

Document: EB 2014/111/R.17
Agenda: 9(d)
Date: 12 March 2014
Distribution: Public
Original: English

E



Investing in rural people

Recommendations on the Ortec Finance AG asset liability management review of the After-Service Medical Coverage Scheme

Note to Executive Board representatives

Focal points:

Technical questions:

Iain Kellet
Associate Vice-President,
Financial Operations Department
Tel.: +39 06 5459 2403
e-mail: i.kellet@ifad.org

Branka Vukadin
Officer-in-Charge
Treasury Services Division
Tel.: +39 06 5459 2297
e-mail: b.vukadin@ifad.org

Dispatch of documentation:

Deirdre McGrenra
Head, Governing Bodies Office
Tel: +39 06 5459 2374
e-mail: gb_office@ifad.org

Executive Board — 111th Session
Rome, 8-9 April 2014

For: Approval

Recommendation for approval

The Executive Board is invited to review the document and to approve the recommendations contained in section IV.

Recommendations on the Ortec Finance AG asset liability management review of the After-Service Medical Coverage Scheme

I. Introduction

1. The management of the After-Service Medical Coverage Scheme (ASMCS) was established pursuant to resolution 132/XXVI of the Governing Council, which states: "IFAD will invest the resources of the IFAD ASMCS Trust Fund ... in accordance with the same rules, guidelines and criteria on investment that it applies to its regular resources."¹ The resolution further specifies that ASMCS resources cannot be invested in equities or similar instruments.
2. In 2012, the Treasury Services Division (TRE) prepared a new investment strategy for the ASMCS in order to reduce the resource gap deriving from the determination of assets (expected rate of return) and liabilities, and to minimize the interest rate risk associated with the scheme. ASMCS funds were previously invested in-house short-term through rolling time deposits. The President approved the new strategy, which is benchmark-driven and includes the outsourcing of investment management.
3. Following a competitive procurement process, Payden and Rygel, an investment management firm, was appointed to manage the portfolio in December 2012. TRE, with analysis and recommendations from Payden and Rygel, determined a strategic asset allocation (SAA), within IFAD's Investment Policy Statement and risk budget, aimed at minimizing the funding gap.
4. Furthermore, given the long-term horizon of IFAD's ASMCS investments, and consequently the different investment objectives, investment horizon and associated risk of the portfolio compared with IFAD's regular resources, TRE recommended, with the concurrence of IFAD's Investment, Finance and Asset Liability Management Advisory Committee and its Investment and Finance Advisory Committee, that an independent asset liability management (ALM) review be undertaken by an external party.
5. In June 2013, the Audit Committee endorsed this recommendation. IFAD then proceeded to contract Ortec Finance AG (Ortec) through an existing contract with the Food and Agriculture Organization of the United Nations (FAO) and the World Food Programme (WFP), which IFAD had the opportunity to join.

II. Scope of ALM study provided by Ortec

6. The ALM study was initiated to address IFAD's risk tolerance in view of the financial and actuarial characteristics of the programme and IFAD's risk budget, and to review the SAA, including its duration and currency position in view of the plan's current funding ratio.

Outline

7. The study included:

¹ Draft resolution on the establishment of an IFAD trust fund for the After-Service Medical Coverage Scheme, Governing Council, Twenty-Fifth Anniversary Session, 19-20 February 2003, paragraph 5.

- Review of financial and actuarial characteristics of the ASMCS;
- Determination of asset liability results for the funding policy and status;
- Review of the current SAA;
- Determination of diversification and efficiency benefits from alternative/additional asset classes;
- Assessment of the currency composition of the liabilities and the effect on the asset allocation; and
- Assessment of the duration of the liabilities and the match with the duration of the assets.

Assumptions of ASCMS liabilities

8. As part of the study, Ortec reviewed the demographic as well as the financial assumptions used by Aon Hewitt (Hewitt), human capital and management consultants, to determine IFAD's ASCMS liabilities. All factors used by Hewitt were confirmed by Ortec with the exception of mortality assumptions, which were described as more conservative than those generally used.

Description of Ortec's methodology

9. Ortec uses two methods for formulating central expectations with regards to risk and return for financial assets:
 - Disequilibrium (DIS)
 - Equilibrium (EQ)
10. DIS scenarios are dependent on a starting point and incorporate cyclical aspects of asset class returns together with views on potential central bank policies and impact.
11. EQ demonstrates central expectations for financial and economic variables, such as interest rates and inflation, to transition smoothly to the long-term values. This includes volatility, which follows a smooth path from the starting point to the long-term level.
12. EQ scenarios are used to determine the optimal long-term asset allocation while the DIS scenario takes into account short-term economic fluctuations for determining the optimal portfolio for the coming years.
13. Two time horizons have been suggested as relevant: long term (15 years) and short term (5 years)
14. Given the current market dislocation, in particular with regard to the normalization of interest rates, Ortec recommends that the main investment horizon be 5 years as longer-term strategies are less efficient. However, for the purpose of this review, long-term behaviour of asset classes is also relevant to determine the asset allocation that would best fit the long-term objectives of the programme.
15. A summary of Ortec's economic assumptions outlining medium and long-term risk and returns are outlined in the appendix.
16. Ortec's conditional value at risk (CVaR) methodology presented in the report cannot be compared with IFAD's CVaR calculation method. Any changes to IFAD's current SAA would be tested according to IFAD's methodology in order to ensure compliance with IFAD's risk budget as governed by the Investment Policy Statement.

Portfolio optimization

17. Based on Ortec's current market views, the firm analysed IFAD's strategic asset allocation and performed portfolio optimizations on both methodologies, i.e. EQ and DIS, short- and long-term. Portfolio optimization scenarios included:

- Optimization of the current SAA
 - Optimization of the current SAA plus index-linked bonds
 - Optimization of the current SAA plus index-linked bonds plus emerging markets debt local currency (EMD LC) – unhedged
 - Optimization of the current SAA plus index-linked bonds plus EMD LC plus equity
18. As the ASMCS is currently fully funded, the objective of the optimization scenarios is to minimize both the probability of a lower funding ratio and the average extraordinary contributions from IFAD’s regular resources.
19. While the first two optimizations focus on matching the liabilities, the remaining scenarios are return-driven and aim to minimize potential cash contributions.
20. IFAD’s current SAA, illustrated in table 1, was developed in December 2012 by TRE and its Financial Planning and Analysis Unit, in accordance with IFAD’s Investment Policy Statement and risk budget, with inputs also from the external asset manager Payden and Rygel. The external manager outperformed the benchmark (4.28 per cent versus the benchmark return of 3.48 per cent) over the past year. The calculated CVaR of the portfolio as per end of December 2013 was around 4 per cent compared with a budget of 6 per cent.

Table 1

Current strategic asset allocation for the ASMCS

Total fixed income	100.0%
Government bonds	25.0%
United States treasuries	7.5%
US\$ emerging markets (BBB- and above)	5.0%
EUR Government AA- and above	12.5%
Corporate bonds	75.0%
US\$ non-financial corporation (A- and above)	16.0%
US\$ financial corporation (A- and above)	5.0%
EUR non-financial corporation (A- and above)	44.0%
EUR financial corporation (A- and above)	10.0%
Duration	3.3 years
1-year return	4.28%

21. FAO currently has an SAA for the ASMCS of 50 per cent global equity unhedged and 50 per cent fixed income (fully hedged into euros). Fixed-income exposure is split as follows:
- 17 per cent global government bonds in euros AAA
 - 66 per cent index-linked bonds
 - 12 per cent emerging markets debt hard currency (EMD HC)
 - 5 per cent EMD LC
22. Future adjustments may include a slight reduction in equities, adding investment grade corporate bonds, and a slight increase in EMD LC.
23. WFP’s current SAA for the ASMCS includes 50 per cent global equity and 50 per cent fixed income with the fixed income split as follows:

- 50 per cent government agencies
 - 25 per cent agency mortgage-backed securities
 - 50 per cent corporate bonds including covered bonds
 - 10 per cent asset-backed securities
24. The above-outlined weights represent maximum exposures allowed in each sub-asset class.
25. Future adjustments may include a slight reduction in equity exposure, increase of corporate bonds, increase of EMD exposure including local currency as well as possible consideration of high-yield corporate bond allocation.
26. The World Bank's current SAA for the ASMCS includes 53 per cent equities and is split as follows:
- 26 per cent fixed income
 - 24 per cent global equity
 - 20 per cent private equity
 - 9 per cent emerging market equity
 - 13 per cent real assets (mostly private real estate and infrastructure)
 - 8 per cent absolute return strategies (hedge funds)

Optimization results

27. Table 2 shows the optimal long-term portfolio with associated risk and return characteristics in the equilibrium assumptions, compared with IFAD's SAA.

Table 2
Strategic asset allocation and long-term recommendation

	EQ	
	SAA	Recomm
	Year 1-15	Year 1-15
Asset allocation		
Government bonds	20%	30%
Index linked bonds	0%	13%
Credits	75%	38%
EMD HC	5%	0%
EMD LC	0%	9%
Equity	0%	10%
Solvency		
Average funding ratio	114%	118%
10% VaR funding ratio	103%	106%
10% CVaR funding ratio	99%	102%
Probability funding ratio < 100%	5.4%	2.1%
Contribution / Funding		
Average total contribution (USD million)	4.1	4.0
5% VaR total contribution (USD million)	6.6	6.2
Probability extraordinary funding required	5.4%	2.1%
Average annual extraordinary funding (USD million)	3.8	3.3
5% VaR extraordinary funding (USD million)	10.8	8.9
Geometric average		
Geometric average	3.8%	4.4%
Standard deviation	8.5%	7.0%
5% VaR	-9.7%	-7.0%
5% CVaR	-13.6%	-10.3%
Probability return < discount rate	50%	46%

Table 3
Strategic asset allocation, long-term (LT) and short-term (ST) recommendation in DIS

	DIS		
	SAA	Recomm LT	Recomm ST
	Year 1-5	Year 1-5	Year 1-5
Asset allocation			
Government bonds	20%	30%	16%
Index linked bonds	0%	13%	25%
Credits	75%	38%	52%
EMD HC	5%	0%	1%
EMD LC	0%	9%	6%
Equity	0%	10%	0%
Solvency			
Average funding ratio	112%	112%	111%
10% VaR funding ratio	104%	104%	104%
10% CVaR funding ratio	100%	100%	101%
Probability funding ratio < 100%	3.6%	3.7%	2.7%
Contribution / Funding			
Average total contribution (USD million)	2.7	2.7	2.7
5% VaR total contribution (USD million)	3.1	3.1	3.1
Probability extraordinary funding required	3.6%	3.7%	2.7%
Average annual extraordinary funding (USD million)	2.4	2.2	1.8
5% VaR extraordinary funding (USD million)	5.4	6.0	5.5
Geometric average			
Geometric average	3.8%	4.0%	3.8%
Standard deviation	7.9%	6.9%	6.4%
5% VaR	-9.1%	-7.6%	-6.7%
5% CVaR	-12.8%	-11.0%	-9.8%
Probability return < discount rate	50%	48%	50%

28. Optimization results both in the long and short term in tables 2 and 3 suggest adding index-linked bonds to the strategic asset allocation, based on expected returns, which are in line with nominal bonds in the first five years. However, Ortec recommends that this be done in steps and that the right entry point be determined. Index-linked bonds are currently in the investable universe of the investment managers' guidelines and can therefore be invested in at any time that IFAD's investment manager perceives this to be efficient.
29. Equity is suggested in the EQ long-term optimal portfolio (table 2). However, under the DIS short-term scenario, it is not recommended that it be included in the strategic asset allocation (table 3) at this point in time given Ortec's expectation that equity will move into a negative cycle in the next three years. Equity is, in general, expected to return more than medical inflation in the long run, but returns are very sensitive to the entry point.
30. In fact, the optimization results in table 3 show that excluding equity improves efficiency of the strategic asset allocation for the 1- to 5-year short term with DIS assumptions.
31. Table 3 optimization results also suggest an increase of government bonds in the long term at the cost of corporate exposure, but with a slight decrease in government bonds from the current strategic asset allocation in the short term mainly to increase index-linked bonds. This implies that there is no strong message in the optimization results on the attractiveness of government bonds at least for now.

III. Conclusion

32. IFAD's current strategic asset allocation has been validated by Ortec as being close to optimal under their DIS and EQ scenarios, resulting in a positive funding ratio over the next five-year period. While Ortec's optimal portfolio suggests an increase in government bonds and a reduction in corporate bonds for the long term, and vice versa for the short term, IFAD remains comfortable with the current benchmark weights since the optimal weight for the short term remains within an acceptable difference of 4 per cent.
33. The inclusion of index-linked bonds into the portfolio was already considered during the set-up of the SAA in December 2012 and remains a possibility for the manager to invest in when perceived efficient.
34. Ortec's recommendation to include EMD LC unhedged into the portfolio would result in a slight but not material improvement of the risk return profile and is therefore not being pursued at this point in time, given the exposure to currency risk and IFAD's legal difficulties to open sub-custodian accounts in local emerging markets.
35. The study concluded that equity is an interesting asset class both from a return and an inflation protection perspective. While it is not currently recommended that equity be included in the portfolio, the long-term benefits of equity are noted. Therefore, the possibility of including this asset class in the future should be created by defining a dedicated investment policy statement and risk budget.

IV. Recommendation

36. Given the satisfactory results of the review and the validation of IFAD's current strategic asset allocation, it is recommended that IFAD maintain the current strategic asset allocation unchanged for now and consider a gradual increase of index-linked bonds, in cooperation with the external portfolio manager.
37. It is further recommended that IFAD carefully monitor market developments and determine a potential entry point for EMD LC and equities in order to build up an optimal long-term portfolio. Both asset classes are currently not in IFAD's investment universe for regular investments.
38. It is therefore deemed necessary and proposed that IFAD develop a separate investment policy statement, including a risk budget, to govern the management of IFAD's ASMCS. Approval authority currently lies with the Governing Council pursuant to resolution 132/XXVI.
39. To enable effective and timely action, it is proposed that a draft for recommendation of an investment policy statement for the ASMCS be provided through the Audit Committee and the Executive Board to the 38th session of the Governing Council in 2015.
40. For changes to the Investment Policy Statement for the ASMCS, once adopted, it is proposed that the Governing Council be requested to delegate the approval authority to the Executive Board.
41. Specific investment guidelines deriving from the dedicated Investment Policy Statement will be approved by the President through the Investment and Finance Advisory Committee, in line with existing delegations of authority.

Economic assumptions by Ortec

2013 Sept	Equilibrium					
	Geometric return	Geometric return	Long term value	Std. deviation	5% CVaR	5% CVaR
	1-5 year	1-15 year	11-15 year	1-15 year	cumulative (15y)	annual
Price inflation US	2.2%	2.4%	2.5%	1.6%	18.0%	-0.2%
Wage inflation US	2.6%	2.9%	3.0%	1.7%	21.0%	0.0%
Medical inflation US	5.0%	4.9%	4.7%	1.8%	25.5%	1.0%
Government bond US	1.2%	2.4%	3.4%	3.3%	17.7%	-2.0%
Inflation linked bond US	2.2%	2.9%	3.6%	3.9%	14.0%	-4.7%
Government bond Germany	0.9%	2.2%	3.4%	3.0%	16.2%	-4.1%
Government bond UK	1.8%	2.7%	3.6%	4.1%	15.2%	-5.7%
Credits IG US	2.5%	3.6%	4.5%	5.4%	7.1%	-8.5%
Credits IG EUR	2.2%	3.6%	4.8%	6.0%	11.0%	-11.4%
Credits IG UK	2.5%	3.5%	4.3%	5.4%	6.7%	-8.0%
Emerging Market Debt HC	4.1%	4.9%	5.8%	14.3%	-16.5%	-23.2%
Emerging Market Debt LC	5.4%	6.4%	7.5%	17.5%	-15.5%	-25.1%
Equity US	6.8%	6.6%	6.8%	18.1%	-56.0%	-33.3%
Equity EUR	6.3%	6.7%	6.7%	20.1%	-52.7%	-36.9%
Equity Japan (hedged)	5.4%	5.7%	6.6%	23.0%	-81.0%	-38.7%
Equity Emerging Market	7.5%	7.1%	7.5%	27.5%	-58.0%	-41.3%

2013 Sept	Disequilibrium					
	Geometric return	Geometric return	Long term value	Std. deviation	5% CVaR	5% CVaR
	1-5 year	1-15 year	11-15 year	1-15 year	cumulative (15y)	annual
Price inflation US	2.4%	2.7%	2.2%	1.7%	16.0%	-0.2%
Wage inflation US	2.0%	3.1%	2.9%	2.1%	21.0%	0.0%
Medical inflation US	5.0%	4.9%	4.7%	1.8%	24.0%	1.0%
Government bond US	2.0%	2.5%	3.9%	4.0%	15.8%	-1.5%
Inflation linked bond US	2.3%	2.4%	3.6%	3.6%	15.0%	-4.8%
Government bond Germany	1.0%	2.2%	3.7%	3.8%	16.5%	-2.3%
Government bond UK	1.4%	2.9%	4.2%	4.5%	16.0%	-3.8%
Credits IG US	2.0%	3.7%	5.4%	6.5%	8.0%	-12.0%
Credits IG EUR	1.3%	3.8%	4.9%	5.0%	12.0%	-8.6%
Credits IG UK	2.2%	4.3%	5.6%	7.0%	9.7%	-12.5%
Emerging Market Debt HC	4.8%	4.1%	5.1%	11.1%	-11.0%	-18.6%
Emerging Market Debt LC	6.1%	6.4%	8.4%	16.5%	-13.0%	-23.3%
Equity US	1.1%	4.8%	6.8%	18.0%	-56.0%	-33.5%
Equity EUR	0.6%	2.7%	7.2%	22.2%	-52.8%	-37.0%
Equity Japan (hedged)	-1.1%	1.7%	6.6%	23.0%	-82.0%	-38.7%
Equity Emerging Market	6.8%	6.6%	7.5%	27.5%	-58.0%	-41.3%