



INTERNAL AUDIT DIVISION

REPORT 2017/031

Audit of management of real assets and alternative investments in the Investment Management Division of the United Nations Joint Staff Pension Fund

While the portfolios of real assets and alternative investments had positively contributed to the Fund's overall performance, an integrated approach is needed for effective management of the portfolios

2 May 2017

Assignment No. AS2016/801/02

Audit of management of real assets and alternative investments in the Investment Management Division of the United Nations Joint Staff Pension Fund

EXECUTIVE SUMMARY

The objective of the audit was to assess the adequacy and effectiveness of governance, risk management and control processes over the management of real assets and alternative investments by the Investment Management Division (IMD) of the United Nations Joint Staff Pension Fund. While the audit covered the period from inception of the portfolios to 30 June 2016, the transactions reviewed pertained to the period 1 January 2014 to 30 June 2016 and included a review of the policies and procedures for managing these asset classes.

While the portfolios of real assets and alternative investments had positively contributed to the Fund's overall performance, an integrated approach is needed for effective management of the portfolios.

OIOS made seven recommendations. To address issues identified in the audit, IMD needed to:

- Clarify the strategic investment and risk objectives for the portfolios of real assets and alternative investments to be incorporated in the investment policy, procedures and risk management manual;
- Define and integrate the role of the risk group to ensure that IMD meets strategic investment and risk objectives and effectively manages and monitors the risks associated with the portfolios of real assets and alternative investments;
- Reconcile the data between the Master Record Keeper (MRK) and the investment advisor with respect to the real assets portfolio and have the MRK use the methodology compliant with Global Investment Performance Standards for performance reporting of closed-end real estate funds;
- Improve the internal process for reconciling management fees and carried interest and properly present them at the fund level for transparency;
- Further analyze the benchmarks that would best serve the real assets portfolio for relative performance and return targets and implement them where appropriate;
- In coordination with the portfolio managers and the risk group, formally articulate operational criteria for decision-making that set forth the requirements for investing in real assets and alternative investments; and
- Prepare cash flow projections that define the acceptable range of illiquidity for real assets and alternative investments.

IMD accepted the recommendations and has initiated action to implement them.

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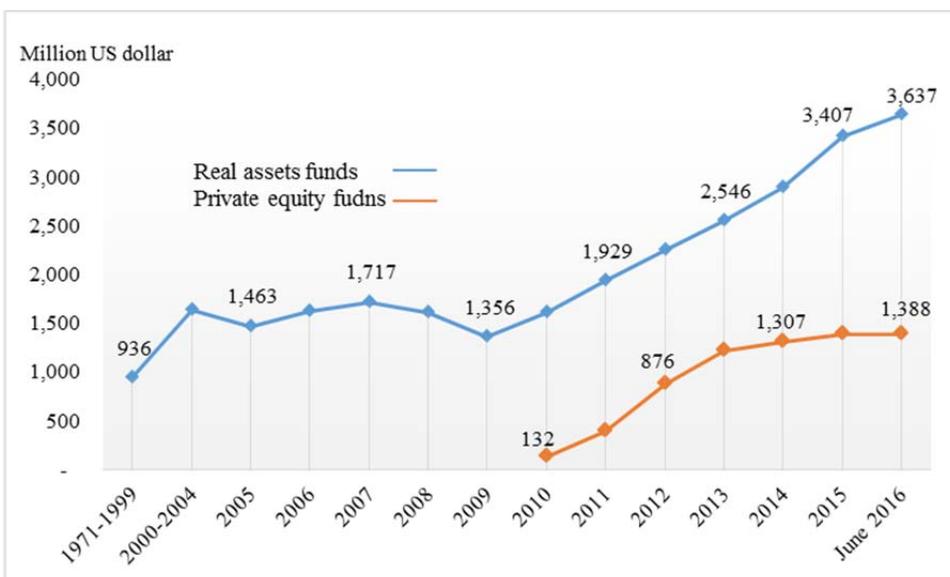
Audit of management of real assets and alternative investments in the Investment Management Division of the United Nations Joint Staff Pension Fund

I. BACKGROUND

1. The Office of Internal Oversight Services (OIOS) conducted an audit of management of real assets and alternative investments in the Investment Management Division (IMD) of the United Nations Joint Staff Pension Fund (UNJSPF).

2. The Fund invested in a global portfolio of investments. As of 30 June 2016, the market value of its assets was \$53.1 billion of which \$3.6 billion (or 7.1 per cent) pertained to real assets and \$1.5 billion (or 2.8 per cent) related to alternative investments. Based on the Asset-Liability Management study completed in July 2015, UNJSPF updated the target Strategic Asset Allocation for real assets and alternative investments from 6 and 0 per cent respectively to 9 and 5 per cent. The Fund had gradually increased its investments in real estate and private equity funds over the years, as shown in Chart 1, and aimed to reach the allocation targets of 9 and 5 per cent, respectively, by 2019.

Chart 1
Asset value of investments in real assets and private equity funds



Source: IMD

*2016 figures are as of 30 June 2016.

The figures of private equity funds exclude commodities.

3. The increased exposure to real assets and alternative investments was expected to improve the risk-return profile of the Fund's overall portfolio as well as to contribute to its diversification. The real assets portfolio was formed in 1971 and comprised 98 investments including 4 in infrastructure, 1 in timberland, and 2 in the publicly traded Real Estate Investment Trust (REIT) as of 30 June 2016. The alternative assets portfolio primarily invested in 41 private equity funds, the first of which was in 2010. Private equity funds entailed investments in nonpublic companies at various stages of development and encompassed the areas of buyout, growth capital, special situation and secondaries¹. Both real estate and private equity funds were externally managed.

¹ 'Secondaries' relate to the strategy to invest in undervalued assets in secondary markets.

4. The portfolio of alternative investments also adopted the real return strategies represented by the three commodity funds and the absolute return strategy represented by the one low-volatility risk parity fund. The commodity funds were also externally managed and there have been no transactions since their inception in 2010. In April 2016, IMD redeemed its December 2012 investment in the risk parity fund.

5. Despite smaller asset allocations relative to the traditional asset classes such as marketable equity and fixed income, the portfolios of real assets and alternative investments have been the positive drivers for the historical performance of the Fund with the exception of the commodities investment. Table 1 shows the historical returns of real assets and alternative investments.

Table 1
Investment returns of real assets and alternative investments portfolios as of 30 June 2016

| | <i>Asset value</i> <i>(million US dollars)</i> | <i>Investment returns (percentage)</i> | | | |
|--------------------------------|---|--|----------------|----------------|--------------------------|
| | | <i>1 year</i> | <i>3 years</i> | <i>5 years</i> | <i>Inception to date</i> |
| Real assets | | | | | |
| Real estate | 3,499 | 12.6 | 12.2 | 10.4 | 7.4 |
| Infrastructure | 122 | -0.4 | 3.6 | n/a | 5.2 |
| Timberland | 16 | -2.7 | n/a | n/a | 8.7 |
| Alternative investments | | | | | |
| Private equity | 1,388 | 5.9 | 8.9 | 8.7 | 8.5 |
| Risk parity fund | n/a | -7.6 | 0.1 | n/a* | 0.3* |
| Commodity | 116 | -13.7 | -12.9 | -11.2 | -7.9 |

Source: IMD

*Redeemed in April 2016.

6. The Fund made about 450 capital contributions to real estate and private equity funds during 2015, which accounted for \$1.2 billion. As of 30 June 2016, the Fund had an unfunded commitment of \$1.4 billion and \$2.0 billion for real estate and private equity funds, respectively.

7. Comments provided by IMD are incorporated in italics.

II. AUDIT OBJECTIVE, SCOPE AND METHODOLOGY

8. The objective of the audit was to assess the adequacy and effectiveness of governance, risk management and control processes over effective management of real assets and alternative investments.

9. This audit was included in the 2016 risk-based work plan of OIOS due to the risks associated with: (i) the increase in the allocation for real assets and alternative investments as per the Strategic Asset Allocation updated in July 2015; and (ii) investments in private markets which carry different risk and return characteristics from those in public markets.

10. OIOS conducted this audit during April/May and October to December 2016. While the audit generally reviewed relevant documents since the inception of the portfolios, the transactions reviewed pertained to the period 1 January 2014 to 30 June 2016. Based on an activity-level risk assessment, the audit covered higher and medium risks in the management of real assets and alternative investments.

11. The audit methodology included: (a) interviews of key personnel; (b) review of relevant documentation; (c) analytical reviews of data; (d) sample testing; and (e) process walk-through.

III. OVERALL CONCLUSION

12. While the portfolios of real assets and alternative investments had positively contributed to the Fund's overall investment performance, IMD needed to demonstrate an integrated approach with the strategic investment and risk objectives for the portfolios. IMD utilized an extensive review process prior to investing in real estate and private equity funds; however, there were no articulated criteria setting forth the requirements for prospective investments and to guide the decision-making process. The process, therefore, heavily relied on the expertise and judgement of the portfolio managers. IMD also needed to improve the internal process for reconciling the management fees and carried interest and properly present them for transparency. Further, with regard to the real assets portfolio, there was need to: (i) facilitate the reconciliation process for performance and transactional data between the Master Record Keeper (MRK) and the external investment advisor; (ii) further analyze and implement the appropriate benchmarks; (iii) have the MRK measure the investment performance in compliance with Global Investment Performance Standards; and (iv) prepare the cash flow projections.

IV. AUDIT RESULTS

A. Regulatory framework

Need to clarify the strategic investment and risk objectives for the portfolios

13. Management of real assets and alternative investments should be based on the strategic investment and risk objectives that are aligned with the overall investment objective of the Fund. The strategic investment and risk objectives shall serve as the basis for constructing the portfolio strategies and managing the investments.

14. IMD investment procedures established a common portfolio objective for all the asset classes as outperforming the respective benchmark and contributing to the overall return objective of the Fund. While the portfolio objective set a target on investment returns, it was not comprehensive, taking into consideration the distinct roles of real assets and alternative investments in the Fund's overall portfolio, as well as their risk appetite.

15. In the absence of specific strategic investment and risk objectives for real assets and alternative investments, the portfolios heavily relied on the expertise and judgement of the portfolio managers. In 2013, the General Assembly approved the creation of the post of Deputy Director for real assets and alternative investments. However, this post was not filled and in 2016, it was reclassified as Deputy Director for fixed income which IMD considered more appropriate, given the higher allocation to the fixed income portfolio as compared to real assets and alternative investments. In doing so, however, IMD did not implement compensating measures to strengthen the management of real assets and alternative investments by clarifying the strategic investment and risk objectives that would guide the management of the portfolios.

16. In the absence of clear strategic investment and risk objectives, portfolio management may be susceptible to strategy shifts, thereby exposing the Fund to additional risks.

(1) IMD should clarify the strategic investment and risk objectives for the portfolios of real assets and alternative investments to be incorporated in the investment policy, procedures and risk management manual.

IMD accepted recommendation 1 and stated that it will comply. Recommendation 1 remains open

pending receipt of documentation clarifying the strategic investment and risk objectives for the portfolios of real assets and alternative investments.

Need to define and integrate the roles of the risk group for real assets and alternative investments

17. For sound risk management of the Fund, the responsibilities of the risk management function of IMD (“risk group”) included providing strategic direction for risk management, distributing risk exposure among investments, budgeting risk tolerance among asset classes, and monitoring realized risk. According to the IMD risk management manual, the risk group should identify, measure and communicate risks across the Fund and monitor investment returns and risks to determine whether they are adequately controlled.

18. The portfolios of real assets and alternative investments were exposed to various risks including funding risk, capital risk, market risk and liquidity risk. The ability to assess these risks prior to investing is essential for effective management of the portfolios. Successful investments in real estate and private equity funds are also largely dependent on the quality of the fund managers.

19. To assess the various risks associated with real estate and private equity funds, IMD used non-discretionary investment advisors who assisted the portfolio teams in analyzing prospective investments prior to commitment. OIOS sample review of the due diligence documentation indicated that IMD and the investment advisors had reviewed the various risks associated with prospective investments. However, there was only limited involvement of the risk group prior to investment.

20. After investing the funds, the risk group routinely prepared a report on active risk and standard deviation pertaining to real assets and alternative investments. However, these indicators were not used since they did not reflect the actual risk profile. While the non-discretionary investment advisor played a vital role in assisting IMD in assessing various investment risks through the due diligence process, involvement of the risk group was limited in the due diligence review as well as risk monitoring of the portfolios since its role was not clearly defined for these asset classes unlike traditional asset classes.

21. The strategic framework of IMD considered improving risk management as one of its objectives. However, IMD’s efforts in this regard were interrupted by the vacancy of the post of Deputy Director for Risk Management since October 2015.

22. Defining and integrating the roles of the risk group in the investment cycle of real assets and alternative investments would strengthen the risk management of these portfolios.

(2) IMD should define and integrate the role of the risk group to ensure that IMD meets strategic investment and risk objectives and effectively manages and monitors the risks associated with the portfolios of real assets and alternative investments.

IMD accepted recommendation 2 and stated that the Alternative Investments and Real Asset Groups, together with the Risk Group, will develop the required process. Recommendation 2 remains open pending receipt of documentation providing evidence that the roles of risk group have been defined and integrated with the investment and risk management objectives and their implementation.

Need to adjust the methodology for performance reporting of closed-end real estate funds

23. For accuracy and consistency of performance reporting, the IMD investment policy required all service providers to use methodologies compliant with Global Investment Performance Standards (GIPS) for performance reporting. GIPS required that both Since-Inception Internal Rate of Return (SI-IRR) and Time-Weighted Return be used to measure the performance of closed-end² real estate and private equity funds.

24. IMD used a Time-Weighted Return to measure the performance of all the real estate funds while it used SI-IRR for performance reporting of private equity funds. The real assets portfolio comprised approximately 50 per cent core and 50 per cent non-core real estate funds as of 30 June 2016. Core and non-core funds³ are distinct in terms of their characteristics such as portfolio composition, target markets, holding period, the extent of leverage used⁴, and expected returns. IMD's non-core funds were closed-end funds; however, their performance was reported by the MRK of the Fund with a Time-Weighted Return only.

25. Moreover, there were differences in performance figures between the MRK and the investment advisor for the real assets portfolio although both used the same methodology (i.e. Time-Weighted Return). OIOS review showed that the differences were attributable to factors such as different cut-off dates or different foreign exchange rates applied. The difference in one-year performance returns of the real assets portfolio during the four quarters from September 2015 to June 2016 was as large as 1.73 per cent as shown in Table 2.

Table 2
Difference in one-year performance returns of the real assets portfolio between the MRK and the advisor for four quarters from September 2015 to June 2016

| <i>Reporting source</i> | <i>One year return as of</i> | | | |
|-------------------------|------------------------------|-------------------|----------------------|-----------------------|
| | <i>June 2016</i> | <i>March 2016</i> | <i>December 2015</i> | <i>September 2015</i> |
| Master Record Keeper | 12.62% | 12.75% | 9.67% | 9.14% |
| Investment Advisor | 12.10% | 13.70% | 11.40% | 10.30% |
| Differences | 0.52% | 0.95% | 1.73% | 1.16% |

*Source: Performance report of the investment advisor and the MRK.

26. IMD used a Time-Weighted Return to measure the performance of the real assets portfolio before GIPS updated its reporting standards in 2011 when it required SI-IRR to be used to measure the performance of closed-end real estate funds in addition to a Time-Weighted Return. While the investment advisor had reported the performance of closed-end real estate funds with SI-IRR since 2011, the MRK did not make the transition because it did not have the historical cash flow data to measure the investment performance with SI-IRR. The MRK stated that it could not vouch for data pertaining to real assets investments initiated before 2006 (the year IMD contracted the current MRK). Since the MRK was the main source for investment reporting, the performance of non-core real estate funds continued to be measured with only a Time-Weighted Return even after 2011.

27. In the absence of consistent use of a relevant methodology for performance measurement, the quality of investment reporting may be compromised.

² A collective investment model based on a fixed number of shares which are not freely redeemable or transferable from the fund. It is closed to new capital after it begins operating.

³ Commercial real estate funds can be divided into categories such as core and non-core. Core funds consist of high quality assets that have high occupancy rates and provide steady cash flow. Non-core funds target higher returns, potentially through increased use of leverage, reliance on renovation or development or a focus on secondary markets.

⁴ An investment strategy of using various financial instruments or borrowed capital to increase the potential return of an investment.

(3) IMD should: (i) reconcile the data between the Master Record Keeper and the investment advisor with respect to the real assets portfolio; and (ii) have the Master Record Keeper use the methodology compliant with Global Investment Performance Standards for performance reporting of closed-end real estate funds.

IMD accepted recommendation 3 and stated that the MRK currently reports Time-Weighted Returns, which are also part of the methodology compliant with GIPS for closed-end real estate funds. Recommendation 3 remains open pending receipt of evidence that the data between the MRK and the investment advisor are reconciled and the performance of closed-end real estate funds is measured in compliance with GIPS.

Need to improve the internal process for reconciling management fees and carried interest

28. Accurate performance reporting is the foundation for sound investment management. The MRK was to record all transactions pertaining to the Fund's investments accurately and completely.

29. When the fund managers distributed the realized gains to the Fund, they often did so after deducting management fees. Similarly, when they called for capital contributions, they often included management fees in the capital calls. The management fees were recorded by the MRK at the portfolio level instead of being charged to the respective investment fund. Similarly, carried interest (i.e., incentive fees) on realized gains were also recorded at the portfolio level.

30. According to the 2015 audited financial statement, the total management fees for real estate and alternative investments were \$61.2 million and \$37.0 million, respectively. To reconcile management fees, IMD sent a confirmation letter to each fund manager as part of the year-end process. While this process confirmed the existence and completeness of the management fees, IMD relied on the third party to verify their accuracy since the internal control for its own review of fee calculations was yet to be established.

31. IMD stated that management fees were audited as a component of the financial statements at the fund managers' end. There was also a periodic review of management fees by the investment advisors. Such external controls provided IMD a certain level of assurance on the accuracy of management fees. During the audit, IMD initiated the process of reconciling asset-based management fees before payment. It was in the process of establishing a mechanism to reconcile performance-based fees.

(4) IMD should: (i) improve the internal process for reconciling management fees and carried interest; and (ii) properly present them at the fund level for transparency.

IMD accepted recommendation 4 and stated that it is following industry standards on the timing and process used to reconcile management fees. OIOS is of view that while the external review of management fees provides some assurance on their accuracy, it cannot replace the need for IMD's own reconciliation. Recommendation 4 remains open pending receipt of evidence of an improved internal process for reconciling and presenting management fees and carried interest.

Need to implement the appropriate benchmarks for the real assets portfolio

32. One of the principal purposes of benchmarks is to evaluate the relative performance of the portfolio. The IMD investment policy states that for benchmarks to be effective, they should be unambiguous, investable, measurable, appropriate and specified in advance. The investment policy also

states that IMD should be aware of and accept accountability for the constituents and performance of the benchmark.

33. The benchmarks identified in the investment policy for real assets and alternative investments served as targets for returns but were limited in gauging the relative performance of the portfolios because they were not fully representative of the actual composition of the underlying portfolios. Therefore, IMD used other indices in addition to the benchmarks identified in the investment policy to evaluate their relative performance.

34. For example, the IMD investment policy specified Morgan Stanley Capital International All Country World Index (MSCI ACWI) adjusted for the illiquidity premium as the benchmark for private equity funds. While IMD used MSCI ACWI plus an illiquidity premium of two per cent as a performance target for the portfolio of private equity funds, it was not appropriate to use the same for evaluation of the relative performance. IMD, therefore, used Private iQ⁵ for its performance benchmarking. Similar approaches were observed for other sub-asset classes. Table 3 shows the list of benchmarks identified in the investment policy and other benchmarks actually in use as return targets or for evaluation of their relative performance.

Table 3
The benchmarks authorized by the IMD investment policy and the benchmarks in use

| <i>Asset class and sub-asset class</i> | <i>Benchmarks in the IMD investment policy</i> | <i>Benchmarks currently in use</i> |
|--|--|------------------------------------|
| Real assets portfolio | | |
| Public Real Estate | n/a | EPRA/NAREIT |
| Private Real Estate total | n/a | NCREIF -ODCE +1% |
| Private Real Estate (core) | NCREIF –ODCE | NCREIF -ODCE |
| Private Real Estate (non-core) | n/a | NCREIF -ODCE+2% |
| Timberland | n/a | NCREIF Timberland |
| Private Infrastructure | n/a | Consumer Price Index+4% |
| Alternative investments portfolio | | |
| Private Equity | MSCI ACWI+2% | MSCI ACWI+2% / Private iQ |
| Risk Parity Fund | n/a | n/a |
| Commodities | n/a | Bloomberg Bcom |

Source: UNJSPF Investment Policy, Investment Procedures

35. IMD used the benchmark of the National Council of Real Estate Investment Fiduciaries Fund Index (NCREIF) Open End Diversified Core Equity (ODCE). However, NCREIF-ODCE comprised only open-ended funds (i.e. core real estate funds) in the United States. It was not in line with the composition of the Fund’s portfolios of real assets which consisted of both open-end and closed-end funds worldwide.

36. Difficulties in adopting an appropriate benchmark for real estate funds were an industry-wide challenge due to lack of data. Due to the nature of investments, it was difficult to meet some of the criteria of benchmarks (i.e. unambiguous, investable, measurable, appropriate and specified in advance). For example, there was much ambiguity as to what constituted an accurate representation of real assets portfolios. It was not feasible to construct a portfolio of real assets with sufficient diversity to represent the total market. Measurability was also limited for this asset class.

37. Nonetheless, without benchmarks that adequately represent the Fund’s portfolio, IMD may not be able to evaluate its relative portfolio performance and the effectiveness of active investment strategies. Further, there may be inconsistencies in applying the benchmarks when they were not authorized by the investment policy.

⁵ Benchmarking tool based on actual transaction history of private equity funds.

(5) IMD should further analyze the benchmarks that would best serve the real assets portfolio for relative performance and returns targets and implement them where appropriate.

IMD accepted recommendation 5 and stated that the Real Asset Group will continue to analyze benchmarks most appropriate for the real assets portfolio and implement them when available and where appropriate. Recommendation 5 remains open pending receipt of evidence of IMD's analysis on the benchmark for the real assets portfolio and their implementation where appropriate.

B. Decision-making process

Need to articulate operational criteria for decision-making on real assets and alternative investments

38. To maintain the quality of the Fund portfolio, the investment policy established that the investments in real assets and alternative investments should satisfy, to the extent possible, the established investment criteria of safety, profitability, liquidity and convertibility. The portfolio objective of real assets and alternative investments was to outperform the benchmarks and to contribute to the achievement of the Fund's overall return objective.

39. In order to limit the exposure to a certain investment fund, the IMD risk management manual prohibited holding more than 20 per cent of a particular real estate or private equity fund at the time of initial purchase. OIOS review of the entire portfolios of real assets and alternative investments showed that the Fund was in compliance with this requirement.

40. The Fund also established an extensive review process for real assets and alternative investments before commitment of the capital. The process of decision-making started with research on potential investments funds. In the research phase, IMD sent a detailed due diligence questionnaire to the general partner (i.e. the fund manager) to assess the quality of prospective investments. The due diligence questionnaire covered standard questions addressing, *inter alia*, investment strategies, criteria, process, deal sourcing, geographic focus, valuation policy, track record and cash flows. It also addressed the specific concerns of the Fund such as adherence to the principles of responsible investing as well as anti-corruption and money laundering policies. In addition to the established investment criteria of safety, profitability, liquidity and convertibility, IMD applied unwritten criteria for selecting investable funds such as: (i) investing in the top quartile of existing private equity funds, (ii) avoiding high-risk market segments (i.e. venture capital); and (iii) maintaining certain allocations to core and non-core real estate funds.

41. After the initial research, the portfolio teams and the non-discretionary investment advisors perused the response to the due diligence questionnaire and performed additional reviews including legal reviews, administrative review, reference check of the key personnel of the fund as well as on-site visit. Through the due diligence process, the portfolio managers, in consultation with the non-discretionary investment advisors, determined whether to recommend the fund to be included in the list of approved investments of IMD.

42. After the due diligence review, the portfolio managers submitted the investment recommendation form to management for final authorization. The investment recommendations were approved when the documentation substantiated the solid basis for making each investment. While the due diligence process provided sufficient information on the fund's profile, there were no formal operational criteria at the investment level that would guide the decision-making process. In practice, the portfolio managers

analyzed prospective investments at the granular level; however in the absence of formally articulated criteria, they based the decision-making largely upon their professional judgement.

43. Since each real estate and private equity fund was unique, OIOS recognized the difficulty of establishing standard and clean-cut criteria for decision-making. For example, an independent factor such as not having certain provisions to protect the investors, showing a higher leverage ratio etc., could not always be an indicator of a less desirable fund for investing since there were many other considerations to be made. Nonetheless, OIOS considered that it was in the interest of the Fund to formally articulate operational criteria that would set forth the requirements for investing in real assets and alternative funds while maintaining a certain level of flexibility.

44. Without formal criteria, the decision-making process may excessively rely on the judgement of the key personnel of the portfolio team. Further, IMD may not be able to maintain the quality of the portfolios without them.

(6) IMD should, in coordination with the portfolio managers and the risk group, articulate operational criteria for decision-making that set forth the requirements for investing in real assets and alternative investments.

IMD accepted recommendation 6 and stated that the Alternative Investments and Real Asset Groups, together with the Risk Group, will develop the required process. Recommendation 6 remains open pending receipt of documentation providing articulated operational criteria for decision-making of real assets and alternative investments and their implementation.

Need to prepare cash flow projections that define the acceptable range of illiquidity

45. Pursuant to the investment policy, the Fund was to: (i) consider an acceptable range of illiquidity to generate a higher return from the approved asset classes; and (ii) invest in longer-term asset classes with the concurrence of the Representative of the Secretary-General for Investments. According to the risk management manual, IMD should establish a capital commitment calendar (i.e. cash outflow projection).

46. The investment policy suggested that the liquidity criterion should be applied at the total portfolio level. Considering a sufficient allocation to highly liquid securities, the Fund was in no immediate risk of liquidity. Although the overall liquidity of the Fund justified IMD's taking on a higher liquidity risk of real assets and alternative investments, IMD did not define an acceptable range of illiquidity.

47. For example, the Fund owned several real estate funds that were over 20 years old. These funds were income generating, however it was not clear without a defined acceptable range of illiquidity, whether holding these investments for an extended period of time had been compensated by their returns. OIOS review also showed that there was a risk of over commitment of real estate portfolios exceeding the Strategic Asset Allocation in the next three to four years unless there are sufficient cash-inflows such as distributions and liquidations. IMD stated that there would be enough distributions and liquidations in the coming years to keep the allocation of real assets within the Strategic Asset Allocation. Due to unavailability of the cash flow projection, however, OIOS could not conclude that risks of over commitment were adequately managed.

48. Additionally, the investment policy provided that investing in the longer-term asset classes required the concurrence of the RSG. Despite the long investment term, the policy did not indicate the requirement for alternative investments while it did for real assets.

49. Without defining the range of expected illiquidity, the Fund may not be compensated for the higher illiquidity risk. It may also not be able to determine if the illiquidity risk that the Fund takes is within its risk appetite.

(7) IMD should prepare cash flow projections that define the acceptable range of illiquidity for real assets and alternative investments.

IMD accepted recommendation 7 and stated that the Alternative Investments and Real Asset Groups will develop the required process. Recommendation 7 remains open pending receipt of cash flow projections for real assets and alternative investments and their acceptable range of illiquidity.

V. ACKNOWLEDGEMENT

50. OIOS wishes to express its appreciation to the management and staff of IMD for the assistance and cooperation extended to the auditors during this assignment.

(Signed) Eleanor T. Burns
Director, Internal Audit Division
Office of Internal Oversight Services

STATUS OF AUDIT RECOMMENDATIONS

**Audit of management of real assets and alternative investments in the
Investment Management Division of the United Nations Joint Staff Pension Fund**

| Rec. no. | Recommendation | Critical/ Important ⁷ | C/ O ⁸ | Actions needed to close recommendation | Implementation date ⁹ |
|----------|--|-------------------------------------|----------------------|--|----------------------------------|
| 1 | IMD should clarify the strategic investment and risk objectives for the portfolios of real assets and alternative investments to be incorporated in the investment policy, procedures and risk management manual. | Important | O | Receipt of documentation clarifying the strategic investment and risk objectives for the portfolios of real assets and alternative investments. | 31 March 2018 |
| 2 | IMD should define and integrate the role of the risk group to ensure that IMD meets strategic investment and risk objectives and effectively manages and monitors the risks associated with the portfolios of real assets and alternative investments. | Important | O | Receipt of documentation providing evidence that the roles of risk group have been defined and integrated with the investment and risk management objectives and their implementation. | 31 March 2018 |
| 3 | IMD should: (i) reconcile the data between the Master Record Keeper and the investment advisor with respect to the real assets portfolio; and (ii) have the Master Record Keeper use the methodology compliant with Global Investment Performance Standards for performance reporting of closed-end real estate funds. | Important | O | Receipt of evidence that the data between the MRK and the investment advisor are reconciled and the performance of closed-end real estate funds is measured in compliance with GIPS. | Not provided |
| 4 | IMD should: (i) improve the internal process for reconciling management fees and carried interest; and (ii) properly present them at the fund level for transparency. | Important | O | Receipt of evidence of an improved internal process for reconciling and presenting management fees and carried interest. | 30 September 2017 |
| 5 | IMD should further analyze the benchmarks that would best serve the real assets portfolio for relative performance and returns targets and implement them where appropriate. | Important | O | Receipt of evidence of IMD's analysis on the benchmark for the real assets portfolio and their implementation where appropriate. | Not provided |
| 6 | IMD should, in coordination with the portfolio | Important | O | Receipt of documentation providing articulated | 31 March 2018 |

⁶ Critical recommendations address critical and/or pervasive deficiencies in governance, risk management or control processes, such that reasonable assurance cannot be provided with regard to the achievement of control and/or business objectives under review.

⁷ Important recommendations address important (but not critical or pervasive) deficiencies in governance, risk management or control processes, such that reasonable assurance may be at risk regarding the achievement of control and/or business objectives under review.

⁸ C = closed, O = open

⁹ Date provided by IMD in response to recommendations.

STATUS OF AUDIT RECOMMENDATIONS

**Audit of management of real assets and alternative investments in the
Investment Management Division of the United Nations Joint Staff Pension Fund**

| Rec. no. | Recommendation | Critical ⁶ / Important ⁷ | C/ O ⁸ | Actions needed to close recommendation | Implementation date ⁹ |
|----------|--|---|----------------------|---|----------------------------------|
| | managers and the risk group, articulate operational criteria for decision-making that set forth the requirements for investing in real assets and alternative investments. | | | operational criteria for decision-making of real assets and alternative investments and their implementation. | |
| 7 | IMD should prepare cash flow projections that define the acceptable range of illiquidity for real assets and alternative investments. | Important | O | Receipt of cash flow projections for real assets and alternative investments and their acceptable range of illiquidity. | 31 March 2018 |

APPENDIX I

Management Response

Management Response

**Audit of management of real assets and alternative investments in the Investment Management Division
of the United Nations Joint Staff Pension Fund**

| Rec. no. | Recommendation | Critical ¹ / Important ² | Accepted? (Yes/No) | Title of responsible individual | Implementation date | Client comments |
|----------|--|---|-----------------------|--|---|--|
| 1 | IMD should clarify the strategic investment and risk objectives for the portfolios of real assets and alternative investments to be incorporated in the investment policy, procedures and risk management manual. | Important | Yes | Representative of Secretary General | Q1 2018 | IMD will comply |
| 2 | IMD should define and integrate the role of the risk group to ensure that IMD meets strategic investment and risk objectives and effectively manages and monitors the risks associated with the portfolios of real assets and alternative investments. | Important | Yes | Risk Group, Senior Investment Officers for Alternative Investments and Real Assets | Q1 2018 | IMD accepts recommendation. IMD's Alternative Investments and Real Asset Groups, together with IMD's Risk Group, will develop required process. |
| 3 | IMD should: (i) reconcile the data between the Master Record Keeper and the investment advisor with respect to the real assets portfolio; and (ii) have the Master Record Keeper use the methodology compliant with Global Investment Performance Standards for performance reporting of closed-end real estate funds. | Important | Yes | Senior Investment Officer for Real Assets | To be resolved as the Master Record Keeper develops the required capabilities and processes | IMD accepts recommendation. Note inaccuracy in Audit text in that MRK currently reports Time Weighted Returns, which are also part of the methodology compliant with Global Investment Performance Standards for closed-end real estate funds. |
| 4 | IMD should: (i) improve the internal process for reconciling management fees and carried interest; and (ii) properly present them at the fund level for transparency. | Important | Yes | Chief of Operations Ad Interim | Q3 2017 | IMD accepts recommendation. The management fees referred to in this section of the Report appear incorrect to IMD. Please disclose the source for these amounts as well as the |

¹ Critical recommendations address critical and/or pervasive deficiencies in governance, risk management or control processes, such that reasonable assurance cannot be provided with regard to the achievement of control and/or business objectives under review.

² Important recommendations address important (but not critical or pervasive) deficiencies in governance, risk management or control processes, such that reasonable assurance may be at risk regarding the achievement of control and/or business objectives under review.

Management Response

**Audit of management of real assets and alternative investments in the Investment Management Division
of the United Nations Joint Staff Pension Fund**

| Rec. no. | Recommendation | Critical ¹ / Important ² | Accepted? (Yes/No) | Title of responsible individual | Implementation date | Client comments |
|----------|---|---|-----------------------|--|--|--|
| | | | | | | methodology used to establish same. In addition, description for treatment of carried interest appears incorrect to IMD. Please disclose source used to substantiate this statement. Finally, it should be noted that IMD is following industry standards on the timing and process used to reconcile management fees. |
| 5 | IMD should further analyze the benchmarks that would best serve the real assets portfolio for relative performance and returns targets and implement them where appropriate. | Important | Yes | Senior Investment Officer for Real Assets | To be resolved as benchmarks are developed by the industry | IMD accepts recommendation. IMD's Real Asset Group will continue to analyze benchmarks most appropriate for the real assets portfolio and implement them when available and where appropriate. |
| 6 | IMD should, in coordination with the portfolio managers and the risk group, articulate operational criteria for decision-making that set forth the requirements for investing in real assets and alternative investments. | Important | Yes | Risk Group, Senior Investment Officers for Alternative Investments and Real Assets | Q1 2018 | IMD accepts recommendation. IMD's Alternative Investments and Real Asset Groups, together with IMD's Risk Group, will develop required process. |
| 7 | IMD should prepare cash flow projections that define the acceptable range of illiquidity for real assets and alternative investments. | Important | Yes | Senior Investment Officers for Alternative Investments and Real Assets | Q1 2018 | IMD accepts recommendation. IMD's Alternative Investments and Real Asset Groups, will develop required process. |