National Bank of Moldova

IMPROVING DEBT SERVICE TO INCOME RATIO IN THE REPUBLIC OF MOLDOVA: A QUANTITATIVE APPROACH

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Abstract

The Debt Service to Income Ratio (DSTI) has emerged as a critical macro-prudential tool, gaining prominence following the 2008–2009 financial crisis and becoming widely adopted across Central and Eastern Europe. Despite its extensive implementation, DSTI practices vary, with some countries applying single thresholds while others adopt differentiated caps based on borrower profiles. This study examines the application of DSTI in the Republic of Moldova, where its mandatory use was introduced in 2022. Using micro-data on consumer and mortgage loans, the authors apply logit regression models to analyze the relationship between DSTI levels and non-performing loans (NPLs).

The findings reveal a weak positive correlation between DSTI caps and credit non-performance. The analysis underscores the non-linear nature of this relationship, identifying a 60% DSTI threshold as optimal for Moldovan borrowers. Beyond this level, DSTI values adversely affect loan quality by increasing the likelihood of default. The study concludes that revising current DSTI thresholds in Moldova could enhance financial stability.

International practices in the application of DSTII

Following the 2008-2009 financial crisis, the use of debtor-oriented macro-prudential instruments expanded rapidly on an international scale, driven by the distinct advantages these tools offer. Jurča, Klacso, Tereanu, Forletta and Gross (2022) state that combinations of borrower-based measures improve resilience to macroeconomic shocks. The authors conclude that these policies impact the flow of new lending and therefore take time to strengthen the resilience to shocks and a preemptive implementation of borrower-based measures is clearly warranted. Finally, their study suggest that borrower-based policies may have the potential to influence endogenous business cycle dynamics, that is, to not only render the economy and banking system more resilient to shocks. Sher (2023) presents several arguments supporting the use of borrow-oriented instruments:

- ✔ they can target some risky lending practices in ways that capital measures cannot, thus resulting in fewer spillovers to other types of lending, with the potential side-effect of achieving the same banking sector resilience with lower levels of capital overall;

- ✔ bank capital might not be fully usable in a crisis, given overlapping requirements including the leverage ratio and MREL (IMF, 2022);

- ✔ higher bank capital requirements tend to have a limited effect on credit growth when this is accompanied by increasing asset prices (IMF, 2013);
excessive leverage by borrowers can fuel unsustainable construction activity, real estate prices, and/or consumption during a boom that then reverses during a downturn,3 amplifying economic volatility, even if borrowers do not default on loans (i.e., this is an economic stability motivation, rather than a financial stability motivation);

- ✔ consumers need to be protected from over-indebtedness, even if banks could withstand the associated credit losses (i.e., this is a consumer protection motivation, rather than a financial stability motivation).

One of the debtor-oriented macro-prudential tools that has seen rapid implementation across several states is the Debt Service to Income Ratio (DSTI). DSTI has been operationalized in most Eastern European countries, though there is no common standard for its application (see Table 1). For example, in Ukraine, DSTI is not applied to loans under UAH 2 million (approximately 50,000 EUR). For loans above this threshold, the DSTI rate depends on the borrower's income, with possible values of 50%, 60%, 70%, or 80%. In Romania, a DSTI of 40% is applied to RON-denominated loans, while for loans in foreign currency, if the borrower's income is in a different currency, a 20% DSTI is imposed. Additionally, for first-time mortgage borrowers, the DSTI cap is increased by 5 percentage points. In Hungary, DSTI limits range from 25% to 60%, depending on the borrower's income and the loan maturity. Lithuania applies a baseline DSTI of 40%, but borrowers earning more than twice the average monthly salary may qualify for a DSTI of up to 60%. Meanwhile, Slovenia revised its DSTI policy in mid-2023, replacing a formula-based approach that deducted subsistence expenses and capped DSTI at 67% with a standardized 50% DSTI limit.

A single DSTI level is applied in several countries: 60% in Serbia and Slovakia, 50% in Estonia, and 40% in Latvia, with an additional 5 percentage points for loans intended for energy-efficient housing. In Poland, there is no regulated DSTI level; however, banks are required to inform borrowers of the risks associated with taking on loans with a DSTI exceeding 40% or 50%. Meanwhile, countries such as Albania, North Macedonia, and Bulgaria have not yet implemented DSTI requirements. In the Czech Republic, DSTI regulations were discontinued as of June 2023.

The adjustment of macro-prudential instruments is a common in other countries. For instance, in the Czech Republic, changes in the DSTI rate have generally aligned with economic developments. During the 2020 pandemic crisis, to support the mortgage market, the Czech National Bank relaxed its macro-prudential policy by increasing the DSTI limit from 45% to 50%, and later abolished the instrument altogether. In 2022, amid rising inflationary risks and the tightening of monetary policy, the DSTI was reintroduced at a 45% rate. Venhoda (2022) argues that the tightening of DSTI conditions in 2022 had an indirect effect on mortgage loans and likely contributed to their decline. Subsequently, in June 2023, it was decided to discontinue the application of DSTI again. This decision aimed to boost

economic activity by stimulating household consumption while considering the absence of significant risks to the quality of bank loan portfolios.

Table 1. DSTI regimes

Country	The DSTI regime
Albania	DSTI does not apply
Bulgaria	DSTI does not apply
Estonia	50%
Latvia	40%; +5% for loans aimed at obtaining energy efficient homes
Lithuania	40%/60%
North Macedonia	DSTI does not apply
Poland	There is no regulated level. Banks must pay more attention to loans with a DSTI above 40-50% and inform customers about the related risks.
Czech Republic	DSTI does not apply (the decision entered into force on June 1, 2023)
Slovak Republic	60%
Romania	40% for loans in RON; 20% for foreign currency loans; +5 p.p. for the first mortgage
Serbia	60%
Slovenia	50% (until July 2023 a formula was used that provided for an initial deduction of expenses for the subsistence minimum, after which a DSTI of 67%) was applied
Ukraine	50%/60%/70%/80% (depending on the borrower's income)
Hungary	25%/30%, 35%/40%, 50/60% (depending on the borrower's income and the maturity of the loan)

Source: IMF, ESRB

In several states, exceptions allow for loans with a DSTI that exceeds the regulated debt service-to-income ratio. Examples include:
- ✓ Romania: Exceeding the 40% DSTI limit is permitted for consumer and mortgage loans, provided the loan value does not exceed 250,000 euros. Additionally, these exceptions must be limited to a maximum of 15% of newly granted loans each quarter, based on the volume of loans granted by the lender in the previous quarter.
- ✓ Lithuania: Loans with a DSTI exceeding the 60% maximum limit are allowed for housing purchases if they represent no more than 5% of the total value of new housing loans granted in a calendar year.
- ✓ Estonia: Loans with a DSTI above the 50% cap may be issued, provided they do not exceed 15% of the total value of new loans granted for housing purchases within a quarter, based on the volume of loans from the previous quarter.
- ✓ Slovak Republic: A more flexible approach to DSTI exceptions is applied. While the standard DSTI cap is 60%, up to 5% of new loans may have a DSTI between 60% and 70%, based on the previous quarter's loan volume. Additionally, another 5% of consumer loans with a maturity of up to five years may have a DSTI between 60% and 70%. Furthermore, a DSTI of up to 100% is allowed for (1) consumer loans accessed by low-debt households (with debt lower than annual income) and (2) credit contracts for low-debt households (where debt is less than 1.5 times annual income) with a 20% down payment.

DSTI in the Republic of Moldova

In the Republic of Moldova, the application of the Debt Service to Income Ratio is stipulated in the Regulation on Responsible Lending („*Regulamentul privind creditarea responsabilă*" in Romanian), which came into effect on July 1, 2022. The DSTI applies to all loans granted to natural persons, with exceptions specified in Law no. 293/2017, which outlines measures for implementing the First House State Program. The program aims to facilitate house purchasing for individuals by offering mortgage loans partially guaranteed by the government.

The Regulation establishes the following DSTI limits:
- ✓ 40% for loans in MDL;
- ✓ 55% for loans in MDL, if the debtor's average monthly income is at least twice the average monthly salary in the economy;
- ✓ 30% for loans in foreign currency, if the loan applicant's income is in MDL.

Currently, compared to 2022 when the DSTI was introduced, the macroeconomic situation has changed significantly (Figure 1). The period of accelerated price growth has ended, with average annual inflation at 28.7% in 2022, while the current inflationary environment is stable (a CPI increase of 4.07% in January–April 2024 compared to the same period of the previous year). Interest rates, particularly those for consumer loans, have also decreased. Consequently, the risks associated with increased household indebtedness due to higher interest payments have diminished. At the same time, the level of lending remains low, with the ratio of bank loans to GDP slightly exceeding one-fifth in 2022. Economic dynamics are also sluggish: following a GDP decline of 4.6% in 2022, only a marginal growth of 0.7% was recorded in 2023.

Figure 1. Inflation, y-o-y change, %, and nominal interest rates on new retail loans granted in MDL and foreign currency, %
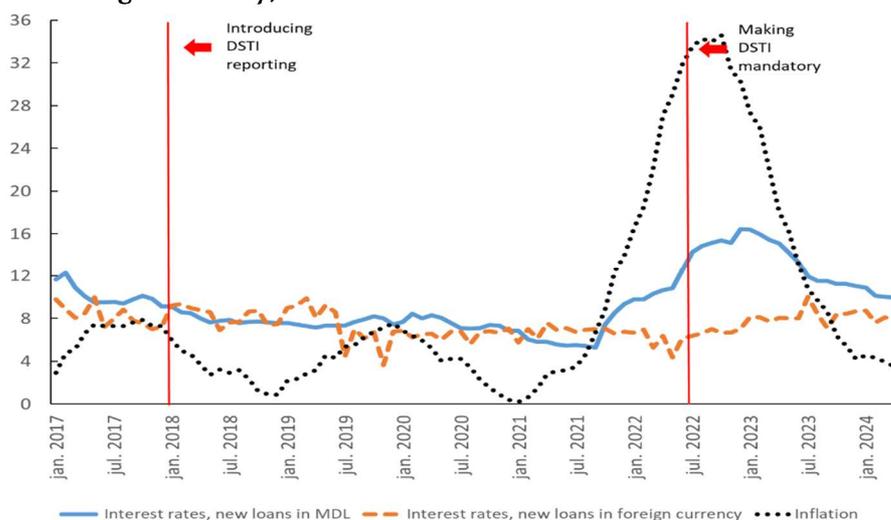
Source: NBM, NBS, authors' calculations

In a context characterized by decreasing inflation, falling interest rates, and the need to stimulate economic activity—including through credit expansion—modifying the DSTI may be a suitable consideration. Examples from other countries, where adjustments to borrower-oriented instruments are practiced, further support the potential revision of DSTI in the Republic of Moldova.

Literature review

The rapid development of debtor-oriented macro-prudential instruments, particularly the DSTI, has led to the emergence of specialized studies on this subject. Broadly, most papers highlight the advantages of DSTI and argue for its utility as a macro-prudential tool. Arena et al. (2020) examine the effects of macro-prudential policies on property prices in Europe. Authors argued that there is evidence that borrower-side measures, supported by lender-based measures, help limit the share of riskier mortgages, which can make economies more resilient. Similarly, Jurča, Klacso, Tereanu, Forletta, and Gross (2020) evaluate the effectiveness of debtor-oriented macro-prudential measures in the Slovak Republic. Using a country-specific application of an integrated micro-macro model framework, their analysis finds that combinations of borrower-based measures enhance household and bank resilience.

Sher (2023) analyzes the macro-prudential policy framework in Germany. The author concludes that Germany's macroprudential policy toolkit is well-developed, but its key missing piece is a set of instruments related to a borrower's income. The author argues that DSTI and DTI (debt to income ratio) caps make it less likely that a borrower is forced into default. Other conclusion of study is that borrower-based measures should be activated as the economy recovers, well in advance of the next housing market downturn. Given current weakness in property markets, now is not the ideal time to activate borrower-based measures. However, the economy is expected to recover over the next few years and with it, vulnerabilities will again build in the absence of activated borrower-based measures.

A study by the Central Bank of Ireland (2021) suggests that one consequence of introducing DSTI could be an increased incentive for banks to extend loan maturities and reduce interest rates, aiming to lower borrowers' periodic payments. However, this practice may heighten uncertainties, as a longer time horizon increases the likelihood of adverse events, and effective interest rates may ultimately exceed those stipulated in loan contracts. The study concludes that any potential introduction of DSTI in the Republic of Ireland should be accompanied by stricter regulation of loan maturities and the implementation of more rigorous stress tests to adequately evaluate the impact of interest rate changes on borrowers' repayment capacity.

Another important topic addressed in the specialized literature concerns the determination of an optimal value for DSTI. Du Caju, Périlleux, Rycx and Tojerow (2021) examined the impact of households' indebtedness on their consumption in Belgium and the data for the study were taken from the *Household Finance and Consumption Survey*. The authors conducted a threshold analysis to investigate the non-linear impact of high indebtedness on household consumption. A household was defined as overindebted when its DSTI ratio exceeded a specified threshold, and this threshold was varied during the analysis. This variation enabled the examination of when debt servicing becomes a constraint for households, ultimately leading to reductions in essential expenses, such as food consumption at home. The analysis revealed that households allocating more than 30% of their monthly income to debt repayment experienced significantly lower growth in monthly equalized food consumption at home compared to non-indebted households.

A study conducted by the IMF (Department of Monetary and Capital Markets) and the National Bank of Romania (2018) estimated the impact of different DSTI levels on the probability of loan default. The analysis utilized micro-data and employed a LOGIT model, with credit status (performing/non-performing) as the dependent variable. The dependent variable was binary, taking the value 1 if the loan was classified as non-performing (payment delay exceeding 90 days) and 0 if the loan was performing (no payment delays or delays of less than 90 days). In addition to DSTI, several explanatory variables were included in the model, such as the age of the debtor and the residual maturity of the loan. The results indicate a non-linear relationship between DSTI and credit performance. Specific DSTI thresholds were identified, beyond which credit quality deteriorates more rapidly. For consumer loans, this threshold is 30%, while for mortgage loans, it is 50%.

Nier, Popa, Shamloo, and Voinea (2019) provide empirical evidence supporting the imposition of a cap on household indebtedness levels, specifically through a limit on the DSTI ratio, to reduce the probability of borrower defaults in Romania. Using a logit model, the analysis demonstrates that the relationship between DSTI and the probability of default is non-linear, with the probability of default increasing significantly only after a certain threshold is exceeded. Furthermore, the study establishes that consumer loan defaults occur at lower DSTI levels compared to mortgages. These findings support the regulation adopted by the National Bank of Romania, which limits household DSTI at origination to 40 percent for new mortgages and consumer loans.

In their study, Bańbuła, Kotula, Przeworska, and Strzelecki aimed to identify the level of household indebtedness using micro-data. To achieve this, the authors developed a LOGIT model in which the dependent variable represented the level of indebtedness, while the independent variable was DSTI. The analysis revealed that, although DSTI is not a perfect predictor, it allows for the accurate identification of 70-80% of the cases studied. Based on their findings, the authors proposed setting the DSTI at a level of 30-40%.

Monahov (2022) introduces the concept of the DSTI gap, an indicator that reflects the excess or shortfall in a borrower's financial resources after accounting for consumer spending and debt service costs. The DSTI gap can be utilized to evaluate whether borrowers, following an inflationary shock, are compelled to default on loans or reduce consumption. The study concludes that in small economies, a DSTI level of 40% does not impose a significant burden on borrowers in the event of a moderate inflationary shock.

Jácome and Mitra (2015) analyzed the application of macro-prudential instruments in six economies: Brazil, Malaysia, Poland, Hong Kong the Special Administrative Region of the People's Republic of China, the Republic of Korea, and Romania. The authors argue that while risks to financial stability are considered, decisions regarding the calibration of debtor-oriented macro-prudential instruments

are largely discretionary. Furthermore, adjustments to rates are often driven by the failure of these instruments to achieve their intended effects.

Data description

The estimates were based on information from the Credit Risk Register maintained by the National Bank of Moldova (NBM). A sample was extracted from the Register, containing data on 272,599 bank loans—consumer and mortgage loans granted in MDL to natural persons—over the period 01.01.2018 to 30.06.2022. During this period, when granting loans to individuals, only DSTI registration was mandatory, and no limits were imposed on the debt-service-to-income ratio. This allowed for the creation of a representative sample, including data on loans with DSTI values ranging from 1% to 100%, thereby contributing to more accurate research. Including information on loans issued after July 2022, when DSTI limits were introduced, would have reduced the accuracy of the analysis, as data quality on loans exceeding the set thresholds would have been compromised. To establish the sample, the following filtering criteria were applied to the entire data set from the Register: (1) DSTI values were required to range only between 1% and 100%, and (2) loan amount, maturity, and payments had to be greater than zero. After applying the filtering criteria, only a few dozen loans remained suitable for estimation. Considering that the small number of mortgage loans would not introduce significant bias, a single sample comprising both consumer and mortgage loans was used

The dependent variable (NPL) indicates whether a loan was performing or had been non-performing at least once during its life cycle. A loan was classified as non-performing if the debtor failed to make payments on any component of the credit (principal, interest, or fees) for more than 90 days from the due date of the last monthly payment. The dependent variable is binary, taking the value 1 if the loan was non-performing at least once and 0 if the loan remained performing throughout its life cycle.

The following indicators were used as independent variables:

- ✔ *DSTI* at the time of granting the credit;
- ✔ *INITIAL* – the initial amount of the loan;
- ✔ *MATURE* – loan maturity expressed in days. This variable is equal either to the maturity provided in the credit contract, if it was set until 12/31/2023, or to the period from the granting of the loan until 12/31/2023, if the maturity is after 12/31/2023;
- ✔ *INCOME* - the debtor's income was deducted indirectly based on the data on monthly payments and DSTI related to loans;
- ✔ *D2020*– variable *dummy* which has the value 1 if the 2020 crisis has overlapped over the life cycle of the credit, and the value 0, if this has not happened;
- ✔ *D2022* - variable *dummy* which has the value 1 if the 2022 crisis has overlapped the credit life cycle, and the value 0 if this has not happened.

Methodology

The determination of the optimal DSTI level was conducted in two stages. In the first stage, a LOGIT model was employed to establish the quantitative relationship between DSTI and credit status. In the second stage, the logit model was extended, and an additional analytical technique was applied to determine the optimal DSTI level.

LOGIT models are appropriate for use when the dependent variable is binary. As highlighted in the literature review, several authors have utilized this approach to examine the statistical relationship between DSTI, treated as an independent variable, and binary dependent variables reflecting either credit status or the debtor's level of indebtedness. In our case, the initial regression model takes the following mathematical form:

$$NPL_i = a_0 + \beta_1 \cdot DSTI_i + \beta_2 \cdot D2020 + \beta_3 \cdot \ln INITIAL_i + \beta_4 \cdot \ln MATUR_i + \beta_5 \cdot \ln INCOME_i + \beta_6 \cdot D2022 \qquad (1)$$

where $a_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ and β_6 are the regression parameters, and i takes values from 1 to 272 599 and represents credits.

After running the regression, the marginal effects of the independent variables were calculated. In the case of LOGIT models, marginal effects facilitate the interpretation of results by providing a clear measure of the statistical influence of the independent variables. This approach allows for a more precise assessment of the impact of the independent variables on the probability of a loan being classified as performing or non-performing.

In the second step, the initial model was extended using a procedure applied by Khan and Senhadji (2001). These authors analyzed panel data comprising a sample of 140 countries and observations of the variables included in the model over the period 1960–1998. They estimated the threshold level of inflation, demonstrating that a slight increase in prices favours economic dynamics, while inflation beyond a certain limit adversely impacts growth. The technique employed involved the following steps:

- ✓ For a given level of inflation, a dummy variable was constructed, taking binary values: 0 if actual inflation was below the set level and 1 otherwise. Iteratively, associated dummy variables were constructed for other levels of inflation;
- ✓ In the regression, the inflation variable was replaced by two terms: (1 – *dummy variable*) · (*actual inflation – set inflation*) and (*dummy variable*)·(*actual inflation – set inflation*);
- ✓ Finally, the threshold level of inflation was identified as the set inflation level for which the regression minimized the sum of squared residuals.

In our case, the following steps were undertaken:

- ✓ For each DSTI level from 1% to 100%, separate binary dummy variables were created. Each dummy variable corresponded to a specific DSTI level and took the value 1 if the actual DSTI associated with the loan exceeded the set DSTI level, and 0 otherwise;
- ✓ In the LOGIT regression, two terms replaced the original DSTI variable: (1 – *dummy variable*) · (*actual DSTI – set DSTI*) and *dummy variable* · (*actual DSTI* – set DSTI);
- ✓ The optimal DSTI level was identified as the set DSTI for which the regression yielded the smallest residual deviance. Residual deviance is a more appropriate metric for assessing the accuracy of probability forecasts in logistic regression models than the sum of squared residuals, which is suitable for regressions with continuous outcomes.

Finally, we obtain an extended regression that has the following form:

$$NPL_i = a_0 + \beta_1 \cdot (1-d) \cdot (DSTI_i - DSTI^*) + \beta_2 \cdot d \cdot (DSTI_i - DSTI^*) + \beta_3 \cdot D2020 + \beta_4 \cdot \ln INITIAL_i + \beta_5 \cdot \ln MATUR_i + \beta_6 \cdot \ln INCOME_i + \beta_7 \cdot D2022 \tag{2}$$

where $DSTI^*$ is the set threshold level (iteratively enter values between 2 and 99%), and d represents the dummy variable.

Estimation results

Estimates show that a higher level of DSTI is associated with an increased probability of a loan becoming non-performing. Furthermore, if the 2020 and/or 2022 crises occurred during the loan's life cycle, there is a greater likelihood that the loan's status will deteriorate. Loans with longer maturities are more likely to become non-performing because, over an extended period, the probability of unfavorable events affecting the debtor's ability to pay increases. Conversely, higher borrower income is a predictor of better credit quality. Additionally, the relationship between the loan amount and its quality is noteworthy. Higher-value loans are associated with a lower probability of loan quality degradation. This situation may be due to the fact that, when granting loans of large amounts, the analysis of the debtor's ability to pay is much more rigorous.

The estimates indicate that all variables included in the regression are statistically significant (Table 2). The Variance Inflation Factor (VIF) calculated for each variable has values between 1 and 2, indicating that multicollinearity is not a problem. The Area Under the Curve (AUC), with a value of 0.6271, suggests that the regression has moderate predictive accuracy and performs better than a random model. Of some concern is the 5.2% share of excessive errors in the total model errors. This issue could be attributed to the low quality of the data, especially information from the early years of

DSTI reporting, and/or the differential treatment of borrowers, which means that, despite general lending practices, some loan applicants may have been favored. Attempts to exclude excessive errors from the model were counterproductive and resulted in the deterioration of the model; in particular, the independent variables became statistically insignificant. This result indicates that at least some of the excessive errors are intrinsic to the phenomenon under study and contain essential information. Overall, the estimation results lead us to conclude that the model provides a solid basis for decision-making, although there are some limitations in the predictions.

Table 2. Initial regression. Estimation output

Variable	Coefficients	VIF
Free term	-4,3638***	
DSTI	0,0035***	1,2847
D2020	0,1762***	1,3268
ln INITIAL	-0,3071***	1,7370
ln MATUR	0,6322***	1,5536
ln INCOME	-0,0250***	1,3808
D2022	0,5076***	1,1780
AUC	0,6271	

Source: authors' calculations
*Note: *** - statistical significance at 1% confidence level*

To illustrate the relationship between the independent and dependent variables, marginal effects were estimated. Unlike other regression methods, such as Ordinary Least Squares (OLS), in the logit model, marginal effects best describe the quantitative relationships between variables. Based on the estimates, it was found that the greatest influence on the quality of loans is the maturity of the loans, followed by the impact of the 2022 crisis and the effect associated with the loan amount. The 2020 crisis and the debtor's income have smaller influences. At the same time, the Debt Service to Income Ratio (DSTI) has almost no effect on credit quality (see Table 3).

**Table 3. Initial regression. Marginal effects**

variables	Marginal effects
ln MATUR	0,029***
D2022	0,02***
ln INITIAL	-0,014***
D2020	0,008***
Ln INCOME	-0,001***
DSTI	0***

Source: authors' calculations
*Note: *** - statistical significance at 1% confidence level*

In the second stage, after expanding the model, it was found that the lowest residual deviance occurred when a threshold DSTI level of 60% was included in the regression (Figure 2). This suggests that a DSTI up to 60% has a different influence on credit quality compared to a debt service-to-income ratio higher than 60%

Figure 2. Residual deviances correlated with different values of DSTI*
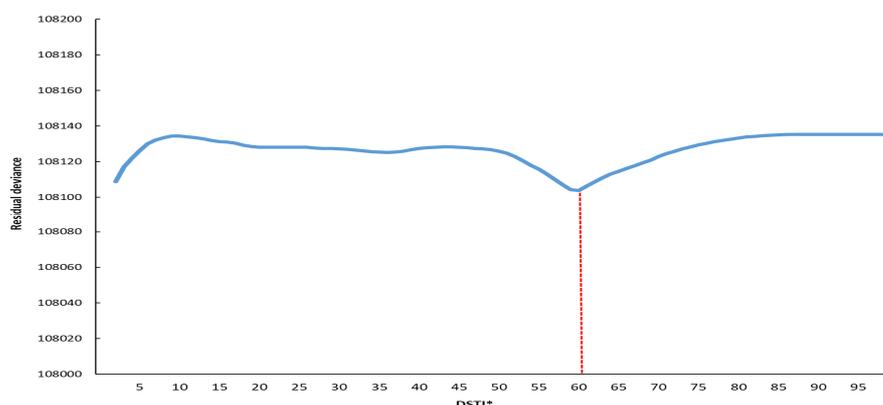
Source: authors' calculations

Estimates based on the extended regression show that a DSTI below 60% has a favorable influence on bank loan quality—that is, the probability of the loan becoming non-performing decreases. Beyond this level, the influence changes (see Table 4). For the other independent variables, there are no significant changes compared to the first regression.

Table 4. Extended regression. Estimation output

Variable	Coefficients	VIF
Free term	-4,0768***	
(1-d) · (DSTI-DSTI*)	-0,0158***	1,0686
d·(DSTI-DSTI*)	0,0052***	1,3562
D2020	0,1778***	1,3272
ln INITIAL	-0,3118***	1,1782
ln MATUR	0,6332***	1,7424
ln INCOME	-0,0226***	1,5539
D2022	0,5076***	1,3918
AUC	0,6278	

Source: authors' calculations
Note: *** - statistical significance at 1% confidence level

The marginal effects of the extended regression reveal that the variables maintain the same order in terms of their influence on the probability of a loan becoming non-performing. In the case of DSTI up to 60%, a marginal negative effect is observed on the probability of credit non-performance, indicating that higher DSTI ratios within this range are associated with a lower likelihood of default. Beyond this level, the influence becomes positive but approaches zero, suggesting that higher DSTI ratios above 60% slightly increase the probability of non-performance, although the effect is negligible (see Table 5).

Table 5. Extended regression. Marginal effects

variables	Marginal effects
ln MATUR	0,029***
D2022	0,02***
ln INITIAL	-0,014***
D2020	0,008***
ln INCOME	-0,001***
(1-d) · (DSTI-DSTI*)	-0,001***
d·(DSTI-DSTI*)	0***

Source: authors' calculations
Note: *** - statistical significance at 1% confidence level

Conclusions and recommendations

The Debt Service to Income Ratio is a macro-prudential tool that gained popularity after the 2008–2009 financial crisis and is particularly widespread among the states of Central and Eastern Europe. However, there is no common approach to its application. Some countries impose a single DSTI limit, while others apply differentiated DSTI thresholds based on the debtor's income.

Internationally, practices of DSTI recalibration are observed, either due to changes in the macro-financial context or because of reduced efficiency of the instrument. In the Republic of Moldova, the obligation to apply DSTI was introduced on July 1, 2022, during a period marked by rapid price growth, tightening monetary policy, and economic contraction. Since then, the macro-financial situation has changed significantly. Currently, the inflationary environment is stable, interest rates are falling, but economic dynamics remain sluggish. This context favors a possible re-evaluation of DSTI rates to stimulate lending and boost the economy.

An analysis was conducted on the possibility of adjusting the DSTI level for loans granted in MDL to individuals, based on available data. In this analysis, two LOGIT regressions were performed. Based on the estimates, the following conclusions were reached:
- ✓ Although there is a positive relationship between DSTI rates and loan non-performance, it is quite weak, which means that higher levels of DSTI would marginally contribute to credit quality deterioration.
- ✓ The relationship between DSTI and credit performance is non-linear. A DSTI below 60% has a favorable effect on loan quality and reduces the probability of it becoming non-performing. Beyond this threshold, the influence of DSTI becomes negative.
- ✓ Specifically, after the 60% rate, DSTI adversely affects loan performance, whereas up to this level, the relationship is either non-existent or even positive.

Based on the estimates, the following conclusions were obtained:
- ✓ The maximum DSTI threshold could be increased to 60%. Therefore, the current maximum DSTI limit of 55% for MDL loans granted to individuals would be raised by 5 percentage points<
- ✓ The overall DSTI rate of 40% could be increased by 5 or even 10 percentage points to further stimulate lending.

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