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# Technical Note on ADF Liquidity Policy

**Discussion Paper**

ADF-13 Second Replenishment Meeting
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**AFRICAN DEVELOPMENT FUND**

# Executive Summary

During the first meeting of the Thirteenth General Replenishment of the African Development Fund in February 2013, Management presented the "ADF-13 Financing Framework" and the "Long-Term Financial Capacity of ADF" papers. Deputies requested Management to investigate whether the Fund's Advanced Commitment Capacity (ACC) could be increased through the application of a less conservative liquidity policy.

Management therefore undertook a review of the Fund's current liquidity policy, its historical evolution and also benchmarked the policy against that of other Multilateral Development Banks (MDBs) to assess the feasibility of relaxing the policy without jeopardizing the long term financial sustainability of the Fund.

The analyses show that past events, such as the implementation of the Bank's arrears clearance operations and the introduction of the Fund's accelerated encashment scheme, resulted in the Fund's liquidity increasing steadily from UA 500 million in 2005 to a peak of UA 3.6 billion in 2008. Currently, the Fund's liquidity has stabilized at about UA 3.4 billion with no prospects for a further substantial increase in the foreseeable future.

Furthermore, this steady increase in liquidity coupled with expected internally generated resources permitted the Fund to make large commitments under the Advance Commitment Authority introduced in 2005. This resulted in an increase in annual disbursements from UA 700 million in 2005 to a projected annual amount of UA 1.7 billion over the next 10 years. With no prospects of an increase in the Fund's liquidity position, a decline of UA 1.2 billion in treasury assets is anticipated over the next 10 years. This makes it imperative that the Fund's liquidity is effectively managed in order: (i) to avoid over commitment; and (ii) to reduce the impact and risk to the Fund's financial sustainability.

Management has undertaken stress tests on the Fund's balance sheet to assess the impact of the above potential risks on the financial sustainability of the Fund. These tests have confirmed that the current Prudential Minimum Level of Liquidity, which is set between 50% and 75% of the three-year moving average of net disbursements, is the optimum range that mitigates against unexpected stress events. This range is deemed to be balanced being neither too conservative nor too relaxed.

The analyses were further strengthened through a benchmarking exercise with other MDBs. The comparative analysis revealed that the other MDBs have different patterns of cash flows, particularly higher loan reflows due to less concessional loan terms and a relatively higher number of blend countries. As a result, the other MDBs have more flexibility in enacting liquidity policies that may be considered less conservative than that of the Bank.

The analysis in this document confirms that for the Fund to remain financially sustainable the following recommendations are appropriate:

- The current liquidity policy, approved by the Board in 2011 should be maintained;
- The Fund should maintain a target level of liquidity linked to the level of net disbursements to ensure that all operational disbursement requirements are met and the Prudential Minimum Level of Liquidity should remain within 50% and 75% over the three-year moving average of net disbursements;
- However, the lower limit of this range should continue to be used to monitor short term compliance with the liquidity policy;
- The upper limit of 75% should be used to guide the ACC projections given its long term nature;
- To reduce the expected pressure on the Fund's liquidity due to the decline of UA 1.2 billion expected over the next 10 years, Management proposes a gradual reduction in the size of Fund's Held-to-Maturity (HTM) portfolio. The downside of this proposal is that the Fund will no longer achieve the levels of income generation from the HTM portfolio to enable it to break even over the projection period.

In conclusion, the analysis shows that the Fund has very limited flexibility to relax its liquidity policy in order to increase the level of ACC.

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# Abbreviations

| | |
|---|---|
| ACA | Advance Commitment Authority |
| ACC | Advanced Commitment Capacity |
| ADF | African Development Fund |
| ADF-10 | Tenth General Replenishment of the African Development Fund |
| ADF-11 | Eleventh General Replenishment of the African Development Fund |
| ADF-12 | Twelfth General Replenishment of the African Development Fund |
| ADF-13 | Thirteenth General Replenishment of the African Development Fund |
| ADF-14 | Fourteenth General Replenishment of the African Development Fund |
| ADF-15 | Fifteenth General Replenishment of the African Development Fund |
| AfDB | African Development Bank |
| AsDF | Asian Development Fund |
| CCTA | Cumulative Currency Translation Adjustment |
| CEAS | Cumulative Exchange Adjustment on Subscriptions |
| HIPC | Heavily Indebted Poor Countries |
| HTM | Held-to-Maturity |
| HTM-ACE | Held to Maturity liquidity for the Accelerated Encashment portfolio |
| IDA | International Development Association |
| MDB | Multilateral Development Bank |
| MDRI | Multilateral Debt Relief Initiative |
| MVA | Modified Volume Approach |
| PML | Prudential Minimum Level of Liquidity |
| PRG | Partial Risk Guarantee |
| UA | Unit of Account |

# TECHNICAL NOTE ON ADF LIQUIDITY POLICY

## 1. Introduction

1.1. The liquidity policy of the Fund[1] was approved by the Board of Directors in 2000 and has since undergone a number of revisions, the most recent in 2011 when the Fund's General Authority was approved[2].

1.2. The liquidity policy plays a major role in the Fund's financial sustainability and seeks to minimize the risk of over-committing the limited financial resources. As the Fund does not usually borrow to fund its lending operations, its liquidity is only fuelled by the encashment of Donors subscriptions and internally generated resources including primarily reflows from lending operations. Consequently, the key liquidity drivers must be continuously monitored and liquidity maintained at an appropriate level, including built-in safety margins, to cover disbursement requests.

1.3. During the first ADF-13 meeting on February 21/22, Deputies inquired whether the Advanced Commitment Capacity (ACC) could be increased by applying a less conservative liquidity policy. This technical note has been prepared in response to that inquiry. It provides an historical background to the Fund's liquidity policy, reviews the Fund's financial projections and stress scenarios to determine the flexibility to adjust the liquidity policy, provides a benchmark analysis with other Multilateral Development Banks (MDBs) and proposes recommendations for improvements and to safeguard the Fund's financial sustainability.

1.4. This document is organized in 7 sections. Following the introduction, section 2 recalls the cash flows dynamics for concessional windows of MDBs. Section 3 presents the historical background of the Fund's liquidity policy, as well as the various events that have driven its evolution. Section 4 provides current financial projections for the Fund to monitor compliance with the liquidity policy. Section 5 presents a stress test analysis to validate the adequacy of the Fund's current Prudential Minimum Level of Liquidity (PML). Section 6 provides a benchmarking analysis with other MDBs liquidity policies. Finally section 7 presents the recommendations and the conclusion.

## 2. Key Determinants of Liquidity

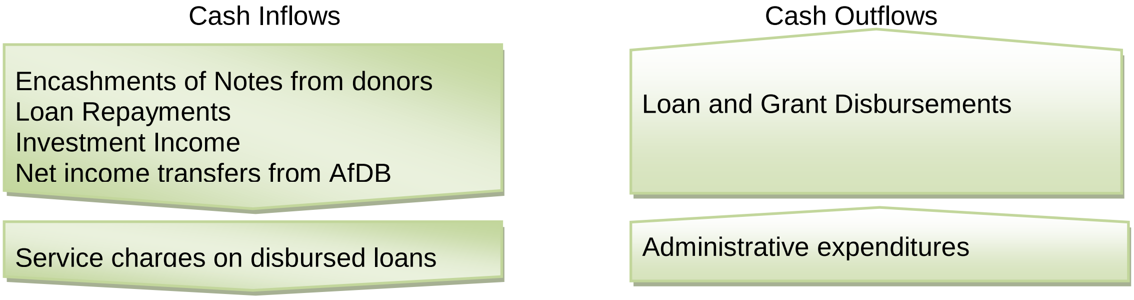
2.1. An institution's liquidity policy depends on the in-depth understanding of the dynamics of its cash flow profile. This is achieved through long term financial projections which are supplemented by stress testing scenarios on events that have the potential to impact the liquidity. Such projections and stress tests are recalibrated on a regular basis to ensure resilience over time to changing and challenging financial market scenarios and events.

2.2. Figure 1 shows the major cash flow items of the concessional windows of MDBs. The major cash inflows include: (i) encashments of notes committed by donor countries; (ii) the reflows from lending instruments (loans) including loan repayments and charges inflows; (iii) investment income on liquid assets; (iv) Net Income transfers from non-concessional windows. The outflows include: (i) Loans and grants disbursements, and (ii) administrative expenditures. In this regard it is worth emphasizing that differences in these parameters between institutions will result in liquidity policies that may not be directly comparable. For example, the International Development Association (IDA) receives a more significant level of net income transfer from the International Bank for Reconstruction and Development Group non-concessional windows (both International Bank for Reconstruction and Development and the International Finance Corporation) than the African Development Fund (ADF) and the Asian Development Fund (AsDF), which directly impacts cash flow requirements.

1 AfDB. 1999. "*Revised ADF Liquidity Policy Paper*". ADF/BD/WP/99/Rev.2

2 AfDB. 2012. "*ADF- Proposal for a General Authority on Asset and Liability Management and Revision to the Financial Regulations*". ADF/BD/WP/2011/132 ; and "*ADF- Updated Asset and Liability Management guidelines*". ADF/BD/IF/2012/99

**Figure 1: Cash Flows Profile for the ADF**




2.3. In this context, the Fund, as a provider of concessional resources to the poorest countries in Africa, needs to ensure that its financial obligations, primarily disbursing resources already committed, will be met on schedule, at any point in time. As the Fund does not borrow to fund its lending operations its capacity to meet these obligations depends primarily on its available liquidity. Even in the event of a sudden and unpredictable surge in disbursements, the Fund should be able to cover its operational requirements without the need to request further supplementary encashments from Donors. Additionally, in the event of temporary delays in encashments from Donors, the Fund's available resources should be sufficient to cover operational needs.

## 3. Historical overview of ADF Liquidity Policy

### *Key objectives of the Fund's Liquidity Policy in 2000*

3.1. The primary concern of the Fund's State Participants has been the need for an acceptable level of liquidity, taking into consideration its operational requirements, as well as sound financial management linked to the need to generate a positive net income and preserve the capital value of donor resources. The latter concern was most vividly emphasized as a condition for the release over time of additional encashments during ADF replenishments since 1993.

3.2. In the light of the above objectives, the 2000 ADF Liquidity Policy linked the target level of liquidity to net disbursements. The target liquidity level was set with a minimum at 50% of the three year moving average of net disbursements covering a three-year period consisting of the previous year, the year for which the target liquidity level is being determined, and the following year. A maximum liquidity level was also set at 150% of the minimum level (or 75% of the moving average of net disbursements). Finally, for purposes of determining the encashment schedule of ADF promissory notes, the target liquidity was used as the mid-point between the minimum and maximum liquidity levels (62.5% of the moving average of net disbursements). In approving this policy, the Board also authorized Management to adjust the target liquidity level upwards, to enable the Fund to break-even, given reasonable assumptions regarding rates of return on liquid treasury assets.

### *Introduction of the HTM portfolio and various recalibrations to adjust the liquidity level*

3.3. Several subsequent developments contributed to changes in the Fund's liquidity level, notably amongst them being increased inflows of funds from HIPC, accelerated encashments from donors and the implementation of the Advance Commitment Authority (ACA) scheme[3].

3.4. In October 2003, driven by an increase in the Fund's liquidity level, Management created an Investment portfolio to enhance investment returns on the excess liquidity that was not immediately required for Operational purposes, resulting in a dual portfolio structure with an

[3] AfDB. 2005. "*Advance Commitment Authority Scheme*". ADF/BD/WP/2005/18

Operational/Trading portfolio and an Investment portfolio[4]. The objective of the Operational/Trading portfolio was to provide readily available liquidity to cover disbursement requirements, while the Investment portfolio was meant to represent the more stable component of liquidity not required for immediate operational requirements and with the purpose of generating a stable stream of income, along similar lines to that used by the AfDB. The Investment portfolio, named the HTM (held to maturity) portfolio was held at amortized cost for accounting purposes and was expected to reach UA 1 billion by June 2005. Securities in the Investment Portfolio are passively invested against a 10-year uniform re-pricing profile in order to take advantage of higher interest rates due to the longer duration of the portfolio.

3.5. In 2006, the Investment and Operational Portfolios were recalibrated to accommodate the implementation of the Multilateral Debt Relief Initiative (MDRI) and the transfer of HIPCs resources to ADF to compensate for loan cancellations. As a result of the higher level of liquidity, the size of the HTM portfolio was recalibrated to UA 1.5 billion.

3.6. In November 2012, the size of the HTM portfolio was recalibrated downward from UA 1.5 billion to UA 1.1 billion, following the creation of the new Held to Maturity liquidity for the Accelerated Encashment portfolio (HTM-ACE)[5] portfolio dedicated to invest the proceeds from accelerated encashment, in order to recoup the discount granted to State Participants, and minimize interest rate risk on accelerated encashments. The Accelerated Encashment Program was introduced by the Fund in 2004 with the Ninth General Replenishment of the African Development Fund and increased significantly over time, from UA 576 million for the Ninth General Replenishment of the African Development Fund to approximately UA 1.21 billion for the Twelfth General Replenishment of the African Development Fund (ADF-12). This accelerated encashment of Donors Depository Notes compared to the standard encashment schedule, contributed to further increase the level of liquidity. When the HTM-ACE portfolio was calibrated in 2012 with a size of UA 1 billion, it was estimated that 70% of proceeds from accelerated encashments had been invested in the Trading portfolio while the remaining 30% were in the HTM portfolio. As a result the HTM portfolio was recalibrated.

### *Review of the definition of eligible liquidity[6]*

3.7. Under the Fund's liquidity policy in 2000, total liquidity in all portfolios was considered for compliance with the PML. Since the creation of the additional tranches of liquidity, which did not have the primary objective of covering the Fund's disbursements and operational requirements through the multi-portfolio structure (HTM and HTM-ACE portfolios), it became important to redefine the components of liquidity which would count towards ensuring compliance with the PML, referred to as "eligible" liquidity. This review of the eligible liquidity took place when the Fund's General Authority and the Revised Assets and Liability Management guidelines were approved respectively in 2011 and 2012.

3.8. The Fund's eligible liquidity was defined to exclude both the HTM and the HTM-ACE portfolios. As a vital element of the Fund's financial integrity generating a stable stream of investment income, the Fund should therefore strive, to the extent possible, to meet its operational requirements without having to liquidate securities from the HTM portfolio. As the Fund does not usually borrow and strives to avoid recourse to its Donors for unexpected encashments, in case of a surge in disbursements, the only recourse would be to sell securities from the HTM portfolio. Therefore the role of the HTM portfolio is not only to generate additional investment income but is also to serve as an additional liquidity buffer in case of pressure on its liquidity. The reason for excluding the HTM-ACE portfolio is that it is structured to earn sufficient income to recover the discount given to State participants for their accelerated encashments and therefore should not be liquidated. Investments in the HTM-ACE portfolio naturally become part of the trading portfolio and available to fund operations when the securities come to maturity.

[4] Financial projections at that time indicated that encashment and loan reflows will exceed expected disbursements in medium term, and the investment portfolio was created.

[5] Held to Maturity liquidity for the Accelerated Encashment portfolio refers to the portfolio held to maturity to manage the proceeds of accelerated encashment.

[6] Eligible liquidity is a term used to describe the liquid resources that shall be used to monitor compliance with the liquidity range.

3.9. Similar to the Bank, the Fund applied haircuts to certain categories of investments to exclude those that are considered not very liquid (large bid-offer spread), and that might take time to liquidate, or might be liquidated at unfavourable terms. As a result, the Fund's eligible liquidity included only certain categories of the trading portfolio, generally representing 80% to 90% of this portfolio[7].

### *Introduction of the ACA scheme*

3.10. Recognizing that commitments could be made against highly probable future inflows such as net income, transfers from AfDB net income and loan repayments, in 2005, during the Tenth General Replenishment of the African Development Fund (ADF-10), the ACA Scheme was adopted. The level of ACC that could be generated from all future sources other than Donor replenishment contributions was determined and set at UA 1.2 billion, UA 2.06 billion and UA 2.00 billion respectively for ADF-10 (2005-2007), ADF-11 (2008-2010) and ADF-12 (2011-2013) replenishment cycles. As a result of these increased commitments, annual disbursements rose significantly from approximately UA 700 million in 2005 to UA 1.2 billion in 2012 and are expected to average UA 1.7 billion per year over the next 10 years. Despite this significant increase in disbursements, the Fund's reflows remain basically stable over the projection period[8], and this impacts negatively the Fund's projected liquidity.

### *Key guiding principles for liquidity policy*

3.11. From the historical analysis of the evolution of the Fund's liquidity policy, the following key guiding principles should be retained:

- The Fund should avoid the possibility of recourse to donor resources to meet its liquidity needs, other than for regular encashments of promissory notes;
- The Fund should maintain adequate liquidity to cover a certain percentage of its net disbursements. This percentage should be regularly re-calibrated based on past experience, financial projections and stress test scenarios;
- The Fund should maintain an adequate level of resources in its HTM portfolio not only to generate additional investment income and enhance its financial sustainability but also to serve as a further buffer in case of over-commitments and stress events.

## 4. Evolution of ADF liquidity and future projections

4.1. Figure 3 presents the evolution of the Fund's liquidity level and outstanding disbursements since 2000. As indicated by the red bars, liquidity increased from approximately UA 500 million in 2000 to a peak of UA 3.6 billion in 2008 and has since stabilized around that level. The increase in the liquidity between 2005 and 2006 is the consequence of arrears clearance and the start of the Fund's accelerated encashment scheme. The blue bars show the evolution of undisbursed commitments increasing significantly from UA 2.2 billion in 2000 to reach UA 6.9 billion in 2012, mainly due to higher overall commitments driven by increased levels of donor and internally generated resources during ADF-10, ADF-11 and ADF-12.

4.2. The ratio of liquidity as a percentage of undisbursed commitments (green line) increased until 2006 due to the growth in liquidity and declined thereafter accentuating in 2012 when commitments increased. When proceeds from accelerated encashments are excluded from the liquidity, the decline in this ratio is even more accentuated. This rapid decline indicates that the Fund's liquidity increases at a much slower pace than commitments and calls for caution to avoid a situation of over-commitment.

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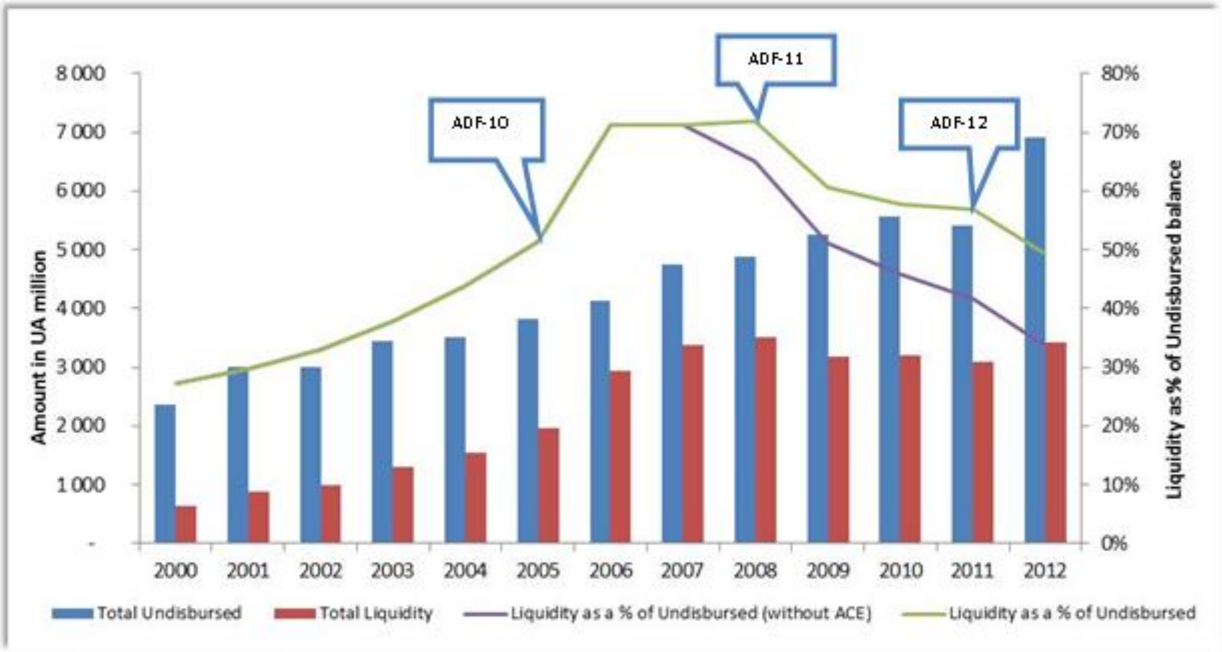
7 The eligible liquidity currently includes: Cash + Deposits + Government, Agency and Supranationals with a 20% haircut for AA categories and 40% haircut for A categories plus Corporates and Banks with a 50% haircut.

8 Given the long grace period

**Figure 2: Historical ADF Liquidity vs. Undisbursed amounts 2000-2012**

*(UA million)*




### *Projections of the Fund's Net Cash Flows*

4.3. As at end of December 2012, the Fund had UA 6.92 billion of undisbursed but signed commitments (loans and grants) and UA 295 million of unsigned approvals. The other key assumptions are that new approvals will reach UA 2.0 billion in 2013, donors' contributions for ADF-13 and subsequent replenishments will grow in real terms, and that an ACC level of UA 1.03 billion will be achieved for ADF-13, ADF-14 and ADF-15. Additionally, payments of discount notes from donors and their encashments are assumed to be received without significant delays. On the basis of these assumptions, the Fund's net cash flows are expected to remain negative throughout the projection period, as summarized in Table 1 below.

4.4. The net cash gap is mainly explained by the following:

i. Expected disbursements (on average UA 1.716 billion annually) are higher than loan repayments (on average UA 300 million annually) plus encashments (on average UA 1.315 billion annually);

ii. Administrative expenses (on average UA 223 million per year) are also higher than income from loans (on average UA 115 million per year) and investment income (on average UA 48 million per year). It should be recalled that this operational gap is primarily driven by the foregone income arising from MDRI loan cancellations and increased grants.

4.5. Table 1 indicates that on an annual basis starting from 2013, cash inflows will be lower than cash outflows, basically over the next 10 years. As a result, the cumulative shortfall will amount to UA 1.2 billion over the projection horizon and will result in a gradual decrease in the Fund's liquidity.

### *Projections for the 3 tranches of ADF liquidity and expected decrease of the HTM portfolio*

4.6. Table 2 provides the projected evolution of the resources for each of the 3 portfolios: Trading portfolio, HTM and HTM-ACE.

i. The HTM-ACE portfolio is expected to remain stable at UA 1.1 billion (line 4 of Table 2) and maturities from this portfolio, as indicated in line 3 of Table 2, increase liquidity in the trading portfolio (line 9 of Table 2).

ii. The Trading portfolio, to meet operational requirements, is maintained at a level above 50% of the moving average of net disbursements and will have an average size of UA 1.1 billion as indicated on line 11 of Table 2. It is assumed that no haircut will be applied to the trading portfolio.

iii. The HTM portfolio, held to generate income to enhance the Fund's financial sustainability and which represents a cash buffer in case of over commitments, is expected to decrease gradually from a current level of UA 1.1 billion to reach approximately UA 302 million by 2023 as indicated on line 13 of Table 2. In order to fill the cash flow gaps while at the same time maintaining liquidity in the trading portfolio above the PML, it is necessary to gradually liquidate part of the HTM portfolio.

iv. If haircuts are applied to the investments in the trading portfolio, a higher level of investment is required to reach the PML, as some securities are considered to be illiquid. The average size of the trading portfolio increases to UA 987 million (from UA 862 million when haircuts are not applied). As a result, more sales from the HTM portfolio will be needed to fill the gap and the HTM is therefore expected to reduce to UA 173 million in 2013 (compared to UA 302 million when haircuts are not applied). Detailed information on this scenario is presented in Annex IV.

**Table 1: Projections of expected cash flows of the Fund over the period 2013-2023**

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Loans disbursements | (758) | (1 164) | (1 176) | (1 205) | (1 164) | (1 134) | (1 185) | (1 142) | (1 122) | (1 127) | (1 196) | (1 176) |
| Grants disbursements | (400) | (497) | (498) | (539) | (544) | (551) | (576) | (593) | (557) | (555) | (597) | (575) |
| Total Disbursements | (1 158) | (1 660) | (1 674) | (1 744) | (1 708) | (1 685) | (1 761) | (1 735) | (1 679) | (1 683) | (1 794) | (1 750) |
| Loans repayments (including MDRI) | 140 | 234 | 248 | 255 | 260 | 271 | 289 | 313 | 326 | 344 | 374 | 388 |
| Net Disbursements | (1 018) | (1 426) | (1 426) | (1 489) | (1 448) | (1 414) | (1 472) | (1 423) | (1 353) | (1 339) | (1 420) | (1 362) |
| 3-Year moving average of net disbursements | (1 222) | (1 290) | (1 447) | (1 454) | (1 450) | (1 445) | (1 436) | (1 416) | (1 371) | (1 370) | (1 374) | (1 457) |
| 50% of 3-Years MVA of net disbursements | (611) | (645) | (724) | (727) | (725) | (722) | (718) | (708) | (686) | (685) | (687) | (729) |
| Cash Required for disbursements (8)-(4) | (547) | (1 015) | (950) | (1 017) | (982) | (963) | (1 043) | (1 027) | (994) | (997) | (1 107) | (1 022) |
| Administrative Expenses | (185) | (206) | (230) | (203) | (205) | (211) | (217) | (223) | (230) | (237) | (244) | (252) |
| Outflows (4)+(10) | (1 344) | (1 867) | (1 904) | (1 947) | (1 912) | (1 896) | (1 978) | (1 959) | (1 909) | (1 920) | (2 038) | (2 002) |
| 100% of Repayments (Loans and MDRI) | 140 | 234 | 248 | 255 | 260 | 271 | 289 | 313 | 326 | 344 | 374 | 388 |
| Income from Loans | 67 | 72 | 80 | 90 | 98 | 106 | 114 | 123 | 131 | 138 | 146 | 154 |
| Income from Investments | 88 | 67 | 62 | 60 | 59 | 54 | 49 | 40 | 36 | 36 | 35 | 34 |
| ADF Allocation | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| FSF write-back, arrears clearance, Special allocation for Abidjan | | 50 | 89 | 22 | 5 | | | | | | | |
| Encashment up to ADF-12 | 1 297 | 1 298 | 729 | 614 | 483 | 326 | 225 | 199 | 79 | - | - | - |
| Encashment starting ADF-13 | | - | 511 | 658 | 780 | 951 | 1 047 | 1 125 | 1 275 | 1 347 | 1 406 | 1 416 |
| Inflows | 1 627 | 1 756 | 1 754 | 1 733 | 1 720 | 1 744 | 1 760 | 1 834 | 1 882 | 1 900 | 1 996 | 2 027 |
| Net Cash Increase (Decrease) | 283 | (110) | (150) | (214) | (192) | (152) | (219) | (125) | (28) | (20) | (42) | 25 |

**Table 2: Projections of the Fund's treasury assets over the period 2013-2023**

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Treasury Assets - Beginning of the period | 3 104 | 3 417 | 3 307 | 3 157 | 2 944 | 2 752 | 2 600 | 2 381 | 2 257 | 2 229 | 2 209 | 2 167 |
| HTM-ACE - Beginning of the period | 823 | 1 021 | 1 170 | 1 207 | 1 251 | 1 226 | 1 214 | 1 200 | 1 158 | 1 156 | 1 159 | 1 137 |
| HTM-ACE disinvestment | - | - | - | - | (25) | (12) | (14) | (43) | (2) | - | (22) | (1) |
| HTM-ACE - End of the period | 1 021 | 1 170 | 1 207 | 1 251 | 1 226 | 1 214 | 1 200 | 1 158 | 1 156 | 1 159 | 1 137 | 1 137 |
| Liquidity Required to comply with policy | 611 | 645 | 724 | 727 | 725 | 722 | 718 | 708 | 686 | 685 | 687 | 729 |
| Liquidity Required to meet annual cash gap | - | 110 | 150 | 214 | 192 | 152 | 219 | 125 | 28 | 20 | 42 | - |
| Total Liquidity Required | 611 | 755 | 873 | 941 | 917 | 874 | 937 | 833 | 713 | 705 | 729 | 729 |
| Trading - Beginning of the period | 1 687 | 1 301 | 1 191 | 1 041 | 917 | 874 | 937 | 833 | 751 | 725 | 729 | 729 |
| liquidity coming from HTM-ACE Portfolio disinvestment | - | - | - | - | 25 | 12 | 14 | 43 | 2 | - | 22 | 1 |
| liquidity coming from existing Trading Portfolio | 611 | 755 | 873 | 941 | 892 | 862 | 923 | 790 | 712 | 705 | 707 | 728 |
| Trading - End of the period | 1 301 | 1 191 | 1 041 | 917 | 874 | 937 | 833 | 751 | 725 | 729 | 729 | 754 |
| HTM Portfolio - Beginning period | 594 | 1 095 | 946 | 909 | 776 | 652 | 449 | 348 | 348 | 348 | 321 | 302 |
| HTM Portfolio - End Period | 1 095 | 946 | 909 | 776 | 652 | 449 | 348 | 348 | 348 | 321 | 302 | 302 |
| Total Treasury Assets - End of the period | 3 417 | 3 307 | 3 157 | 2 944 | 2 752 | 2 600 | 2 381 | 2 257 | 2 229 | 2 209 | 2 167 | 2 193 |
| Excess (Gap) of liquidity* compared to policy (50% of 3-Years MVA of net disbursements) | 1 076 | 656 | 467 | 314 | 217 | 164 | 232 | 167 | 67 | 40 | 64 | 1 |
| Liquidity ratio under the liquidity policy (50% of 3-Years MVA net disbursements) | | 101% | 82% | 72% | 63% | 61% | 65% | 59% | 55% | 53% | 53% | 50% |
| Liquidity ratio when considering all treasury assets (ACE, HTM and Trading) | | 265% | 229% | 217% | 203% | 190% | 181% | 168% | 165% | 163% | 161% | 149% |
| Excess (Gap) of Liquidity (Trading) compared to all cash needs | 1 076 | 546 | 317 | 100 | 25 | 12 | 14 | 43 | 39 | 20 | 22 | 1 |

**Trading portfolio only.*

### *Impact of the decrease in the HTM on the Fund's financial sustainability*

4.7. Table 3 shows the financial impact of the projected gradual decrease of the HTM portfolio on the Fund's financial sustainability. It indicates that with the adjustments made for the foregone income on MDRI and grants, the Fund will be able to break even around 2025.

**Table 3: Projections of the Fund's income statement over the period 2013-2023**

| Income | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Service charge & Commitments fees from existing loans | 66 | 71 | 75 | 77 | 78 | 79 | 80 | 80 | 80 | 79 | 78 | 77 |
| Service charge & Commitments fees from new loans | - | 1 | 6 | 13 | 20 | 27 | 35 | 43 | 51 | 60 | 68 | 77 |
| Total Income from Loans | 66 | 72 | 80 | 90 | 98 | 106 | 114 | 123 | 131 | 138 | 146 | 154 |
| Income from Investments at Amortized Cost | 48 | 45 | 39 | 37 | 35 | 32 | 27 | 18 | 14 | 14 | 14 | 13 |
| Income from Investments at Fair Value | 26 | 6 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Income from Investments of the ACE portfolio | 13 | 17 | 19 | 20 | 21 | 20 | 20 | 20 | 19 | 19 | 19 | 19 |
| Total Income from Investments | 88 | 67 | 62 | 60 | 59 | 54 | 49 | 40 | 36 | 36 | 35 | 34 |
| Other Income | 0,60 | - | - | - | - | - | - | - | - | - | - | - |
| Total Income | 154 | 139 | 142 | 150 | 157 | 161 | 163 | 163 | 166 | 174 | 181 | 188 |
| Expenditure | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
| Net Administrative Expenses | (185) | (206) | (230) | (203) | (205) | (211) | (217) | (223) | (230) | (237) | (244) | (252) |
| Discount on Accelerated Encashment | (32) | (31) | (37) | (28) | (28) | (34) | (18) | (18) | - | - | - | - |
| Financial Charges | (0) | - | - | - | - | - | - | - | - | - | - | - |
| Translation gain (losses) | (1) | - | - | - | - | - | - | - | - | - | - | - |
| Total Expenditure | (219) | (237) | (267) | (230) | (232) | (244) | (235) | (242) | (230) | (237) | (244) | (252) |
| Net Income | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
| Income before adjustments | (65) | (98) | (125) | (81) | (75) | (84) | (72) | (79) | (64) | (63) | (63) | (64) |
| Compensation for forgone income on grants | - | 0 | 1 | 4 | 7 | 11 | 14 | 18 | 22 | 26 | 31 | 35 |
| Compensation for forgone income of MDRI | 19 | 37 | 36 | 35 | 34 | 32 | 31 | 30 | 29 | 28 | 26 | 25 |
| Net Income after adjustment | (46) | (61) | (88) | (42) | (34) | (41) | (26) | (30) | (13) | (9) | (6) | (4) |

## 5. Stress testing the liquidity policy

5.1. While above analysis indicates that the Fund is able to comply with its current liquidity policy by gradually decreasing the HTM portfolio, it is important to assess the robustness of eligible liquidity in the face of various plausible, but unexpected demands, to ensure an appropriate balance between being too conservative or too stringent. Unexpected demands for liquidity arise from three main underlying risks: i) Operational risks related to delays in encashments of donors resources and MDRI/Grant compensations, unexpected high disbursements, and unexpected non-budgeted increases in administrative expenses, ii) Market risks related to the adverse fluctuations of currencies and interest rates, and iii) credit risks resulting in delays in loan repayments or calls on guarantees.

5.2. The impact of each of the above parameters on the Prudential Minimum Liquidity requirement is summarized in Table 4 below. A minimum amount of UA 821 million is required to ensure that the Fund's liquidity can cover these simultaneous stress events, when considered simultaneously, which represents 61% of the 3-year moving average of net disbursements. The detailed description of each stress event is provided in Annex I. The largest impacts arise from increases in disbursements, delays in donor encashments, calls on guarantees and the impact of adverse currency fluctuations on the Cumulative Exchange Adjustment on Subscriptions (CEAS) and the Cumulative Currency Translation Adjustment (CCTA).

**Table 4: Assessment of the Required Prudential Minimum Liquidity**

| Risk factors impacting the PML | Amount required in UA million |
|---|---|
| Delays in donor encashments (12% Max annual encashments for ADF 13) | 149 |
| 10% delay on MDRI and grant compensation | 18 |
| Unexpected acceleration of disbursements | 401 |
| Liquidity requirement for coverage of calls on ADF guarantees for PRG | 100 |
| 10% non-budgeted increase in administrative expenses | 19 |
| CEAS-CCTA movements | 65 |
| Impact of low return on the liquidity portfolio and potential losses | 51 |
| Impact of low return on the accelerated encashment portfolio | 15 |
| Non accruals of loans due to credit default | 5 |
| Total Prudential Minimum Liquidity | 821.6 |
| 3-year Moving Average net disbursements for 2013 | 1 346.2 |
| Minimum Liquidity Ratio | 61.0% |

5.3. Since all stress events are not expected to occur simultaneously, it is considered appropriate to maintain a 50% threshold level for the Fund's PML.

## 6. Benchmarking with other MDBs

6.1. It should be recalled that while the Fund maintains its PML at 50% of the 3-year moving average of expected annual net disbursements, IDA maintains its PML at 33% of annual gross disbursements, and the AsDF maintains its PML at 81% of next year's projected cash outflows[9]. Several reasons justify the use of different liquidity policies by these institutions among which are: i) the different cash flow profile that arise from the operational specificities of each institution ii) the different approaches for tranching liquidity and the implementation of different investment strategies by these institutions.

### *Cash flow profile of MDBs*

6.2. As indicated in section 2, liquidity is a direct result of the cash flow profile and with differing cash inflows and outflows, the liquidity policies of MDBs can also be expected to differ. Indeed, an institution which has significant reflows and which stress tests do not indicate important needs for liquidity can be expected to maintain a relatively low PML.

6.3. Table 5 indicates that loan repayments currently represent a very small proportion of undisbursed loans for the ADF compared to other MDBs, largely due to the application of more concessional lending terms and the relatively low number of blend countries. Therefore, in comparison, the ADF needs to maintain more liquidity to cover its disbursement requirements.

**Table 5: Loan repayments as a percentage of undisbursed loans from 2009 to 2011**

| | 2009 | 2010 | 2011 | Average |
|---|---|---|---|---|
| **ADF** | 1.3% | 1.2% | 1.2% | 1.2% |
| **IDA** | 7% | 8% | 7% | 7% |
| **AsDF** | 13% | 14% | 15% | 14% |

6.4. Another difference arises from the level of loan income compared to administrative expenses. Table 6 highlights a much lower coverage for the ADF compared to other MDBs, again mainly due to the low level of loan income[10]. Again, this means that the ADF will need to maintain a higher level of liquidity to cover its structural operational gap.

**Table 6: Coverage of Administrative expenses by Loan income[11] from 2009 to 2011**

| | 2009 | 2010 | 2011 | Average |
|---|---|---|---|---|
| **ADF** | 37% | 36% | 39% | 37% |
| **IDA** | 75% | 78% | 77% | 77% |
| **AsDF** | 135% | 129% | 124% | 129% |

### *"Tranching" liquidity and Investment strategies*

6.5. IDA, the AsDF, and the ADF have implemented different approaches to tranche their liquidity and apply different investment strategies for each tranche of liquidity, impacting the liquidity requirements of each institution. Depending on the objectives assigned to each tranche of liquidity, the monitoring of compliance with the PML could differ from one institution to the other. For instance, liquidity tranches for proceeds from accelerated encashments, or for resources not

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9 Net cash outflows for the Asian Development Fund include projected loan and grant disbursements and administrative expenses.

10 The low volume of loan income is also explained by the concessional terms of the loans, the number of blend countries and the strong impact of foregone income on Multilateral Debt Relief Initiative cancelled loans and grants.

11 Foregone income due to Multilateral Debt Relief Initiative and grants are not factored in the computation of those coverage ratios.

expected to be immediately disbursed (HTM portfolio for ADF) may be excluded from the eligible liquidity monitored against the PML for certain institutions and not for others, which make liquidity policies not always comparable. Annex II provides more details on the approach taken by each MDB to tranche their liquidity.

### *"Available Liquidity/Undisbursed commitments"*

6.6. While MDBs implement different liquidity policies, they retain a certain volume of available liquidity (total liquidity excluding liquidity from accelerated encashments) for operational purposes. Table 7 shows that those liquidity ratios (available liquidity/undisbursed commitments) are different for the three institutions and that the AsDF retains more liquidity to face its undisbursed portfolio. The lower ratio of the IDA may be explained by the relatively high proportion of accelerated encashment and the higher ratio of the AsDF may be explained by the shorter disbursement profile of their loans.

**Table 7: Available Liquidity* as a percentage of undisbursed commitments**

| | 2009 | 2010 | 2011 | Average |
|---|---|---|---|---|
| **ADF** | 51% | 46% | 42% | 46% |
| **IDA** | 24% | 27% | 27% | 22% |
| **AsDF** | 65% | 59% | 58% | 61% |

**Available liquidity = Total liquidity – Liquidity from accelerated encashments*

6.7. In summary, while MDBs may have different liquidity policies due to the different cash flow patterns of their institutions and the stress tests that they expect their liquidity policy to cover, each MDB should ensure retaining sufficient liquidity to meet its respective cash flow requirements without having recourse to Donors for supplementary resources in case of stress events.

## 7. Recommendations and Conclusion

### *Elimination of haircuts*

7.1. The comparative review of liquidity policies leads to the conclusion that the Fund's current application of haircuts to eligible liquidity is quite conservative and may not be justified. Indeed, contrary to the Bank for which the conservative level of liquidity is a key parameter underpinning its AAA rating, the Fund is not rated and does not borrow to fund its lending operations and therefore it has some additional flexibility in applying haircuts to its eligible liquidity. The Fund may choose to delay disbursements to beneficiary countries in case of stress events, which will not have a significant impact on its financial sustainability. It is recommended that the Fund does not apply haircuts in determining eligible liquidity, in line with the current practice of the concessional windows of other MDBs.

7.2. As indicated in section 4.6, this change will enable the Fund to reduce the effective size of its trading portfolio and equally increase the size of the HTM, resulting in a higher income generated from the HTM portfolio. Such decision will not impact the ACC and will also be consistent with the approach taken in the model used for the determination of the ACC.

### *Maintenance of the 75% threshold in the ACC model*

7.3. When determining the maximum level of advance commitments that the Fund could provide, the ACC model considers the upper range of the liquidity policy in its projections and ensures that the projected level of liquidity does not fall below 75% of the moving average of projected disbursements. The rationale for using the upper range of the liquidity policy is because the ACC model considers projections over a long time horizon of 50 years. Therefore, it is important to maintain a more conservative approach for this longer term objective, than when monitoring liquidity on a short term basis. This conservative approach is implemented to ensure that the Fund does not run the risk of over-commitment during this 50 year horizon and represents the most important safety margins built in the model, to protect the Fund against various risks not accounted for in the model such as:

- Adverse currency rate fluctuations that may impact the Fund's CCTA or CEAS;
- Adverse interest rate fluctuations that may impact the Fund's investment income;
- An increase in the pace of disbursements above the projected disbursement profile;
- Delays in payments and encashments of promissory notes.
- A level of loan cancellation below projections; and
- An increase in administrative expenses above projected level.

7.4. It should also be noted that a reduction of the liquidity threshold in the ACC model from the current level of 75% to 50% will result in an increase in the ACC from UA 1.032 billion to approximately UA 1.3 billion. However, given the current level of liquidity for the Fund, such a level of ACC will result in the full liquidation of the HTM portfolio and the need for additional resources to face disbursements and operational requirements.

### *Other recommendations*

7.5. In light of the above analysis, Management further recommends:

i) The Fund's liquidity policy as specified in the ADF General Authority approved by the Board in 2011 and as detailed in the ADF Asset and Liability Management guidelines remains sound and should be maintained.

ii) The Fund's principal liquidity risk management objective should remain to hold sufficient resources to enable it to meet its normal and predictable obligations without having to resort to requests to State Participants for supplementary encashments or resources. To achieve this objective, the Fund shall continue to maintain a target level of liquidity linked to the level of net disbursements and aimed at ensuring that its operational requirements will be met.

iii) The Fund's target level of liquidity should also be maintained, notably:

a. A prudential minimum level of liquidity (PML): 50% of the three-year moving average of net disbursements, centered on the year for which the required liquidity is being specified;

b. A maximum level of liquidity: 75% of the three-year moving average of net disbursements (i.e. 150% of the PML).

c. A target liquidity level used in preparing encashment schedules: 62.5% of the three year moving average of net disbursements (i.e. at the mid-point between the minimum and the maximum liquidity level).

iv) The Fund should maintain its current approach for tranching the liquidity with a HTM-ACE, a HTM and a Trading portfolio. The investment strategies of these portfolios should remain unchanged, as specified in the ALM guidelines.

v) Given the expected pressure on the Fund's liquidity as demonstrated in the financial projections, the Fund should gradually reduce the size of the HTM investment portfolio, while maintaining an adequate safety buffer which can be used for disbursements in case of stress events.

## Annex I: Detailed description of stress tests scenarios for the determination of the Prudential Minimum Level of Liquidity (PML)

*Several stress tests scenarios have been identified for the determination of an adequate PML for the Fund and are described in Annex I.*

### *Delays in donor encashments*

The Fund may face possible delays in encashments which will impact its liquidity. Over the last 4 years, approximately 12% of total encashments were received with delays ranging from 22 to 65 days. However, the historical analysis shows that these delays tend to occur at the same period of the year for all donors, hence the need to ensure an adequate level of liquidity to cover these shortages. Taking into account the level of encashments expected for ADF-13 and applying the same percentage of delays, an amount of approximately UA 149 million of liquidity must be held for the PML.

### *Delay on Multilateral Debt Relief Initiative and grant compensations*

While Donors commit to fully compensate the Fund for foregone reflows on Multilateral Debt Relief Initiative and Grants, a 10% delay is estimated for liquidity management purposes and the amount required amounts to UA 18 million.

### *Unexpected surge in disbursements*

The Fund may be required to provide immediate assistance to beneficiary countries that would result in the acceleration of disbursements compared to what was planned for the replenishment. Also, the historical African Development Fund (ADF) loan disbursement profile used for projections is subject to uncertainty and changes over time. In order to satisfy these possible additional disbursement requirements, a liquidity buffer should be set up and was determined based on the maximum variance observed for annual disbursements over the past 10 years which amount to UA 401 million (standard deviation of annual disbursements from 2003 to 2012).

### *Call on ADF guarantees*

To cover possible calls on guarantees, the Fund generally follows the policy of holding 50 percent of the total guarantee exposure in the form of liquidity. Taking into account the envelope of UA 200 million approved during ADF-12 for the PRG pilot programme, an amount of UA 100 million should be held in form of liquid assets to cover the risk of guarantees being called.

### *Increase of administrative expenses:*

While the Bank Group ensures that administrative expenses are contained within the approved budget, from a risk perspective events may occur which will require the Bank to approve a contingency budget to face non-budgeted needs. An amount of UA 19 million is included in the PML for such event and was estimated at 10% of administrative expenses.

### *CEAS-CCTA movements:*

Although the Fund implements policies to mitigate the impact of currency fluctuations on its resources, residual risk still exists particularly for the CEAS (Cumulative Exchange Adjustment on Subscriptions) which cannot be fully hedged. Based on the largest quarterly decrease on CCTA (Cumulative Currency Translation Adjustment) and the CEAS recorded since 2007, an amount of UA 64 million has been accounted for in the PML.

### *Low return on the liquidity portfolio*

ADF liquidity portfolio is exposed to interest rate risk. An historical analysis shows that the largest decrease on Return On Investment of ADF investment portfolio since 2006 was recorded in 2010 and amounted to 1.51% of the total investment portfolio. Based on the size of the 2013 investment portfolio, an amount of UA 51 million is accounted for in the PML.

### *Low return on the accelerated encashments portfolio*

The delay between the date at which the discount rates for accelerated encashments are determined and proceeds from accelerated encashments are actually invested, may result in a reduced interest rate and consequently a loss for the Fund and should be taken into account in the computation of the PML. Based on the amortization of the discount provided to donors as at end of December 2012 which amounts to UA 31.87 million, and the projected income on the Held to Maturity liquidity for the Accelerated Encashment portfolio (HTM-ACE) portfolio, annual estimated losses on accelerated encashments amount to approximately UA 15 million, but should be reduced with measures recently taken to improve the management of this portfolio.

### *Non accruals of loans due to credit events*

While loan repayments are contractual obligations that are respected under normal condition, under stress situation delays in the repayment of loans may occur. An historical analysis shows that the largest non-accrued income recorded during the last 10 years was in 2003 and amounted to UA 6.7 million which corresponds to 9.7% of total loan repayments of the same year. Applying the same percentage to expected loans repayments in 2013, the volume of non-accrued loan income is estimated at UA 5.3 million. It should be noted that for the year 2012, the non-accrued loan income amounted to UA 3.86 million.

## Annex II: Comparative Analysis of Multilateral Development Banks (MDBs) approaches to liquidity tranching

*Annex II provides information on the different approaches implemented by MDBs to tranche their liquidity*

### *International Development Association (IDA) liquidity Tranching*

IDA currently maintains 3 major tranches in its liquidity portfolio as follows:

- The first tranche of liquidity includes liquidity from Accelerated Encashments and is invested with an immunization strategy which consists of matching investments with the projected net cash outflows stream of liabilities. This portfolio represents approximately 60% of IDA's total liquidity and has a long duration of approximately 4.3 years given the cash flows profile of the liabilities.
- The second tranche of liquidity include IDA's remaining contracted cash outflows, related commitments already made, as well as the liquidity available for future replenishments and 40% of the required PML. This portfolio represents approximately more than 20% of IDA's total liquidity and is invested with a duration of 3 years.
- The third tranche of liquidity includes liquidity required for working capital for the current year plus 60 percent of the required Prudential Minimum Level of liquidity. This liquidity represents less than 20% of IDA's total liquidity and is invested with a duration that does not exceed 1 year.

### *Asian Development Fund (AsDF) Liquidity tranching*

The AsDF maintains 2 major tranches in its liquidity portfolio as follows:

- The first tranche of liquidity includes liquidity from accelerated encashments which are invested with an immunization strategy by matching the maturity profile of projected disbursements. The first tranche also includes all contractual cash flows linked to commitments already made as well as working capital required for operational purposes, which are invested in short term instruments to ensure liquidity.
- The second tranche of liquidity includes the required Prudential Minimum of Liquidity as well as liquidity available for future commitments. As Tranche 2 liquidity is not immediately required it can be invested with a longer duration to enhance returns, in line with the investment authority.

### *ADF Liquidity tranching*

As indicated in section 3, the Fund maintains 3 key tranches of liquidity as follows:

- The HTM-ACE portfolio which includes proceeds from accelerated encashments and is invested to match the normal encashment schedule with a duration of approximately 3 years. The HTM-ACE portfolio is held at amortized cost and as such does not result in significant volatility in the Fund's financial statements despite the long maturity. This portfolio currently represents 1/3 of the Fund's total portfolio.
- The Trading portfolio which objective is to cover working capital requirement, primarily disbursements and administrative expenses, and is used to monitor compliance with the PML. This portfolio has a duration of 3 months.
- The HTM portfolio which is also held at amortized cost and is invested primarily to generate additional income with a duration of approximately 4 years. As indicated in the previous section, while this portfolio currently represents 1/3 of the total liquidity, its size is expected to reduce over time.

## Annex III: Comparison of Prudential Minimum Liquidity of MDBs

| | ADF | IDA | AsDF |
|---|---|---|---|
| **Prudential Minimum Liquidity** | • 50% to 75% of the 3-year moving average of expected annual disbursements | • 33% of annual gross disbursement over a 3-year rolling period | • 81% of the next year's projected cash outflows (mainly disbursements and administrative expenses) |
| **Computation Rationale** | • Based on 3 scenarios analysis with 50%, 75% and 100% 3-year moving average of expected annual disbursements<br>• The scenario at 50% was selected based on past trends liquidity level and ability of the Fund to break even | • Based on the potential unexpected demands on the liquidity: cyclical cash demands, delays in donor encashment, interest risk, currency risk, emergency assistance<br>• The 33% of annual gross disbursement is regularly tested against the unexpected potential demand on liquidity. | • Based on the potential unexpected demands on the liquidity: cyclical cash demands, delays in donor encashment, interest risk, currency risk, emergency assistance |
| **Coverage of expenditures (Average from 2009 to 2011)** | • Loan income : 37%<br>• Loan & investment income: 97% | • Loan income : 77%<br>• Loan & investment income: 144% | • Loan income : 129%<br>• Loan & investment income: 181% |
| **Liquidity indicators (Average from 2009 to 2011)** | • Liquidity/Undisbursed balance: 59%<br>• Liquidity/next year expected disbursement: 2.6X<br>• Loan Repayment/Undisbursed: 1.2% | • Liquidity/Undisbursed balance: 71%<br>• Liquidity/next year expected disbursement: 2.5X<br>• Loan Repayment/Undisbursed: 8% | • Liquidity/Undisbursed balance: 61%<br>• Liquidity/next year expected disbursement: 2.9X<br>• Loan Repayment/Undisbursed: 14% |
| **Reason for decreasing the PML** | • No change | • No change | • AsDF Loans were converted in SDR in 2009 and this led to the reduction of the provision for currency risk |
| **Portfolio composition** | • Trading<br>• Investment HTM-ACE portfolio for Accelerated encashments<br>• Investment HTM portfolio to generate additional | • Tranche 1: Liquidity from donor accelerated encashments<br>• Tranche 2: Other contracted cash outflows, 40% Prudential Minimum Level of liquidity, liquidity available for future replenishments<br>• Tranche 3: working capital for the current year, 60% Prudential Minimum Level of liquidity | • Tranche 1: contractual cash flows (sub-tranche 1a liquidity for cash flows needs for ADF expected disbursements and administration; sub-tranche 1b the portfolio for accelerated encashment for investment income generation)<br>• Tranche 2: residual liquidity (2a, unexpected demand and 2b usable liquidity for future commitments). |

## Annex IV: Projections of the Fund's treasury assets over the period 2013-2023 with haircuts applied on the liquidity

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Treasury Assets - Beginning of the period | 3 104 | 3 417 | 3 307 | 3 157 | 2 944 | 2 752 | 2 600 | 2 381 | 2 257 | 2 229 | 2 209 | 2 167 |
| HTM-ACE - Beginning of the period | 823 | 1 021 | 1 170 | 1 207 | 1 251 | 1 226 | 1 214 | 1 200 | 1 158 | 1 156 | 1 159 | 1 137 |
| HTM-ACE disinvestment | - | - | - | - | (25) | (12) | (14) | (43) | (2) | - | (22) | (1) |
| HTM-ACE - End of the period | 1 021 | 1 170 | 1 207 | 1 251 | 1 226 | 1 214 | 1 200 | 1 158 | 1 156 | 1 159 | 1 137 | 1 137 |
| Liquidity Required to comply with policy | 611 | 645 | 724 | 727 | 725 | 722 | 718 | 708 | 686 | 685 | 687 | 729 |
| Additional liquidity to account for illiquid assets (haircut) | 108 | 114 | 128 | 128 | 128 | 127 | 127 | 125 | 121 | 121 | 121 | 129 |
| Liquidity Required to meet annual cash gap | - | 110 | 150 | 214 | 192 | 152 | 219 | 125 | 28 | 20 | 42 | - |
| Additional liquidity to account for illiquid assets (haircut) | - | 19 | 26 | 38 | 34 | 27 | 39 | 22 | 5 | 4 | 7 | - |
| Liquidity Required | 611 | 755 | 873 | 941 | 917 | 874 | 937 | 833 | 713 | 705 | 729 | 729 |
| Total additional liquidity to account for illiquid assets (haircut) | 108 | 133 | 154 | 166 | 162 | 154 | 165 | 147 | 126 | 124 | 129 | 129 |
| Total Liquidity Required | 719 | 888 | 1 028 | 1 107 | 1 079 | 1 028 | 1 102 | 980 | 839 | 829 | 857 | 857 |
| Trading - Beginning of the period | 1 687 | 1 301 | 1 191 | 1 107 | 1 079 | 1 028 | 1 102 | 980 | 898 | 872 | 857 | 857 |
| liquidity coming from HTM-ACE Portfolio disinvestment | - | - | - | - | 25 | 12 | 14 | 43 | 2 | - | 22 | 1 |
| liquidity coming from existing Trading Portfolio | 719 | 888 | 1 028 | 1 107 | 1 054 | 1 017 | 1 088 | 937 | 838 | 829 | 835 | 857 |
| Trading - End of the period | 1 301 | 1 191 | 1 107 | 1 079 | 1 028 | 1 102 | 980 | 898 | 872 | 857 | 857 | 883 |
| HTM Portfolio - Beginning period | 594 | 1 095 | 946 | 843 | 614 | 497 | 284 | 201 | 201 | 201 | 193 | 173 |
| HTM Portfolio - End Period | 1 095 | 946 | 843 | 614 | 497 | 284 | 201 | 201 | 201 | 193 | 173 | 173 |
| Total Treasury Assets - End of the period | 3 417 | 3 307 | 3 157 | 2 944 | 2 752 | 2 600 | 2 381 | 2 257 | 2 229 | 2 209 | 2 167 | 2 193 |
| Excess (Gap) of liquidity* compared to policy (50% of 3-Years MVA of net disbursements) | 968 | 542 | 340 | 251 | 251 | 190 | 271 | 189 | 93 | 66 | 71 | 1 |
| Liquidity ratio under the liquidity policy (50% of 3-Years MVA net disbursements) | | 93% | 76% | 70% | 68% | 65% | 71% | 64% | 60% | 58% | 57% | 54% |
| Liquidity ratio when considering all treasury assets (ACE, HTM and Trading) | | 243% | 210% | 199% | 187% | 175% | 166% | 155% | 151% | 149% | 148% | 137% |
| Excess (Gap) of Liquidity (Trading) compared to all cash needs | 1 184 | 679 | 472 | 332 | 349 | 320 | 344 | 337 | 312 | 291 | 279 | 258 |
| *Trading portfolio only | | | | | | | | | | | | |

*When haircuts of 15% are applied on the Trading portfolio (85% of trading assets are assumed to be liquid), additional liquidity is needed to replace illiquid securities (line 6) and comply with the policy (line 5). The size of the trading portfolio must therefore increase to comprise both liquid and illiquid assets (line 5 + line 6).*

*The additional liquidity required will be obtained by liquidating the HTM portfolio which size will decrease to reach UA 173 million by 2023, compared to UA 302 million when haircuts are not applied.*