Accelerated Encashment Schedules

ADF WG Paper

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Executive Summary

An accelerated encashment schedule for ADF-14 is one of a number of innovative options to increase the ADF-14 resource envelope. Replacing the 10-year standard encashment schedule by a shorter one will lead to a higher Advance Commitment Capacity (ACC). The increase in ACC is attributable to the combined impact of an increase in liquidity during the standard encashment period and the income generated by investing the incremental liquidity. Using ADF-13 data and assumptions, but shortening the encashment period from the current 10 years to a period of 6, 5 and 4 years could increase ACC by UA 379.72 million, UA 402.53 million and UA 424.88 million respectively. All ADF eligible RMCs will benefit from increasing ADF resources by adopting accelerated encashment through increased ADF allocations.

By adopting an accelerated encashment schedule, State Participants accept to forego the income due to acceleration. The foregone income accrues over a period of 10 years and its size depends on the rate of return on ADF liquid investments. When 2.65%, the ADF-14 projected rate of return in the Advance Commitment Authority model is used, forgone income is estimated at UA164.69 million, UA 215.64 million, and UA 266.58 million for encashment schedules of 6, 5 and 4 years respectively.

The ADF-14 Working Group is invited to provide guidance on:

- Whether or not to retain the accelerated encashment option, and
- The degree of acceleration that should be proposed to Deputies during the ADF-14 replenishment negotiations.

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Abbreviations

ACA	Advance Commitment Authority
ACC	Advance Commitment Capacity
ADF	African Development Fund
AfDB	African Development Bank
TSF	Transitional States Facility
MDRI	Multi-Lateral Debt Relief Initiative
PSF	Private Sector Enhancement Facility
UA	Unit of Account

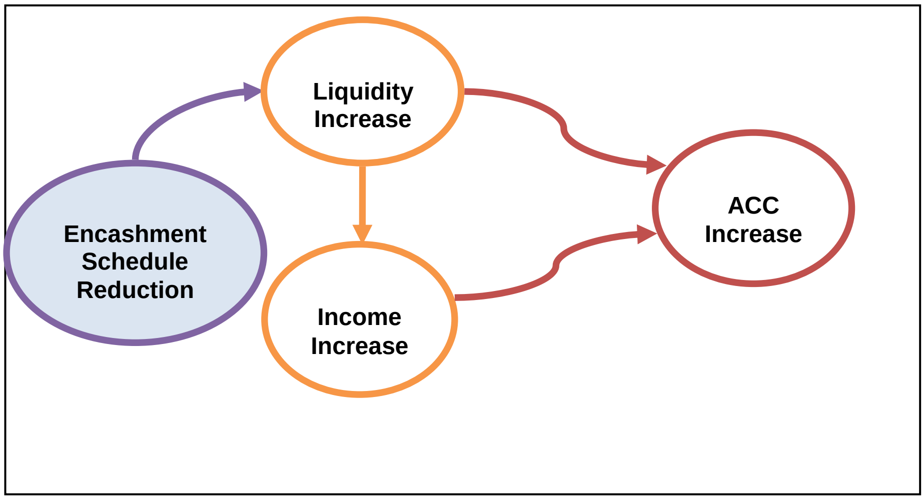
ACCELERATED ENCASHMENT SCHEDULES

1. Introduction

1.1. This paper responds to the request of the 3rd Meeting of the ADF Working Group (ADF-WG) for an analysis of the impact of shorter encashment schedules on the Advance Capacity (ACC) of the African Development Fund (ADF or the Fund). The request was made during discussions on exploring ways to increase the ADF-14 replenishment envelope aside the traditional method of increasing donor contributions by way of grants.

1.2. The use of accelerated encashment schedules is one of a number of approaches to increase the ADF-14 replenishment cycle resource envelope that are being examined by the ADF-WG. The immediate impact of using a shorter encashment schedule than the one dictated by the Fund's disbursement profile is an increase in ADF liquidity. Such an increase will have a positive impact on the Fund's investment income and on the ACC (Figure 1).

Figure 1: Impact of Shortening the Encashment Schedule on the ACC



1.3. This note estimates the potential quantifiable impact on ADF liquidity, income and the ACC of accelerated encashment schedules of 4, 5 and 6 years. The analysis is based on the Advanced Commitment Authority (ACA) model used during the ADF-13 replenishment cycle, and the acceleration is with respect to the ADF-13 standard encashment schedule. This analysis will be repeated using the updated disbursement profile and the accompanying standard encashment schedule, once the ACC model has been updated for ADF-14[1].

1.4. Following this introduction, section 2 discusses the Fund's experience in the use of accelerated encashment schedules, section 3 examines the impact on liquidity and income of adopting an accelerated encashment schedule and section 4 the impact on the ACC. Section 5 concludes the analysis.

[1] An analysis of the Fund's recent disbursement experience indicates that there has been a significant shift in the pattern of disbursements, with loans and grants disbursing at a faster pace than was previously reported. Moreover, in recent replenishments, allocations of more than 20% of replenishment resources have been made to initiatives such as the Transitional States Facility (TSF) and the Private Sector Enhancement Facility (PSF) where the resources are transferred out of ADF liquidity and managed separately. If it is assumed that during future replenishments allocations of the same order of magnitude will be made to similar initiatives, there will be a material change in the ADF disbursement profile going forward. Future standard encashment schedules, including that of ADF-14 will, consequently, not only be shorter than the 10-year encashment schedules of previous replenishment but will also be front loaded.

2. ADF Experience with Accelerated Encashment Schedules

2.1. Accelerated encashment schedules are a variant of replenishment specific encashment schedules that were first introduced in the Fund in 2000 during the ADF-VIII period[2]. The objectives were (1) to closely align the encashment of notes deposited by State participants during each replenishment with the disbursement of the loan or grant operations financed with the new subscriptions, and (2) to provide donors a longer term financial planning tool[3]. The understanding at the time was that the Fund's reference encashment schedule would be revised during subsequent replenishments to reflect changes that may have occurred in the disbursement profile of the Fund's operations.

Standard Encashment Schedule

2.2. The encashment schedule derived directly from the disbursement profile is generally referred to as the standard encashment schedule and is used as a reference in estimating the benefits/costs of other encashment schedules. The ADF's standard encashment schedules for ADF-11, ADF-12 and ADF-13, (Annex I) have remained basically unchanged, with weighted average maturities within the narrow range of 5.12 - 5.38 years.

Customized and Accelerated Encashment Schedules

2.3. Two variants of the standard encashment schedule have been used since the introduction of replenishment specific encashment schedules. The first consists of customized encashment schedules that are equivalent to the standard encashment schedule in present value terms[4]. The second consists of encashment schedules with higher present values. The encashment schedules with higher present values are usually shorter and are referred to as accelerated encashment schedules. This note addresses issues related to the second variant.

2.4. Some individual State participants have opted for accelerated encashment schedules during past replenishment cycles. The extra liquidity attributed to accelerated encashment has generated additional income when invested[5]. The financial benefit thus generated has been used by State participants in one of four ways:

- To increase the State participant's burden share and voting rights,
- To reduce the amount encashed while maintaining burden share and voting rights,
- To cover a share of the State participant's costs under the Multi-lateral Debt Relief Initiative (MDRI) and/or other initiatives, and
- To reduce the overall structural/technical gap of the replenishment[6].

2.5. ADF Deputies agreed on two reference encashment schedules for ADF-13. Specifically, State participants could encash their subscriptions using either the standard 10-year schedule or an alternative accelerated 4-year schedule on a voluntary basis. However no State participant opted for the 4-year schedule. Using an accelerated encashment schedule would have meant that they individually accepted to forego the benefits associated with accelerated encashment.

2.6. The analyses in the following sections assume that all ADF State participants adopt an accelerated encashment schedule as the reference encashment schedule for the next replenishment cycle.

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[2] See "A Proposal to Introduce a Replenishment Specific Encashment Schedule System for ADF" ADB/BD/WP/99/18, dated 11 February 2000.

[3] Prior to ADF-10, encashment schedules were prepared annually, a practice that did not facilitate multi-year financial planning by donors.

[4] The ADF is indifferent if a donor chooses to use a customized encashment schedule that is equivalent in present value terms to the standard encashment schedule.

[5] The reforms to the accelerated encashment system introduced during AD-13 were designed to ensure that the incremental income attributable to accelerated encashment is accurately estimated to avoid any prejudice to the Fund.

[6] When the burden shares of all donors during a replenishment cycle, expressed as a percentage, do not sum-up to 100%, the difference between the sum of the burden shares and 100% is referred to as the structural/technical gap.

3. Impact of Accelerated Encashment on ADF Liquidity and Income

3.1. The Fund has used a 10-year standard encashment schedule as a reference since the introduction of replenishment specific encashment schedules during the ADF-10 replenishment cycle. The amounts encashed annually in line with the standard encashment schedule anticipate annual disbursements. This ensures that there is sufficient liquidity to honour the disbursement requests attributable to operations funded with the proceeds of the replenishment.

3.2. Accelerated encashment implies that the promissory notes deposited by State participants and other donors during a replenishment cycle are encashed at a faster annual rate than disbursements. This leads to an accumulation of cash during the disbursement period beyond the level that would prevail if the standard encashment schedule were used. When invested the extra liquidity generates additional investment income for the Fund.

3.3. Total subscriptions during the ADF-13 replenishment cycle (including supplementary subscriptions) amounted to UA 3,842 million. The standard encashment schedule for ADF-13 requires that 5.03% or UA 193.40 million worth of the promissory notes deposited be encashed during the first year. If a uniform 4-year accelerated encashment schedule were used, 25% or UA 961.25 million worth of promissory notes would be encashed, which would result in additional liquidity of UA 767.85 (961.25 - 193.40) million at the end of the first year. The additional liquidity for years 2 to 10 are similarly calculated as the difference between encashment in line with the 4-year schedule and encashment based on the standard encashment schedule. Table 1 below summarizes the impact on ADF year-end liquidity and annual income of using accelerated encashment schedules of 4, 5 and 6 years. The details are presented in Annex II.

Table 1: Incremental Year-End Liquidity and Annual Income for Accelerated Encashment Schedules: 2.65% Rate of Return

(Amounts in UA Million)

Year	4-year Encashment Schedule		5-year Encashment Schedule		6-year Encashment Schedule	
	Incremental Liquidity	Incremental Income[7]	Incremental Liquidity	Incremental Income	Incremental Liquidity	Incremental Income
1	767.85	10.17	575.60	7.63	447.43	5.93
2	1,331.53	27.82	947.03	20.17	690.69	15.08
3	1,725.26	40.50	1,148.51	27.77	764.00	19.27
4	2,107.07	50.78	1,338.06	32.95	825.40	21.06
5	1,607.60	49.22	1,607.60	39.03	966.76	23.75
6	1,178.11	36.91	1,178.11	36.91	1,178.11	28.42
7	788.23	26.05	788.23	26.05	788.23	26.05
8	437.18	16.24	437.18	16.24	437.18	16.24
9	116.89	7.34	116.89	7.34	116.89	7.34
10	-	1.55		1.55		1.55
Total		266.58		215.64		164.69

Source: Financial Management Department and Resource Mobilization and External Finance Department Estimates

3.4. Table 1 above indicates that there is a rapid build-up of liquidity in all three scenarios. In the case of the 4-year accelerated encashment schedule, incremental liquidity rises to UA 2,107.07 million at the end of year 4 when encashment is completed. The corresponding figures for the 5- and 6-year accelerated encashment schedules are UA 1,607.60 million at the end of year five and UA 1,178.11 million at the end of year six. As is to be expected in all three scenarios, the year-end incremental liquidity decreases to zero in year 10, the end of the standard encashment period, which also corresponds to the end of the disbursement period for operations financed with the proceeds of the replenishment.

[7] Annual incremental income is obtained by multiplying average incremental liquidity for the year by the rate of return on investment.

3.5. Investing the incremental liquidity at an annual rate of return of 2.65%, corresponding to the projected return on ADF investment for the ADF-14 period yields total incremental investment income of UA 266.58 million for a 4-year encashment schedule as shown in Table 1. The corresponding figures for the 5-year and 6-year encashment schedules are UA 215.64 million and UA 164.69 million, respectively. The incremental income is the benefit of acceleration to the Fund and is retained by the Fund to strengthen its financial capacity to support additional advance commitment capacity. On the other hand, the incremental income is also the cost (foregone income) to State participants of accepting accelerated encashment, and will be borne by each donor in proportion to its burden share[8].

3.6. The financial benefit accruing to the Fund due to acceleration is sensitive to the rate of return on the Fund's liquid investments. When the actual rate of return on the ADF investment portfolio for 2014 of 2.23% is used, the incremental income reduces to UA 223.82 million, UA 179.93 million and UA 136.68 million for 4, 5 and 6-year encashment schedules respectively (Annex III).

4. Impact of Accelerated Encashment on ACC

4.1. The ACC for a replenishment is estimated using the ACC model whose key parameters include i) the level of eligible liquidity at the beginning of the replenishment cycle, ii) the disbursement profile of loans and other operations to be financed with the proceeds of the replenishment and iii) the companion standard encashment schedule. One of the principal cash inflows in the model is ADF investment income, which itself is dependent on the volume of investible funds available and the expected rate of return on investment. The replacement of the standard encashment schedule in the model by an accelerated encashment schedule, would lead to higher levels of liquidity in the intermediate years, which, when invested, would yield higher levels of investment income, as indicated in section 3 above. It is therefore expected that higher liquidity and investment income would increase the advance commitment capacity during the replenishment cycle in question.

4.2. To estimate the increase in ADF-14 ACC due to accelerated encashment, the ACC model for ADF-13 was rerun. All the ADF-13 assumptions remained unchanged, except that the 10-year ADF-13 standard encashment schedule was replaced in turn, by 4, 5 and 6-year schedules for the ADF-14 replenishment cycle. As indicated in column 3 of Table 2 below the projected ADF-14 ACC increases from UA 978.08 million to UA 1402.96 million, i.e., by UA 424.88 million if a 4-year accelerated encashment schedule is used. The corresponding increases in ACC for 5- and 6-year accelerated encashment schedules are UA 402.53 million and UA 379.72 million respectively.

Table 2: Increase in ACC due to Acceleration in UA Million

Encashment Schedule	Return on Investment of 2.65%		Return on Investment of 2.23%	
	ACC	Increase in ACC	ACC	Increase in ACC
Standard ADF-13	978.08		969.44	
4-Year	1,402.96	424.88	1,377.15	407.71
5-Year	1,380.61	402.53	1,357.46	388.02
6-Year	1,357.80	379.72	1,336.46	367.02

Source: Financial Management Department Estimates

4.3. The increase in ACC is sensitive to the rate of return on ADF investment. When a rate of return of 2.23%, corresponding to the actual ADF return on liquid investments in 2014, is used, the ACC declines by UA 8.64 million to UA 969.44 as indicated in column 4 of Table 2. The increases in ACC also decline marginally for the 4, 5, and 6-year encashment schedules.

8 A donor with a 5% burden share would forego UA 13.29 million (0.05 x 265.82), if a 4-year encashment schedule were used instead of the standard 10-year schedule.

5. Conclusion

5.1. The adoption of an accelerated encashment schedule for ADF-14 would lead to an increase in the ACC for the replenishment cycle, with the incremental ACC increasing with the degree of acceleration. This positive impact on the ACC is attributable to both the increased liquidity throughout the standard encashment period and the incremental investment income earned from investing the additional liquidity. All ADF-eligible Regional Member Countries will benefit from an increase in the ACC through higher allocations.

5.2. The incremental investment income also represents the cost of the scheme to State participants. It is in the form of forgone income over a 10-year period and will be borne by each State participant in proportion to its ADF burden share.

5.3. Both the ACC and the cost of acceleration are sensitive to the rate of return on ADF investments, the higher the rate of return, the higher the cost and the ACC.

5.4. The ADF Working Group is invited to provide guidance on:

- Whether to retain accelerated encashment as an option for increasing the ADF-14 resource envelope,
- Which of the three accelerated encashment schedules to propose to Deputies and other partners during the ADF-14 replenishment negotiations.

Annex I: Standard Encashment Schedules for Three Replenishment Cycles

	Annual Percentage		
Year	**ADF-11**	**ADF-12**	**ADF-13**
1	3.43	5.03	5.03
2	7.76	10.34	10.34
3	12.58	14.76	14.76
4	14.77	15.07	15.07
5	14.87	12.99	12.99
6	13.7	11.17	11.17
7	11.74	10.14	10.14
8	9.74	9.13	9.13
9	8.4	8.33	8.33
10	3.01	3.04	3.04
Weighted Avg Maturity	5.38	5.12	5.12

Annex II: Standard and Accelerated Encashment Schedules for ADF-13: Discount Rate 2.65%

(Amounts in UA Million)

		Four-Year Encashment Period			Five-Year Encashment Period			Six-Year Encashment Period		
Year	**10-Year Standard Encashment Schedule**	**Encashment Percentage**	**Annual Increase in Liquidity (UA Million)**	**Incremental Year-End Liquidity due to Acceleration**	**Encashment Percentage**	**Annual Increase in Liquidity (UA Million)**	**Incremental Year-End Liquidity due to Acceleration**	**Encashment Percentage**	**Annual Increase in Liquidity (UA Million)**	**Incremental Year-End Liquidity due to Acceleration**
2014	5,03	25	767,85	767,85	20	575,60	575,60	16,67	447,43	447,43
2015	10,34	25	563,68	1 331,53	20	371,43	947,03	16,67	243,26	690,69
2016	14,76	25	393,73	1 725,26	20	201,48	1 148,51	16,67	73,31	764,00
2017	15,07	25	381,81	2 107,07	20	189,56	1 338,06	16,67	61,39	825,40
2018	12,99		-499,47	1 607,60	20	269,54	1 607,60	16,67	141,37	966,76
2019	11,17		-429,49	1 178,11		-429,49	1 178,11	16,67	211,35	1 178,11
2020	10,14		-389,88	788,23		-389,88	788,23		-389,88	788,23
2021	9,13		-351,05	437,18		-351,05	437,18		-351,05	437,18
2022	8,33		-320,29	116,89		-320,29	116,89		-320,29	116,89
2023	3,04		-116,89	-		-116,89	0,00		-116,89	0,00
Total	100	100	0,00		100	0,00		100		
Discount Rate	**0,0265**									
NPV equivalent	87,65	93,71			92,52			91,34		
Credit as % of face value (a)	0	6,91			5,55			4,21		
ADF-13 Subscriptions (b)	**3 845 014 279**									
Credit in UA Million ((a)x(b))*		265,83			213,46			161,99		

*This is also an estimate of incremental income due to acceleration.

Annex III: Standard and Accelerated Encashment Schedules for ADF-13: Discount Rate -2.23%

(Amounts in UA Million)

Year	10-Year Standard Encashment Schedule	Four-Year Encashment Period			Five-Year Encashment Period			Six-Year Encashment Period		
		Encashment Percentage	Annual Increase in Liquidity (UA Million)	Incremental Year-End Liquidity due to Acceleration	Encashment Percentage	Annual Increase in Liquidity (UA Million)	Incremental Year-End Liquidity due to Acceleration	Encashment Percentage	Annual Increase in Liquidity (UA Million)	Incremental Year-End Liquidity due to Acceleration
2014	5,03	25	767,85	767,85	20	575,60	575,60	16,67	447,43	447,43
2015	10,34	25	563,68	1 331,53	20	371,43	947,03	16,67	243,26	690,69
2016	14,76	25	393,73	1 725,26	20	201,48	1 148,51	16,67	73,31	764,00
2017	15,07	25	381,81	2 107,07	20	189,56	1 338,06	16,67	61,39	825,40
2018	12,99		-499,47	1 607,60	20	269,54	1 607,60	16,67	141,37	966,76
2019	11,17		-429,49	1 178,11		-429,49	1 178,11	16,67	211,35	1 178,11
2020	10,14		-389,88	788,23		-389,88	788,23		-389,88	788,23
2021	9,13		-351,05	437,18		-351,05	437,18		-351,05	437,18
2022	8,33		-320,29	116,89		-320,29	116,89		-320,29	116,89
2023	3,04		-116,89	-		-116,89	0,00		-116,89	0,00
Total	100	100	0,00		100	0,00		100		
Discount Rate	**0,0223**									
NPV equivalent	89,46	94,66			93,64			92,64		
Credit as % of face value	0	5,82			4,68			3,55		
ADF-13 Subscriptions	**3 845 014 279**									
Credit in UA Million		**223,82**			**179,93**			**136,68**		