

RESERVE ADEQUACY¹

Considering that Montenegro is a unilaterally euroized economy without a lender of last resort, international reserve adequacy should be assessed not only from a balance of payments perspective, but should also take into account considerations such as buffers for fiscal financing and bank emergency liquidity assistance (ELA). International reserves appear adequate relative to standard metrics for balance of payments purposes. The banking system is currently very liquid and well-capitalized on average, however, the central bank's own resources for ELA are limited, and government deposits have been small historically. Thus, fiscal buffers and resources for ELA should be increased, preferably by building up greater government deposits—which is under way—and creating a government sub-account at the central bank for ELA purposes.

A. Introduction

1. With Montenegro a unilaterally euroized economy, international reserves play a different role than for most economies. Unlike countries that issue their own currency, Montenegro has no exchange rate to manage, and the Central Bank of Montenegro (CBM) cannot issue base money to accumulate reserves. The CBM is also not a member of the Eurosystem, and thus has no access to ECB liquidity facilities. Furthermore, the CBM cannot and need not sell foreign exchange to meet demand for foreign currency.

2. Nevertheless, reserve adequacy remains a relevant concept for Montenegro. Shocks—whether external (to exports or external financing) or internal (bank deposit runs)—can lead to outflows from the banking system and liquidity pressures on banks. While it cannot act as a full lender of last resort, the CBM should have resources to respond to bank liquidity pressures. Furthermore, government deposits (which are included in international reserves) serve as a buffer against shocks to revenues or disruptions in market access. For these reasons, the concept of reserve adequacy should still be explored.

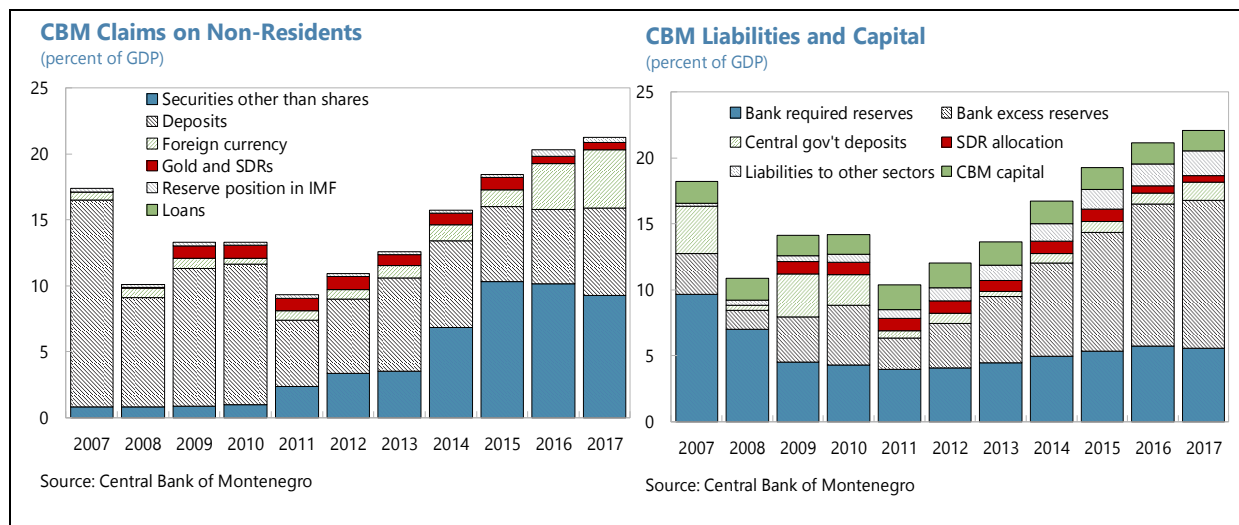
B. International Reserve Adequacy

3. Montenegro's international reserves mainly correspond to banks' required and excess reserves and central government deposits. Due to euroization, the CBM's balance sheet is denominated entirely in foreign currency (i.e. the euro). The CBM has sizeable foreign currency liabilities, mainly to domestic banks in the form of excess and required reserves. The central government also places deposits at the CBM. Against these liabilities, the CBM holds assets, which are principally invested in marketable foreign securities, deposits in foreign banks and central banks, and cash, which are all very liquid. These claims on non-residents are considered international reserves since they are readily available, controlled by the central bank, and actually exist.² Thus, any

¹ Prepared by William Lindquist.

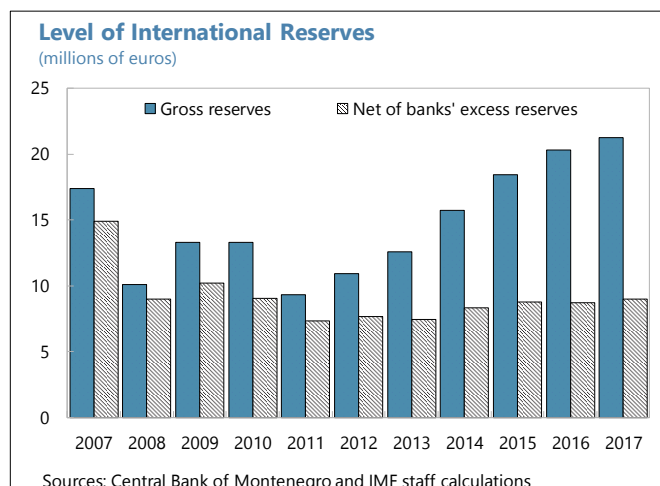
² According to the BPM6 Manual, reserve assets are those "external assets that are readily available to and controlled by monetary authorities for meeting balance of payment financing needs... Reserve assets must be foreign currency assets and assets that actually exist."

non-domestic claim/asset on the CBM’s balance sheet can be considered international reserves. At end-2017, the CBM held nearly €900 million (21 percent of GDP) in reserves, more than double the level at end-2013 (€424 million or 13 percent of GDP). A look at the liabilities side of the CBM’s balance sheet reveals that the large growth can be traced mainly to an increase in domestic banks’ excess reserves held at the CBM.



4. Against traditional rules of thumb, gross reserves appear adequate. Standard rules of thumb suggest that reserves should cover at least three months of imports, 100 percent of short-term external debt, and 20 percent of broad money (M2).³ We substitute bank deposits for broad money, as there is no base money due to euroization. Gross reserve levels currently exceed these metrics comfortably, particularly with respect to short-term debt and bank deposits (Table 1).

5. The level of international reserves excluding banks’ excess reserves falls short on some metrics, but the CBM could easily raise required reserves to meet the targets. The high level of bank excess reserves held at the CBM is a symptom of the high liquidity of banks in Montenegro. This level of excess reserves is a relatively recent phenomenon and may not be present in the future, especially in the event of a banking sector crisis. Thus, we also consider the level of international reserves net of banks’ excess reserves, which at end-2017 equaled €380 million (9 percent of GDP). The



³ See IMF (2015), “Assessing Reserve Adequacy – Specific Proposals.”

CBM should consider adjusting reserve requirements to be closer to the targets under the more conservative reserve adequacy metrics.

Table 1. Montenegro: Traditional Reserve Metrics
(based on end-2017 reserve levels)

Metric	Target level	Gross reserves	Net of bank excess reserves
Months of import cover	3.0	3.7	1.6
Reserves to short-term external debt (%)	100.0	295.0	124.7
Bank Deposits (%)	20.0	34.8	14.7

Sources: Montenegrin authorities and IMF staff calculations

6. We also benchmark Montenegro’s reserves against an IMF-developed multi-dimensional metric. The Fund developed in 2011 a new metric for assessing reserve adequacy (“ARA metric”) that combines several sources of potential drains on reserves, in recognition of the fact that balance of payment crises typically involve multiple channels of market pressure. The Fund proposed a metric for countries with fixed exchange rates, which may still be a useful benchmark for a euroized economy:⁴

$$\text{Reserves} = 10\% \text{ of } X + 30\% \text{ of } STD + 10\% \text{ of } BM + 20\% \text{ of } OPL$$

where X is exports, STD is short-term external debt, BM is broad money, and OPL is the stock of other external portfolio investment liabilities. We substitute broad money for bank deposits. Because Montenegro does not currently publish information on the international investment position (IIP), OPL has been omitted from the metric.⁵ Reserves in the range of 100 to 150 percent of the metric are considered adequate.

7. The ARA metric can be modified to fit Montenegro’s circumstances as a euroized economy. Given the lack of a lender of last resort, reserve coverage of deposits should be stronger compared to an economy with its own currency. We substitute broad money for bank deposits and increase its weight to 15 percent. Since the CBM does not have to intervene in or provide liquidity to the currency market one could argue for lower standards for exports or short-term debt, but we

⁴ IMF (2016), “Guidance Note on the Assessment of Reserve Adequacy and Related Considerations”

⁵ Data gaps, including the difficulty of estimating currency in circulation, have prevented the publication of the IIP. The CBM has received technical assistance from the IMF and hopes to begin publication of IIP data later in 2018.

decided to follow a more conservative approach.⁶ We also omit the stock of other external portfolio investment liabilities, given current IIP data gaps:

$$\text{Reserves} = 10\% \text{ of } X + 30\% \text{ of } \text{STD} + 15\% \text{ of } \text{Deposits}$$

8. Against the ARA metrics, Montenegro's current reserve levels appear adequate.

Against both the standard and modified ARA concepts, end-2017 reserve levels fall within or above the recommended range of 100 to 150 percent of the metric at 170 and 137 percent, respectively (Table 2). In a more conservative scenario without banks' excess reserves, coverage is less comfortable, between 72 percent (standard ARA concept) and 58 percent (Montenegro-specific concept) of the metric.

Table 2. Montenegro: International Reserve Needs Estimate
(2017, in percent of GDP unless otherwise noted)

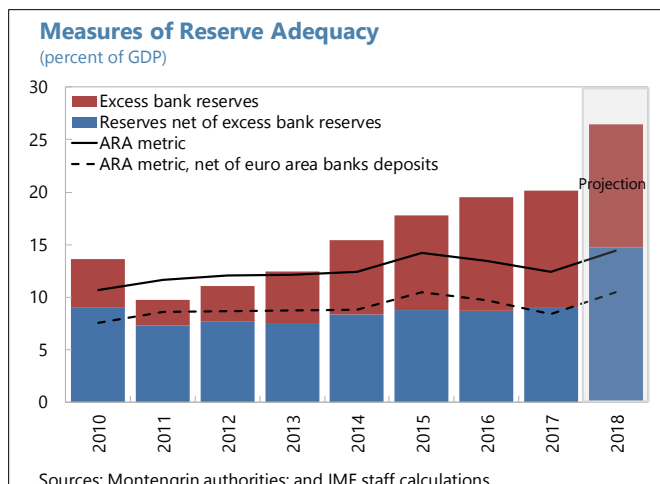
Potential sources of liquidity need	ARA Concept	Modified ARA Concept
Exports	4.1	4.1
Short-term external debt	2.3	2.3
Base money (bank deposits)	6.1	9.2
Target	12.5	15.5
Without deposits of euro area banks	8.4	9.4
Available resources:		
Gross international reserves	21.3	
<i>Percent of metric</i>	<i>170%</i>	<i>137%</i>
<i>Percent of metric, w/o euro area banks</i>	<i>253%</i>	<i>226%</i>
Net of bank excess reserves	9.0	
<i>Percent of metric</i>	<i>72%</i>	<i>58%</i>
<i>Percent of metric, w/o euro area banks</i>	<i>107%</i>	<i>95%</i>

Sources: Montenegrin authorities and IMF staff calculations

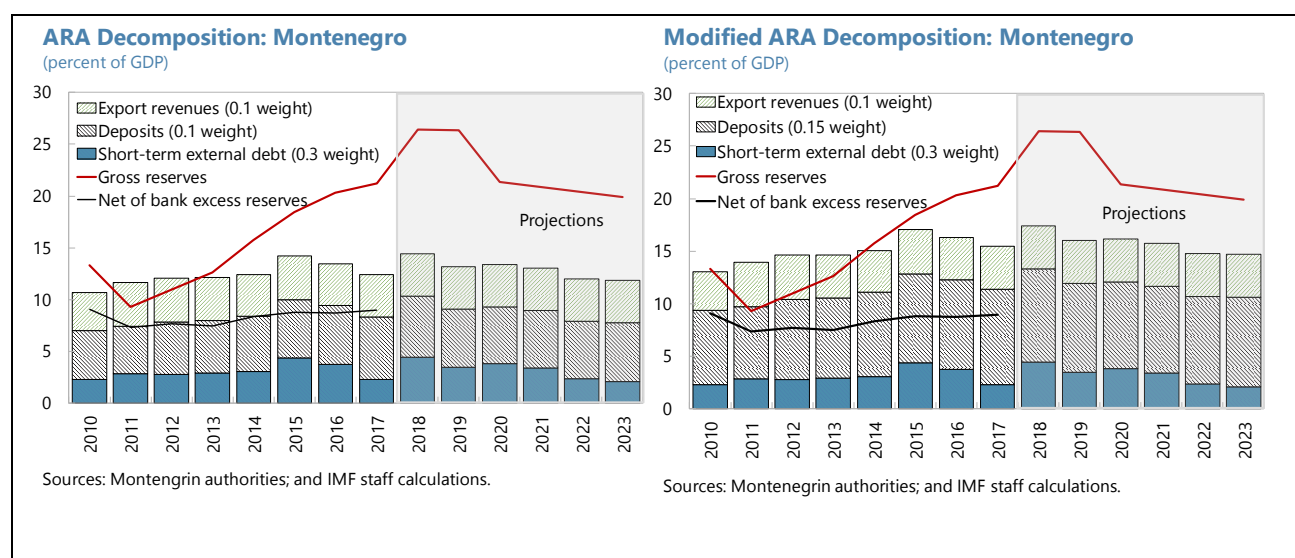
9. The dominant position of Euro Area banks in Montenegro, however, may overstate the need to cover deposits with international reserves. Banks with Euro Area parents likely have access to ECB liquidity facilities by way of their parent banks and these banks hold two-thirds of

⁶ According to IMF (2016), "the ARA EM metric may provide a conservative starting point as an adequate liquidity buffer" but could be modified according to country circumstances. The IMF's guidelines also do not clarify whether dollarized/euroized economies should use the metric for fixed or floating exchange rate systems, but in practice, Fund analysis for such economies has followed the fixed exchange rate metric.

banking system deposits. Indeed, during the 2008/09 crisis, these banks were supported by their parents and did not need any support from the CBM.⁷ If these banks' deposits are excluded from the metric calculations, Montenegro's coverage improves to between 226 and 253 percent of the metric for gross reserves and 95 to 107 percent in a scenario without banks' excess reserves (Table 2). Thus, Montenegro's international reserve coverage appeared to be reasonably adequate as of end-2017.



10. Staff's baseline projections suggest that reserve coverage should increase and remain well above most adequacy metrics over the medium term. Staff projects that international reserves will increase by 5 percentage points to 26 percent of GDP in 2018, driven by an increase in government deposits at the CBM as it pre-finances coming Eurobond amortizations. Over 2020-23, reserves may average 21 percent of GDP after deposits are drawn down in 2020 to pay Eurobonds. Based on baseline projections, reserves in the range of 12-15 percent of GDP would be broadly adequate over the medium term according to both ARA metrics. Gross reserves should thus remain adequate, though this assessment depends critically on the level of bank excess reserves in the future, which are difficult to project. If necessary, the authorities could consider adjusting required reserves such that the ARA concept modified for Montenegro net of bank excess reserves but without banks with Euro Area parents is at least 100 percent, which is the case for 2018.



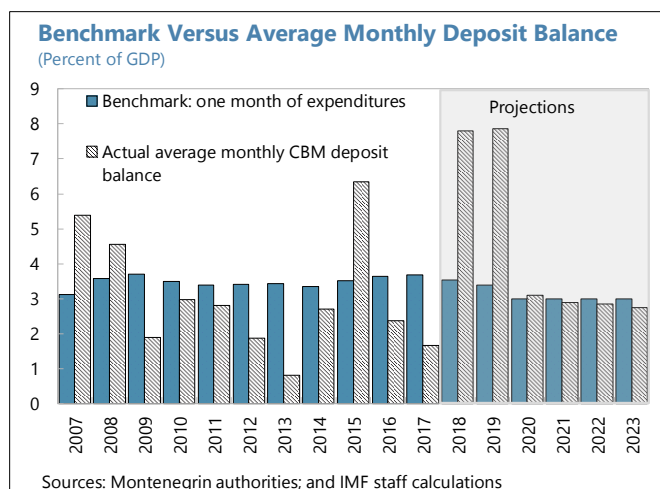
⁷ Discussions with these banks suggests that future support is also very likely.

C. Fiscal Buffers

11. With all liabilities in foreign currency, fully euroized economies may also need greater buffers for government financing. Such governments may wish to maintain additional fiscal savings as a buffer against fluctuations in revenue or spending, as funding in the adopted currency may be difficult during times of stress.⁸ In Montenegro, the central government holds the vast majority of its deposits at the CBM, and these deposits fund about 7 percent and 29 percent (projected) of the CBM's international reserves in 2017 and 2018, respectively.⁹ A useful rule of thumb for the minimum size of fiscal reserves is one month of central government expenditures.¹⁰

12. The government's deposits at the central bank have generally fallen short of the benchmark of one month of expenditures.

The average monthly deposit balance in 2017 of €70 million (1.7 percent of GDP) comprised less than half of the benchmark one month of spending of €150 million (3.6 percent of GDP). Historically, average deposit levels have stayed below the benchmark, though deposits have varied widely in line with Eurobond and other financing disbursements.



13. The pre-financing in 2018 of coming Eurobond amortizations provides an opportunity to build larger fiscal buffers. The successful liability management operation concluded in April 2018 and projected future borrowing with a World Bank Policy-Based Guarantee in 2019 should allow the authorities to pre-finance Eurobond amortizations in 2019 and 2020. Government deposits may increase to nearly 8 percent of GDP in 2018 and 2019. In 2020, when the authorities draw down deposits to amortize the Eurobond, they should retain deposits worth one month of expenditures (3 percent of GDP).

D. Banking Sector Liquidity Buffers

14. Banks in Montenegro are currently very liquid. The overall ratio of liquid assets to short-term liabilities is relatively high at 36 percent, in line with banks in other dollarized/euroized economies. Banks' own liquid assets should be their first line of defense against any liquidity crises.

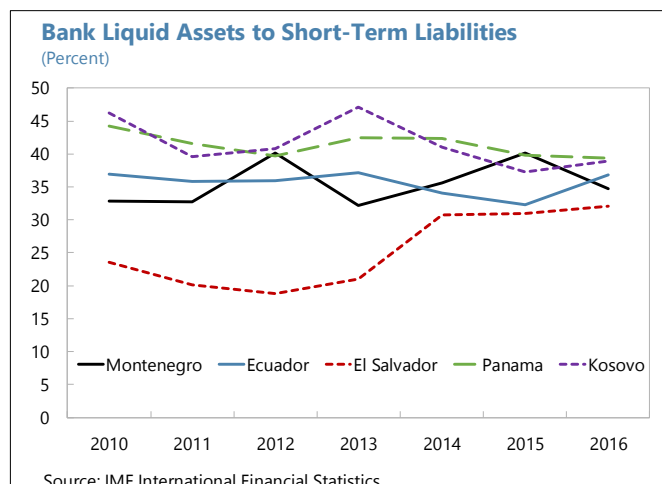
⁸ IMF (2016), "Guidance Note on the Assessment of Reserve Adequacy and Related Considerations."

⁹ Staff projects a large increase in government deposits at the CBM in 2018, based on the disbursement of a syndicated bank and Eurobond issuance which exceed 2018 fiscal financing needs. The authorities intend to maintain large deposits at the CBM to pre-finance Eurobond maturities in 2019 and 2020.

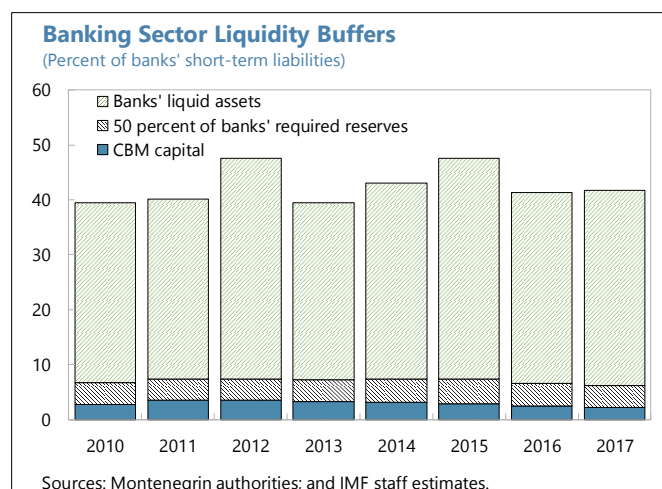
¹⁰ Wiegand (2013), "Euroization, Liquidity Needs, and Foreign Currency Reserves." Chapter 3 in Republic of Kosovo 2013 Selected Issues Papers (IMF Country Report 12/223).

However, in the event of outflows from the financial system, an individual bank's liquidity needs may exceed its own liquid assets (which include its excess reserves).¹¹ In this case, a bank may need to request liquidity from the CBM.

15. The CBM has established a framework for granting liquidity loans to banks. The CBM has the authority to grant liquidity loans to banks against adequate collateral, and it has defined the conditions for such loans, which may only be granted to solvent banks. Banks may draw up to 50 percent of their required reserves for intraday liquidity needs. For further needs, the CBM may grant intraday, overnight, or short-term liquidity loans (up to 180 days), with increasing interest rates for each type of loan. The CBM generally expects that subsidiaries of foreign banks would first turn to their parents to meet liquidity needs. Thus, for a subsidiary to receive a short-term liquidity loan from the CBM, the parent bank must confirm that it is unable to provide the necessary liquidity itself. Allowing banks to use their required reserves for a limited time once their eligible collateral has been used is reasonable if the bank continues to be considered solvent.¹²



16. While overall liquidity buffers in the banking sector currently appear to be sufficient, the CBM's own resources for Emergency Liquidity Assistance (ELA) are limited. The overall liquidity buffers in the banking sector consist of: (1) banks' own liquid assets (which include excess reserves and 50 percent of required reserves at the CBM); and (2) the 50 percent of banks' required reserves that they cannot withdraw freely and without penalty. In total, these buffers equaled 40 percent of short-term liabilities at the end of 2017. In the future, banks could become less liquid if credit growth accelerates. Should a bank exhaust its own liquid assets, collateral for receiving short-term liquidity loans from the CBM, and required reserves held at the CBM, the CBM's own resources to provide ELA currently are limited to its own capital position, which is small at only 2 percent of banks' short-term liabilities. Even if the short-term liabilities of banks with Euro Area parents (which may provide liquidity to their



¹¹ The CBM's definition of liquid assets includes banks' excess reserves and 50 percent of excess reserves.

¹² The interest rates charged on such loans should be set as a margin to a market-based interest rate such as Euribor.

subsidiaries) are excluded, ELA resources would still only cover 8 percent of short-term liabilities for the remaining banks.

E. Policy Options to Expand Buffers

17. The CBM and the fiscal authorities should consider options to bolster ELA resources and fiscal buffers. With the CBM unable to issue domestic currency, the strengthening of buffers will ultimately need to be funded and backstopped by the fiscal authorities.

Fiscal Buffers

18. Building deposit buffers and developing domestic debt markets would help insure against fiscal financing shocks. With the pre-financing of coming Eurobond amortizations, the government's deposits with the CBM will increase significantly in 2018 to levels well beyond one month of expenditures. While amortizations in 2019 and 2020 will reduce these deposit buffers, the authorities should maintain a standing balance of deposits equivalent to at least one month of expenditures. While the maintenance of a larger deposit balance will imply a carrying cost in line with Montenegro's borrowing costs, the authorities should weigh these costs against the reduced risk of a financing crisis.

19. The authorities should also encourage the development of medium- to longer-term domestic government bond markets. The authorities regularly issue T-bills with a maturity of up to one year (held mainly by banks), though the State Audit Commission has ruled that the stock of T-bills cannot grow on an annual basis.¹³ The issuance of longer-term domestic government bonds has been infrequent. They are also held mainly by banks, and trading activity is limited. A more regular offering of longer-maturity domestic bonds would allow the authorities to diversify their financing sources and tap the currently high level of liquidity in the banking sector. The provision of a new financial instrument would also be welcomed by banks, insurance companies, corporates, and retail investors.

20. Ultimately, the maintenance of sound fiscal policies will be necessary to retain regular access to international markets at reasonable terms. The authorities' medium-term fiscal adjustment strategy has greatly improved fiscal sustainability but needs to be fully implemented to ensure that government debt falls to safer levels and financing costs decline.

ELA Buffers

21. While the CBM has developed a framework for ELA, it should consider options to expand its resources beyond its own capital. Several options do not appear to be viable:

- *Pooled liquidity arrangement:* Ecuador (a dollarized economy) has a liquidity fund with a target of 10 percent of deposits, financed by contributions from banks. The idea of creating a pool of

¹³ This decision should be reviewed, since it is generally not optimal to set firm limits on specific debt instruments, especially in nominal terms. Limits on total debt, by contrast, are more justifiable.

CBM liquidity, funded by banks, has been considered, but it is beset by coordination and moral hazard issues in Montenegro. The subsidiaries of foreign banks would likely not need to access ELA (as they could receive liquidity from their parents), so they (and indirectly their parents) would essentially be providing liquidity to domestic banks. Such a situation may also raise moral hazard for domestic banks.

- *Liquid asset contribution:* If banks with larger liquid assets paid greater contributions, it would provide banks a perverse incentive against self-insurance by maintaining sufficient buffers of their own liquid assets.

22. The authorities could explore the feasibility of a standing line of credit from an international financial institution. Such a line of credit could augment existing ELA resources, if necessary during a liquidity event. The authorities should consider the cost of the commitment fee and the institution's ability to disburse quickly after a request is made. Montenegro's deposit insurance fund currently has a credit line with the EBRD until the fund is fully funded. The authorities could explore whether the EBRD could feasibly provide a similar credit line for ELA purposes. A foreign commercial bank could provide a credit line in principle, though it may resist disbursing funds if there were a broader liquidity event such as that seen during the 2008-09 Global Financial Crisis. Because Montenegro's euroization is not endorsed by the ECB, Euro Area central banks will not grant credit lines to the CBM (which would grant the CBM de facto access to the Eurosystem).

23. With the fiscal authorities as the ultimate backstop for ELA, the government should create a dedicated sub-account at the CBM for ELA purposes and maintain prudent fiscal buffers. The CBM would be able to use this account at its discretion (with strong safeguards over the use of resources), and the government should create an arrangement to reimburse the CBM for losses stemming from ELA upon an independent audit report. In Kosovo (also a euroized economy), the government has created a Special Reserve Fund at the Central Bank of Kosovo for ELA purposes. The government should create such an account and commit to reimbursing the CBM for ELA losses. Ultimately, this action would serve as a recognition that the government is the final backstop for bank liquidity, as necessary in a euroized economy. The coming build-up of government deposits at the CBM provides an opportunity to fund such an account in principle. However, given the fungibility of funds and their cost, it may not be optimal to fund the account until the need arises. Also, given that these government funds are the last line of defense for the banking system in a crisis, careful consideration should be given to whether the banks need liquidity support, capital injections, or other bank resolution actions. The authorities have drafted a law to implement the EU framework for bank resolution and recovery.

24. The authorities should follow best practices for banking supervision as a first line of defense and could consider increasing reserve requirements to augment ELA buffers. In 2017, the CBM lowered reserve requirements by two percentage points, from 9.5 to 7.5 percent and from 8.5 to 6.5 percent, depending on the type of deposits. The CBM could consider increasing reserve requirements in the future if it wished to augment buffers. Most importantly, the authorities should closely monitor banks and maintain high prudential standards to minimize the risks that emergency liquidity situations might arise.