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UKRAINE

TECHNICAL ASSISTANCE REPORT—STATE-OWNED ENTERPRISES—FISCAL RISK MANAGEMENT

December 2019

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Ukraine

State-Owned Enterprises: Fiscal Risk Management

Avril Halstead

Technical Report

September 2019

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GLOSSARY

CD	Capacity Development
CMU	Cabinet of Ministers of Ukraine
FAD	Fiscal Affairs Department
FRMD	Fiscal Risk Management Department
FRS	Fiscal Risk Statement
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund
MoE	Ministry of Economic Development and Trade
MoF	Ministry of Finance
NBU	National Bank of the Ukraine
PPP	Public Private Partnership
SOE	State-owned Enterprise
STX	Short-term Expert
TA	Technical Assistance
UZ	Ukrainian Railways

PREFACE

At the request of the Minister of Finance, Ms. Oksana Markarova, a capacity development (CD) mission from the Fiscal Affairs Department (FAD) of the International Monetary Fund (IMF) visited Kiev, Ukraine during the period April 15–19, 2019. The mission was led by Avril Halstead (FAD short-term expert).

In the Ministry of Finance (MoF), the mission met with Mr Vasyl Shkurakov, Deputy Finance Minister; Mr Andriy Savenko, Head of the Fiscal Risk Management Department (FRMD); Ms Natalia Yefremova, Lead Specialist in the FRMD; and Mr Validimir Lutak, Lead Specialist for the Monitoring Section. In addition, representatives from the FRMD participated in a training workshop on using the model that had been developed for performing the stress-tests.

Meetings were held with representatives from Naftogaz, Ukrainian Railways (UZ); and Energoatom.

The mission would like to thank the authorities for the collaborative engagement during the mission. The mission is also extremely grateful for the support given to the team by staff at the IMF office and particularly to Mr. Ihor Shpak for his support in coordinating the mission and securing the meetings with the state-owned enterprises (SOEs). The mission is also grateful to Mr Sergei Kolesnyk for his support with interpretation and translation over the course of the mission.

EXECUTIVE SUMMARY

Good progress has been made in improving the disclosure and management of fiscal risks since the embedding of fiscal risks in the Budget Code in December 2018, including:

- Development of a resolution setting out procedures for assessing different fiscal risks, which was being considered by the Cabinet of Ministers of the Ukraine;
- An order to establish sanctions where required information is not submitted has been drafted but has not yet been submitted for approval;
- The electronic system for gathering SOE data is now operational;
- An action plan for enhancing fiscal risk management over the medium term (including creating a fiscal risk register (Q2 2020), and a fiscal risk management committee in the MoF (Q2 2021)) has been developed.

The second annual fiscal risk statement is due in September with the 2019 budget. This is an important opportunity to build on the achievement of the first Fiscal Risk Statement (FRS) in 2018, with a more comprehensive FRS.

The mission refined the financial model to analyze risks relating to Naftogaz that had been developed on the October 2018 mission. Despite updating the assumptions, the modelling still shows that the anticipated loss of transit gas revenue will have a significant negative impact on the Ukraine budget from January 2020. Appropriate mitigating action could ameliorate this negative impact, but there will still be a significant reduction in the inflows to the budget from Naftogaz. Moreover, Naftogaz was experiencing an immediate cash deficit at the time of the mission, which will require decisive action to resolve quickly to avoid a gas shortfall during winter.

A simplified version of the model was also applied to Ukrainian Railways and Energoatom.

- Ukrainian Railways is anticipated to realize losses and experience a significant cash shortfall over the medium term, resulting in the company being a draw on the budget. Finding a sustainable solution to these challenges is necessary to allow the company to continue providing the rail services necessary to enable economic growth.
- In the case of Energoatom, even without significant increases in the electricity tariffs charged by the company, it is expected to remain profitable and continue contributing toward the budget. That said, the impact of different approaches to covering the deficit of the Universal Service Supplier and the gap between the feed-in and market tariffs for the green market could change this outcome. Moreover, the company's planned borrowing could be inadequate to meet its cash outflows resulting in a cash deficit. However, the company has the capacity to sustain more debt to meet its liquidity requirements. Collecting additional information from both companies would allow for more detailed exploration of relevant scenarios.

The models do not represent a final view on the magnitude of the risks examined but instead provide a basis for future modelling of key risks. The models should be periodically updated as new macroeconomic forecasts are prepared, and to reflect policy changes and other developments, such as the subsequent capital raising by Naftogaz.

The next steps recommended by the mission include that Naftogaz, Ukrainian Railways and Energoatom models should be discussed with the SOEs and refined and that coverage should be expanded to include other major SOEs (e.g. Ukrenergo, the State Food and Grain Corporation and coal mining companies). The authorities were also encouraged to incorporate information from the stress testing and scenario analysis into the September 2019 FRS.

Table 1. Ukraine: Proposed Plan for Implementation of Recommendations

Action	Responsibility	3M	6M	9M	12M
Discuss the financial models, outputs and possible mitigating actions with Naftogaz, UZ Energoatom	FRMD, Naftogaz, UZ, Energoatom				
Expand the financial model to include other major SOEs	FRMD, SOEs				
Incorporate information from the stress testing and scenario analysis in the 2019 Fiscal Risk Statement	FRMD				
Finalize the CMU resolution setting out the roles and responsibilities for fiscal risk assessment and reporting	FRMD				
Strengthen the capacity of the FRMD and institutionalize coordination within the MoF, with the MoE and SOEs	MoF				
Integrate the model with the new electronic system for receiving periodic updates of information from SOEs	FRMD and MoE				

I. INTRODUCTION

1. **Having established a Fiscal Risks Management Department (FRMD) within the Ministry of Finance (MoF), the Ukrainian authorities have been taking steps to improve their disclosure and management of fiscal risks.** The authorities reported the following progress that had been made since the last Fiscal Affairs Department (FAD) Technical Assistance (TA) mission on Fiscal Risks, which took place in October 2018:

- In December 2018, the amendments to the Budget Code were adopted by the Verkhovna Rada. The amendments establish the legal basis for fiscal risk management, including assigning the MoF powers to collect information and monitor fiscal risks and develop mitigating measures as well as requiring that the relevant line Ministries submit the requisite information;
- Consultations on the draft overarching resolution, setting out the procedures for assessing the different types of fiscal risks, had taken place with the relevant Ministries and, during the mission, the resolution was being considered by the Cabinet of Minister of the Ukraine (CMU);
- The authorities were in the process of developing a draft order which will provide for administrative sanctions to be instituted where the required information on fiscal risks is not submitted;
- The electronic system for gathering the state-owned enterprise (SOE) data was operational;
- The MoF were in the process of preparing inputs on fiscal risks for inclusion in the Budget Declaration, which was to be finalized in May 2019; and
- An action plan had been developed for enhancing fiscal risk management over the medium term.

II. IMPROVING CURRENT PRACTICE

A. Draft CMU Resolution on the Procedures for Assessing Fiscal Risks

2. **The draft resolution prescribing the procedures and responsibilities for analyzing the major fiscal risks and identifying possible mitigating actions was being considered by the CMU.** The resolution covers the key areas of fiscal risk, with the exception of risks associated with the debt portfolio. The authorities reported that these are already adequately addressed under a separate resolution. With respect to the macroeconomic risks, there was still insufficient distinction between actions to strengthen the analysis and monitoring of potential risks and the potential mitigating actions to respond to an underperforming economy, such as implementing growth stimulating reforms or ensuring that there is an appropriate fiscal and/or monetary policy response.

B. Draft Order on Administrative Sanctions

3. **The draft order sets out the procedures for preparing and considering a case report and applying administrative sanctions and appealing such decisions.**[1] The order is based on the Administrative Code of the Ukraine on Administrative Offences and is a requirement in terms of the amendments to the Budget Code that were approved by the Verkhovna Rada.

4. **The individuals with ultimate responsibility for submitting accurate and timely information on fiscal risks have not been clearly defined, which allows for evasion and may create enforcement challenges.** The draft order makes reference to officials of central and local executive authorities, social insurance and pension funds, financial institutions, state-owned enterprises and business entities where the state has majority ownership. The authorities said this is based on the wording used in article of the Administrative Code relating to fiscal risks.

5. **The sanctions should be sufficiently onerous to ensure adherence in cases where information is willfully withheld.** The authorities reported that the fines that may be imposed amount to around EUR 100 where information was not submitted and around EUR 150 where regulatory measures were not implemented. This may be a sufficient penalty where the omission occurred through negligence. However, the authorities should ensure that there are adequate sanctions in the event that fiscal risk information was purposely not provided, possibly for the purposes of concealment or other ulterior motives. Usually, the provision of accurate company information would be a key fiduciary duty of the directors, with failure to do so including such injunctions as being prohibited from serving in a similar capacity for a substantial period of time.

C. Budget Declaration and Fiscal Risk Statement

6. **The MoF intends to include a general overview of fiscal risks as part of the Budget Declaration, with a more detailed Fiscal Risk Statement (FRS) to be produced in September for inclusion in the Budget documents.** The Budget Declaration sets out the Government's fiscal strategy over the medium-term. In future, including the detailed FRS as part of the Budget Declaration would provide the basis for these risks to be taken into account as part of the fiscal strategy as well as informing the framework within which the detailed expenditure decisions that will be set out in the Budget documents are made. The Budget documentation could then include an assessment of the potential risks that could materialize during the upcoming fiscal year.

7. **Having published their first FRS in 2018, the authorities are well positioned to be able to include a comprehensive FRS in September as part of the budget documents.** Given

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[1] Reports are to be prepared by the designated MoF officials where there is a delay or failure to submit the information required for fiscal risks assessments; where false information is knowingly submitted; or where there is a failure to implement the regulatory measures applicable to fiscal risk management. The head of the MoF or other authorized officials considers and decides on these cases in accordance with specified procedures, imposing a fine on culpable officials. Appeals may be made to the superior manager, but not through the courts.

the limited time remaining before the finalization of Budget Declaration (scheduled to be in mid-May) as well as some challenges collecting the data as the Budget Code amendments were only approved in December, no more than a qualitative discussion of fiscal risks will be possible in the Budget Declaration. A draft overview of fiscal risks that could be included in the Budget Declaration setting out the main sources of fiscal risks arising from the macro-economy, debt and state guarantee portfolio, SOEs and financial sector was provided is included as Annex I.

D. Action Plan for Enhancing Fiscal Risk Management

8. The MoF have developed an action plan for enhancing fiscal risk management over the medium term. The key elements of the plan are as set out in Box 1.

Box 1. Key Elements of the Fiscal Risk Management Plan

- The deadline for the development and submission to the CMU of the draft resolution on the procedures for assessing fiscal risks relating to the macroeconomic situation, SOEs, public private partnerships (PPPs), government guarantees, extra-budgetary funds and local borrowings to be extended from the second quarter (Q2) of 2018 to Q2 2019, as the VR only adopted the Budget Code amendments in December 2018;
- Annual analysis and inclusion in the Budget Declaration of a general assessment of fiscal risks and their impact on the State budget indicators;
- Annual preparation of information on fiscal risks and their impact on the State budget indicators in the planned budget period;
- Creation of a register of fiscal risks for the purposes of monitoring and mitigation by Q2 2020;
- Development of models for stress testing of SOEs that pose the highest fiscal risks using the electronic system by Q3 2020;
- Strengthening the institutional and analytical capacity of the MoF and other public authorities in managing fiscal risks through training on an ongoing basis;
- Creation of a fiscal risk management committee at the MoF by Q2 2021; and
- Implementation of an electronic system for monitoring the extended set of fiscal risks by Q4 2021.

9. As progress on elements of the action plan are already at an advanced stage, some of the targeted deadlines could be brought forward. As already mentioned, the Budget Code amendments establishing the legal framework for fiscal risk management were adopted in December 2018 and implementation is already underway. Despite the delay in adoption, the authorities already published a first FRS in 2018. During the course of the mission, models for stress-testing the financial projections of Ukrainian Railways (UZ) and Energoatom were developed and the existing Naftogaz financial model was updated. Including the results of the stress-testing for select SOEs in the September FRS would improve transparency although disclosure of the results would need to be accompanied by a careful discussion so as not to adversely impact on perceptions of the financial position of the entities and to articulate the actions the government is taking the strengthen SOE performance. The authorities underlined that their intention is that this analysis be automated as part of the electronic reporting system.

10. Accelerating progress in strengthening fiscal risk management requires high-level support and a clearer assignment of responsibilities. The draft CMU regulation setting out the procedures for assessing and mitigating fiscal risks clearly defines the responsibilities of the respective Line Ministries. However, there is still a need for the MoF to analyze the inputs received from the Line Ministries and quantify the likely impact on the key budget indicators; for instance, translating the changes in the macroeconomic indicators into the implications for the revenue and expenditure forecasts. For several risks, it may make sense for these responsibilities to lie with the existing departments in the MoF, for example revenue risks could be analyzed by the revenue forecasting department; debt portfolio and guarantee risks could continue to be assessed and monitored by the debt department, with the FRMD performing a coordination role. However, in other case where functions are not well-defined, the FRMD may need to play a stronger role[2]. Fast-tracking the creation of the fiscal risk management committee could assist in this regard as well as fostering greater internal collaboration in developing the FRS. Besides enhancing capacity through training, ensuring an appropriate balance between the responsibilities and the staffing of the FRMD will also assist.

E. Scenario Analysis and Stress-Testing

11. The MoF's capacity to assess the fiscal risks arising from SOEs is being improved through scenario analysis and stress-testing. During the October 2018 short-term expert (STX) visit, a model that would allow the authorities to undertake scenario analysis and stress test the SOE financial projections was developed and applied to Naftogaz. A simplified version of the model was applied to Ukrainian Railway and Energoatom during the mission. The authorities were trained in the use of the model, with the intention that they would be able to expand the coverage to include other macro-critical and high risk SOEs and that the analysis could be incorporated into the next FRS.[3] A detailed guideline for the model has been developed and is included as Annex II.

12. The data used in the models was drawn from the financial plans of the SOEs, which will allow for automation. All of the SOEs are required to submit financial plans. The financial plans include an income statement, balance sheet and cash flow statement and information on capital expenditure, borrowings and payments to the budget. Actuals for the preceding financial year (2017), budget and actuals for the current year (2018) and forward looking projections covering the next 5 years (2019-2023) are provided. In addition, quarterly breakdowns are provided for the upcoming financial year (2019). The reporting in the financial plans does not always correlate exactly with International Financial Reporting Standards (IFRS), which can make

[2] The FAD report "Strengthening Public Financial Management" of May 2017, suggested responsibilities for undertaking analysis and providing input to the preparation of the fiscal risk statement (see Chapter II, sub-Section A of that report).

[3] In future the analysis should be extended to cover the State Food and Grain Corporation which, with UAH 42.1 billion in guaranteed debt (mostly external debt), accounts for more around half of the guaranteed debt portfolio of UAH 87.4 billion as well as a number of the coal mining companies, which are experiencing financial difficulties

it difficult to reconcile the data. Further, some discrepancies were noted, which should be discussed by the authorities with the SOEs:

- The detailed breakdown of operating expenditure for the three entities could not be reconciled to the operating expenditure reported in the summary income statement in the financial plan; and
- The detailed information relating to obtaining and repaying funds could not be reconciled to the liabilities reported in the summary balance sheet for the entities. Specifically, in the case of UZ, the total long term liabilities of UAH 30 billion exceeded the total long term liabilities of UAH 21 billion reported in the summary balance sheet as at the end of 2018.

13. The model outputs still need to be validated with the SOEs. The results generated using the financial model were compared with the financial plans that had provided by each of the SOEs. Table 2 below summarizes key issues that were noted and which should be discussed with the respective SOEs.

14. The impact of changes in macroeconomic parameters as well as SOE specific factors were assessed. The model allows for the impact of changes in a range of factors (scenario analysis) or a single factor (stress test / sensitivity test) to be assessed. As a minimum the outcomes under the upside and downside macroeconomic scenarios produced by the authorities can be compared to the outcomes under the baseline scenario. The macroeconomic changes that were considered are summarized in Table 3. In addition, the impact of SOE specific scenarios can be modelled (e.g. impact of the termination of the transit gas contract with Gazprom at the end of 2019). These are discussed further below.

Table 2. Ukraine: Key Issues to be Discussed with the SOEs

Naftogaz	Ukrainian Railways	Energoatom
• Balance sheet information over the medium term was missing from the financial plan. This information should be provided by Naftogaz. • The model was still based on the IFRS accounts rather than the financial plan, which may account to some extent for discrepancies. • Information on the interest rates payable on Naftogaz' borrowing should be provided. • There is a significant difference between the revenue and cost projections in the model and those in the Naftogaz financial model (more detail on apparent sources of discrepancies was provided in the previous report). • The source of the significant once-off increase of UAH 75 billion in other revenues in 2020 anticipated by Naftogaz should be explained. • Negligible depreciation (as reflected in the difference between EBITDA and operating profit) has been assumed by Naftogaz • Naftogaz projects lower financing costs, which are expected to decrease over time, whereas the model anticipates an increase in financing costs.	• The financial plan assumed a massive increase in volumes of 13.5 percent in 2019, although the trend has been one of decline and no rationale for such a recovery was provided to the mission. • As part of the business of the company, a breakdown of the rail services into passenger and freight rail should be provided (number and unit price). • Although UZ had indicated that the tariffs for rail services were not cost reflective, in aggregate there did not seem to be a shortfall. The breakdown above could assist in providing clarity. • A significant increase in operating expenditure in 2019 followed by a significant decrease in 2020 was anticipated in UZ's financial plan. The drivers for this increase and decrease should be explained. • UAH should assist in reconciling the total long term liabilities of UAH 21 billion reported in the summary balance sheet with the detail on total long term liabilities which amounted to UAH 30 billion as at the end of 2018.	• The financial plan for 2019 was largely missing. Other than for the income statement, details of the financial plan over the medium term were also missing. This information should be provided by Energoatom. • In the balance sheet, there was a UAH 131 000 discrepancy between the actual sum of the assets in the financial plan and the total that was reported. • The assumed electricity tariff increases used in Energoatom's financial plan were lower than the assumptions the company provided to the mission. • The tariff level in the financial plan (~UAH1) was significantly lower than the tariff level of ~UAH2 that Energoatom had indicated as the expected market tariff. • A significant increase in the company's operating costs was forecast in 2019 and 2020 (specifically labor, repairs and maintenance), but it was not clear what the drivers of such increases would be. • Energoatom should substantiate their calculation of their finance costs – the costs as projected by Energoatom were almost twice as high as the finance costs projected in the model, which was based on the debt costs and borrowing plan for 2019 provided by the company. • Actual inventories (1 year's stock) were lower than Energoatom had reported were held (2 year's stock).

Table 3. Ukraine: Summary of Key Macroeconomic Assumptions for Baseline, Stress and Reform Scenarios

Baseline	Stress	Reform
• Baseline economic growth, interest rate, exchange rate and inflation rate assumptions provided by the Ministry of Finance • Effective average income tax rate of 18 percent	• Lower economic growth assumptions provided by the Ministry of Finance • Interest rates as per baseline • 10 percent depreciation in the exchange rate • Higher inflation assumptions as provided by Ministry of Finance • Effective average income tax rate of 18 percent	• Higher economic growth assumptions provided by the Ministry of Finance • Interest rates as per baseline • 10 percent appreciation in the currency • Lower inflation assumptions as provided by Ministry of Finance • Effective average income tax rate of 18 percent

15. **The model can be used to strengthen fiscal risk management.** It allows the MoF to determine the factors that are most likely to have a significant impact on a SOE's performance and the government budget. This can provide an entry point for policy discussions on the priority risks requiring decisive corrective action and appropriate actions that are most likely to contribute toward mitigating such risks.

Naftogaz

16. **The anticipated loss of transit gas revenue will have a significant negative impact on the budget from January 2020.** Taking appropriate mitigating action (for instance, by implementing the reforms considered in the reform scenario) could ameliorate this negative impact, but there will still be a significant reduction in the inflows to the budget from Naftogaz. The key assumptions underpinning the baseline, stress and reform scenarios are summarized in Table 4.

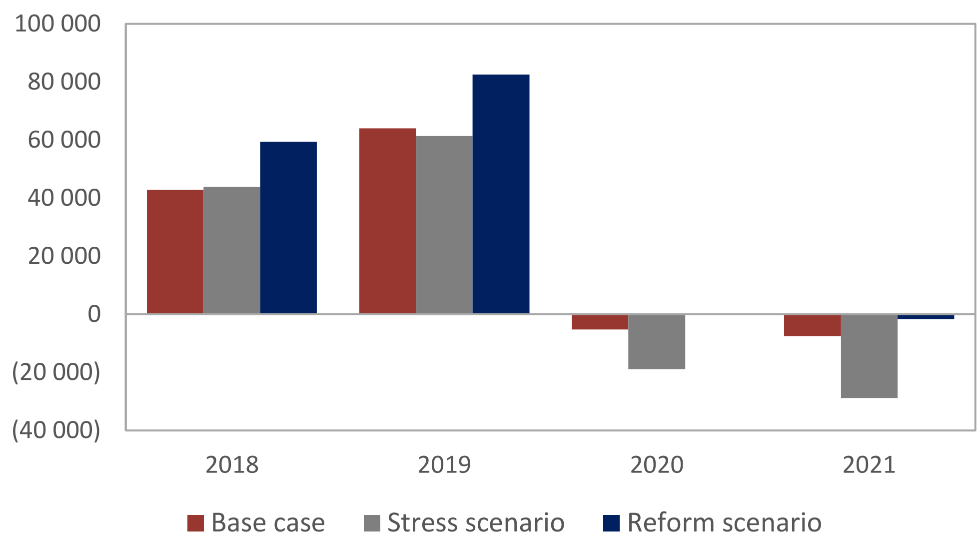
17. **Naftogaz was currently experiencing a significant cash deficit, which required decisive action to resolve quickly.** Left unaddressed, the shortfall being experienced at the time of the mission could compromise the company's ability to pump gas for storage in anticipation of the winter peak in demand. Options that were discussed included undertaking an international bond issuance, loans from international financial institutions, loans from state-owned banks or recapitalization by the government. However, the company has little capacity to take on additional debt, given the anticipated fall in revenue and profitability in the upcoming financial years. Nevertheless, in July 2019, Natfogaz managed to raise capital through two Eurobond issuances in the amount of EUR600 million and USD335 million.

Table 4. Ukraine: Summary of Key Assumptions for Baseline, Stress and Reform Scenarios Applied to Naftogaz

Baseline	Stress	Reform
• No change in PSO prices for household consumption or government subsidy • Collection rates on balancing unauthorized gas remain at 20 percent and there is no improvement in other collections • Transit revenues fall to zero post 2019 when Gazprom contract ends • Slow deterioration in gas production due to challenges obtaining licenses • Dividends of 75 percent of profits are payable from 2020[1]	• PSO prices and collection rates unchanged from base case • Transit revenues fall to zero post 2019 when Gazprom contract ends • Gas import prices 10 percent higher • Dividends of 90 percent of profits are payable	• Liberalization of the gas market takes place allowing market prices to be charged for PSOs and reducing unauthorized gas • Collection rates improve through direct sales to households • A government subsidy is received for the PSO shortfall in the meanwhile • Production of local gas increases through access to required licenses and providing a substitute for a portion of the transit gas • Dividends of 50 percent of profits are payable from 2020

1/ This could be increased to 90 percent to match the stress scenario if current policy is likely to be continued indefinitely.

Figure 1. Projected Impact on the Budget (2018–21) under Baseline, Stress and Reform Scenarios for Naftogaz (UAH million)



Ukrainian Railways

18. UZ is anticipated to realize losses and experience a significant cash shortfall over the medium term and will continue being a draw on the budget. Only under the reform scenario, is the company projected to generate an operating profit, but after taking into account financing costs, the company is still expected to realize a net loss even under this upside scenario. The level of borrowing projected in the financial plan is inadequate to cover the cash outflow arising from the losses and the planned level of capital expenditure. In any event, the company's weak financial performance means that it is not able to sustain such debt. The anticipated impact on the budget does not include any potential recapitalization that may be required to keep the company liquid. Table 5 summarizes the key assumptions under each scenario.

Table 5. Summary of Key Assumptions for Baseline, Stress and Reform Scenarios Applied to Ukrainian Railways

Baseline	Stress	Reform
• Volumes remain constant • Tariffs grow at 75 percent of Producer Price Inflation (PPI) • Unit costs increase at PPI + 2 percent • Operating costs increase by 60 percent in 2019 and decrease by 20 percent in 2020, thereafter growing at Consumer Price Inflation (CPI) • Dividends of 75 percent of profits are payable from 2020	• Reduction in volumes of 3 percent per annum • Tariffs grow at 50 percent of PPI • Unit costs increase at PPI + 3 percent • Operating costs increase by 60 percent in 2019, thereafter growing at CPI • Dividends of 90 percent of profits are payable	• Volumes grow 13.5 percent in 2019 and remain constant thereafter • Tariffs grow at PPI • Unit costs increase at PPI • Operating costs increase at CPI • Capital expenditure is increased by 25 percent • Dividends of 30 percent of profits are payable

Figure 2. Projected Cash Shortfall (2018–21) under Baseline, Stress and Reform Scenarios for Ukrainian Railways (UAH million)

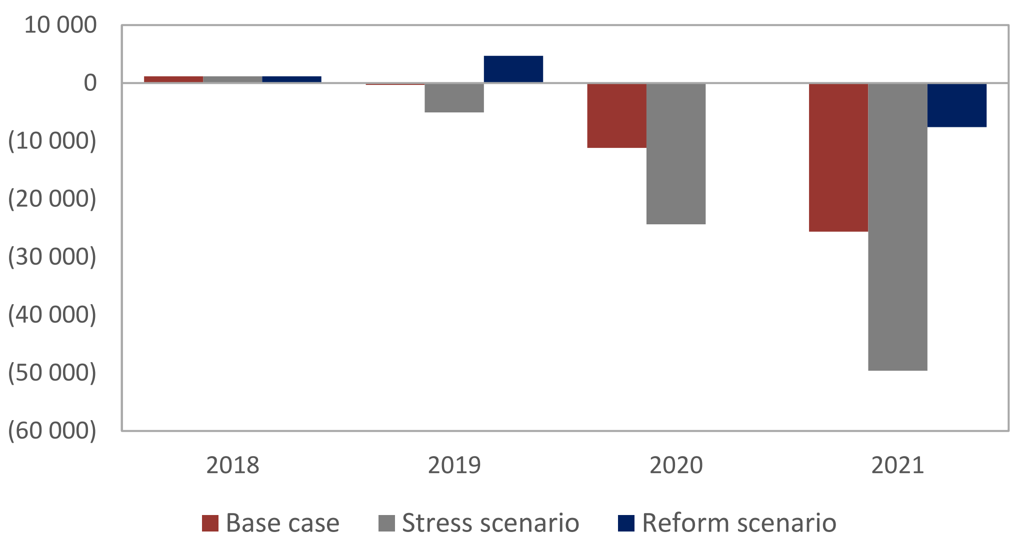
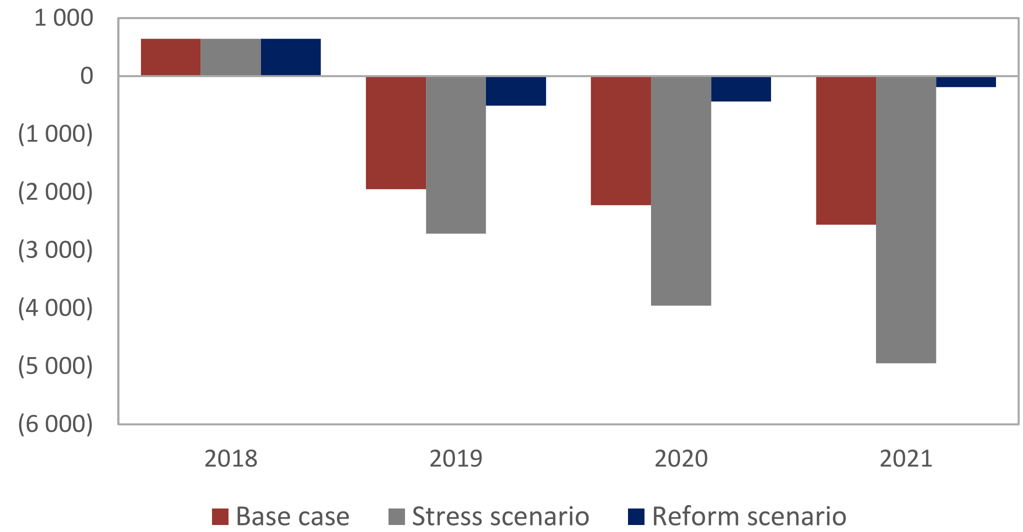


Figure 3. Projected Impact on the Budget (2018–21) under Baseline, Stress and Reform Scenarios for Ukrainian Railways (UAH million)



19. With additional data, additional scenarios could be considered.

- UZ indicated that although they are incurring costs to maintain the entire rail network, only around half of the network is used to generate almost all of the revenues. The financial impact of decommissioning the underutilized network could be assessed.
- According to UZ, freight rail services are cross-subsidizing the passenger rail services, which are loss-making. However, whereas there has been a significant reduction in freight rail services due to a change in the structure of the economy and conflict with Russia, passenger rail services have been increasing. The impact of this structural shift could be determined and implications of increasing passenger tariffs or compensating UZ for the costs could be analyzed.
- Where freight rail tariffs are regulated, UZ reported that the tariffs are not cost reflective. The impact of migrating toward cost reflective tariffs could be evaluated.
- The rolling stock is currently nearing end of life.

20. Finding a sustainable solution to UZ's financial challenges is important for enabling economic growth. Underpricing of rail services has stunted the development of other forms of transportation, leaving Ukraine dependent on the rail system. For instance, 70 percent of cargo is transported by rail, due to the road network in Ukraine being relatively underdeveloped compared with other peer countries. Ageing rolling stock and inadequate maintenance results slows train speeds, results in breakdowns and is expected to soon result in a reduction in UZ's capacity, which would have a negative impact on the economy.

Energoatom

21. Even without significant increases in the tariffs charged by Energoatom, the company is expected to remain profitable and continue contributing toward the budget. The authorities are currently liberalizing the wholesale energy sector. Should the introduction of a wholesale market result in an increase in the tariffs at which Energoatom can sell its electricity, this will have a significant positive impact on the company's performance and its contribution to the budget.

22. However, an inadequate level of borrowings relative to the company's cash outflows is expected to result in a cash deficit. Most of the cash deficit arises as the result of the company's capital expenditure and changes in the working capital. Energoatom has the capacity to sustain more debt: its gearing and debt cover ratios remain acceptable even under the stress scenario.

23. Additional information would enable an assessment of the impact of different approaches to covering the costs of quasi-fiscal activities. It is not yet clear how the Universal Services Supplier (USS) will be compensated for the shortfall between the cost of purchasing electricity in the market and the lower, regulated retail tariff at which they will be able to sell the electricity. Similarly, there will be a gap between the cost of purchasing renewable electricity at the approved feed-in tariffs and the market price. One option that has been mooted is that Energoatom would be responsible for covering these costs. Energoatom are proposing that these costs would get spread across all generators. To assess the impact, an estimate of the total amount of such costs would be required.

Table 6. Summary of Key Assumptions for Baseline, Stress and Reform Scenarios Applied to Energoatom

Baseline	Stress	Reform
• Volumes remain constant • Significant increases in tariffs in 2019 (34 percent) and 2020 (30 percent) • Capital expenditure as per financial plan[1] • Inventories increased to 200 percent of cost of sales • Dividends of 75 percent of profits are payable from 2020	• Volumes remain constant • Tariffs increase at CPI • Above inflation increases in operating costs in 2019–21 (20 percent; 10 percent; 10 percent) • No capital expenditure • Inventories increased to 200 percent of cost of sales • Dividends of 90 percent of profits are payable	• Volumes remain constant • Significant increases in tariffs in 2019 (34 percent) and 2020 (30 percent) • Capital expenditure as per financial plan • Inventories increased to 200 percent of cost of sales • Dividends of 50 percent of profits are payable from 2020

1/ Capital expenditure of UAH 10 billion was assumed in 2019 as no assumption was provided in the financial plan.

Figure 4. Projected Cash Shortfall (2018–21) under Baseline, Stress and Reform Scenarios for Energoatom (UAH million)

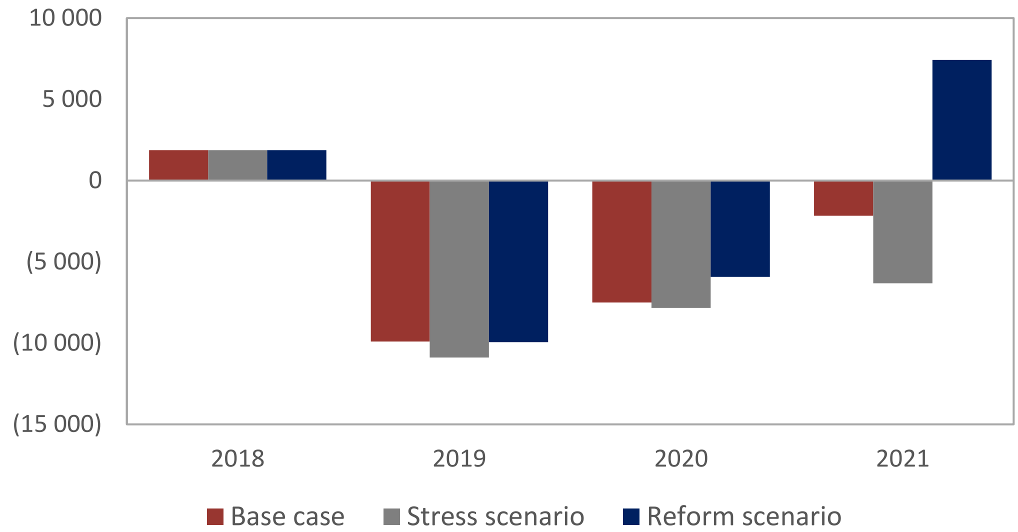
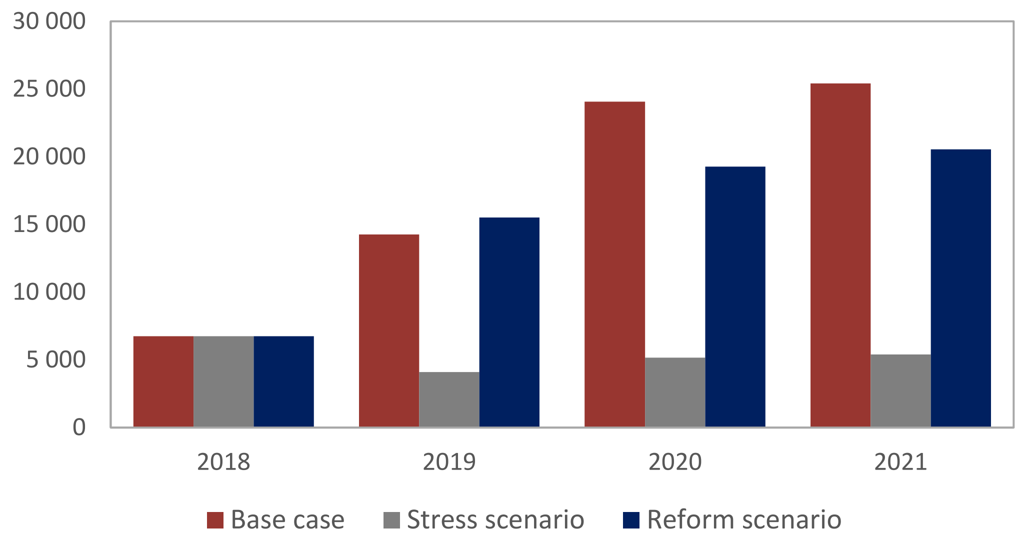


Figure 5. Projected Impact on the Budget (2018–21) under Baseline, Stress and Reform Scenarios for Energoatom (UAH million)



III. RECOMMENDATIONS

- **Recommendation 1:** Discuss the financial models and outputs and possible mitigating actions with Naftogaz, UZ and Energoatom (within 3 months).
- **Recommendation 2:** Expand the financial model to include other major SOEs (e.g. Ukrenergo, the State Food and Grain Corporation and coal mining companies) (within 6 months).

- **Recommendation 3:** Incorporate information from the stress testing and scenario analysis in the Fiscal Risk Statement that forms part of the Budget Documentation for the 2020 financial year (within 6 months).
- **Recommendation 4:** Finalize the CMU resolution setting out the roles and responsibilities for fiscal risk assessment and reporting (within 3 months)
- **Recommendation 5:** Strengthen the capacity of the FRMD and institutionalize coordination within the MoF, with the Ministry of Economy (MoE) and SOEs (1 year).
- **Recommendation 6:** Integrate the model with the new electronic system for receiving period updates of information from SOEs (6 months).

The mission reiterated the advice of previous FAD and STX[4] visits to gradually expand the fiscal risk analysis and disclosure to a broader range of risks and to deepen analysis over time.

[4] See in particular the May 2017 report on Strengthening Public Financial Management, July 2017 report on Medium-Term Budget Framework and Fiscal Risk Statement, and December 2017 report on Fiscal Decentralization and Legal Framework for Fiscal Risk Management and Medium-term Budgeting as well as the STX reports from the visits of August 2017, March 2018 and November 2018.

Annex I. Draft Overview of Fiscal Risks for Inclusion in the Budget Declaration

This is an indicative draft with gaps to be filled in and sections updated by the MoF.

A. Macroeconomic Risks

Unanticipated changes in macro-economic conditions will cause fiscal forecasts to differ from those presented in the budget declaration. The key risks to the macroeconomic outlook arise from a potential weakening in global economic conditions and depreciation in the exchange rate, difficulties accessing external funding, in particular from multilaterals, structural reforms not being fully implemented or the economy's response being muted, and an intensification of military conflict in the East of the country.

Three macroeconomic scenarios have been considered and approved by the Cabinet of Ministers and are presented in Table [xx]. These scenarios take into account the performance of the economy in previous years, the current economic situation and assess how external and internal risks could impact on the Ukrainian economy over the period 2019–21.

The first, baseline scenarios provides the basis for the fiscal forecasts contained in the budget declaration. This baseline scenario is premised on a continued, favorable outlook for the world economy. Furthermore, it assumes that the reforms envisaged in the Government's Medium-Term Plan are successfully implemented, with a moderate, positive response from the economy. Implementation of reforms where consensus has not been reached (e.g., land and tax reforms) have not been included.

The second scenario assumes that implementation of all the reforms, including the land and tax reforms proceeds successfully. The global economic outlook in this scenario is consistent with the assumption of the scenario 1 baseline forecast. However, the assumptions regarding the inflow of investment and loan capital are somewhat better.

The third scenario is a more adverse scenario that considers the performance of the economy under less favorable external economic situation.

[Table to be included presenting the scenarios]

Macroeconomic risks will be mitigated through diligent implementation of the structural reforms in line with the Medium Term Plan. Not only is this anticipated to have a positive impact on the economy, but will also secure the ongoing support of international, official lenders to the Ukraine. Further measures to stimulate growth will be taken, in the event of sluggish economic growth. Implementation of the inflation targeting framework by the National Bank of the Ukraine is expected to contain inflation to 5 percent by 2021.

B. State Debt and Guarantees

Deviations in the macro-economic parameters from forecasts will impact on government debt and debt servicing obligations. In particular, the debt portfolio, which amounts to UAH [xx] billion is susceptible to changes in the external environment and exchange rate shocks, with around [xx] percent of the debt portfolio denominated in foreign currency and around [xx] percent of public debt held by non-residents. The debt portfolio is also subject to some interest rate risk, with around [xx] percent of domestic denominated debt and around [xx] percent of foreign currency debt denominated in floating rate instruments.

The debt portfolio is exposed to refinancing risk, with [xx] percent of the portfolio maturing over the 2019-2021 period. An early termination of the program from the International Monetary Fund, could reduce demon for government debt in the domestic and international capital markets.

There is a total of UAH [xx] billion of state-guaranteed debt, of which UAH [xx] billion secures a loan provided by the IMF to the National Bank of Ukraine and remainders guarantees borrowing by state-owned enterprises (SOEs). An unexpected deterioration in the credit risk of the guaranteed SOEs, requiring that the government service the guaranteed debt, would cause a deviation in the budget indicators. Most of the guaranteed debt is denominated in foreign currency and is therefore exposed to exchange rate risks.

To mitigate the fiscal risks, the composition of debt is being shifted away from private to official creditors, offering longer maturities. Development of the local capital markets will enable an increase in the share of local currency debt in coming years, mitigating the exposure to currency fluctuations. Risk-related fees are charged to the SOEs with guaranteed debt to enable the costs to be recovered, should the Government be required to service the debt.

C. State-Owned Enterprises

SOEs may give rise to fiscal risks where there is a reduction in the taxes, dividends and other receipts from SOEs or an increase in the subvention, loans, or equity injection required from Government versus that which was planned in the budget. This can be the result of a deterioration in the financial performance and position of the SOEs as a consequence of a deterioration in the macroeconomic conditions and depreciation in the exchange rate, reduction in demand, changes in policy, including being assigned responsibility for undertaking non-commercial activities, impairment of assets, penalties, legal action, a weakening of governance, corruption, escalation in geo-political conflict, political unrest, natural disasters and force majeure events.

In accordance with the approved methodology approved by the Cabinet of Ministers of Ukraine, the Ministry of Finance has identified 25 enterprises for close monitoring. These enterprise are state-owned natural monopolies, have assets in excess of UAH 2 billion or are receiving state budgetary support in the form of subsidies, grants, loans or guarantees or have been assessed to have a high risk rating. The full list of 25 enterprises is published on the official website of the Ministry of Finance.

In the event of risks materializing at these companies, the Government's response will depend on the prevailing circumstances as there is no explicit obligation for the government to support these enterprises. Nevertheless, many of these companies are strategically importance to the country.

The approved methodology was used to assess the likelihood of fiscal risks materializing. The 25 SOEs were classified into risk categories based on the following criteria:

- Risk category 1: SOEs which are unprofitable, either at an operating profit or a net profit level and which have a high debt burden;
- Risk category 2: SOEs which have a high debt burden;
- Risk category 3: SOEs which are unprofitable or have a negative return on equity (ROE);
- Risk category 4: SOE which have a low profitability and a ROE below 1 percent; and
- Risk category 5: all remaining SOEs.

The results of the risk assessment are summarized in Table [xx]. A total of [xx] SOEs were assessed to be of the highest risk (risk category 1), with a further [xx] assessed to be in risk categories 2 and 3. Enterprises in risk categories 1 through 3 account for around [xx] percent of the total liabilities of the 25 SOEs.

[Include updated version of the table below for the 25 SOEs]

Table: Risk Categorization of the largest 48 SOEs (2017)

Risk category	Number of entities	Combined Net Debt (percent of GDP)
1	12	5.2
2	20	9.8
3	1	0.1
4	6	2.8
5	9	1.5
Total	**48**	**19.4**

In addition, scenario analysis has been conducted on three of the largest SOEs.

Traditionally, Naftogaz has been a significant contributor to the budget, with its dividends accounting for [xx] percent of total state revenues and [xx] percent of the proceeds from all SOEs. There is a significant risk of this situation reversing over the medium term and of there being a net outflow from the budget to Naftogaz. The expiration of the contract with Gazprom at the end of 2019 and commissioning of the Nord Stream II and Turkish Stream pipelines would result in a significant reduction in revenues from gas transit from the Russian Federation to Europe is anticipated. An extension of the commitment period for the public service obligations (PSOs) in the absence of any compensation from the budget would exacerbate the risk of fiscal risks materializing. In addition, fiscal risks would arise in the event that Naftogaz is unable to secure adequate liquidity to finance its activities. Adverse economic conditions, including an increase in the price of gas imports would negatively impact on Naftogaz. On the other hand, a favorable decision on the arbitration with Gazprom and successful implementation of reforms to liberalize the gas sector could result in a significant improvement in the company's financial position, reducing fiscal risk.

In the case of Energoatom, the company is expected to continue to contribute positively toward the budget. However, adverse macro-economic conditions, delays in deregulating the electricity market and requirements for the company to bear the cost associated with universal service supply and being the guaranteed off-taker for renewable power projects would reduce budget inflows. Any penalties imposed for failing to adhere to its licensing conditions would negatively impact Energoatom's performance.

Although a number of state-owned mining companies are in a weak financial position, state budget expenditure to support these companies must be in line with the requirements of Article 264 of the Association Agreement between Ukraine and the European Union. The European Union does not permit unlimited support of uncompetitive coal mines. Moreover, provisions governing state aid to the coal industry in the Ukraine is contained in the Report on the Results of the Integrated Study of Electricity and Energy Coal Markets approved by the Antimonopoly Committee of Ukraine No 40 of 01.06.2016, which determines among other things:

- Unprofitable and unsustainable coal mines are not eligible for operating and investment state aid;
- State aid for restoration of solvency and restructuring in the coal mining sector is prohibited;
- State aid for the closure of mines is permitted, as well as environmental protection assistance in connection with the closure of mines.

With the aim of mitigating the fiscal risks arising from SOEs, the Government is taking steps to implement the necessary reforms in the sectors in which the SOEs operate, including liberalizing the gas sector and deregulating the electricity market. In addition, SOE governance is being strengthened through corporatizing unitary SOEs that are primarily involved in commercial activities, establishing supervisory board with independent directors, and introducing new procedures for appointing and remunerating the heads of the largest SOEs. The largest SOEs are required to prepare their financial statements in accordance with international financial reports standards (IFRS) and have them independently audited by internationally reputable auditors within [xx] months of the end of the financial year. The financial statements must be published on the company website.

D. Proceeds from Privatization

Privatization of state and communal property is projected to raise UAH [xx] billion. Delays in the planned privatization of state assets would result in the proceeds realized from privatization being lower than anticipated, which would increase government debt compared to budget projections.

On March 7, 2018, the Law of Ukraine No. 2269-VIII "On Privatization of State and Communal Property" was adopted by the Verkhovna Rada of Ukraine, which provided for a new process for privatization. By law, the objects are classified into two groups: small and large. Small-scale objects will be sold exclusively through electronic auctions, which will ensure competition and increase the sale price. The procedure for conducting the auctions through the electronic system "Prozorro" has been approved (Resolution of the Cabinet of Ministers of Ukraine dated May 10, 2018, No. 432). The Order of the State Property Fund dated March 27, 2018 No. 447 approved a list of small-scale privatizations subject to privatization in 2018, which included 749 objects. A condition for Ukraine to receive the first tranche of fiscal assistance from the European Union is the conclusion of at least 200 small-scale privatizations.

On May 10, 2018, the Cabinet of Ministers approved a list of 23 large-scale objects to be privatized. Preparation for the sale of the large-scale objects will be carried out with the assistance of advisers, which will increase interest to domestic enterprises by foreign investors, will ensure fair and transparent privatization. Steps are being taken to restructure and prepare the identified enterprises for privatization so as to increase their investment attractiveness and the value that can be realized through privatization.

E. Financial Sector

Financial sector risks can arise from explicit obligations to provide back-up funding to the deposit insurance fund and to guarantee deposits of state-owned banks, or from government decisions to recapitalize troubled banks, which were not anticipated in the budget forecasts. This may be the required due to a weakening in the financial position of a specific banks or the sector as a whole due to unfavorable economic conditions, a deterioration in the quality of the loans portfolio, and tightening of liquidity or run on deposits. It is more likely to occur where banks are inadequately capitalized.

The Deposit Guarantee Fund (DGF) insures deposits of individuals and sole traders up to a cap of UAH 200,000 per account holder. In addition, all deposits in Oschadbank (around UAH [xx] billion) have been guaranteed by the government.

In the National Bank of the Ukraine's (NBU's) assessment the risk arising from the financial sector has declined over the last [period]. The financial performance of the sector continues to improve. However, the proportion of non-performing loans still remains high.

Since the crisis in the financial sector, the government and the NBU have taken a number of steps to strengthen the banking system. These include measures to improve governance of state-owned banks, including through the establishment of independent professional supervisory boards. All unprofitable banks were required to submit restructuring plans and meet capital adequacy requirements. The NBU has also completed diagnostic studies of the top-60 banks and assigned recapitalization schedules for those that needed them. These banks are being closely supervised by the NBU. New mandatory prudential requirements and risk management system aimed at reducing the likelihood of risks arising in the event of a negative economic shock are being phased in.

Annex II. Guide for SOE Financial Model

A. Data Collection

Economic Data

The following economic input data needs to be collected for baseline, upside ("reform") and downside ("stress") scenarios:

- Domestic GDP growth rate;
- Interest rates in Ukrainian Hryvnia (UAH), United States Dollars (USD) and Euros (EUR). The interest rate should be appropriate to the average duration of the SOE debt;
- Exchange rates from the UAH into each of the USD and EUR; and
- Inflation rate both for consumer prices and producers; and
- Average effective income tax rate.

This information would be provided by the Ministry of Finance (MoF) and/or Ministry of Economy (MoE). Historical data for the preceding five years and forward looking data covering the projection period—which should be at least 3–5 years is required. The baseline forecasts over the medium term as well as the upside and downside scenarios should be aligned to the baseline forecasts and upside and downside scenarios used for the preparation of the Budget documentation to allow for the aggregate fiscal risk arising from the different components of fiscal risk to be assessed. The same economic data should be used as inputs for all SOEs. A template for the input data is contained in Annex A.

SOE data

For each SOE, detailed data is required. It is recommended that this data be collected from the SOE. However, it is also important to discuss the data with the SOE to understand the key drivers of the different line items. In addition, these discussions can be used to identify any SOE specific scenarios that should be modelled and identify the data required to do so.

The model has been structured to allow for historical data and the financial plans from the electronic system to be pulled directly into the model. Alternatively, the financial statements (which should be audited) for the preceding 5 years are required. In addition, historical as well as forward looking assumptions for the drivers of revenues and costs as well as capital expenditure and financing are required as discussed below.

To assist in making the sensitivities meaningful, any linkage between with factors like GDP growth; interest rates; exchange rates; or changes in the rate of consumer or producer price inflation should be identified. In the generic model, standard linkages have been set up. These are as follows:

- Prices are linked to the consumer price inflation (CPI);
- Variable costs ("cost of sales"); Repairs and maintenance; and Fuel cost are linked to producer price inflation (PPI); and
- Employee costs and other expenses are linked to consumer price inflation.

Revenues can be broken down into up to two main segments, with any remaining revenues being aggregated together as "other revenue." Any government subsidies are treated separately. For instance, in the case of Ukrainian Railways (UZ) the main segments would be passenger rail and freight rail services. For each segment the following data is required:

- Volumes of the goods and service provided; and
- Price and forecast increase in the price at which the goods or service was sold.

With respect to "other revenue," the actual amounts realized and the forecast increase in revenue are required. The actual and forecast amounts of any government subsidies are also required.

Costs should be distinguished into variable costs, i.e. costs that vary with the quantity of output, and fixed costs, which remain relatively constant regardless of the level of output. The former will be included under "Cost of sales" and the latter under "Operating expenses" (see Box 2). Costs of sales can be broken down into the two main segments, with any remaining variable costs making up cost of sales being aggregated under "Other cost of sales." The data required for each segment comprises:

- Amount of goods or service sold; and
- Cost per unit of goods or service sold.

In addition, the actual amount of any other cost of sales and the forecast increase in those costs is required.

Box 1. Energoatom Example of Fixed and Variable Costs

In some cases, e.g. Energoatom, cost of sales is reported in the annual financial statements, but the notes show that this is broken down into a number of different costs. Based on the discussions with Energoatom, some of these costs, e.g. Nuclear fuel, varies depending on the amount of electricity generated. However, others, e.g. Wages, salaries and related charges, remain relatively constant even as the level of electricity generated fluctuates. Where the drivers of the underlying costs may not closely be linked to the volume of output, they should rather be included under operating costs.

Operating costs are broken down into five main categories: Employee benefits (i.e. any amounts paid as salaries and wages), Repairs and Maintenance, Fuel (which can include any forms of electricity, gas, or other fuel that is consumed by the business), Loan loss provision (any provision for amounts that will not be collectable or bad debts that have been written off), and all other expenses. For each line item, the actual amounts paid on each expenditure item are drawn out of the annual financial statements. Inputs on the forecast increases in these costs are required.

A reducing balance depreciation method is assumed. Although there may be a range of assets that are depreciated over different time periods, a single input of the average rate of depreciation is required.

Financing costs are linked to the interest rates provided as part of the economic assumptions. The spread of the interest rates paid over the base interest rate in each of three currencies, UAH, USD and EUR, is required (to the extent that the company has debt in the different currencies).

Changes in property, plant and equipment (PPE) should reflect any planned expenditure, acquisition or disposal of PPE.

Changes in working capital are provided for through assumptions regarding the changes in inventories, trade receivables and trade payables. Inventories and Trade Payables are linked to the amount of the cost of sales through an assumed percentage. Trade Receivables is linked to the quantum of revenue generated through an assumed percentage.

Both changes in equity and debt financing are considered. The amount of any expected changes in equity must be provided and likewise any changes in both current and non-current loans and borrowings is required, broken down by currency (to the extent that this is relevant). Note that some of the changes may be the result of non-current liabilities becoming current liabilities as they approach their maturity date. The quantum of any loans and borrowings that are guaranteed by the government is also a required input.

B. Data Input

The worksheets and all cells where data may be input are colored in light green. Data should not be input into any other cells.

Scenario Inputs

In the "Years for projections" line, the years for which historical data is available should be marked "H", the years for which projections are to be made with a "1" and any additional remaining years marked "0".

The first set of inputs is for the baseline economic data as well as the baseline assumptions for the tax rate and dividend rate. Next, the economic and other baseline assumptions for the "Stress Scenario" (downside scenario) must be input, followed by those for the "Reform Scenario" (upside scenario). The default assumption is that the Stress Scenario and Reform Scenario inputs are the same as for the baseline unless different assumptions are entered, other than for the exchange rates, where, in the Stress Scenario, the default assumption is that the currency will depreciate 10 percent more quickly than in the base case, whereas in the Reform Scenario it depreciates 10 percent more slowly.

As outlined above, the same Scenario Input data should be used for all SOEs.

Historical Data Inputs

The information from the historical annual financial statements must be captured manually in the Historical Data Input sheet. The format provided for the financial statements focuses on the key line items that are important drivers for projecting the financial statements. It has been designed to accommodate both financial and non-financial public corporations, where investments held with financial institutions would be used to record any cash held with other banks or the central bank. The simplified, standardized format also allows for aggregation across the SOEs. In addition, the format has been designed so that the data can eventually be used as part of a fiscal balance sheet assessment. This means that it is very important to separate out any flows between the SOE and the government, e.g. taxes, grants, equity etc. which would need to be eliminated when consolidating a public sector balance sheet.

The simplified format means that not all line items that are recorded in the annual financial statements may be available. In such cases, new line items should not be added, nor should the names of line items be changed, rather several line items may have to be aggregated. This is most likely the case with respect to:

- Operating costs, in particular other expenses, where any expenditure that does not fall into the four main categories provided should be aggregated;
- Extraordinary profit, where any impairments, profit or loss from the disposal of an asset or foreign exchange gains or losses would typically be recorded; and
- Other non-current assets, other current assets, other non-current liabilities and other current liabilities are used to record any remaining items for which no line item is explicitly provided.

The financial information should be entered in UAH millions across all SOEs to enable aggregation.

Data integrity can be checked by ensuring that the net profit and balance sheet calculated by the model matches that in the financial statements as well as ensuring that the balance sheet check line item is zero.

Baseline Input

Income statement

For the specific SOE, the historical revenue for each of the two major segment and any other revenue must be input, as well as the associated volumes and average price for each segment. It is important to ensure that the revenue for each segment equates to the product of the volumes and the average price. Any government subsidies that have been provided and are anticipated to be provided must also be recorded.

Assumptions regarding the expected increase in volumes and prices for each segment as well as the anticipated increase in other revenues must be input. As far as possible, these should be linked to the relevant economic inputs, e.g. GDP, CPI, and PPI. The default assumption is that the prices are linked to CPI. Where there is a need to create or change such a linkage, the data is entered by including a reference to the relevant economic assumptions for the baseline scenario and adjusting it by any factor as required. The formula must be copied to all relevant cells. The same changes must also be made on the Stress Scenario Inputs and Reform Scenario Inputs. An example is set out in Box 3 below.

Box 2. Linking year-on-year Increase Assumptions to Economic Input Assumptions

This example looks at how to link the Volumes – major segment 1 to GDP growth

Click on cell J44

Delete the contents of the cell

Type "="

Scroll to and click cell J44

If the volumes are anticipated to increase at the same rate as GDP, press enter. Otherwise, if they are expected to increase with a factor (e.g. 80 percent) type "*0.8" and press enter. Alternative if they are to increase by a higher or lower rate than GDP (e.g. 2 percent higher) type "+0.02" and press enter.

Copy cell J44 and paste it to all the remaining, green colored cells in row 44.

Also make sure to do these same changes in Stress Scenario Inputs and Reform Scenario Inputs.

Similarly, the cost of sales data must be input. The actual cost of sales for each of the major segments must be recorded in each of the historical years. Any residual amount outside of these two segments should be recorded under "Other cost of sales." The actual volumes and average unit cost for each major segment must also be recorded. Like for the revenues the cost of sales for each major segment must be the product of the volumes and unit cost.

The forward-looking, projected increases in the volumes, unit cost and other cost of sales amount must also be recorded. As for the revenues, these should as far as possible be linked to the economic inputs (see Box 3 above). The formula must be copied to all cells in the row and the same change must be made on the Stress Scenario Inputs and Reform Scenario Inputs pages. The historical operating expense data is pulled directly from the Historical Data Inputs worksheet. Therefore, there is only a need to input the assumed year on year increase in the expenditure. As above, these should ideally be linked to the economic inputs (see Box x above), with the formula being copied to all cells in the row and the same change being made on the Stress Scenario Inputs and Reform Scenario Inputs pages.

The historical average depreciation rate is calculated using data from the Historical Data Inputs, but the assumptions for the average rate in each of the forward-looking years must be input.

The average interest rate spread over and above the base interest rate (recorded in lines 14, 15 and 16) that was paid in local currency (UAH), USD and EUR as well as the forward-looking assumptions must be recorded.

Balance sheet

The historical changes to property, plant and equipment after taking into account depreciation are calculated using the information in the Historical Data Inputs worksheet. Only the assumptions about future net expenditure (acquisitions and construction costs less disposals) needs to be input. Importantly, the amounts should not include adjustments due to depreciation, as this will be calculated separately.

The amount that inventories and trade payables are expected to amount to as a percentage of cost of sales must be input over the projection period. Likewise, the percentage of revenue that trade receivables is expected to amount to must be input.

Any actual increase or decrease in share capital that occurred are calculated using the data from the Historical Data Inputs. Any anticipated net increase or decrease in the company's share capital must be recorded under the equity line item.

The default assumption for the debt is that all loans and borrowings are denominated in UAH. If this is not the case, the historical breakdown of the current and non-current debt in UAH, USD and EUR must be recorded in the respective lines. (In the event that there is debt denominate in a further currency, this should be converted into its equivalent value in the currency with which the actual currency is most closely correlated). In addition, the forward looking net increase or decrease in the debt in each currency must be input (i.e. the total of any additional loans or borrowing that are incurred less any repayment of the debt). These inputs amounts should only reflect the increase in the capital value, i.e. excluding any interest that has not been capitalized, which is dealt with under financing costs.

Finally, the historical and actual amount of debt in each currency that is guaranteed should be recorded. Importantly, this should include the total of both current and non-current loans and borrowings that are guaranteed.

Stress Scenario and Reform Scenario Inputs

Ensure that any changes to the relationship between the economic assumptions and the forward-looking growth assumptions for the revenues, costs, assets, equity or liabilities have been affected exactly as in the Baseline Input page.

For any other items the relevant assumptions should be input as outlined in the previous section. For the purpose of simplicity, it is recommended that the same assumptions be used as in the baseline scenario unless there is a specific policy change that is being implemented that is being investigated with the stress test. Box 4 below explains the best way to ensure that any changes made to the Baseline Input worksheet are automatically transferred through to the other two scenarios.

Box 3. Linking the Assumptions used in the Stress/Reform Scenario to the Baseline Input Assumptions

This example looks at how to ensure that in Stress Scenario Inputs, the Volumes – major segment 1 assumption is exactly the same as in the Baseline Input worksheet.

On the Stress Scenario Input worksheet, click on cell J44

Delete the contents of the cell

Type "="

Click on the Baseline Input tab

Scroll to and click on cell J44 on the Baseline Input worksheet

Press enter

Copy cell J44 on the Stress Scenario Inputs worksheet and paste it to all the remaining, green colored cells in row 44 on that worksheet.

Make sure to do these same changes in both the Stress Scenario Inputs and Reform Scenario Inputs.

Adjusting Historical and Input Years

To add a new year of historical data, on the Scenario Inputs sheet, make sure that in the row "Year for Projections" the new year of historical data is marked with an "H". In each of the Baseline Input, Stress Scenario Input and Reform Scenario Input sheets, copy the data from the preceding year and paste it in the column for the new historical year. In the Baseline Output, Stress Scenario Output and Reform Scenario Output sheets, copy the Income statement and Balance Sheet data from the preceding year and paste it in the column for the new historical year. This will pull in the historical data.

Risk Assessment Criteria

This sheet is used to record the criteria used to make the various fiscal risk assessment calculations. This will not need to be changed, unless there is a change in the methodology applied for doing the assessment.

C. Reasonability Review

Whilst entering the data, the MoF should check the data for reasonability. In particular, where there are significant deviations from the historical data, the MoF should ensure that there is a justifiable explanation for this.

Having entered all the data, the MoF should again review the input and output data to ensure reasonability of the assumptions.

On the input pages, the forward-looking assumptions or projections should be reviewed and the basis for the assumptions interrogated. Key aspects to analyze include the following:

- Are the assumptions based on well-supported, realistic assumptions in line with previous performance and forecasts of peers?
- Are there credible factors identified that account for any deviations?

The MoF should also ensure that the assumptions in the base case are in alignment with the government's policy intentions.

The outputs should also be reviewed. Any significant year-on-year changes that are not in line with the assumptions must be interrogated.

Generally, all line items in the Balance Sheet, other than retained income (and possibly equity), will remain positive. Important items to check include Property, Plant and Equipment (PPE); Inventories; Trade Receivables; Cash and Cash Equivalents; Share Capital; Loans and Borrowings (both under non-current and current liabilities); and Trade Payables. Where Cash and Cash Equivalents becomes negative, it means that the assumed level of Loans and Borrowing is too low – additional funding will need to be raised in order to ensure that the company has sufficient liquidity to meet its requirements. Where PPE or Loans and Borrowing are negative it means that the assumed changes provide for more PPE to be sold or loans to be repaid, than the company currently holds. The assumptions will need to be adjusted to rectify this error. If Inventories, Trade Receivables or Trade Payables are negative, this would most likely reflect a situation where the assumptions used are negative, which would be incorrect. The balance sheet check line should also be reviewed to ensure it is zero.

The key ratios and the fiscal risk assessment risk ratings should be reviewed. Where there is a significant improvement or deterioration, the reasons for this should be checked to ensure that there is a reasonable explanation.

Finally, the financial projections should be compared to any other financial projections for the SOE (most commonly the SOE's own financial plan). Because of the simplification in the line items used in the financial model, there may be variances in specific line items models. In addition, differences in the way in which the projections were developed may also result in discrepancies. However, material differences should be identified as well as the underlying causes of such differences. On the one hand, this may reveal assumptions in the model that need to be adjusted. On the other hand, it may warrant engagement with the SOE (or other stakeholder that produced the model) regarding the validity of the assumptions that they have used.

The analysis of the financial model should also be informed by the SOE's track record in delivering on its projections. This will require a historical comparison of the company's projections against its actual results. In many cases there is a tendency toward an "optimism bias", in which case the SOE's financial model may be more representative of an upside scenario, rather than the base case. Such analysis should be taken into account when comparing the financial projections produced by the model with those of the SOE.

D. Interpretation

Finally, the model output should be reviewed and interpreted.

The most important aspect, on which to focus is the table and graphs in the Summary Charts sheet showing the net flows to the government. The flow represents the sum of any taxes and dividends received, subsidies paid, increase or decrease in the government's equity in the company and all call on the government guaranteed debt. Comparing the Stress Scenario to the Baseline Scenario provides an indication of the potential fiscal risk that may arise. The Reform scenario provides an indication of the potential, positive impact that interventions to mitigate the risks may have.

Given that the profitability of the company is an important determinant of the taxes and dividends payable by the SOE, comparing the net profit after tax under the different scenarios can also provide useful insights.

Analyzing and comparing the key financial ratios in each year can also offer insights. The evolution of the ratios over time and the changes in key ratios under the different scenarios can be compared to assess the financial sustainability of the company, even under adverse conditions. Key financial and operational indicators can be benchmarked against local and international peers. Useful ratios to focus on include the following:

- Return on equity (ROE): is calculated as net income over shareholder's equity. It measures the ability of a firm to generate profits from its shareholder's investments in the company by earning revenues in excess of the costs it incurs. It is useful to compare the indicator with the ROE generated by other SOEs; the risk-free rate, which represents the cost to the government of the capital invested in the SOE; and the equity returns that similar private sector firms would be required to earn to assess how well the company is performing;
- The debt ratio is calculated as total debt over total assets. It shows a company's ability to meet its liabilities with its assets or, put differently, the percentage of the company's financing that comes from debt rather than equity. Companies with higher levels of liabilities compared with assets are considered highly leveraged. They are also riskier, because the company has less financial flexibility as, unlike when the business has a large proportion of equity financing where dividend payments can be adjusted according to the cash generated by the company, debt obligations must be serviced when they fall due. It helps to analysis the overall debt burden on the company as well as the firm's ability to pay off the debt in future, uncertain economic times.
- The interest coverage ratio is calculated as Earnings before interest and tax (EBIT) over interest expenses. It is a financial ratio that measures a company's ability to make interest payments on its debt in a timely manner. It helps to identify whether a company is generating sufficient operating cash flows to be able to support additional debt. Investors want to see that their company can service the debt repayments on time without having to

sacrifice its operations and profits. Often companies may have a low debt ratios, but still be unable to take on additional debt because the interest coverage is too low;

- The current ratio is calculated as current assets over current liabilities. A company with larger amounts of current assets will more easily be able to pay off current liabilities when they become due without having to sell off long-term, revenue generating assets. This is not only a measure of how much cash a business has. It is also a measure of how easy it will be for the company to convert its assets into cash.

Similarly, analyzing changes in the fiscal risk assessment ratings over time and comparing the fiscal risk ratings across the various scenarios, will demonstrate the company's resilience and its ability to operate sustainability under a variety of plausible economic scenarios.