



National Bank
of Ukraine

Some issues regarding the implementation of ILAAP, market risk and IRRBB in ICAAP

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1 ILAAP

ICAAP/ILAAP: similar processes, risks - different

	ICAAP	ILAAP
Goal	Ensure the sufficiency of the bank's/banking group's internal capital on a regular basis in normal and stressful situations	Ensure the sufficiency of the bank's/banking group's internal liquidity on a regular basis in normal and stressful situations
Economic perspective	Forecast period: for the period of RAS, but not less than 1 year	Forecast period: <ul style="list-style-type: none"> • short-term liquidity - 1 year horizon (with monthly breakdown) • long-term liquidity - 3 years horizon (with annual breakdown)
Normative perspective	Forecast period: for the period of business plan, but not less than 3 years	Forecast period: <ul style="list-style-type: none"> • short-term liquidity - 1 year horizon (with monthly breakdown) • long-term liquidity - 3 years horizon (with annual breakdown)

ICAAP/ILAAP:

1. is an **internal process** of the bank that takes into account the specifics of its activities;
2. is a part of the bank's **risk management system**;
3. based on the bank's **business plan**

Normative and economic perspective of ILAAP

Normative perspective

Assessment methodology:

- Calculation method LCR No.101-rsh;
- Calculation method NSFR No.1001-rsh;

List of indicators:

- LCR
- NSFR

Application of the bank's own models and assumptions:

- not applicable

Economic perspective

Assessment methodology:

- Internal methods of the bank

List of indicators:

- Own indicators and/or
- Modified LCR/NSFR

Application of the bank's own models and assumptions:

- It is appropriate to introduce own models and assumptions regarding the behavior of individual components of the balance sheet

Contractual flows do not reflect the real picture of liquidity, models and assumptions need to be used additionally

Contract payment schedules

- Information available from statistical reporting files:
 - Daily dynamics of account balances
 - Contract Gap - cash flows in accordance with the contract schedules of active and passive instruments
- Normative LCR

Modeling

- Contractual cash flows **often do not reflect the real picture of liquidity**. This can happen both **in a positive way** (balances on current accounts are actually longer than 1 day) **and in a negative way** (early withdrawal of deposits, overdue loans)
- **To assess structural liquidity** - the real (forecast) Gap of liquidity, the results of statistical modeling on historical dynamics and other assumptions are applied to assets and liabilities

Bank's business plan

- Annual **development of business plans and strategies for the next 1-3 years** in key sections **by banks**
- Annual submission of information by banks to the NBU within **SREP** framework
- Normative and economic perspectives within **ILAAP** framework

Contractual GAP

Forecast GAP

Planned GAP (ILAAP)

Normative values of LCR, NSFR, other liquidity standards

ILAAP, determining of additional liquidity requirements (P2R)

What basic models and assumptions need to be implemented?

ASSETS



- The growth of defaults on the loan portfolio
- Early repayment of the loan portfolio
- Loans granted to other banks, reverse repo operations
- Funds on correspondent accounts in other banks, NBU
- Securities
- Accounts receivable

LIABILITIES



- Customer deposits (extension, early termination)
- Clients' current and savings accounts (core-level balances model)
- Funds raised under direct repo operations
- Borrowing on the interbank market, MFI/NBU loans
- Funds of other banks on correspondent accounts
- Accounts payable

OFF-BALANCE



- Credit limits provided by the bank
- Guarantees provided by the bank
- Irrevocable credit lines provided to the Bank
- Other off-balance sheet assets and liabilities (for example: MRR model)

In Pillar 2, additional liquidity levels are determined within the framework of the SREP process

SREP result

Capital requirements ¹⁾

Liquidity requirements ¹⁾

Other supervisory measures and recommendations

Overall SREP score

=> Evaluation (quantitative and qualitative) + Reasoned supervisory judgment

Viability and resilience of the bank's business model

Quality of corporate governance and risk management system

Categories, e.g. credit, market, operational risks, IRRB

Categories, e.g. short-term liquidity risk, funding stability

1. Assessment of the business model

2. Assessment of corporate governance and risk management

3. Assessment of capital risks

4. Assessment of liquidity and funding risks

The qualitative assessment of ILAAP is taken into account

The quantitative assessment of ILAAP is taken into account

1) In the process of development



ICAAP: Market Risk and IRRBB

At the last ICAAP conference, some of the risks were not discussed...

Market risk

Currency risk

- arises due to adverse **fluctuations in foreign exchange rates** affecting the value/price of instruments held **in trading and banking books of the bank**

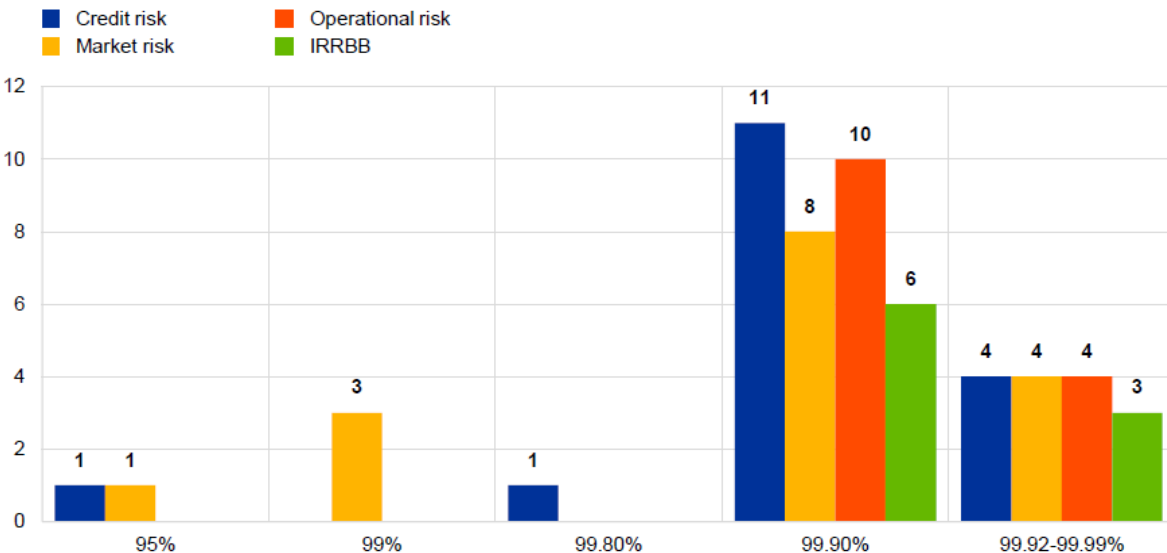
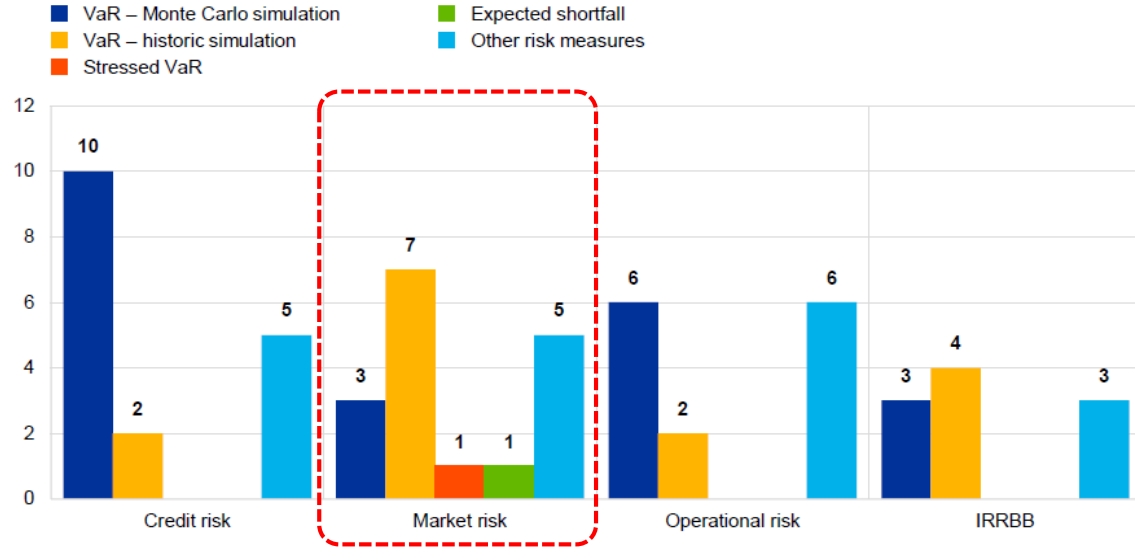
Interest rate risk of the trading book (IRRTB)

- arises due to **unfavorable changes in market interest rates** that affect the value of **debt securities or other financial instruments** traded in organized capital markets and outside them and characterized by market behavior typical of debt securities **held in the bank's trading book**

Interest rate risk of the banking book (IRRBB)

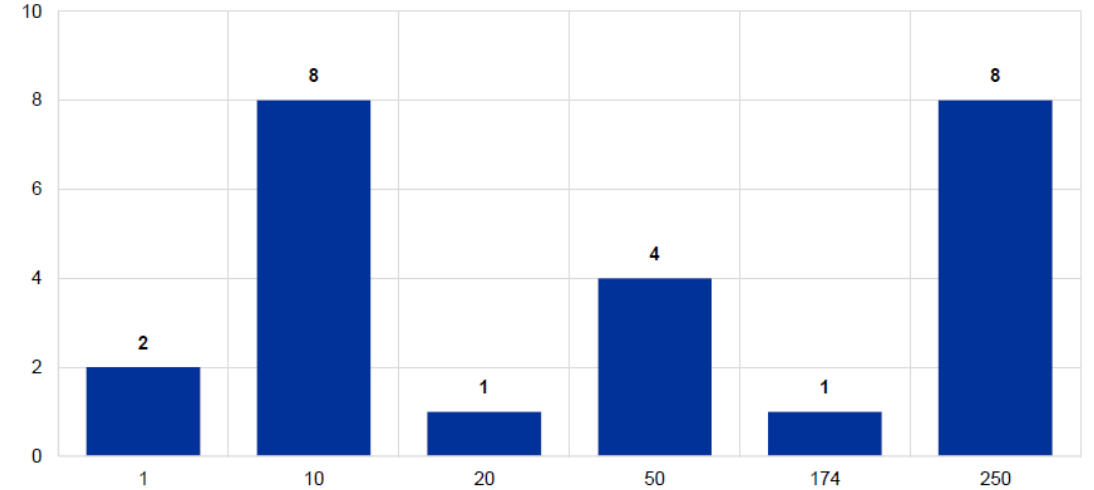
- the probability of losses or additional costs or shortfall in planned income due to the impact of **adverse changes in interest rates on the banking book**
- the interest rate risk of the banking book affects **the economic value of the bank's capital and net interest income**

Review of methods used by EU banks to assess market risk within the framework of ICAAP



How many trading days are assumed?

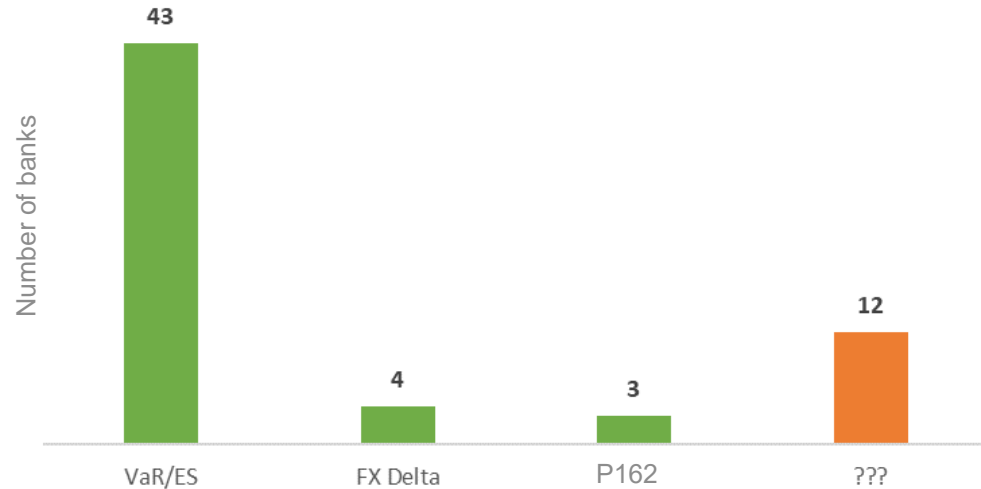
(x-axis: number of trading days)



- Within the specified sample, for the assessment of market risk, banks choose mainly VaR /ES models
- The most popular VaR approach in assessing market risk is the Historical approach
- In most cases, banks choose a confidence probability of more than 99.9%.
- The holding period in most cases is less than 250 trading days. In general, 10 and 250 days are the most common assumptions

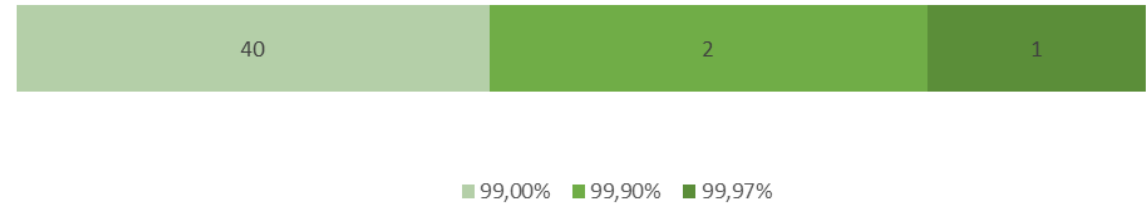
Review of methods used by Ukrainian banks to assess market risk within the framework of ICAAP

Approaches to foreign exchange risk assessment within the framework of ICAAP

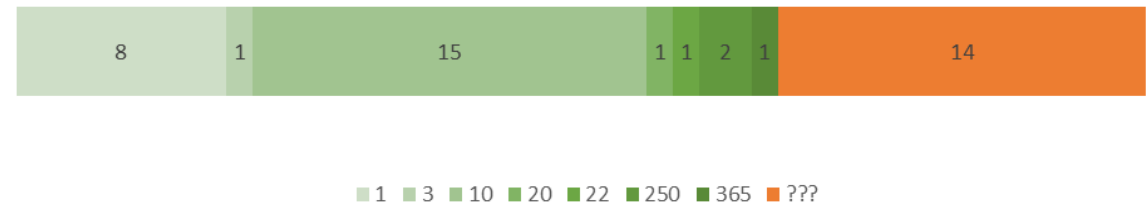


- Most banks choose VaR/ES, only 4 banks chose FX Delta (sensitivity to rate changes). Also surprising is the choice of R162 for capital assessment purposes from an economic perspective. Unfortunately, 12 banks did not clearly describe which indicators are used for evaluation.
- The most popular VaR approach is Historical.
- The holding period of positions in most cases is 1 and 10 days. There are also 3 banks that use 250 or more days.
- 16 banks did not provide a complete description of the parameters of their VaR/ES models

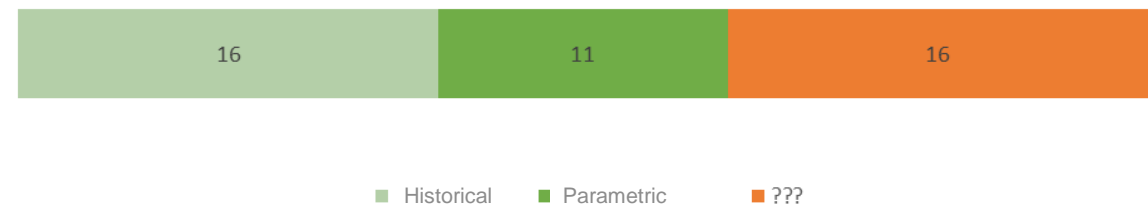
Confidence level



Holding period

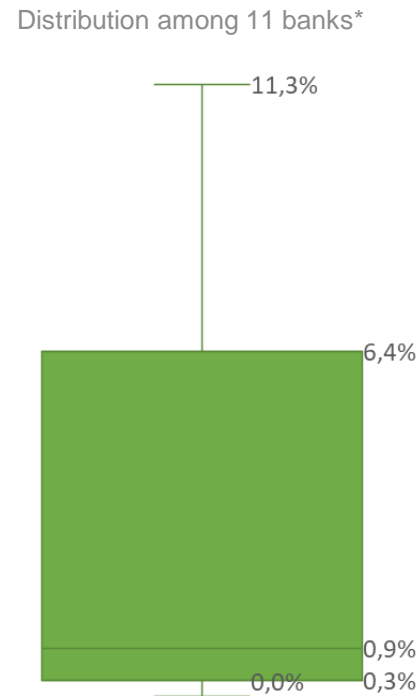
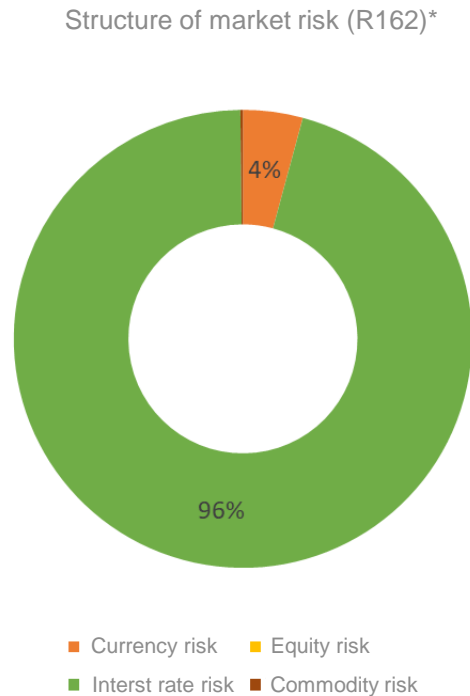


Approaches



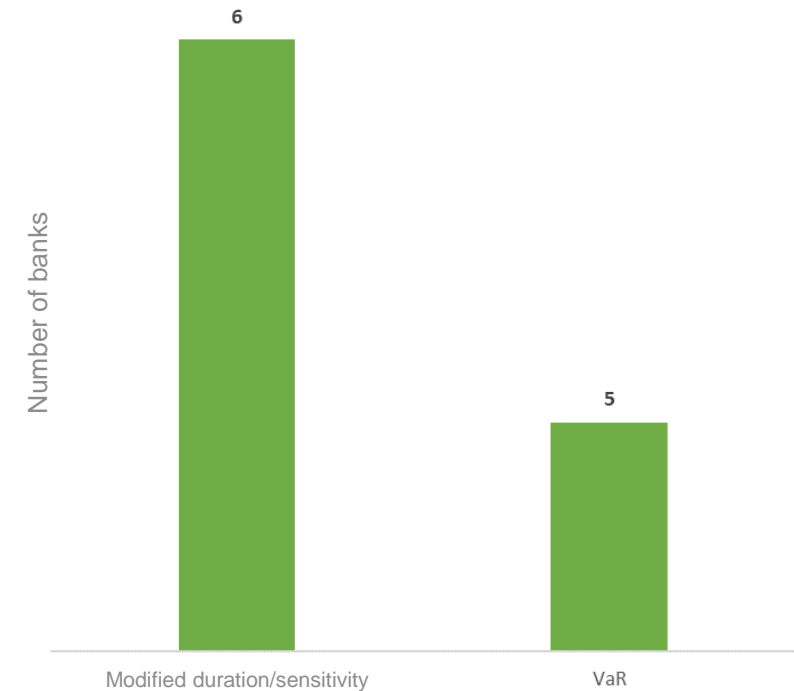
Within the framework of ICAAP, only 11 banks assess IRRTB (interest rate risk of the trading book)

Minimum capital requirements for market risk:



- According to 7SX IRRTB occupies 4% in the market risk structure. The median size of IRRTB among 11 banks is 0.9% of regulatory capital

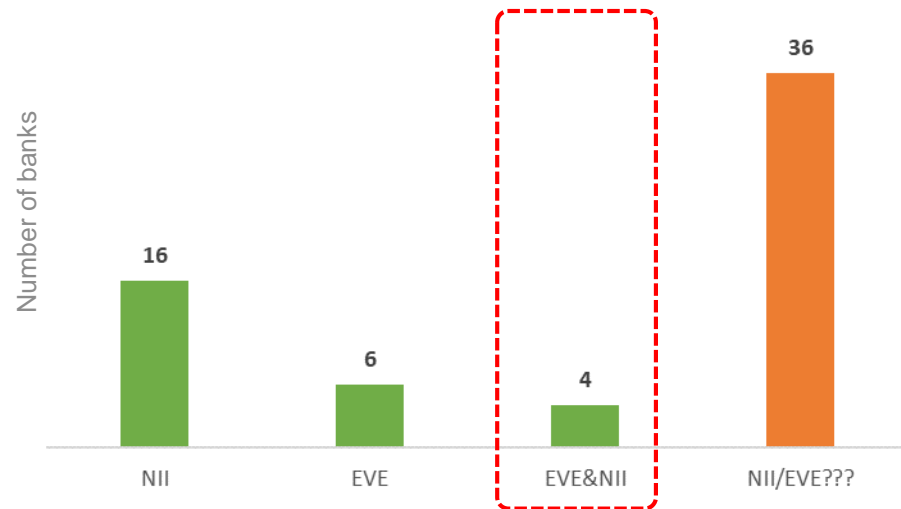
ICAAP approaches for IRRTB:



- Most banks evaluate IRRTB using the Modified duration/sensitivity of the portfolio to changes in the yield curve.

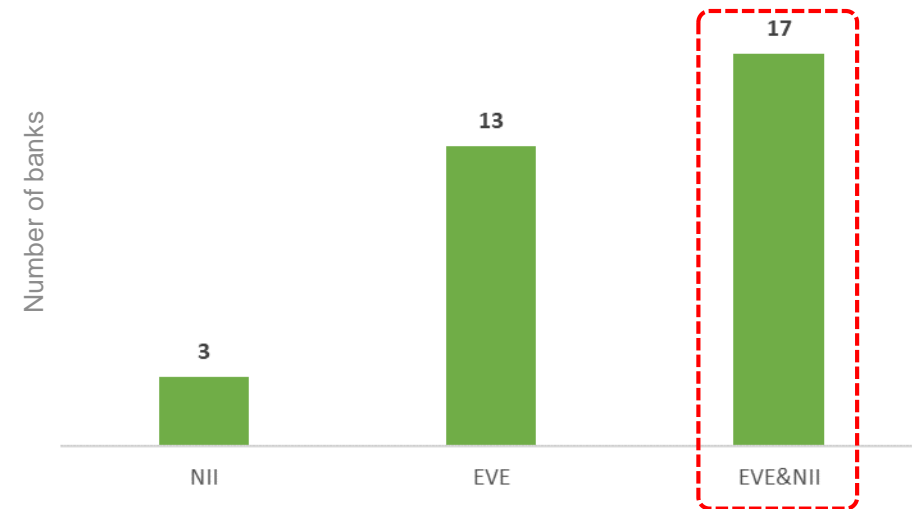
IRRBB assessment approaches from the ICAAP economic perspective

NBU: IRRBB assessment approaches within ICAAP



- Among the 62 banks, more than half did not clearly describe the exact approach used to calculate the capital required to cover the IRRBB.
- The most popular approach among Ukrainian banks is Change in net interest income (NII), only 4 banks use a combination of EVE and NII.

ECB: IRRBB assessment approaches within ICAAP



- Within this sample, half of the banks use some combination of EVE and changes in net interest income (NII) to determine the IRRBB as part of the risk assessment from an economic perspective.
- Only 10% use the change in net interest income (NII).

Source : ECB report on banks' ICAAP practices. August 2020

The methodology of some banks for EVE assessment needs improvement

Common remarks:

- **Discount rate** – a curve/rates that do not meet the criteria for a risk-free yield curve are used to discount cash flows
- **Approach to calculation** – banks use their own methods, which by their nature do not allow to assess the impact on the change of EVE
- **Rate change scenarios** – most banks use only minimum shocks in accordance with Regulation No. 64 (without analysis of historical rate fluctuations), “standard” shock sizes are also used for stress testing

The main approaches to the calculation :

- ① **Modified duration** is the approach described in Resolution No. 64 and EBA profile documents ("Guidelines on the management of interest rate risk arising from non-trading book activities: European Banking Authority Final Report. 2018. EBA/GL/2018/02 ". Available at :
[https://www.eba.europa.eu/sites/default/files/document_library/Guidelines%20on%20the%20management%20of%20interest%20rate%20risk%20arising%20from%20non-trading%20activities%20\(EBA-GL-2018-02\).pdf](https://www.eba.europa.eu/sites/default/files/document_library/Guidelines%20on%20the%20management%20of%20interest%20rate%20risk%20arising%20from%20non-trading%20activities%20(EBA-GL-2018-02).pdf)
- ② **Revaluation** is the approach described in the BCBS profile document (Interest rate risk in the banking book: Basel Committee on Banking Supervision Standards. 2016). Available at:
https://bank.gov.ua/admin_uploads/article/Basel%20Interest%20rate%20risk%20in%20the%20banking%20book%20-%20April%202016.pdf?v=7

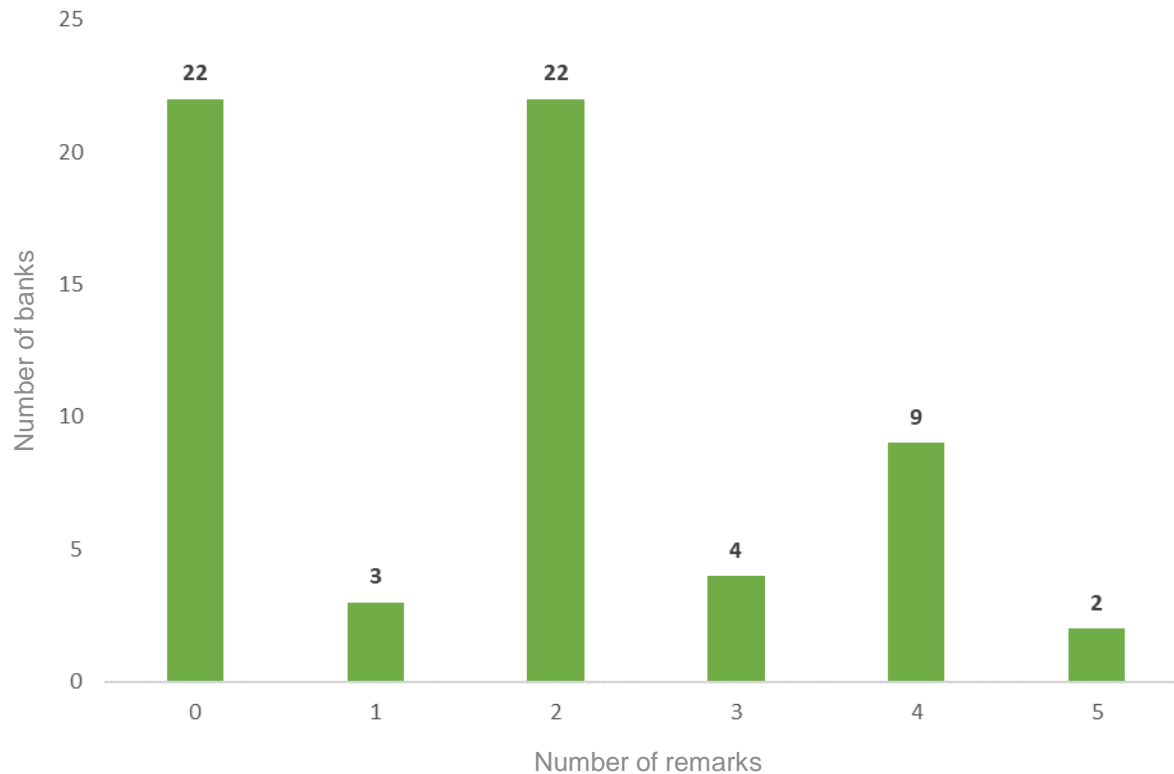


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IRRBB: 7FX/7GX Statistical Reporting Files

Only 22 banks submitted all indicators of the 7FX file without remarks

Distribution of detected remarks (7FX as of 01.10.2024)



Interest rate change scenarios:

- only 9 banks use 6 scenarios to estimate EVE

Main remarks:

A7F001 (Change of NII) and A7F002 (Change of EVE):

- 8 banks did not submit the All currencies (#) indicator
- 19 banks did not comply with “Rule of 50% of positive impact for All currencies”
- 6 banks did not submit 4 mandatory scenarios

A7F003 (Forecasted NII):

- 3 banks did not submit All currencies (#) indicator

A7F004 (Risk-appetite NII) and A7F005 (Risk-appetite EVE):

- 19 banks did not submit the All currencies (#) indicator
- 3 banks provided no data

The main goal of 7GX is to get the Interest GAP for each bank

Позначки рядків	На вимогу або овердрафт	Від 1 до 31 дня	...	Від 4 до 5 років	Понад 5 років	Розріз відсутній	Загальний підсумок
Активи	1 128 787 850	36 901 882	163 974 426	176 015 258	308 000 089	517 365 000	2 331 044 505
Сума балансових активів, чутливих до процентного ризику, з визначеним строком до погашення	129 530 150	33 290 312	108 340 790	56 033 449	192 715 786		519 910 488
Плаваюча (змінювана)	6 057 344	15 230 672	3 910 880	1 205 843	524 602		26 929 342
Фіксована	123 472 806	18 059 640	104 429 910	54 827 606	192 191 184		492 981 146
Сума балансових активів, чутливих до процентного ризику, без визначеного строку до погашення	252 821 787	3 268 491	229 541	47 416 448	7 078 258		310 814 525
Плаваюча (змінювана)	138 830 679	0	0	0	0		138 830 679
Фіксована	113 991 108	3 268 491	229 541	47 416 448	7 078 258		171 983 846
Сума балансових активів, нечутливих до процентного ризику						517 365 000	517 365 000
Розріз відсутній						517 365 000	517 365 000
Сума вимог за позабалансовими позиціями	746 435 913	543 090	55 404 095	72 565 360	108 206 044		982 954 493
Розріз відсутній	746 435 913	543 090	55 404 095	72 565 360	108 206 044		982 954 493
Зобов'язання	1 239 052 023	90 492 827	38 922 424	111 689 024	55 218 516	1 235 814 051	2 771 188 866
Сума балансових зобов'язань, чутливих до процентного ризику, з визначеним строком до погашення	151 727 034	7 923 180	2 432 417	2 263 507	42 333 134		206 678 973
Плаваюча (змінювана)	2 349 028	882 117	20 461	28 857	101 599		3 382 062
Фіксована	149 378 006	7 041 064	2 411 656	2 234 650	42 231 534		203 296 910
Сума балансових зобов'язань, чутливих до процентного ризику, без визначеного строку до погашення	368 089 857	82 329 941	30 360 408	99 523 981	6 742 661		587 046 856
Плаваюча (змінювана)	822 358	11	0	0	881		823 251
Фіксована	367 267 499	82 329 929	30 360 408	99 523 989	6 741 780		586 223 605
Сума балансових зобов'язань, нечутливих до процентного ризику						1 235 814 051	1 235 814 051
Розріз відсутній						1 235 814 051	1 235 814 051
Сума зобов'язань за позабалансовими позиціями	719 235 132	239 706	6 129 898	9 901 528	6 142 722		741 648 986
Розріз відсутній	719 235 132	239 706	6 129 898	9 901 528	6 142 722		741 648 986
GAP	-110 264 173	-53 590 945	125 052 002	64 326 234	252 781 573		

Next steps to improve data quality:

- Data processing of a file with individual banks;
- Updating the requirements of Resolution No. 64 in the IRRBB part;
- Clarifying the requirements of the Description file



Thank you for attention!

Disclaimer

These materials are not the official position of the National Bank of Ukraine, but only reflect the author's practical experience