27,28	25.37	33.39	32.47	29.47

Source: own calculations based on: Daň z příjmů právnických people dle NACE, <https://data.mf.gov.cz> [15/03/2026]

It is worth noting that the Czech Republic has also periodically introduced a tax on excess bank profits. According to V. Síbřtová (2023), the introduction of this tax was due to the difficult macroeconomic situation and rising interest rates, which translated into higher bank profits. As a result, in October 2022,

the Ministry of Finance of the Czech Republic proposed the introduction of a tax on excess profits. According to the concept, it was to apply to energy companies, refineries, and banks. The tax was to apply from 2023 to 2025.

Pursuant to Article 21(5) of the Tax Income Act, the tax rate on extraordinary (unexpected) gains was 60%. The tax was calculated by multiplying the tax base for unexpected gains, rounded down to the nearest thousand CZK, by the tax rate for that tax base. As provided in Article 17c(1) of the Act, the extraordinary gains tax applied to banks with income of at least CZK 6 billion for the first accounting period ending on or after 1 January 2021 (Act No. 586/1992 Coll.).

According to M. Maneely, L. Ratnovski (2024), the Czech government expected that the imposition of a tax on the banking sector would generate approximately €600 million annually, which represents approximately 0.5% of the RWA. In practice, the revenues generated from this levy turned out to be lower than expected. Banks paid, among other things, CZK 700 million in 2023 and CZK 470 million in 2024 under the tax on extraordinary financial institutions (Investiční web, 2026) (Table 5).

Table 5. Revenues from the tax on extraordinary profits from the banking sector compared to other industries in the Czech Republic

	2023	2024	2025
Revenue from the tax on extraordinary profits from the banking sector (CZK billion)	0.70	0.47	no data
Total revenue from the tax on extraordinary profits (CZK billion)	39.10	36.70	38.40
Share of the banking sector in revenues from the windfall profit tax (%)	2	1	no data

Source: own study based on: Státní rozpočet hospodařil v roce 2025 se schodkem 290.7 billion. Kč oproti plánovanému 241 billion Kč, <https://mf.gov.cz/cs/ministerstvo/media/tiskove-zpravy/2026/pokladni-plneni-sr-62373> [date of access: March 15, 2026]; Investiční web, Banky loni na windfall tax odvedly 470 milionů Kč, ČEZ or Kč 30 billion, <https://www.investicniweb.cz>. [15/03/2026]

The introduction of the windfall profits tax in 2023 by the Fiala government was justified by the unexpected expenditures related to combating high energy prices. As it turned out, energy companies, primarily the state-owned ČEZ, contributed the most to the Czech budget from this levy. The banking sector, on the other hand, received a small share of the tax revenue. Some argued that the tax's design was quite favorable to banks. It is worth noting that the Ministry of Finance projected that over CZK 30 billion would be collected from the six largest banks in the Czech Republic. As the chief advisor to the Czech Banking Association, M. Zámečník, stated, he expected these estimates to be overly optimistic. The then-Minister of Industry, L. Vlček, admitted that the tax did not meet his initial assumptions. According to Ministry of Finance data, the revenues generated from the windfall profits

tax did not cover the energy crisis-related expenses, which were approximately CZK 35 billion higher (ČT24, 2026).

The data collected show that in 2023 the banking sector's share in revenues from the tax on extraordinary profits was only 2%, and a year later it was even smaller and amounted to approximately 1% of total revenues, which confirms that banks contributed little to the budget from this levy.

As V. Síbrtová (2023) mentioned, introducing a tax on financial institutions in the Czech Republic, the tax base of which would be the assets held by the entity, was considered several times. Ultimately, this type of tax was not implemented.

3. Taxation of the financial sector in Hungary in 2006-2025

When analyzing the taxation of the financial sector in Hungary, it's important to note that the tax law in this area has been highly unstable. To see this, it's worth examining at least some of the changes introduced.

In Hungary, a tax on the financial sector was imposed as early as 2006, even before the outbreak of the global financial crisis. Its introduction was motivated by the deteriorating state of public finances. The purpose of Act LIX on Special Taxes and Reliefs Aimed at Improving Public Finances, as noted by M. Varju (2025), was to increase state tax revenues by imposing an additional tax burden on entities that, under the principle of solidarity, are able to bear the additional tax burden beyond the taxes they have already paid. Pursuant to Article 4 of the Act, credit institutions are subject to a 5% tax on the amount accrued in the tax year as interest and interest-based income (Act LIX of 2006).

In 2010, changes were made as Act XC was incorporated into the 2006 legislation (M. Varju, 2025). Pursuant to Article 4/A of this Act, the rates of the special tax have since been as follows:

- for credit institutions: 0.15% of the part of the tax base not exceeding HUF 50 billion and 0.5% of the amount exceeding it;
- for insurance companies 6.2%;
- for other financial institutions: from 5.6% to 6.5% (Act LIX of 2006).

As noted by A. Hryckiewicz and K. Puławska (2022), a banking tax came into effect in Hungary in September 2010. The tax applied to the assets of financial institutions, and Hungary was one of the first countries to implement this solution. According to M. Varju (2025), this was done under Act CXXIII of 2010. The rates of the special tax for financial entities have since changed, but as of January 1, 2011, they were as follows:

- for credit institutions: 0.15% of the part of the tax base not exceeding HUF 50 billion and 0.53% of the amount exceeding it;

- for insurance companies: 1.5% on the part of the tax base not exceeding HUF 1 billion, 3% on the part not exceeding HUF 8 billion and 6.4% on the amount exceeding it;
- for other financial institutions: from 5.6% to 6.5% (Act LIX of 2006).

The rates listed above were changed several times over the years analyzed. Interestingly, as C.B Martysz and B. Bartlewski (2018) point out, according to the original assumptions, the act establishing this tax was to remain in force only until 2012.

As noted by M. Varju and M. Papp (2022), Act CXXIII of 2010 also introduced a significant change that imposed a special tax on credit institutions of 30% on pre-tax profits. This was provided in Article 4/B of the Act (Act LIX of 2006). As recalled by M. Varju (2025), the tax on credit institutions (5% on interest and interest-based income) was abolished in 2017 by Act LXVI of 2016. In turn, the special tax on credit institutions (30% on pre-tax profits) was abolished in early 2019 by Act XLI of 2018. It should also be noted that under Act CXVI of 2012, a financial transaction tax was introduced, which was subsequently amended numerous times. Originally, it ranged from 0.01% to 0.1% of the tax base (Act CXVI of 2012).

It is also worth mentioning that Hungary introduced a set of special taxes in the face of the COVID-19 outbreak in 2020 due to the need to replenish the "Pandemic Fund" established to protect the economy. The special pandemic tax also covered credit institutions (M. Varju, M. Papp, 2022). As provided in Article 4/E of Act LIX of 2006, which implemented the new regulations, the tax was payable in three equal installments, its rate was 0.19%, and the portion of the tax base exceeding HUF 50 billion was subject to taxation. As mentioned by M. Varju (2025), the amount of epidemic tax paid could be deducted from the special tax paid by credit institutions in subsequent tax years in installments of 20% annually.

The data presented in Table 6 shows that the highest revenues from the epidemic tax from credit institutions were in 2020, amounting to over HUF 54.5 billion. In 2021 and 2022, they were very small, but this was due to the tax's design, which was essentially a one-off.

Table 6. Revenues from the epidemic tax from credit institutions (in billion HUF)

	2020	2021	2022
Tax revenue	54.533	0.132	0.004

Source: own study based on: Központi Statisztikai Hivatal (2026), 21.1.1.26 Nemzeti adólista – az adók és társadalombiztosítási hozzájárulások Nemzeti osztályozásának teljes részletezése – Kormányzat https://www.ksh.hu/stadat_files/gdp/hu/gdp0026.html [22/03/2026]

In 2022, the Hungarian government also decided to impose a sectoral crisis tax, as mentioned by G. Csűrös (2024). This special tax was introduced by Regulation No. 197/2022 on additional taxes on profits. The levy applied to several industries, including the financial sector (including credit institutions and financial companies). According to Article 1 of the regulation, the special tax rate was 10% in 2022 and 8% in 2023. Importantly, the tax was calculated based on net revenue. This rule was no longer applicable in 2024, when the tax base was the profit before tax was determined based on the 2022 report. In turn, according to the amended regulations, the tax rate for credit institutions and financial companies in 2024 was 13% on the part of the tax base not exceeding HUF 20 billion and 30% above this amount (Regulation 197/2022).

In 2026, several tax burdens will apply in Hungary to the financial sector, including credit institutions (banks). One of these is the special tax on financial institutions. Pursuant to Article 4/A of the amended Act LIX of 2006, for credit institutions, the tax base is the modified balance sheet total calculated based on data from the annual report for the second fiscal year preceding the fiscal year, prepared in accordance with a Cabinet Decree or IFRS. For other financial institutions, the tax base is the sum of net interest income and net fee and commission income from the annual report for the second fiscal year preceding the fiscal year, prepared in accordance with a Cabinet Decree or IFRS. The applicable tax rates are as follows:

- for credit institutions: 0.15% of the part of the tax base not exceeding HUF 50 billion and 0.20% of the amount exceeding it;
- in the case of other financial institutions: 6.5% of the tax base (Act LIX of 2006).

Revenues from the special tax on financial institutions in Hungary fluctuated significantly between 2020 and 2024. It is worth noting that revenues from this tax in 2022-2024 were significantly higher than in previous years. The highest revenue from the tax was recorded in 2023, amounting to approximately HUF 353 billion, which may have been related to the exceptionally high profitability of the banking sector (Magyar Nemzeti Bank, 2023) (Table 7).

Table 7. Revenues from the special tax on financial institutions in Hungary (HUF billion)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Tax revenue	182	186	85	139	149	150	73	64	53	57	120	62	327	353	266

Source: own study based on: Központi Statisztikai Hivatal, Magyarország 2012-2024, Budapest 2013-2025. https://www.ksh.hu/evkonyvek/2012/magyarorszag-2012/pdf/magyarorszag_2012.pdf; https://www.ksh.hu/evkonyvek/2024/magyarorszag-2024/pdf/magyar_statistikai_zsebkonyv_2024.pdf [22/03/2026]

Research on the banking tax in Hungary was conducted by G. Capelle-Blancard and O. Havrylchik (2017), who concluded that the introduction of a special tax on financial institutions contributed to an increase in loan interest rates only for some borrowers. The increase affected a group of borrowers characterized by low elasticity of loan demand. The authors' observations also indicated that the introduction of the tax:

- had no impact on loans to small businesses and did not lead to an increase in interest rates on consumer loans. On the other hand,
- banks raised interest rates on housing loans taken out both in forints and foreign currencies.

Another tax paid by financial institutions in Hungary is the financial transaction tax. As mentioned earlier, this levy was introduced by Act CXVI of 2012. According to Article 1, the following entities are subject to the tax: payment service providers with their registered office or branch in Hungary, financial institutions other than payment service providers, credit institutions, investment firms, and entities with their registered office or branch abroad that perform cross-border investment services in Hungary. The tax base for the financial transaction tax, pursuant to Article 6 of the Act, is:

- the amount that the payment service provider debits the payer's account;
- the amount of money included in the cash transfer order;
- cash payment initiated via the Post Office Settlement Point if the amount exceeded HUF 50,000;
- repayment of a loan by the customer (debiting the customer's payment account by the payment service provider or depositing cash into an institution that is not a payment service provider but grants credits and loans);
- payment made via a payment instrument replacing cash;
- the value of the currency sold in the case of currency exchange activities performed by an authorized credit institution or intermediary;

- commissions and fees charged;
- transfers from a payment account;
- payments initiated by the payer through the payee.

The financial transaction tax rates are as follows:

- 0.45% of the tax base in the case of a payment transaction, with the maximum tax amount per transaction being HUF 20,000;
- 0.45% of the base fee for a financial transaction through the institution operating the Postal Settlement Point;
- 0.9% of the tax base in the case of cash withdrawal from a payment account or cash withdrawal using a payment instrument replacing cash;
- 0.45% of the base fee for financial transactions through the institution operating the Postal Settlement Point, with the maximum tax amount per transaction being HUF 20,000;
- in case of payment initiated by the payer via the recipient – HUF 800;
- in the case of a transaction performed using a cash-substituting payment instrument with a contactless payment function – HUF 500 (Act CXVI of 2012).

Table 8. Revenues from the financial transaction tax in Hungary (in billion HUF, current prices)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Tax revenue	289.3	274.5	205.6	201.6	216.3	234.4	245.5	214.0	235.2	300.0	333.8	436.7

Source: own study based on: Központi Statisztikai Hivatal (2026), 21.1.1.26 Nemzeti adólista – az adók és társadalombiztosítási hozzájárulások Nemzeti osztályozásának teljes részletezése – Kormányzat https://www.ksh.hu/stadat_files/gdp/hu/gdp0026.html [22/03/2026]

The highest revenues from the financial transaction tax were recorded in 2024, which were significantly higher compared to other years analyzed, which was probably related to the increase in this tax in the year in question (Act CXVI of 2012).

As noted by L. Pardavi and D. Borsa (2025), corporate income tax regulations are regulated by Act LXXXI of 1996. The taxpayers subject to this levy are defined in detail in Article 2 of the Act. Taxpayers also include credit institutions and financial companies. Pursuant to Article 19 of the Act, the corporate income tax rate is currently 9%. Income tax is the product of the tax base and the tax rate (Act LXXXI of 1996).

Under Act LIV of 2025 on certain tax obligations and amending certain tax acts, credit institutions and financial undertakings, among others, were subject to a special tax payable for 2025 and 2026. Pursuant to Article 1 of the Act, in the 2025 tax year, the tax base is pre-tax profit determined

based on the 2023 annual report. In turn, in the 2026 tax year, the tax base is pre-tax profit based on the 2024 annual report. The special tax rates were as follows:

- in 2025: 7% of the tax base not exceeding HUF 20 billion and 18% of the amount exceeding it;
- in 2026: 8% of the tax base not exceeding HUF 20 billion and 20% of the amount exceeding it (Act LIV of 2025).

Table 9. Total tax burden borne by the banking sector in Hungary (HUF billion)

	2018	2019	2020	2021	2022	2023	2024
Total value of taxes paid	68.5	84.7	59.8	110.6	120.3	304.8	380.5

Source: own study based on: MNB Statistics, Golden Books, https://statisztika.mnb.hu/statistical-topics/supervisory-statistics/v_-golden-books/golden-books [22/03/2026]

Analyzing the years 2018-2024, it should be noted that 2024 was characterized by the highest tax burden borne by the banking sector in Hungary, which totaled approximately HUF 380.5 billion. A clear upward trend in the value of taxes paid has been noticeable since 2021. It is worth noting that the sector recorded significant profits in 2021, thanks to strong interest in corporate and housing loans and an increase in the interest margin (Magyar Nemzeti Bank, 2021). Further increases in the tax burden in subsequent years may have been influenced by the introduction of a crisis sector tax in 2022 and an increase in the financial transaction tax in 2024 (Act CXVI of 2012).

4. Comparative analysis of tax burdens in the analyzed countries

The basic types of tax burden on banks in Poland, the Czech Republic and Hungary include four types of taxes: on certain financial institutions (treated as the so-called bank tax), corporate income tax (CIT), tax on extraordinary profits and tax on financial transactions.

However, there are significant differences between the countries studied in terms of:

- years of introducing specific types of taxes, e.g. the bank tax in Hungary was introduced in 2010 and in Poland in 2016, with no equivalent in the Czech Republic,
- a set of taxes burdening the banking sector, e.g. in Poland there is a bank tax and a corporate income tax (CIT), while in Hungary the banking sector is burdened, in addition to the bank tax and CIT, with a tax on extraordinary profits and a tax on financial transactions,

- tax structure, tax rates, and the tax base, i.e., on assets, net revenues, or pre-tax profit. As noted by A. Kozłowska (2017), in most countries where a bank tax has been introduced in Europe, it is calculated on bank liabilities reduced by specific balance sheet items, but the Polish and Hungarian tax is based on assets (Table 10).

Table 10. Types of tax burdens on the banking sector in Poland, the Czech Republic and Hungary (legal status: March 2026)

	Poland	the Czech republic	Hungary
Tax on certain financial institutions (bank tax)	yes (since 2016)	no	yes (since 2010)
Rate	0.0366% of the tax base* per month	-	<ul style="list-style-type: none"> • for credit institutions: 0.15% of the part of the tax base* not exceeding HUF 50 billion and 0.20% of the amount exceeding it; • for other institutions: 6.5% of the tax base*
Income Tax (CIT)	Yes	Yes	Yes
Rate	<ul style="list-style-type: none"> • 23% of the tax base for domestic banks, foreign banks, credit institutions; • 21% of the tax base for cooperative banks and cooperative savings and credit unions; • 11% of the tax base for domestic banks, foreign banks, credit institutions, cooperative banks, cooperative savings and credit unions with revenues in the tax year less than or equal to the equivalent of EUR 2 million 	<ul style="list-style-type: none"> • 21% of the tax base, • 5% of the tax base for investment funds; • 0% of the tax base, for pension funds, pension insurance funds: tax base 	9% of the tax base

Continued Table 10.

	Poland	the Czech republic	Hungary
Windfall profits tax	no	yes (2023 - 2025)	yes (2020 - 2022; 2022 - 2026)
Rate	-	60% of the tax base for banks with income of at least CZK 6 billion	<p>in 2020 - 2022:</p> <ul style="list-style-type: none"> 0.19% of the tax base above HUF 50 billion; in the years <p>in 2022 - 2026:</p> <ul style="list-style-type: none"> in 2022: 10% of the tax base**, in 2023: 8% of the tax base**; in 2024: 13% of the tax base*** not exceeding HUF 20 billion and 30% above this amount, in 2025: 7% of the tax base*** not exceeding HUF 20 billion and 18% on the amount exceeding it, in 2026: 8% of the tax base*** not exceeding HUF 20 billion and 20% on the amount exceeding it
Financial Transaction Tax	No	no	yes (since 2013)
Rate	-	-	<ul style="list-style-type: none"> 0.45% of the tax base in the case of a payment transaction, with the maximum tax amount per transaction being HUF 20,000; 0.45% of the base fee for a financial transaction through the institution operating the Postal Settlement Point; 0.9% of the tax base in the case of cash withdrawal from a payment account or cash withdrawal using a payment instrument replacing cash; 0.45% of the base fee for financial transactions through the institution operating the Postal Settlement Point, with the maximum tax amount per transaction being HUF 20,000 in case of payment initiated by the payer through the recipient – HUF 800; in the case of a transaction performed using a cash-substituting payment instrument with a contactless payment function – HUF 500

Notes: * the tax base is assets; ** the tax base is net income; *** the tax base is profit before tax.

Source: own study.

5. Discussion

When considering the reasons for taxing banks, including mainly the increase in these burdens, it is worth emphasizing the changes in macroeconomic conditions, including monetary policy and the public sector, which took place after the outbreak of the global financial crisis

(2007+), the outbreak of the COVID-19 pandemic, Russia's aggression against Ukraine, the energy crisis and further monetary and fiscal consequences.

After the outbreak of the global financial crisis, the ideas of introducing a bank tax were argued to be based on the possibility of recovering funds transferred to the corporate and financial sectors (J.E Boscá , R. Doménech, J. Ferri and JF Rubio-Ramírez, 2019), as well as on equalizing the tax burden on the financial sector (C. Martysz, B. Bartlewski, 2018).

In response to the rise in inflation resulting from the demand shock following the outbreak of the COVID-19 pandemic and the rise in energy prices related to Russia's aggression against Ukraine in February 2022, many central banks tightened their monetary policy, which involved raising interest rates to historically high levels. As H. Balfoussia and D. Papageorgiou (2025) note, this monetary tightening, combined with the slow pass-through of interest rate increases to deposit rates, contributed to a widening of the spread between lending and deposit rates, further increasing bank profits. Faced with rising budget deficits, many European countries are considering or have already imposed additional permanent or temporary taxes on the banking sector. The potential effects of imposing a new levy on the financial sector are currently being discussed and analyzed to determine its impact on the economy (H. Balfoussia, D. Papageorgiou, 2025).

According to A. Pekanov, M. Schratzenstaller (2025), the main argument for introducing a tax on *windfall* profits of banks (*taxes on extraordinary bank profits*), it is stated that the observed significant part of banks' profits did not result from market competition, but from external factors and the current monetary policy.

Based on the analysis of the literature (D.J, Gajewski, 2016; G. Capelle-Blancard, O. Havrylchyk, 2017; M. Mielczarek, 2020; J. Giżyński, 2021; M. Kapuściński, 2022; A. Karpowicz, Z. Korzeb, P. Niedziółka, 2022) several methods of limiting bank tax payments can be distinguished:

- Increasing the share of treasury bonds – in practice, banks can invest more funds in treasury securities, which were previously excluded from the tax base. This is one of the most frequently mentioned methods.
- Limiting the growth of taxable assets – banks can slow the growth of those parts of their balance sheet that increase the tax base, e.g. parts of the loan portfolio.
- Shifting activities to entities outside the tax base – some operations may be organized by other entities in the capital group if this allows for reducing the assets subject to taxation in the bank itself.

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- Changing the financing and balance sheet structure – banks can manage their balance sheets to reduce the value of their net taxable assets.
 - Development of commission-based services instead of interest-based ones – instead of increasing credit assets, banks can further develop services that generate commission income, which do not require such large balance sheet growth.
 - Securitization or sale of part of assets – moving part of assets off the bank's balance sheet may reduce the tax base.
 - More cautious granting of long-term loans – banks may limit products that burden the balance sheet, focusing on less capital-and asset-intensive areas of activity.

Summary

The tax burden on banks in Poland, the Czech Republic and Hungary vary due to different taxation scales, differences in the types of applicable taxes, their structure, tax rates and periods of their application.

The main types of taxes imposed on banks include four: the tax on certain financial institutions (regarded as the so-called bank tax), the CIT, the tax on extraordinary profits, and the tax on financial transactions. However, this entire set of taxes applies only in Hungary. In Poland, the banking sector is subject to two types of taxes: the bank tax and the corporate income tax. Furthermore, unlike the Czech Republic and Hungary, Poland has never implemented a tax on extraordinary profits. The Czech Republic imposes the CIT and a tax on extraordinary profits. Furthermore, of the countries analyzed, a financial transaction tax is only applicable in Hungary.

Fiscal authorities in the surveyed countries also established different tax bases, such as those based on assets, net income, and pre-tax profit. These differences between countries also make it difficult to estimate the actual fiscal burden faced by banks and other financial sector institutions.

Empirical research for Poland suggests that the bank tax had a more pronounced impact on banks' asset structure (especially through an increase in the share of government bonds and balance sheet adjustments) than on the volume of loans themselves, for which the strongest studies find only limited evidence of a decline. Research in Hungary indicates a decline in profitability, a shift in the cost of the tax onto customers, a restructuring of balance sheets, and an increase in credit (asset) risk. Unlike Hungary, the Czech Republic has not developed an equally extensive stream of ex-post empirical research on the effects of a classic bank tax on the banking sector. Available studies more often focus on tax proposals and estimate of their potential fiscal impacts than on the actual observed responses of banks. Furthermore, studies for Poland and Hungary primarily

demonstrate the effects of the bank tax in the form of a decline in profitability, changes in balance sheet structure, and a partial shifting of costs onto customers. However, the literature for the Czech Republic is empirically weaker and more often indicates potential rather than clearly observed effects.

The most important way to reduce the bank tax is usually to structure assets to reduce the tax base, especially through greater exposure to government bonds and limiting the assets subject to the tax.

It seems that the economic climate, the situation in the public sector and spending needs related to factors such as geopolitical risk in Europe will have a significant impact on future burdens in the banking sectors of the analyzed countries.

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THE DEVELOPMENT OF THE GREEN BOND MARKET IN POLAND AND ITS IMPORTANCE FOR PUBLIC FINANCES

Abstract

This work analyses the green bond market in Poland, with particular emphasis on the regulatory environment and its impact on the market. The authors examines the dynamics, entity structure, and maturity of the Polish market compared to the ten largest economies of the European Union in 2021–2025. Particular attention is paid to the importance of these instruments for public finances, including their synergies with the National Recovery Plan and their role in building the country's energy security. Barriers limiting the supply of green debt, such as the marginal participation of local governments and the high costs of non-financial reporting, are identified. The conclusions demonstrate that implementing the EU GBS standard and utilizing alternative bonds linked to sustainable development might optimise the costs of transition and effectively channel private capital.

JEL classification: G 12, G18, G28, H63, O16.

Keywords: green bonds, ESG, public finance, corporate bonds, municipal bonds, sovereign bonds.

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Introduction

Progressive climate change and the need for a profound energy transformation currently pose some of the greatest challenges for modern economies. Meeting the commitments of the European Green Deal and achieving carbon neutrality by 2050 requires significant capital mobilization, exceeding €1,900 billion (Kisielewicz et al., 2024, p. 6). Given the limited capacity of traditional state budgets, financial markets have had to develop new instruments capable of leveraging private capital for environmental purposes. Green bonds emerged as a response to these needs. They have evolved from a niche innovation into a key mechanism for sustainable public and corporate finance, permanently changing the structure of the modern debt market.

The main objective of this work is to comprehensively analyse the development of the green bond market in Poland between 2021 and 2025 and assess its strategic importance for the stability and optimization of public finances.

The structure of the work is subordinated to the main objective and consists of three logically interconnected chapters, combining theoretical and regulatory approaches with empirical analysis. The first chapter is introductory and systematizing. It discusses the essence and definitions of green bonds, and analyses key legal frameworks and market standards, with particular emphasis on the Green Bond Principles and the European Union Taxonomy. It also highlights the role of this instrument as an innovation in the capital market, directly determining the transparency of capital allocation. The second chapter constitutes the empirical analysis of the work, examining the dynamics and structure of the Polish green bond market from 2021 to 2025. The evaluation of market data allowed for the formulation of important diagnostic conclusions. As demonstrated, the Polish market – despite an impressive, almost threefold increase in the total value of issues during the period under review (a multiplication of 2.7x) – remains highly concentrated. The analysis also revealed a very low degree of entity diversification, including, above all, the marginal share of local government units, which indicates the early, still immature phase of the municipal segment. Furthermore, relating the Polish market to the broader European context revealed a clear dissonance. On the one hand, Poland has the most important and liquid green finance market in the Central and Eastern European region, supported by substantial capital from sources including the European Investment Bank. On the other hand, compared to the 10 largest economies of the European Union in terms of GDP, the saturation of the Polish market, measured by the ratio of green issues to total issued debt, remains relatively low compared to leaders such as France or Germany. Chapter three examines the macroeconomic importance of this market for the state. It analyses the mechanisms for using green debt to finance the

State Treasury's borrowing needs, with particular emphasis on synergies between the capital market and EU requirements (e.g., in the context of the National Recovery Plan). The potential of municipal bonds, the role of sustainable finance in building energy security, and the prospects and barriers to development are also highlighted. The discussion concludes with an assessment of the impact of the EU GBS standard and possible directions of market evolution, for example, towards sustainability-linked bonds.

The source material for this work includes specialist publications, academic articles, market reports from financial and advisory institutions, and national and EU legislation. The author's own research utilised aggregated statistical data on debt issuances provided by the Warsaw Stock Exchange (GPW) from the Warsaw Sustainable Segment, which was subjected to comparative and economic analysis.

1. Theoretical and regulatory aspects of green bonds

It is argued that the contemporary evolution of financial markets is determined by the sustainable finance paradigm, which redefines the traditional approach to the relationship between risk and return by incorporating environmental, social, and governance criteria into investment processes (Dziawgo, 2012, p. 133-143). The emergence of a pro-ecological financial market, also known as a green market, is a response to the need to internalise external costs related to environmental degradation, leading to the creation of financial instruments with a dual nature: economic and ecological. It is within this trend that green bonds are emerging as a key, innovative financial instrument that allows for the transfer of capital towards exclusively sustainable investments. The economic essence of green bonds is based on a modification of the classic debt instrument, namely bonds, by introducing a rigid requirement that the issuer commit to using the funds raised for environmental projects with precisely defined objectives. The literature on the subject distinguishes two main approaches to defining this instrument: theoretical and market-based (Lipowicz, 2023, p. 1-21; Kosztowniak, 2023 a,b). In theory, green bonds are typically treated as a financing tool for sustainable development, the primary goal of which is to minimise climate risks, particularly climate change and high-emission economies (Kosztowniak, 2025).

Definitions developed within market practice, such as those by the International Capital Markets Association, emphasise the process-oriented nature of the instrument. According to this approach, the "green" nature of a bond is determined not only by the purpose of the issue itself, but above all by transparency in project evaluation and selection, proceeds management, and periodic reporting of environmental impact. Therefore, definitions adopt the issuer's perspective (theoretical approach), where the

purpose of the issue is assessed, or the investor's perspective (market approach), where the scope of the disclosure requirements for a given financial instrument is additionally assessed.

A key element of green bonds that distinguishes them from traditional instruments is their specific purpose. As emphasised in the literature, the essence of this solution is to provide investors with a guarantee that their capital will be allocated to assets generating a measurable environmental impact, which consequently reduces information asymmetry between the issuer and the market (Nowak et al., 2022; Brzozowska, 2017). This approach makes green bonds a preferred tool for investment funds pursuing socially responsible investment strategies, allowing them to precisely report their portfolio contribution to the low-emission transformation of the economy. At the same time, despite specific requirements regarding the allocation of funds, these instruments retain the standard characteristics of bonds in terms of credit risk, meaning that the reliability of debt repayment is based on the financial capacity of the issuer, not solely on the profitability of the financed environmental project.

For this purpose, the ICMA definition is adopted, whereby green bonds are any bonds whose proceeds are used exclusively to fully or partially finance or refinance new or existing projects that are classified as environmental projects and meet the four basic criteria of the Green Bond Principles: Use of Proceeds, Process for Project Evaluation and Selection, Management of Proceeds, Reporting (International Capital Market Association, 2025, p. 2).

Green bonds, as debt instruments, are subject to a number of legal acts that regulate their trading both domestically and within the European Union. Furthermore, the dynamic development of the sustainable finance market (Wyszkowski et al., 2025, p. 12-13) has forced its participants to develop specific standards aimed at ensuring operational transparency and protecting investors from the risk of information abuse. In Poland, the relevant legal provisions are the Bonds Act, the Financial Instruments Trading Act, and the Act on Public Offering and Conditions Governing the Introduction of Financial Instruments to Organized Trading, and on Public Companies (Regulation (EU) 2023/2631). However, for treasury bonds, the Public Finance Act will be particularly relevant. It is worth noting that until December 9th, 2016, the State Treasury was prohibited from issuing green treasury bonds due to the prohibition set forth in Article 42, Section 1 of the Act. 2 of the Public Finance Act, which stated that "[public funds originating from individual titles cannot be allocated to financing expenditures specifically mentioned, unless a separate act provides otherwise," and there was no *lex specialis* permitting an exemption from the above limitation. By the amendment of December 2nd, 2016, Article 84 was amended to read: "[the provisions of Article 35, Article 42, paragraph 2, and Article 49,

the provisions on public procurement, and the provisions on gambling games shall not apply to borrowings and credits by the State Treasury, issuing Treasury securities, and other operations directly related to the management of the state public debt." The amendment expanded the exclusions from Article 84 to include, among others, Article 42, paragraph 2, which enabled the financing of public expenditures specifically mentioned. This was in preparation for the issuance of green treasury bonds, which were also scheduled for December 2016 and, by definition, assumed a "classification" of the purpose for which the raised capital would be used. Corporate green bonds, issued by entrepreneurs, are not subject to the public law regime of the Public Finance Act, but are regulated by the Bond Act.

Regarding global standards, the aforementioned Green Bond Principles developed by the International Capital Markets Association (ICMA) hold a key place. Although they are voluntary market guidelines, they de facto serve as a universally accepted benchmark. Market standards are complemented and expanded upon by certification initiatives, among which the Climate Bonds Standard developed by the Climate Bonds Initiative (CBI) plays a key role. Unlike the general ICMA guidelines, the CBI standard introduces rigorous technical criteria for specific economic sectors, allowing for an objective assessment of whether a given project actually contributes to limiting global warming in line with the goals of the Paris Agreement. Obtaining such certification requires undergoing external verification by accredited auditors, which appears to significantly enhance the issuer's credibility in the eyes of institutional investors (Stefaniak, 2023, p. 12). This process, which includes verification both before and after the issue, serves as a mechanism for validating the entity's environmental declarations and is particularly important in the context of building long-term trust in the financial market and reimbursement of certification costs (Ibidem).

A key step in the institutionalization of the green bond market in Europe has been the transition from voluntary market standards to legal regulations, which aims to standardise the definitions of "sustainable development" and "green bonds" and systemically counteract the phenomenon of greenwashing. These actions are undertaken at the European Union level, where the fundamental legal act is the EU Taxonomy, which establishes a framework facilitating investments in sustainable activities by defining six environmental objectives and technical qualification criteria (*vide* Article 3 and 9; Regulation (EU) 2020/852). According to this regulation, for economic activity financed by bond issuance to be considered environmentally sustainable, it must make a significant contribution to achieving at least one climate objective without significantly harming other objectives (Famà, 2025, p. 62-75) and meet minimum social guarantees and technical qualification criteria. The taxonomy therefore provides an objective benchmark for all financial instruments in the EU, eliminating discretion in assessing

the "green" nature of investments. Furthermore, the development of the EU legal framework was complemented by the adoption of Regulation 2023/2631 on European Green Bonds, which introduces a voluntary but rigorous standard for issuers wishing to use the European Green Bond or EuGB label (*vide* Article 3 and motive 29). The essence of this regulation is the requirement for full compliance of the allocation of proceeds from issuance with the requirements of the EU Taxonomy, which distinguishes this standard from the ICMA guidelines, which are based on broader and less technical project categories.

2. Analysis of the green bond market in Poland in 2021-2025

Before analysing the structure of the Polish green bond market in the adopted research period (2021-2025), it is necessary to outline the methodological considerations that influence the assessment of the size and shape of this segment. The fundamental analytical difficulty remains the severely limited access to aggregated data resulting from the dispersion of information within the market, inconsistent standards for "green" bonds, and the significant percentage of issues conducted through private placement, particularly municipal bonds (Stefaniak, 2023, p. 10-20). Another research challenge is the lack of uniformity in definitions (Lipowicz, 2023, p. 3-6). Despite the development of an international conceptual framework, market practice often classifies a variety of financial instruments as "green," some of which may not meet the criteria established by ICMA in GBPs and thus fall within the definition adopted in this study. However, the main, structured platform grouping this type of financial instruments in Poland is the Warsaw Sustainable Segment (WSS) on the Warsaw Stock Exchange, newly established in 2023 (Wyszkowski et al., 2024, p. 116-118). It should be noted, however, that the mechanism for classifying instruments into this segment is based primarily on the issuer's declaration, which most often cites the voluntary Green Bond Principles. Although this declaratory nature creates a risk of greenwashing, the data aggregated within the WSS—especially in the dynamic period after 2020 – remains the most reliable source for a comprehensive assessment of the Polish market. Hence the source of the data used.

Accepting the above assumptions, it can be observed that in the analysed period of 2021-2025, the sustainable debt market in Poland was characterised by stable growth in value terms, as illustrated by the data presented in Figure 1. The beginning of the analysed period, i.e., 2021, proved to be a turning point in the importance of green bond issuance in foreign currencies. The value of newly introduced instruments on the WSS then reached PLN 10 billion. However, in the following year, 2022, the market cooled significantly – the total value of new issues reached PLN 12 billion, likely reflecting a more challenging macroeconomic environment: rising

interest rates and increased risk aversion driven by geopolitical factors. 2023 brought another strong market rebound, pushing the total value of sustainable instruments to PLN 17 billion. The stabilizing trend and growing interest in energy transition continued in 2024-2025, confirming the strengthening position of this type of financing, reaching PLN 27 billion.

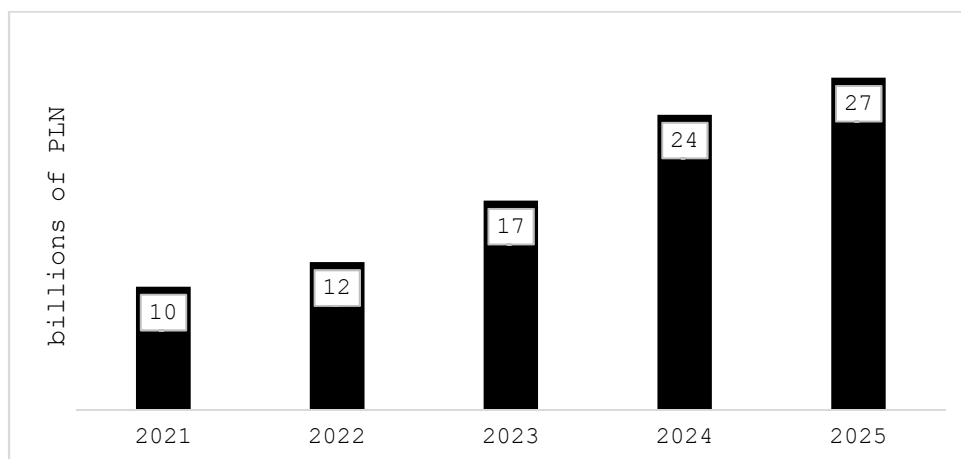


Figure 1. Cumulative issue value in billions of PLN in 2021-2025

Source: Own study based on data shared by the Warsaw Stock Exchange, Warsaw Sustainable Segment, April 8, 2025, and K. Wyszowski, T. Czech, M. Górnicki, op. cit., Warsaw 2025, p. 128

The above analysis is complemented by presenting the emissions value for each sector. Therefore, Figure 2 shows that the largest emissions value for 2025 was recorded in the banking sector, which conducted three corporate issues totalling over PLN 5.56 billion. The next largest sector is the media and telecommunications industry, with emissions totalling PLN 4.19 billion. Third place, with PLN 3.21 billion, is occupied by the oil and gas sector. Although it contributes significantly to global warming, it implements projects related to alternative fuels, energy efficiency, and new infrastructure technologies thanks to green investments (Wyszowski, 2025, p. 127). The WSS also includes the energy, real estate, and renewable energy sectors. A different instrument from green bonds are fixed-rate mortgage bonds, issued by a mortgage bank for a total of PLN 2.15 billion.

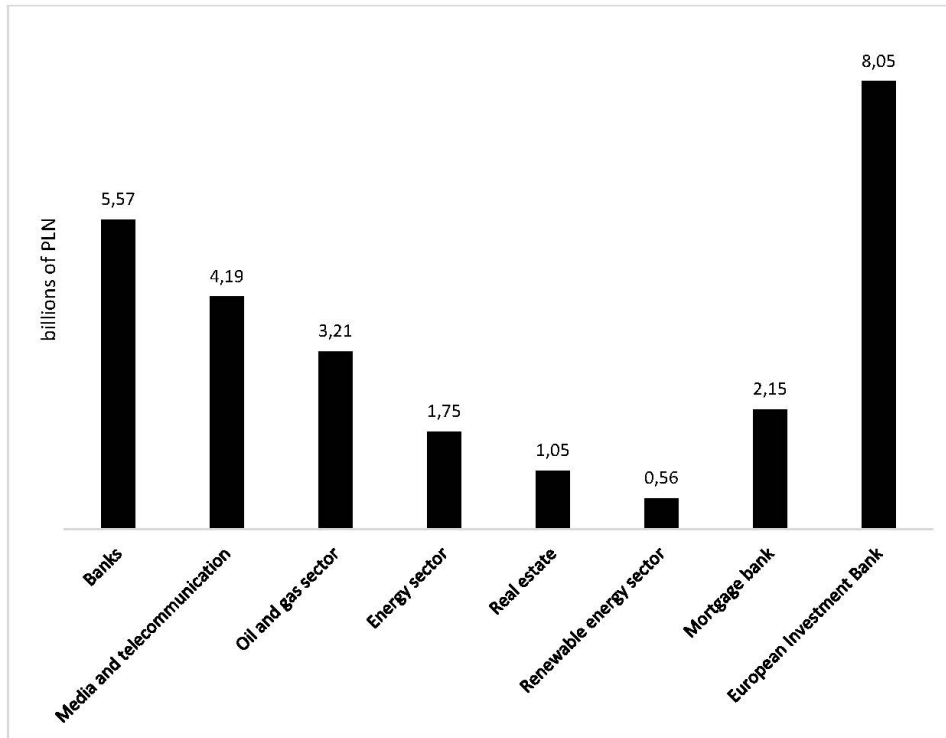


Figure 2. Cumulative value of issuance in billions of PLN in 2025, broken down by sector

Source: Own study based on data shared by the Warsaw Stock Exchange, Warsaw Sustainable Segment, April 8, 2025, and K. Wyszowski, T. Czech, M. Górnicki, op. cit., Warsaw 2025, p. 127

Comparing individual countries' markets solely based on the nominal value of issued instruments can lead to misleading conclusions, favouring economies with greater capital demand. Therefore, a much more reliable indicator seems to be the ratio of green bond issuances to the total value of debt issued in a given country. Figure 6 presents this share for the ten largest European Union economies in terms of gross domestic product (as of 2024). Analysis of the presented data reveals a significant gap between Poland and the European leaders. Despite the Polish government's pioneering role in the historic, world-first issuance of green treasury bonds in 2016, the domestic market lagged significantly behind the leaders in terms of saturation with sustainable instruments during the analysed period. Countries such as France, Germany, the Netherlands, and Sweden show a significantly higher percentage of green bond issues in the structure of total debt, which is likely due to the deeper market penetration by corporate

issuers and financial institutions in Western European countries (Climate Bonds Initiative, 2024). In Poland, this percentage remains relatively low, indicating that the vast majority of the borrowing needs of the state and enterprises are still financed using traditional debt instruments.

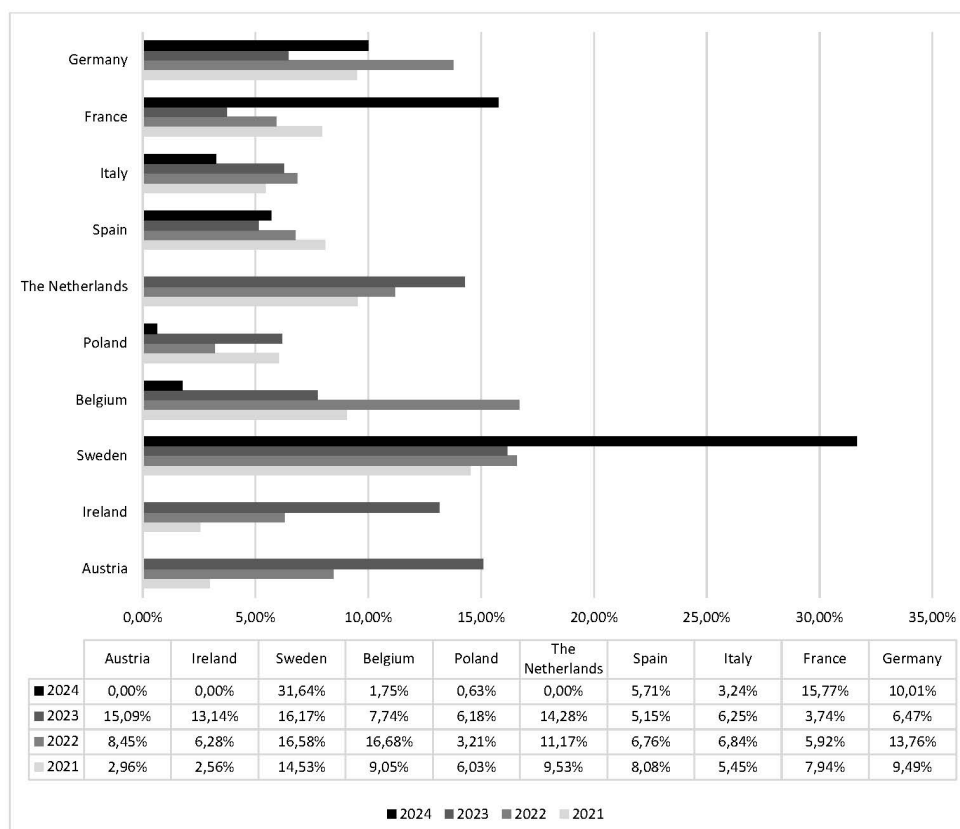


Figure 3. Percentage share of government and corporate green bond issuance in total issuance for the 10 largest European Union economies by GDP as of 2024

Source: Own study based on data from the European Environment Agency, Eurostat, and Statista

3. The importance of green bonds for public finances in Poland

The use of green treasury bonds represents an interesting development in the traditional model of public debt management in Poland. Traditionally, standard Treasury bonds are primarily used to finance the budget's current borrowing needs and service existing debt, without directly linking the capital raised to specific projects. Green bonds, by introducing a purpose-based mechanism (use-of-proceeds principle), require that proceeds from their

issuance be allocated to specific budgetary expenditures with a positive environmental impact. Therefore, this instrument has multifaceted significance for public finances. From the perspective of the Ministry of Finance, issuing green debt securities allows for the diversification of the investor base (Kisielewicz et al., 2024, p. 49-53). These instruments attract specialised investment and pension funds, as well as financial institutions with ESG mandates in their policies. Building a new, stable group of buyers for Polish debt helps reduce refinancing risk and, under favourable market conditions, can generate greenium. The role of green treasury bonds is also particularly significant in the context of the enormous capital needs resulting from the energy transformation of the Polish economy. A key catalyst for these changes in the current decade is the National Recovery and Resilience Plan (NRRP). According to European Union requirements, under the EU Recovery and Resilience Facility, at least 37% of the total allocation must be allocated directly to climate goals and the implementation of the European Green Deal (*vide* Article 16 and motive 23; see more (IEA, 2026).

In the structure of public finances, green treasury bonds and funds from the NRRP are not mutually exclusive but operate in strong synergy. Due to the payment schedules from the European Union and the reimbursement mechanism for incurred expenditures, the state often has to incur the initial costs of infrastructure projects before receiving reimbursement. Therefore, green bonds constitute an instrument for pre-financing national environmental investments. Furthermore, many EU projects require a member state's own contribution, which can also be efficiently and transparently covered from a pool of funds derived from targeted debt issuances (Stefaniak, 2023, p. 10-13). From a macroeconomic perspective, the inclusion of green bonds in the catalogue of instruments for financing borrowing needs demonstrates the professionalization of state liquidity management. This instrument appears to be ceasing its purely image-enhancing role, as it was initially issued in 2016, and is becoming a strategic financial engineering mechanism (Wyszkowski et al., 2025). It provides the liquidity necessary for timely implementation of the National Restructuring Plan (KPO) requirements while protecting the state budget from excessive shocks resulting from the accumulation of expenditure on multi-year transformation programs.

The low activity of Polish local governments in the sustainable finance market is the result of a combination of several significant structural and market barriers. The first, most frequently cited in the literature, is the disproportionately high transaction costs associated with preparing and managing targeted bond issues. Requirements imposed by market standards (e.g., the Green Bond Principles), including the need to obtain external, independent pre-issue verification (so-called second-party opinion),

and subsequent extensive, periodic environmental impact reporting, generate financial and administrative burdens that are prohibitive for many smaller local government units (KPMG, 2021, p. 66-67). As a result, the potential price premium – greenium – received by the issuer for "greening" debt rarely compensates local governments for the initial outlay on certification and auditing. Another fundamental limitation is the insufficient scale of individual investment projects at the municipal or district level. Institutional investors, the target buyers of green bonds, are seeking instruments with a high nominal value that provide adequate liquidity in secondary capital market trading. Meanwhile, local initiatives, such as the thermal modernization of several educational institutions or the purchase of low-emission public transport fleets, often amount to several million złoty. This is too low to attract the attention of large funds and economically justify the complex process of issuing bonds (Gołaszewski, 2017). An additional hindering factor is the shortage of specialised officials at the local government level with sufficient expertise in finance and the identification of projects compliant with the EU Taxonomy (Kisielewicz et al., 2024, p 31-45).

Overcoming these limitations and fully unlocking the potential of the local government market in the second half of this decade will require the implementation of innovative systemic solutions. A key perspective, widely discussed in strategic studies, is the project aggregation mechanism. This involves combining smaller, thematically homogeneous investments from multiple municipalities into a single large portfolio, which is then financed through a joint, larger bond issue. This process could be coordinated, for example, through special-purpose associations of municipalities, regional governments, or a specialised state development institution, such as the National Economy Bank. Such consolidation would not only achieve the scale desired by the market but also dramatically reduce the unit certification costs for individual municipalities. The development of this segment could be further accelerated by the introduction of targeted support programs from central government, consisting of subsidizing the costs of obtaining second-party opinions for local governments entering the sustainable finance market (Stefaniak, 2023, p. 27-30; Wyszowski et al., 2024, p 68-74). Given regulatory pressure and growing capital demand, municipal green bonds have strategic potential to stimulate local energy transformation. However, transforming the current, spot-based nature of issuance into a widespread trend requires the creation of a supportive institutional environment that will effectively relieve local governments of some of the administrative and cost burdens associated with entering the capital market.

A key argument justifying systemic support for the development of the green bond market from a statistical perspective is the interdependence

between sustainable financing and the strategic security of the state (Orzechowski & Bombol, 2022, p. 11-12). Historically, Poland's energy security has been based on access to conventional fossil fuels (primarily hard coal and lignite) and the diversification of hydrocarbon supply sources. However, contemporary geopolitical and macroeconomic conditions have forced a profound redefinition of this paradigm. Currently, energy sovereignty is largely associated with building a resilient, decentralised system based on renewable energy sources, improving energy efficiency, and electrifying key sectors of the economy. Poland, characterised by one of the most carbon-intensive energy mixes in the European Union, faces an unprecedented transformational challenge (Ministry of Climate and Environment, 2021). Commitments arising from the EU's Fit for 55 package and the pursuit of climate neutrality by 2050 necessitate a complete overhaul of the country's production and transmission infrastructure. The scale of the necessary capital expenditures to achieve the goals outlined in Poland's Energy Policy until 2040 and the National Energy and Climate Plan (Ministry of Climate and Environment, 2025) is estimated at hundreds of billions of zlotys. As repeatedly pointed out in analytical studies and strategic documents, the involvement of public funds alone – including state budget expenditures and EU funds – will be completely insufficient to cover the nearly €2,000 billion investment gap (Wyszkowski et al., 2024, p. 87).

Bridging the gap between available public funds and the real needs of the economy requires leveraging private capital on an unprecedented scale. In this mechanism, green debt instruments become a critical tool for the state. Issued by the State Treasury, energy corporations with state ownership, or large private entities, green bonds enable the long-term and targeted mobilization of institutional capital that might otherwise be uninvested in Poland's transformation. The allocation of funds from these issues, subject to environmental criteria (often verified in accordance with the EU Taxonomy), ensures that the capital raised will not be used to sustain declining coal technologies but will instead go directly to the most important projects for the energy system. In this light, the development of a liquid and mature market for sustainable debt instruments is no longer merely a market innovation, but rather a *sine qua non* for Poland's smooth and safe transition through the decarbonization process.

From the perspective of the effectiveness of the state's energy policy, not only the mere fact of raising debt through green bonds is crucial, but above all its precise and structured allocation. This capital should be directed to sectors of the highest strategic priority, constituting the foundation of Poland's future energy sovereignty. These include, first and foremost, the development of large-scale renewable energy projects, with particular emphasis on offshore wind farms in the Baltic Sea. These investments, characterised by enormous capital intensity and long payback periods,

require stable, multi-year financing, which can be optimally provided by long-term debt instruments with ESG certification (Ministry of Climate and Environment, 2025, p. 167-168). An equally important, and from a system stability perspective, critical area for the absorption of green capital is the thorough modernization and expansion of the national transmission and distribution grids. The current grid infrastructure currently constitutes the main bottleneck in Poland's transformation, massively preventing the connection of new renewable energy generation capacity to the national system (Wyszkowski et al., 2024, p. 63-64). Financing these investments with proceeds from green bonds could be crucial for balancing the electricity system and ensuring the physical security of energy supplies. The development of low-emission infrastructure, stimulated by the inflow of funds from the capital market, could also bring tangible and direct macroeconomic benefits, protecting the stability of public finances. Decarbonization of the economy financed by green debt leads to a systematic reduction in greenhouse gas emissions, which allows for a structural reduction in the costs associated with the need to purchase CO₂ emission allowances under the EU ETS. In recent years, the expenditures incurred by Polish energy companies and industry on purchasing carbon certificates have constituted a significant burden affecting the competitiveness of the entire economy, translating into high inflation and forcing state protective interventions that directly burdened the state budget (Wyszkowski et al., 2025, p. 112-114). Actively directing debt capital towards zero-emission investments therefore serves as a natural hedge against the risk of price fluctuations in the EU ETS. In conclusion, the green bond market in Poland has been gaining importance in the current decade, becoming an integral element of the state's national security strategy. By providing stable and targeted financing for the most critical infrastructure projects, this instrument minimizes the risk of the state becoming dependent on imported fossil fuels, reduces the long-term systemic costs of operating the economy, and guarantees the implementation of international climate commitments.

Conclusions

The analysis of the development of the green bond market in Poland between 2021 and 2025 conducted in this paper allows for the formulation of conclusions regarding the growing role of this instrument in the state's financial structure.

The results of the analyses of data from the WSS confirm that green bonds have a strategic advantage over traditional debt instruments. This advantage stems primarily from a built-in mechanism for strict revenue allocation, which effectively directs private capital flows towards investments with a positive and measurable environmental impact. In the era of energy

transformation, this instrument is no longer perceived solely as a standard form of state or corporate debt but is becoming a key tool for reducing climate risks, which in the long term supports macroeconomic stability and energy security.

The functioning of the green bond market also demonstrates synergies with the European Union's progressive requirements for sustainable development. The framework imposed by the demanding emissions certification process naturally compels Polish entities to implement high standards of transparency and non-financial reporting, consistent with criteria such as those of the EU Taxonomy and EU GBS. As demonstrated in the paper, this structured transparency makes green debt an effective mechanism for obtaining and leveraging EU funds.

In recent years, green government bonds have proven to be an optimal tool for pre-financing national infrastructure projects implemented under the National Recovery Plan, enabling the smooth implementation of the European Green Deal's objectives and effectively closing the significant investment gap without overly burdening the state budget's current liquidity.

Given the extremely dynamic evolution of global capital markets, the adoption of instruments linked to sustainable development (e.g., Sustainability-Linked Bonds; SLBs) seems a natural direction for further scientific analysis and a promising way to expand the scope of the researched issues. These bonds represent the next, innovative stage in the evolution of sustainable finance, as they move away from the criterion of expediency and instead focus on assessing the issuer's climate strategy as a whole. SLB instruments are based on conditional legal mechanisms, such as step-up clauses, which automatically increase debt servicing costs (interest rates) if the issuer fails to meet pre-defined ESG milestones, such as greenhouse gas emission reduction targets, in a given year. This structure appears to be more user-friendly for businesses and institutions, providing greater operational freedom in disposing of the raised capital while still allowing them to benefit from the market price premium offered by greenium.

In the coming years, the implementation of sustainability-linked bonds could provide a key financial boost for those sectors of the Polish economy that, instead of financing individual, isolated projects, require a profound and systemic transformation of entire business models.

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ARTICLES

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PUBLIC DEBT IN COUNTRIES AFFECTED BY ARMED CONFLICTS

Abstract

The article addresses the issue of public debt in countries affected by armed conflicts, taking Ukraine, Russia, and Syria as case studies. The topic is therefore presented from the perspective of an aggressor state, a state struggling with the invasion of foreign forces, and a country embroiled in a prolonged civil war. The paper examines the budget-balancing mechanisms implemented to ensure that these states can carry out their fundamental functions. An important part of the study is also the analysis of the borrowing options available to governments, both on international markets and through the issuance of bonds, along with the associated costs. The study is complemented by an examination of public debt in the context of future challenges related to the reconstruction of the country and the mitigation of social problems.

Keywords: public debt, armed conflict, war financing, fiscal policy.

JEL Classification: H63, H56, F34, E62.

Introduction

The aim of the paper is to compare the dynamics of public debt in three countries experiencing prolonged armed conflicts: Ukraine (since 2022), Russia (since 2022 as the aggressor), and Syria (since 2011). The presented analysis will cover not only nominal and relative values (debt as a percentage of GDP) but also the debt structures, sources of financing, international

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responses, and fiscal consequences. The paper will describe similarities and differences in debt management between defending countries, aggressor states, and countries involved in civil wars. The impact of war on debt servicing ability, decisions regarding restructuring, and future prospects will also be discussed.

Public debt during armed conflict serves as a crucial tool for financing defense actions and maintaining economic stability in some aspects. However, its management is fraught with inflationary risks, insolvency risks, and dependence on foreign creditors. Additionally, the unpredictable trajectory of events complicates the establishment of a binding repayment schedule. Russia's war against Ukraine, which began in 2022, and the ongoing civil war in Syria since 2011 are examples of three different strategies and conditions that affect debt policies in existential crisis situations.

1. The situation in Ukraine: a country that is a victim of aggression

In 2021, Ukraine's economy, like most countries, was recovering from the COVID-19 pandemic. The GDP growth rate was around 3.4%, and inflation was about 10% (World Bank, 2023-2025; IMF, 2022-2025). The budget deficit amounted to about 3.6% of GDP, which was an improvement compared to 2020, when it exceeded 6% (World Bank, 2023-2025; OECD, 2025). The value of Ukraine's public debt at the end of 2021 was about \$90 billion, which was 48.9% of GDP (National Bank of Ukraine, n.d.; World Bank, n.d.). This debt-to-GDP ratio was within the safe limits set by international institutions. The foreign component of the debt was dominant (about 70%), mainly consisting of concessional loans from the International Monetary Fund, financing from institutions like the World Bank, EBRD, EIB, macro-financial aid from the EU, and the issuance of euro-denominated bonds in international capital markets, primarily in dollars and euros (IMF, 2022-2025; EBRD, 2024-2025).

Since the Russian invasion, Ukraine has found itself in a situation of extreme fiscal deficit, which has naturally led to a sharp rise in public debt and difficulties in servicing it (IMF, 2023; IMF, 2024; World Bank, 2023-2025). The increasing debt is the result of extremely high defense expenditures, which in 2022 reached over 20% of GDP, and by 2025 are expected to rise to about 26% of GDP, including both personnel and equipment (UIAMP, 2024; OECD, 2025). Spending on military employment consumed a significant portion of the budget, and benefits for soldiers on the front line were around four times the average civilian income (UIAMP, 2024). In 2021, defense spending in Ukraine amounted to 3.2% of GDP, which was slightly above the European average (Tian et al., 2022).

Ukraine is heavily relying on external financing. By the end of 2024, Ukraine had received about \$106 billion in support in the form of grants

and loans, including \$40.5 billion from the EU, \$29.8 billion from the USA, and \$11.4 billion from the IMF (IMF, 2024; EBRD, 2024-2025; OECD, 2025). By 2024, Ukraine's accumulated debt amounted to about \$166 billion, which was 87.9% of GDP (IMF, 2024; World Bank, 2023-2025). The debt restructuring process included deferred payments, renegotiations of eurobonds worth about \$20 billion, and debt forgiveness of about \$9 billion, which aimed to improve budget liquidity in the following years (Reuters, 2024; Wilson Center, n.d.). In conclusion, in 2024, Ukraine's debt was mainly based on: concessional loans (58%) from the IMF, the World Bank, the EU, the USA, Canada, domestic war bonds (28%), and foreign bonds (12%) (IMF, 2024; National Bank of Ukraine, n.d.). However, negotiations with private bondholders were difficult – Ukraine proposed a 60% reduction in the value of the debt, while creditors offered around 20-22% (Reuters, 2024).

Analyzing the evolution of Ukraine's public debt over three different time periods, it can be observed that its debt-to-GDP ratio increased the most in recent years. The data is illustrated in the table below.

Table 1. Evolution of Ukrainian public debt in 2009-2024

Compared years	Debt-to-GDP ratio		Increase in percentage points
	2009	2024	
2021 and 2024	48.92%	89.72%	40.80
2017 and 2020	71.62%	60.51%	-11.11
2013 and 2016	40.52%	79.51%	38.99
2009 and 2012	35.43%	37.54%	2.11

Source: <https://www.statista.com/statistics/427246/national-debt-of-ukraine-in-relation-to-gross-domestic-product-gdp/>

Although the consequences of Russia's invasion are a significant burden on Ukraine's state budget, the scale of debt accumulation was comparable even during the onset of the local conflict in Donbas. It should be noted that at that time, the Ukrainian army required significant investments in training, and the country began to face a capital outflow. Moreover, the hostilities took place in the most industrialized region of the country, which made it difficult or even impossible for many strategic factories, processing plants, steel mills, and enterprises essential to Ukraine's economy to operate. Already at that point, many people left Ukraine, including some with highly specialized professional skills. The country's dependence on assistance from international institutions significantly deepened. Data from 2009-2012 period clearly differ from the wartime years. The increase in the public debt-to-GDP ratio was modest. This was a period of the global economic crisis, which also had a significant impact on Ukraine's economy. It was perceived as a country with heightened political and economic risk, which discouraged investors from providing large-scale loans and did not foster interest in long-term

bonds issued by the Ministry of Finance. However, the debt structure remained stable, and successive governments pursued rather conservative fiscal policies.

As a result of negotiations, payment deferrals and more favorable conditions were obtained, and debt servicing costs were reduced by over \$11 billion (Reuters, 2024; IMF, 2024). The level of Ukraine's public debt in the future will depend on a range of both economic and political factors (IMF, 2024; OECD, 2025). The primary determinant remains, of course, the course and potential resolution of the war. The end of the conflict and the associated military actions, and consequently the start of the permanent reconstruction process, would increase the chances of stabilizing public finances through a gradual increase in budget revenues and the inflow of foreign investments (World Bank, 2023–2025; EBRD, 2024-2025). In such a scenario, the debt-to-GDP ratio could improve even despite the nominally high level of debt (IMF, 2024; OECD, 2025).

The second important factor is the political and economic reforms, the implementation of which will be a condition for continued support from international institutions. Reforms in the tax system, judiciary, energy sector, and efforts to combat corruption are essential for rebuilding investor confidence and long-term fiscal consolidation. Otherwise, Ukraine could find itself in a situation similar to that of 2014-2015, when it was necessary to carry out debt restructuring with private creditors.

It is also important to note that part of Ukraine's current debt has been subject to payment moratoriums (e.g., interest suspended until 2025 for private creditors), meaning that in the coming years, there will be a buildup of obligations. Without continued foreign support or debt forgiveness, servicing these liabilities may prove to be beyond Ukraine's capacity. The most likely scenario is one that involves successive debt restructuring. Negotiations are currently underway with private creditors regarding the potential cancellation of some obligations or further suspension of payments. From a geopolitical and international solidarity perspective, Ukraine may also count on converting part of its debt to other countries into grants or long-term loans on preferential terms.

However, it should be emphasized that such solutions are not guaranteed and depend on the political will of donor countries, the effectiveness of Ukraine's administration, and the readiness for further reforms. In this context, Ukraine's European integration process also plays a crucial role, as it could open the way to new financial support instruments (e.g., EU pre-accession funds) and increase the confidence of institutional investors.

In an optimistic scenario, assuming de-escalation of the conflict, continued financial support from Western countries, and progress in structural reforms, Ukraine's public debt level will stabilize in the coming

years (IMF, 2025; OECD, 2025). According to the IMF forecasts, the debt-to-GDP ratio will reach 106.6% in 2025 and then gradually fall to 102.6% by 2027 (IMF, 2025). In this scenario, Ukraine would be able to restructure part of its debt and take advantage of grants and preferential loans, which would allow for gradual fiscal consolidation (IMF, 2025; World Bank, 2023-2025).

In contrast, the pessimistic scenario assumes continued military actions, delays in reforms, and limited financial support from international partners (IMF, 2025; UIAMP, 2024). In this case, Ukraine's public debt could exceed 117% of GDP by 2025, reaching 132.1% in 2026 and even 134.3% in 2027 (IMF, 2025). Such a high level of debt carries the risk of losing fiscal liquidity and the need for another debt restructuring, particularly with private creditors (IMF, 2025; Reuters, 2024).

2. Public debt in Russia – the country initiating the armed conflict

The situation in Russia, however, is different. According to data from the Ministry of Finance and IMF, public debt at the end of 2024 was in the range of 16-20% of GDP, making it one of the lowest debt-to-GDP ratios among the G20 countries (IMF, 2022–2025; TASS, 2025; Statistics of the Ukrainian Ministry of Finance and the National Bank of Ukraine, n.d.). This low level of debt is the result of a cautious fiscal policy pursued by the Russian government in previous decades, based on a conservative approach to budget deficits and a preference for financing expenditures through current revenues (IMF, 2022–2025; TASS, 2025).

The structure of Russia's debt is characterized by a significant share of domestic debt, denominated in rubles, which reduces currency risk and allows for greater control over debt servicing costs. The foreign public debt remains relatively small, which is advantageous in the context of risks arising from potential sanctions. Despite the relatively low level of debt, the Russian economy faces a number of challenges that may influence the future dynamics of its debt. These include: restrictions resulting from economic sanctions, a decline in foreign investment, increasing military expenditures, and inflationary pressures.

Additionally, a significant portion of Russia's budget revenues comes from the raw materials sector, mainly from the export of oil and natural gas. Therefore, fluctuations in commodity prices have a direct impact on the fiscal capacity of the state and the potential need to increase debt to cover the budget deficit. While the current level of debt remains low compared to most developed economies, the pace of growth disrupts the previous trend of fiscal caution. Budgetary support, which was previously based on the reserve fund, has weakened, increasing the reliance on the debt market.

Table 2. Evolution of Russian public debt in 2009-2024

Compared years	Debt-to-GDP ratio		Increase in percentage points
2021 and 2024	16.52 %	20.25%	3.73
2017 and 2020	14.31%	19.16%	4.85
2013 and 2016	12.35%	14.85%	2.50
2009 and 2012	9.92%	11.17%	1.25

Source: <https://www.statista.com/statistics/271357/national-debt-of-russia-in-relation-to-gross-domestic-product-g>

Russia's low public debt relative to GDP, particularly when compared to many developed and emerging economies, is the result of a conservative fiscal policy, a favorable structure of budget revenues, and limited access to international capital markets. Since the early 2000s, Russian authorities have pursued a cautious budgetary policy, reducing the deficit and avoiding excessive borrowing. The priority was macroeconomic stability, especially in the context of geopolitical instability and external economic shocks.

A significant factor in maintaining a low level of debt was the high income from the export of energy resources, primarily oil and natural gas. During favorable commodity market conditions, budget surpluses were directed to state reserve funds, enabling the government to finance some public spending without issuing debt. Russia also maintained high foreign currency reserves for many years, which increased its economy's resilience to financial crises and reduced the need for external financing.

An additional factor limiting debt levels was restricted access to financial markets after 2014, when sanctions were imposed on Russia. At that time, the government had to reduce foreign borrowing and increasingly rely on domestic financing, which reflected the consolidation of the conservative fiscal strategy. This model also aligned with the dominant political ideology of economic sovereignty in Russia and the desire to become less dependent on international institutions.

It is also worth noting that the political structure of the state, based on an authoritarian model, allows for strong centralization of fiscal decision-making and limits pressure for increased social spending. Compared to democratic countries, the Russian system developed less intensive income redistribution programs, resulting in lower public obligations. Moreover, Russian authorities pursued a cautious monetary policy, which, in cooperation with fiscal policy, helped maintain price stability and limit risks related to monetary financing of the deficit.

Russia's invasion of Ukraine significantly altered the structure of budget expenditures and macroeconomic priorities. The government was forced to substantially increase military spending. Conducting military operations, supporting the defense industry, and financing internal security structures

consumed an increasing share of the national budget in the years 2022-2024 (OSW – Ośrodek Studiów Wschodnich, 2025; Antczak & Stolarz, 2022; Tian et al., 2022). Military and national security expenditures exceeded 6% of GDP (4.1% in 2021), which required financing the budget deficit through debt issuance, especially as the revenue situation deteriorated at the same time (CEIC Data, n.d.; Trading Economics, n.d.).

Russia lost a significant portion of its revenue from oil and gas exports, particularly to Europe. While resource sales were redirected to Asian markets, they were conducted at much lower prices with substantial discounts, leading to a decline in foreign currency income. In addition, technological and financial sanctions, including the cutoff from Western capital markets, forced Russia to finance its borrowing needs from the domestic market. In practice, this meant an increase in the issuance of government bonds purchased by domestic banks and the Central Bank.

An additional source of pressure on public finances was inflation and the weakening of the ruble, which increased the nominal budgetary needs of the state (OSW – Ośrodek Studiów Wschodnich, 2025; Reuters, 2025; TASS, 2025). The government had to allocate more resources for pension indexing, public sector wages, and maintaining social subsidies. As a result, the budget deficit, which was relatively low in 2021, exceeded 2.5% of GDP in the following years, and by 2024, according to various estimates, it reached even 3% of GDP (Trading Economics, n.d.; CEIC Data, n.d.). This level of deficit, combined with limited revenue, forced a systematic increase in government debt (World Economics, n.d.; OSW – Ośrodek Studiów Wschodnich, 2025).

The difference in the evolution of debt between Russia and Ukraine arises from the fact that the ongoing military actions are primarily taking place on Ukrainian territory. Jobs, industrial plants, residential buildings, and infrastructure are being destroyed. Russia, on the other hand, relies mainly on its own resources, primarily from revenues from the export of energy resources, enabling it to finance the war efforts without the need for significant borrowing. Additionally, Russian enterprises engaged in foreign trade have, in many cases, developed effective ways to bypass sanctions.

Ukraine, forced to continuously finance its war needs and reconstruction, must regularly take on new loans, which leads to a rapid increase in public debt. Paradoxically, a significant factor is also the openness of the EU, particularly Schengen Area countries, to Ukrainian citizens, who have been part of the visa-free movement since 2017. This encourages decisions to emigrate, with many young and skilled Ukrainians leaving their country. Russia, on the other hand, continues a conservative fiscal policy, aiming to reduce the deficit and control the debt level, which allows it to maintain financial stability despite increased military expenditures.

The first scenario for Russia's future debt assumes the continuation of the current public finance model, where budget deficits are mainly covered by domestic debt issuance and available resources from the National Welfare Fund (TASS, 2025; Trading Economics, n.d.). Assuming the relative stability of energy commodity prices and the ability to export oil and gas to countries outside the sanctions circle, Russia could continue to finance deficits without a sharp increase in debt (World Economics, n.d.; OSW – Ośrodek Studiów Wschodnich, 2025). In this scenario, the public debt-to-GDP ratio could gradually rise to 25-30% in the medium term (by 2030), which would still not pose a threat to the country's solvency (IMF, 2022-2025; TASS, 2025). However, this would require maintaining budget discipline and effectively managing reserves, a portion of which (around \$300 billion) remains frozen by Western countries (OSW – Ośrodek Studiów Wschodnich, 2025; Reuters, 2025).

The second scenario assumes further deepening of Russia's economic isolation, leading to a reduction in budget revenues from the export of raw materials (OSW – Ośrodek Studiów Wschodnich, 2025; TASS, 2025). A significant drop in oil prices and the loss of key trading partners could result in larger budget deficits and increased demand for debt financing (World Economics, n.d.; Reuters, 2025). In this case, Russia would be forced to intensify the issuance of domestic bonds, potentially financed by the central bank, which increases the risk of inflationary pressure and monetary easing (Trading Economics, n.d.; OSW – Ośrodek Studiów Wschodnich, 2025). Over the longer term, this model could lead to a doubling of the public debt level to as much as 40–50% of GDP, as well as further macroeconomic instability (IMF, 2022-2025; TASS, 2025). Importantly, due to limited access to international markets, Russia would face difficulties in refinancing its foreign debt, even though its share in total debt is relatively small (World Economics, n.d.; OSW – Ośrodek Studiów Wschodnich, 2025).

The third scenario assumes a significant geopolitical change that would lead to the easing or removal of some sanctions against Russia – for example, as a result of a peace agreement with Ukraine and improved relations with the West. In such a setup, Russia could regain access to some of the frozen foreign exchange reserves, increase the availability of foreign capital, and lower debt servicing costs. The restoration of normal trade relations would allow for a rebuilding of budget revenues and potential stabilization of debt at a moderate level, or even its reduction over the long term. However, this scenario is unlikely under the current political conditions and would require fundamental changes in both domestic and foreign policy.

3. The impact of the long-running civil war on Syria's debt

Another case is Syria, which, prior to 2011, had a relatively low level of public debt in relation to GDP. However, as the conflict escalated, this

situation changed dramatically. Government revenues began to plummet due to the collapse of industrial production, especially the oil sector, which had been one of the main sources of budget income. Additionally, the country was hit with numerous international sanctions, particularly from the European Union and the United States, leading to Syria's economic isolation and further exacerbating the budget deficit.

In response to growing financial needs, including funding military operations and maintaining the state apparatus during the war, the Syrian government was forced to take out loans, both domestic and foreign. Iran became a key financial partner, providing Syria with multibillion-dollar loans for oil purchases and operational support. Other sources of debt included obligations to Russia, which supported the regime of Bashar al-Assad both militarily and logistically. At the same time, the country lost access to most international institutions like the IMF and the World Bank, limiting its ability to restructure debt or secure favorable financing or repayment terms.

As the war dragged on and Syria's economy continued to deteriorate, public debt reached record levels. According to available data, the ratio of public debt to GDP significantly exceeded 100%, although exact figures are difficult to determine due to the limited availability of reliable macroeconomic statistics (World Bank, n.d.; Middle East Institute, n.d.; Index Mundi, n.d.). It is important to note that the structure of this debt changed – the share of foreign debt increased, as well as informal obligations stemming from military-economic agreements made during the conflict (EReport.ru, n.d.; Middle East Institute, n.d.).

Conclusions

The civil war that began in 2011 led to a dramatic deterioration of Syria's fiscal situation and a sharp rise in public debt. This debt, burdened with high political and economic risks, now poses a significant challenge for the country's future recovery, both in terms of domestic policy and international relations.

Summarizing all three cases, Russia, Ukraine, and Syria represent three different models of public debt in the context of armed conflict. Russia maintains low debt, although its fiscal situation depends on fluctuations in commodity prices and the effects of sanctions. Ukraine, though burdened with high debt, benefits from significant foreign support and has access to debt restructuring mechanisms. Syria, on the other hand, remains in a state of deep insolvency, with no structural ability to repay its debt, and its situation requires not just management, but a political resolution and international support for long-term reconstruction.

In relation to the research objectives, the analysis demonstrates clear differences in how defending states, aggressor states, and countries experiencing prolonged civil wars manage public debt under extreme

conditions. Ukraine illustrates a model of high external dependence but with structured international support and active debt management. Russia exemplifies a country with low debt yet vulnerable to external shocks and policy rigidity. Syria shows the limits of fiscal sovereignty in the absence of functioning institutions and international integration.

By adopting a comparative perspective, this study highlights not only quantitative differences in debt levels but also qualitative aspects such as debt composition, sources of financing, and the role of international creditors. This approach provides insights into potential strategies for crisis management, illustrating how access to foreign aid, debt restructuring, and institutional capacity can mitigate the negative fiscal consequences of armed conflict.

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