Liquidity management Concept for 2020-2023

Liquidity management purpose

Inflows → ← Outflows

Accumulation of temporary free cash resources

↓

Loss of economic benefit

GOAL
creating the necessary conditions for the implementation of an effective cash management mechanism

- timely fulfillment of obligations by the Treasury clients
- at the minimum possible cost

Temporary shortage of cash resources

↓

Delays of payments

Balances on the STA, UAH billion

80

40

0

01.2017 02.2017 03.2017 04.2017 05.2017 06.2017 07.2017 08.2017 09.2017 10.2017 11.2017 12.2017 01.2018 02.2018 03.2018 04.2018 05.2018 06.2018 07.2018 08.2018 09.2018 10.2018 11.2018 12.2018 01.2019 02.2019 03.2019 04.2019 05.2019 06.2019 07.2019 08.2019 09.2019 10.2019 11.2019 12.2019 01.2020 02.2020 03.2020 04.2020 05.2020 06.2020 07.2020 08.2020 09.2020 10.2020

Problems that need solving

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Ineffective mechanism for forecasting cash flows and liquidity on the Treasury accounts

- methodology for forecasting cash flows and liquidity of the TSA and foreign currency accounts of the Treasury has not been approved
- weak coordination between the stakeholders, the exchange of necessary data is not automated
- collection of short-term cash flow forecasts from budget

administrators (i.e. payment calendar) is not carried out
- lack of forecasting information system for automated data processing
- lack of forecast in regards to the balances on the foreign currency accounts and their dynamics

Temporarily free cash resources are not utilized

- Required lengthy procedure prevents determination of the amount of temporarily free cash resources quickly and automatically
- Lengthy procedure for utilizing funds through buying and selling

Domestic Government Bonds
- Absence of market for classic repurchase transactions (equalization payments, minimization of risks from liquidity losses)
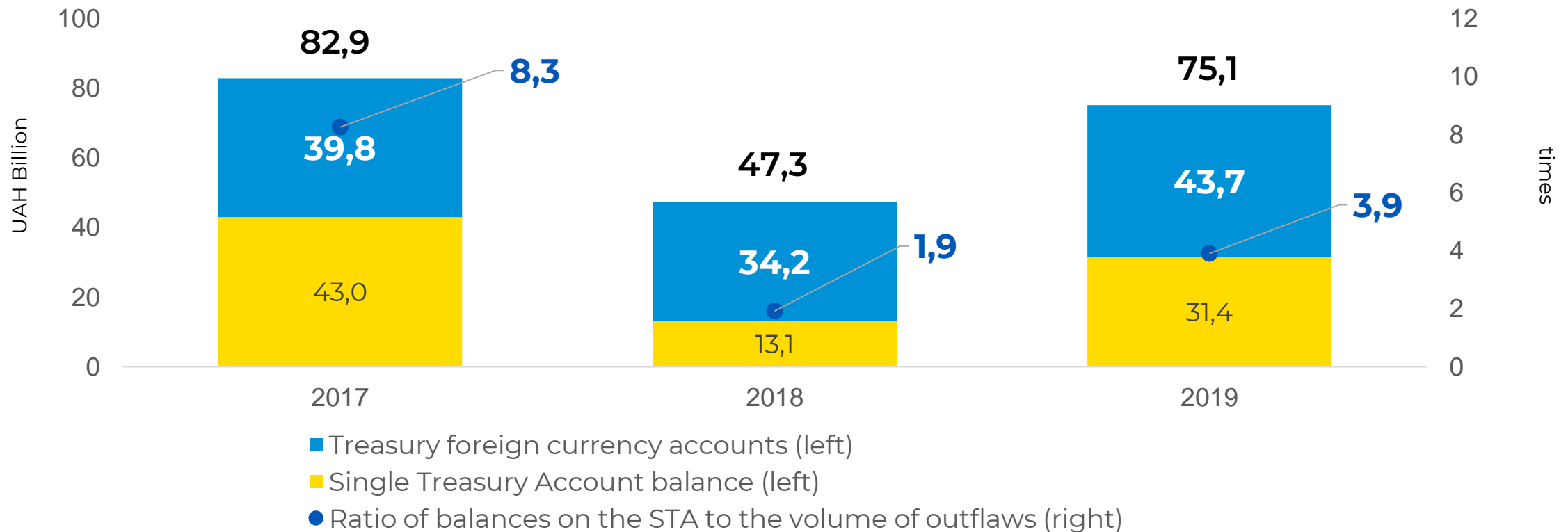
Uneven incoming (revenues) and outgoing flows (expenditures)

- Uneven inflows and outflows throughout the year
- Uneven inflows and outflows throughout each month

- Borrowings increase significantly under favorable conditions in the debt capital market

Treasury accounts balances

82,9

8,3

39,8

43,0

47,3

34,2

1,9

13,1

75,1

43,7

3,9

31,4

UAH Billion

times

2017

2018

2019

■ Treasury foreign currency accounts (left)

■ Single Treasury Account balance (left)
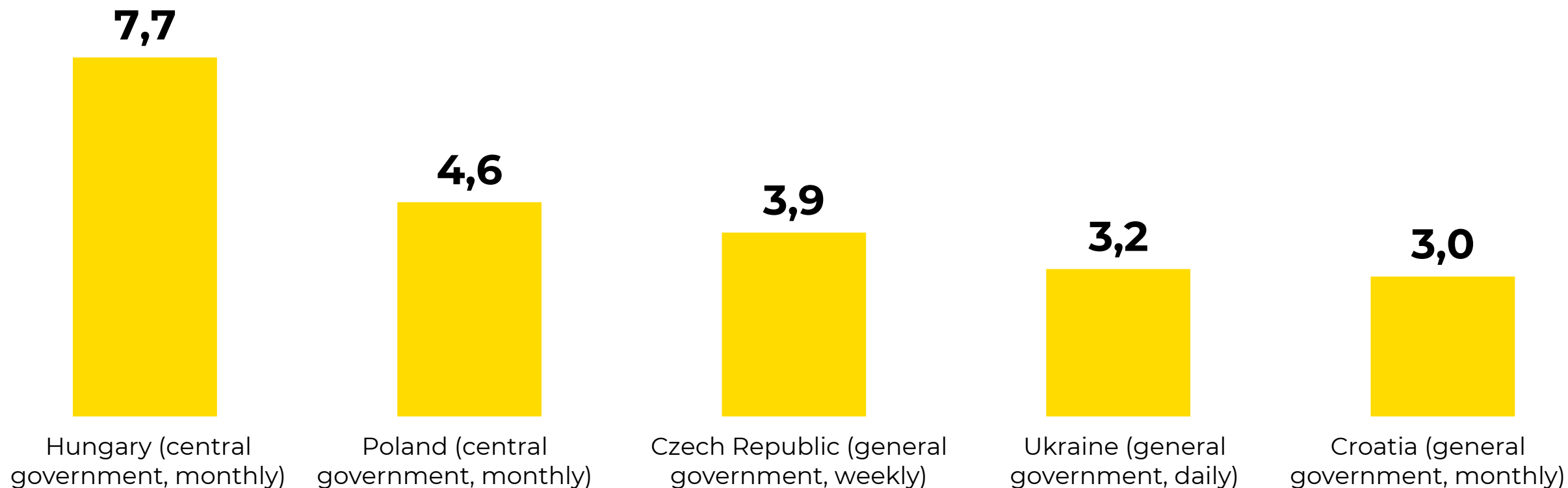
● Ratio of balances on the STA to the volume of outflaws (right)

Consequences

Net losses from accumulation of idle cash in 2019 – UAH 150-300 million per year

Eastern and Central Europe countries cash assets

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Ratio of cash balances to the Government expenditures in 2018-2019,%

7,7	4,6	3,9	3,2	3,0
Hungary (central government, monthly)	Poland (central government, monthly)	Czech Republic (general government, weekly)	Ukraine (general government, daily)	Croatia (general government, monthly)

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Cash movement forecasting

Potential forecasting errors lead to the need for keeping idle cash balances - inefficient use of budget funds

Implementation of the Automated Liquidity Management Information System "Lens"

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Increasing the forecasting period to 6 months

Automated reporting of forecasting errors (in terms of articles and entities involved in forecasting)

Improving the quality of forecasts, reducing the risks of the human factor

Reducing time spent on manual data collection and processing

Convenient and fast access to the information: any time, from any device (including smartphones)

Ability to drilldown data and compare it with the past periods

Ability to spot trends and act in advance with the help of clear visualizations
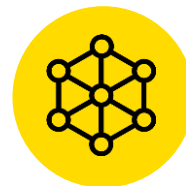
Liquidity management decision support system (utilization of cash, retention of the minimum required balance on the STA)

Cash balance forecasting: certain articles and features of their calculation

INCOMING FLOWS	OUTGOING FLOWS
Individual income tax and fees to the State Budget	Employees remuneration and accruals of wages on State Budget General Fund
Dividends (income) from shares held in State Owned Enterprises	Population medical care state guarantees
Other incomes to State Budget General Fund controlled by State Tax Service	Citizens benefits and housing subsidies
Electronic VAT accounts (balance)	Social benefits for certain categories of citizens
Incomes on State Customs Service deposit accounts	Other protected and priority expenditures of State Budget General Fund
Funds transferred to the National Bank in accordance with the Law of Ukraine "On the National Bank of Ukraine"	Expenditures of State Budget General Fund not classified as protected
	Payments under programs of State Road Agency of Ukraine
Incomes to the State Budget Special Fund controlled by State Tax Service	Servicing Public debt
Revenue of budgetary institutions of the State Budget	VAT refunds
Incomes to the local budgets controlled by State Tax Service	Repayment of public debt in national currency
Other non-tax revenues of the local budgets	Purchase of foreign currency
Other State Budget revenues controlled by ministries and other CEBs	Remuneration and payroll from Local Budgets General Fund
Unified social contribution	Other protected local budget expenditures
Government borrowings	Expenditures of local budgets not classified as protected
Borrowing of budgetary institutions with the state guarantees	Payments on local debt
Local borrowings	Utilization of temporary free funds of local budgets and State Budget administrators
Proceeds from privatization, securities	Expenditures of the Pension Fund
Refunds from deposit accounts of local budgets and state budget administrators	Socially-oriented expenditures of Special Fund of State Budget and local budgets
	Expenditures of State Budget Special Fund not classified as socially-oriented
Sale of foreign currency	Budget payments under state guarantees
Returns of temporarily free STA cash resources	Remuneration and accrual of salaries of recipients of budget funds
	Utilization of temporarily free STA cash resources
	Expenditures of compulsory state social insurance funds
	Payments of other Treasury clients
Other incoming flows	Other outflows

- Calculation of monthly forecasting indicators with subsequent distribution by days
- Calculation of daily forecasting indicators
- Forecasting using data from other sources
- Distribution by days from budget monthly plan, based on the given indicators

Stages of improving the forecasting of outgoing flows

1 Historical data

2 Historical data + budget plan

3 Historical data + budget plan + payment calendar from individual budget administrators

4 Historical data + budget plan + payment calendar from individual budget administrators + integrated data from Prozorro and Treasury

Example: Model of forecasting expenditures of the general fund of the state budget, which are not classified as protected in January - November

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$$\frac{NP\_sb_i}{\sum_{i-2}^{i} Npp\_sb_m /3} = cons + a_1 St + a_2 End + a_2 Pend + a_3 Half + a_4 M + a_5 Nov$$

NP_sb_i – outgoing flow from the STA under the article "Expenditures of the general fund of the state budget not classified as protected" on the working day i and month m;

Npp_sb_m – allocation plan for the month as of the working day i;

$$St = \begin{cases} 1 \mid Month(Date_{i-1}) \neq Month(Date_i) \\ 0 \mid Month(Date_{i-1}) = Month(Date_i) \end{cases}$$

$$End = \begin{cases} 1 \mid Month(Date_{i+1}) \neq Month(Date_i) \\ 0 \mid Month(Date_{i+1}) = Month(Date_i) \end{cases}$$

$$Pend = \begin{cases} 1 \mid End_{i+1} = 1 \\ 0 \mid End_{i+1} = 0 \end{cases}$$

$M = Month(Date_i)$

$$Half = \begin{cases} 1 \mid Day(Date_i) > 17 \\ 0 \mid Day(Date_i) < 17 \end{cases}$$

$$Nov = \begin{cases} 1 \mid Month(Date_{i+1}) = 11 \\ 0 \mid Month(Date_{i+1}) \neq 11 \end{cases}$$

Actual and modeled figures of the expenditures under the article "Expenditures of the general fund of the state budget not classified as protected", UAH million

actual ——— modeled (historical data + budget plan)
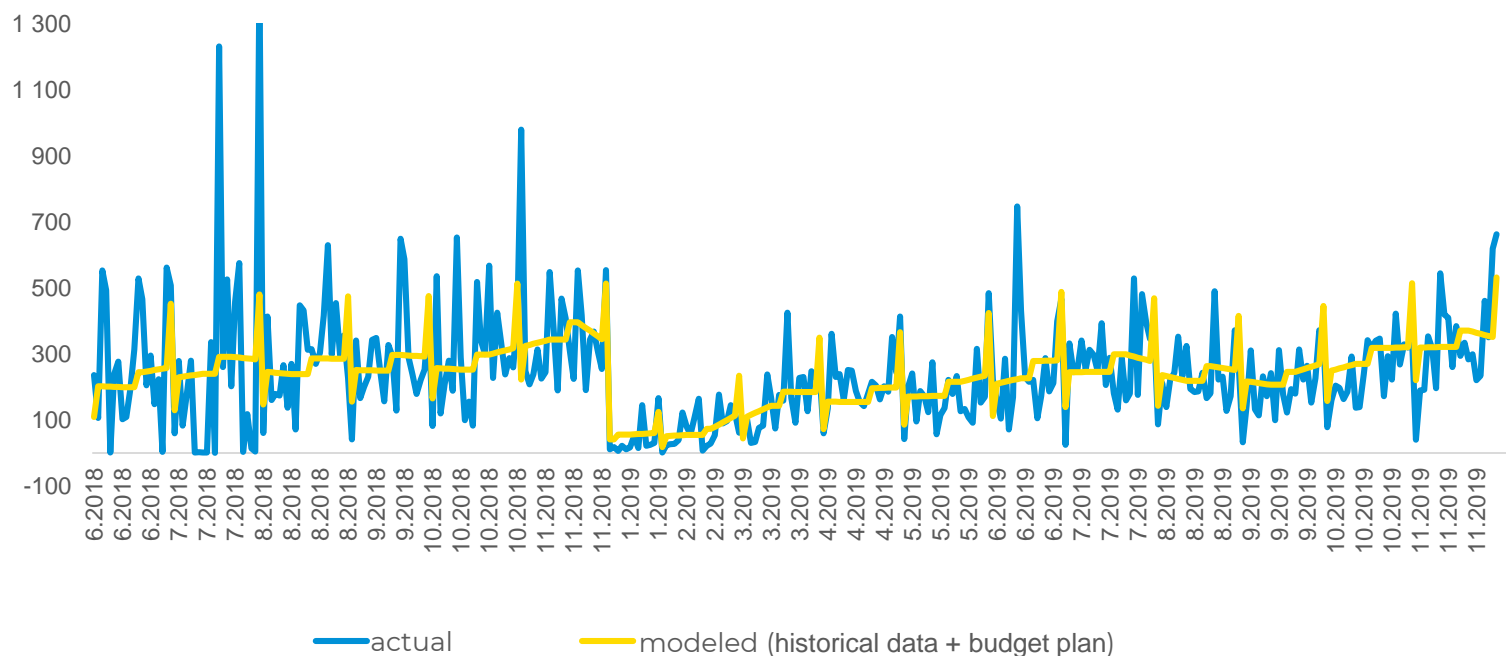
Pilot project: payment calendar data collection from budget administrators who make large size payments

Monthly and daily calendar of expenses

Daily calendar of payments per month for individual programs

ProZorro and Treasury databases integration - simplification for clients and additional forecasting tool

1 ProZorro System Data

- Purchase ID
- EDRPOU code
- Contract date
- Contract number
- Total cost of the contract
- Type of payment (upon completion, advance)
- Period and type of days (i. e. banking)
- Payment amount

2 Register of budget obligations

- Purchase ID
- EDRPOU code
- Contract date
- Contract number
- Total cost of the contract
- Prepayment amount
- ....

3 Register of budget financial obligations

- Budget obligation number
- EDRPOU code
- Sum
- ....

4 «Catalogue» – register of verified payment orders

- Payment amount
- Classification of items (not legally approved)

5 STA payments made (E-data)

- Payment amount
- KEKV
- EDRPOU code

Improving liquidity management tools

Improving liquidity management tools

Action	Deadline	Performance indicator
1. Improving legislation on active public debt transactions	**I quarter of 2021**	Drafts of relevant regulations and projects submitted for approval
2. Carrying out active operations with government debt, in particular repurchase, exchange and repo transactions with government securities	**II quarter of 2021**	The schedule of active operations with government securities has been published
3. Development of domestic stock market and capital market infrastructure	**IV quarter of 2021**	Legal conclusions on the compliance of Ukrainian legislation with the terms of general agreements: GMRA (Global Master Repurchase Agreement) and ISDA (International Swaps and Derivatives Association) were obtained
4. Legislative regulation of the use of temporarily free funds of the single treasury account to cover temporary cash gaps of the general fund of the state budget within the budget period and the assignment of temporarily free funds of the single treasury account to the sources of budget funding	**IV quarter of 2020**	A draft act on amendments to the Budget Code of Ukraine was prepared and submitted for approval
5. Introduction of liquidity management tools aimed to ensure successful payments by administrators to recipients of budget funds, as well as other clients served by the Treasury, in case of insufficient funds in the single treasury account	**IV quarter of 2021**	Appropriate operations are provided
6. Carrying out analysis and preparation of proposals on coordination of terms of significant revenues and expenditures of the state budget	**IV quarter of 2023**	Drafts of relevant regulations and projects submitted for approval

Introduction of liquidity management tools

Use of repo transactions, which allows risk minimization and effective liquidity management

Management of the minimum balance on the STA considering the risks and costs

Creating opportunities for obtaining short-term loans from commercial banks in case of insufficient funds on the ECR
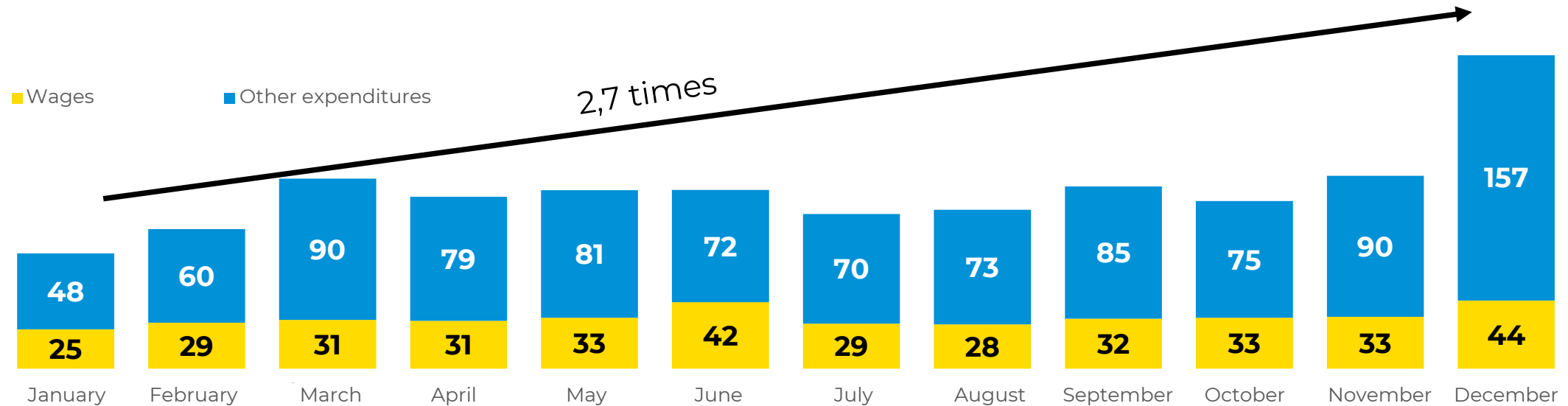
Improving the efficiency of the state budget general fund balance management

Uneven expenditures of consolidated budget in 2019

■ Wages   ■ Other expenditures

2,7 times

	January	February	March	April	May	June	July	August	September	October	November	December
Other expenditures	48	60	90	79	81	72	70	73	85	75	90	157
Wages	25	29	31	31	33	42	29	28	32	33	33	44

Consequences

- In January, revenues greatly exceed expenditures, while in December the situation is opposite -> growth of balances on the STA
- Rise in inflation due to a sharp increase in expenditures at the end of the year
- Impact on the liquidity of the banking system, additional costs of the National Bank to sterilize excess liquidity
- Inefficient use of budget funds (it is necessary to utilize budget funds by the end of the year at any cost)

Performance indicators

Performance indicators

The ratio of the sum of the absolute values of monthly forecasts deviations to the volume of STA' outflows — up to 5%

The ratio of the average daily balances on the STA to the volume of STA' outflows— up to 200 %

Timely execution of payment orders of administrators and recipients of budget funds, as well as other clients of the Treasury
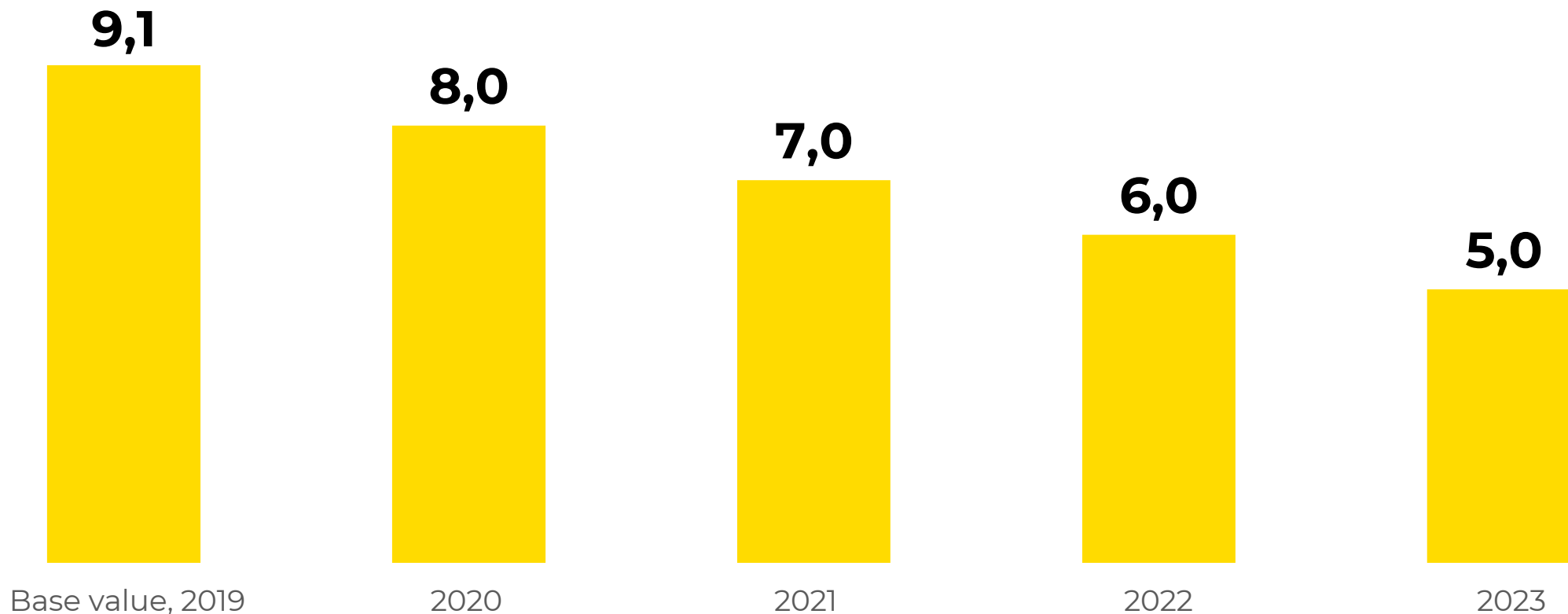
Increasing the efficiency of the use of budget funds as a result of reducing the excessive amount of temporarily free cash resources on the STA

Indicator for cash flow accuracy

Maximum allowable ratio of the sum of the absolute values of monthly forecasts deviations to the volume of outflows from the STA, %

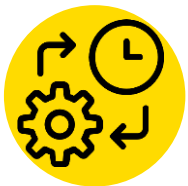| 9,1 | 8,0 | 7,0 | 6,0 | 5,0 |
| Base value, 2019 | 2020 | 2021 | 2022 | 2023 |

Expected results

Development of the internal financial market:

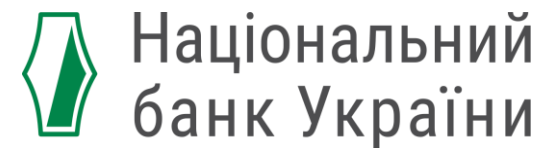- government securities market
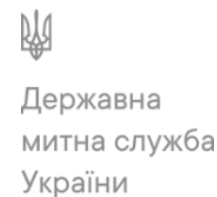- repo market
- money market

Leveling the negative impact on the liquidity of the banking system and core inflation, reducing the National Bank's liquidity management costs

Improving the efficiency of state managed expenditures

Achieving success together!