INTERNAL AUDIT DIVISION

REPORT 2016/018

Audit of market risk management in the Investment Management Division of the United Nations Joint Staff Pension Fund

Overall results relating to effective management of market risk were initially assessed as partially satisfactory. Implementation of five important recommendations remains in progress.

FINAL OVERALL RATING: PARTIALLY SATISFACTORY

18 March 2016
Assignment No. AS2015/801/02

CONTENTS

AUDIT REPORT

Audit of market risk management 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 market risk in the Investment Management Division (IMD) of the United Nations Joint Staff Pension Fund (UNJSPF).

2. In accordance with its mandate, OIOS provides assurance and advice on the adequacy and effectiveness of the United Nations internal control system, the primary objectives of which are to ensure (a) efficient and effective operations; (b) accurate financial and operational reporting; (c) safeguarding of assets; and (d) compliance with mandates, regulations and rules.

3. The Fund invested in a global portfolio of investments. As at 30 September 2015, the market value of the Fund's assets was $50.4 billion, and the asset allocation was: 61.21 per cent in equities; 25.65 per cent in fixed income; 6.37 per cent in real assets; 3.47 per cent in alternative investments; and 3.30 per cent in cash and short-term investments.

4. The Fund's investment activities exposed it to market risk. Market risk encompassed the risk of financial loss resulting from fluctuating prices of investments as they were traded in the global markets. To avoid concentration of market risk, the Fund diversified its portfolio into the above five major asset classes. These asset classes were further broken down into sub-asset classes by region, country or currency, and comprised securities from various industries and sectors with different risk and return characteristics and degrees and nature of risk.

5. The Fund last updated its Strategic Asset Allocation (SAA) in August 2015, which was designed to meet its long-term return objective. The SAA established the minimum and maximum ranges for each asset class with the target asset allocations. The targets were: 58 per cent in equities; 9 per cent in real assets; 5 per cent in alternative investments; 26.5 per cent in fixed income; and 1.5 per cent in cash and short-term instruments. The SAA is reviewed and revised based on an Asset-Liability Management Study every four years. IMD was in the process of moving the portfolio towards the revised target asset allocation.

6. The Fund also adopted tactical asset allocation (TAA) as a narrower set of ranges around the SAA.

7. In addition to SAA and TAA, investment officers used benchmarks as a means of constructing their portfolios as well as gauging their relative performance. The Fund adopted the following benchmarks: Morgan Stanley Capital International All Country World Index for global marketable equities; and Barclays Capital Global Aggregate Bond Index for global fixed income.

8. The Fund's strategy to manage market risk was reflected in the investment policy, which introduced the concepts of risk tolerance and risk parameters. The risk tolerance defined the acceptable variation in investment outcomes between the return of the portfolio and that of the benchmark. Risk parameters such as value at risk[1] measured the Fund's exposure to market risk. The risk tolerance and

[1] A statistical technique used to quantify the level of financial risk within a portfolio over a specific time frame.

risk parameters along with the investment return objectives formed the basis for the Fund's investment management. The investment procedures and risk manual translated the investment policy into operational procedures and controls that were intended to be the reference for investment decisions.

9. Comments provided by IMD are incorporated in *italics*.

II. OBJECTIVE AND SCOPE

10. The audit was conducted to assess the adequacy and effectiveness of IMD governance, risk management and control processes in providing reasonable assurance regarding **effective management of market risk by IMD**.

11. This audit was included in the IAD work plan for 2015 due to the risk that inadequate controls over management of market risk could adversely affect the Fund's ability to preserve the capital of the Fund and to obtain a long-term real rate of investment return.

12. The key controls tested for the audit were: (a) regulatory framework; and (b) decision-making process. For the purpose of this audit, OIOS defined these key controls as follows:

> (a) **Regulatory framework** – controls that provide reasonable assurance that policies and procedures: (i) exist to guide IMD management of market risk; (ii) are implemented effectively; and (iii) ensure the reliability and integrity of financial and operational information.
>
> (b) **Decision-making process** – controls that provide reasonable assurance that: (i) investment decisions are made in line with the policies and procedures; and (ii) responsibility and accountability for investment decisions are clearly established.

13. The key controls were assessed for the control objectives shown in Table 1.

14. OIOS conducted the audit from August to December 2015. The audit reviewed the decision-making process for purchasing and selling internally managed equities and fixed income assets for the period from July 2013 to September 2015. The audit excluded the review of: (i) small capitalization equities covered in another audit in 2015; (ii) cash and short-term investment which will be covered in 2016; and (iii) real estate and alternative investments, which will also be audited separately due to their different nature.

15. OIOS conducted an activity-level risk assessment to identify and assess specific risk exposures, and to confirm the relevance of the selected key controls in mitigating associated risks. Through interviews, analytical reviews and tests of controls, OIOS assessed the existence and adequacy of internal controls and conducted necessary tests to determine their effectiveness.

III. AUDIT RESULTS

16. The IMD governance, risk management and control processes examined were initially assessed as **partially satisfactory**[2] in providing reasonable assurance regarding **effective management of market risk by IMD**. OIOS made five recommendations to address issues identified in the audit.

---

[2] A rating of **"partially satisfactory"** means that important (but not critical or pervasive) deficiencies exist 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.

17. IMD implemented adequate control processes to assess the compliance risk associated with its investment activities, track benchmarks, and monitor unrealized gains and losses on investment assets. The investment policy and procedures guided the Fund's management of market risk; however, they needed to be updated to reflect the Fund's current strategy. IMD needed to standardize and document the process for establishing and adjusting its tracking risk budget; define the revised approach to TAA as an investment and risk management tool and implement it in a timely manner; establish a threshold above which pre-trade risk analyses would be required; and clarify the requirements on the adequacy of analyses and documentation used for decision-making. The Fund also needed to address its exposure to high currency risk.

18. The initial overall rating was based on the assessment of key controls presented in Table 1 below. The final overall rating is **partially satisfactory** as implementation of five important recommendations remains in progress.

Table 1: Assessment of key controls

Business objective	Key controls	Control objectives			
		Efficient and effective operations	Accurate financial and operational reporting	Safeguarding of assets	Compliance with mandates, regulations and rules
Effective management of market risk by IMD	(a) Regulatory framework	Partially satisfactory	Partially satisfactory	Partially satisfactory	Partially satisfactory
	(b) Decision-making process	Partially satisfactory	Partially satisfactory	Partially satisfactory	Partially satisfactory
FINAL OVERALL RATING: PARTIALLY SATISFACTORY					

A. Regulatory framework

<u>IMD needed to define and assign responsibility for reviewing and updating the investment policy and procedures and the risk management manual</u>

19. The investment policy and procedures and the risk management manual were the foundation based upon which the Fund managed market risk while pursuing an adequate level of investment return on its assets. The policy and procedures were to be continuously updated, amended and enhanced to ensure that they take into account the latest market conditions. The investment policy envisaged that the Fund would review the validity of the policy and procedures before quarterly Investment Committee meetings.

20. The investment policy was last issued in April 2014 and needed an update to incorporate the current investment and risk management strategies. IMD adopted a new SAA on 1 August 2015 and presented a draft investment policy with the new SAA to the Investment Committee meeting in November 2015. At the time of the audit however, the updated policy was yet to be finalized.

21. The investment procedures set forth the Fund's investment process and operational guidelines were based on the investment policy. The document did not adequately reflect the current procedures for investment management in IMD. For example, the procedures did not differentiate the requirements for processing currency trades from that of equity and debt securities. The same was true for private placements in global emerging markets where sales and purchases of securities required a different procedure from that of publicly traded securities.

22. While the investment policy and procedures set forth the Fund's overarching investment purposes and objectives, the risk management manual instituted the risk management policy and programme, ensuring that an effective risk management system was in place to monitor the material risks. It explained various risks pertaining to investment management and corresponding controls such as investment limits and compliance rules. However, the risk management manual was not current since IMD based its risk management policy and programme upon dated investment policy and procedures.

23. The revision process was delayed as IMD had not assigned responsibilities to key personnel to review and update the investment policy and procedures.

24. Dated policies and procedures could hinder effective risk management and attainment of strategic investment objectives.

> **(1) IMD should define and assign responsibility for reviewing and updating the investment policy, investment procedures and risk management manual.**
>
> *IMD accepted recommendation 1 and stated that the Representative of the Secretary-General (RSG) has assigned this undertaking to the IMD Compliance and Risk team.* Recommendation 1 remains open pending receipt of the updated investment policy, investment procedures, and risk management manual.

<u>IMD needed to standardize and document the process for tracking risk budgeting</u>

25. According to the investment policy, IMD was to update the risk tolerance for tracking errors[3] (also known as the tracking risk budget) annually to ensure that current market conditions were incorporated, and realized risk was maintained within the risk tolerance and risk appetite. The Fund was expected to ensure transparency and consistency in establishing the tracking risk budget to safeguard its integrity. According to the risk management manual, the Risk Management Group was responsible for monitoring the tracking risk tolerances; the Group was to have direct access to the RSG for the Investments of UNJSPF.

26. The tracking risk budget determined the optimal allocation of active risk in the Fund's portfolio. IMD used the tracking risk budget for equities and fixed income portfolios as a tool to effectively manage them without taking excessive risks.

27. The tracking risk budget was affected by volatility and correlation of assets and inversely related to their impact on the Fund portfolio. It was also affected by changes in the asset allocation and portfolio composition. Since 30 June 2013, however, IMD had maintained the same risk budget.

28. IMD computed the tracking risk budget based on historical predictive tracking errors for a 14 month period whereas the standard industry practice suggested that the calculation uses such data for a 36 month period. The IMD methodology was different because it had limited historical data when the

[3] A measure of how closely a portfolio follows the index to which it is benchmarked.

tracking risk budget was last updated in June 2013. IMD explained that this limitation should not have substantially affected the figures of the tracking risk budget. At the time of the audit, IMD had sufficient historical data to revise the tracking risk budget but had not yet done so pending issuance of the updated investment policy.

29. Additionally, the Deputy Director of Risk Management and Compliance was solely responsible for computing the tracking risk budget. There was no process to cross-check the accuracy and consistency of the calculation methodology.

30. Furthermore, OIOS observed instances where the tracking risk budget was adjusted to accommodate a high tracking error. The tracking risk budget had two risk corridors: the regular risk tolerance as "yellow zone" and the upper limit of risk tolerance as "red zone." The investment policy required IMD to take immediate action if the portfolio risk stayed in the red zone for a sustained period. However, the upper limit of the risk tolerance for the fixed income portfolio was set higher to accommodate the high tracking error caused by an investment decision made by the then Director for Investments. Given the higher upper limit, the portfolio remained within the risk tolerance for tracking errors. While the tracking risk budgeting required a certain degree of subjectivity, there was no defined process for adjusting it.

31. Since the tracking risk budget was a key measurement for risk management at the operational level, it was of vital importance to safeguard its integrity and objectivity. The Deputy Director of Risk Management and Compliance previously reported to the Director for Investments, which might have compromised the independence of the risk management function. To secure the independence of the function, however, the Risk Management Group needed to report directly to the RSG. OIOS highlighted the need for the independence of the risk management function in its audit of investment limits in 2013. IMD was in the process of addressing the issue during the current audit. IMD had also started to define and document the process for tracking risk budgeting.

32. The process for establishing and adjusting the tracking risk budget was not standardized or documented as a formal procedure. In the absence of a standardized process, the Fund would not be able to demonstrate the integrity of the tracking risk budget, which might result in ineffective risk management.

(2) IMD should standardize and document the process for establishing and adjusting its tracking risk budget as a formal procedure.

IMD accepted recommendation 2 and stated that it has drafted the procedure document and presented it at the Investment Committee meeting in February 2016. Recommendation 2 remains open pending receipt of documentation providing evidence of the updated tracking risk budget and related procedures.

<u>Internal controls over compliance review were adequate</u>

33. According to the risk policy, IMD was to establish, through appropriate and sufficient due diligence, that the Fund's investments were compliant with the standing policy and procedures and communicate resultant findings to senior management on a quarterly basis.

34. The IMD compliance team delineated the investment policy and procedures into various review criteria and assessed the compliance risk associated with the Fund's investment activities on a quarterly basis. The review criteria, as well as the methodology, were established before 2008 and adjusted to the

current form in 2012. The team was also responsible for assessing the adequacy of the IMD compliance procedures and guidelines and reporting any irregularities to the RSG.

35. In the review of compliance reports for nine quarters from July 2013, OIOS noted that IMD followed the established process to monitor and report on the Fund's compliance with the investment and risk management policies. In addition to the quarterly compliance reporting, IMD had a weekly process to review and report any compliance breaches to the investment team. Moreover, IMD had controls embedded in the trade execution system to detect any trade orders that conflicted with the compliance criteria. OIOS, therefore, concluded that internal controls over compliance review were adequate.

B. Decision-making process

<u>The objectives of TAA needed to be defined and implemented accordingly</u>

36. Pursuant to the investment policy, IMD was to rebalance its TAA approximately four times a year for risk-return monitoring purposes. The RSG was to finalize the updated TAA for the next period in her summary of decisions after the Investment Committee meeting and share it with the Master Record Keeper for performance and reporting purposes.

37. OIOS reviewed the use of TAA in IMD for the nine quarters from July 2013. In order to enhance risk-adjusted returns, IMD reviewed and, if necessary, updated the TAA on a quarterly basis. IMD recently modified the approach to TAA as a narrower set of the ranges around SAA rather than an active investment measure based on market timing. Market timing comprises markets momentum and trends, whilst SAA is defined every four years based on actuarial scenarios. However, the revised approach was not yet defined in the investment policy and could thus be subject to different interpretations and actions.

38. OIOS also reviewed the process of updating the TAA for nine quarters from July 2013. In all quarters, the Investment Committee reviewed the updated TAA, taking into consideration the recent and projected economic and market environments and provided its input on the proposed TAA. In five out of nine quarters, the RSG authorized the updated TAA for the next quarter in her/his summary of decisions immediately after the Investment Committee meeting. However, there were recent delays in authorizing the updated TAA. In the most recent three quarters, it took an average of three months from the Investment Committee meeting to endorse the updated TAA, by which time a new review for the next quarter should have started.

39. IMD had not assigned responsibilities to key personnel to review and update the investment policy. In addition, the investment policy did not clearly state the timeline for finalizing the summary of decisions after the Investment Committee meeting. Furthermore, IMD did not have an urgent need to authorize the revised TAA in two of the nine quarters since no changes were made to the TAA.

40. The effectiveness of TAA as a tool for investment and market risk management might be limited in the absence of a defined approach to TAA and timely authorization and implementation of the updated TAA.

(3) IMD should define in the updated investment policy: (i) the revised approach to Tactical Asset Allocation as a tool for investment and market risk management; and (ii) timelines for approval, communication and implementation of the Tactical Asset Allocation following the Investment Committee meeting.

IMD accepted recommendation 3 and stated that: (i) a revised approach has been drafted; and (ii) it *will be addressed in the updated investment policy.* Recommendation 3 remains open pending receipt of: the updated investment policy defining the approach to TAA as a tool for investment and market risk management; and timeline for its approval, communication and implementation.

IMD needed a standardized risk analysis process for certain investment decisions

41. In purchasing and selling equity and debt securities, IMD was to review and analyze information from various sources. The investment policy required IMD to manage its portfolio without taking undue risk. The policy also stated that IMD was to apply risk and liquidity parameters based on modeling assumptions such as scenario analysis.

42. The Risk Management Group was responsible for advising investment officers on risks pertaining to their portfolio. The Group provided extensive risk-related information that could serve as a useful tool to evaluate investment decisions. The investment officers were regularly updated on their tracking errors and the value at risk for their portfolio by industry, sector, country, region and currency. They were also informed of the securities that carried higher value at risk and tracking risks, as well as higher currency and volatility risks.

43. In addition to regular reporting to investment officers, the Group also provided case-by-case analyses upon request. However, the current process did not require investment officers to take risk positions into consideration in the decision-making process. It was left to the discretion of the investment officers whether or not and how to apply the risk measures to their portfolio management.

44. OIOS observed occasions where investment officers proactively consulted the Risk Management Group on their investment decisions at the pre-trade stage. However, such action was not part of the decision-making process as it was not required by the policy and procedures. IMD explained that some portfolio managers might be more quantitative than others depending on their investment style and the use of risk analysis alone could not determine the effectiveness of portfolio management. Nevertheless, in order to ensure portfolio managers were not taking undue risk, market risk analysis should be part of the decision-making process for certain trades that would likely have a high impact on the Fund's portfolios. This was necessary to evaluate the risk-return equation and actively manage market risk.

45. The investment decision process did not specify an investment threshold that would warrant pre-trade risk analysis. The absence of a threshold could lead to subjectivity in decision-making.

(4) IMD should establish a threshold that would require a pre-trade risk analysis and incorporate it in its investment decision-making process.

IMD accepted recommendation 4 and stated that a threshold will be determined and incorporated in the investment decision-making process. Recommendation 4 remains open pending receipt of documentation providing evidence of a threshold for a pre-trade risk analysis incorporated in the investment decision-making process, and its implementation.

Internal controls were adequate over the use of the benchmarks

46. The investment procedures established the respective benchmarks by asset and sub-asset class to be implemented. The procedures required IMD to review and approve securities that were not part of the benchmark and to include them in the approved list before purchasing them.

47. IMD adopted Morgan Stanley Capital International All Country World Index (MSCI ACWI) as a benchmark for global marketable equities and Barclays Capital Global Aggregate Bond Index (BCGA) for long-term fixed income. Investment officers used the benchmarks in constructing their portfolios as well as gauging their relative performance. Benchmarking was also a way of managing the exposure to market risk by diversification. IMD last adjusted its benchmarks in April 2014, taking into account the Asset-Liability Management study in 2011 and consultancies following the study.

48. In addition to monitoring of tracking errors, IMD continuously monitored the Fund's regional and country allocations in equity and fixed income portfolios and compared them to the respective benchmarks. As of 30 June 2015, the Fund's regional allocation of equity was generally consistent with that of the benchmark. The allocation of fixed income showed a certain degree of deviations from the benchmark and it was noted that IMD took a significantly underweight position in European Euro denominated bonds (9 per cent underweight), and Japanese Yen denominated bonds (10 per cent underweight). Despite the deviations, the overall tracking error of fixed income was within the risk tolerance.

49. The review further showed that the portfolios of equities and fixed income predominantly consisted of constituents of their respective benchmarks and only a small portion was attributable to non-index securities as shown in Table 2.

Table 2
Proportion of off-benchmark securities as of 30 June 2015
(Thousands of United States dollars)

Asset/Region	*Global Marketable Equity*				*Fixed Income*
	North America	*Europe*	*Asia*	*Emerging Markets*	
Portfolio value*	17,448,377	6,446,865	3,721,658	2,923,897	13,014,455
Non-index assets	26,703	-	129,294	108,329	195,400
Number of non-index assets	2	-	11	4	5
Proportion of non-index assets	**0.2%**	**0.0%**	**3.5%**	**3.7%**	**1.5%**

*Excludes small capital investments
Source: Master Record Keeper report

50. IMD followed the process of reviewing and approving the recommendation form for non-index securities based on the established investment criteria and included them in the approved list in advance of their initial purchase. Considering that: (i) the Fund continuously monitored its asset allocation and investment returns against the respective benchmarks; (ii) vast majority of securities were constituents of the benchmarks; and (iii) non-index securities were properly approved before their initial purchases, OIOS concluded that internal controls over the use of benchmarks were adequate.

IMD monitored unrealized gains and losses on investments

51. The risk manual established that all trades must be supported by proper due diligence and sound basis. IMD was to monitor unrealized gains and losses on each position. Unrealized gains or losses exceeding 25 per cent of asset value must trigger a due diligence process on the continued basis for holding the asset.

52. Affected by market conditions over time, unrealized gains and losses on investments fluctuated greatly. Table 3 shows changes in unrealized gain and loss on the equity and fixed-income portfolios from January 2013 to June 2015. A large part of the unrealized loss was traceable to currency effects

when investments in local currencies were translated into the functional currency (United States dollars). OIOS reviewed the Fund's management of unrealized gains and losses caused by changes in the market values of investment assets (mark-to-market), but not by currency translation effects (see next sub-section below).

Table 3
Changes in unrealized gain/ (loss) on investments from January 2013 to June 2015
(United States dollars)

Change in unrealized gain/(loss)	*Jan-Dec 2013*	*Jan-Dec 2014*	*Jan-Jun 2015*
Global marketable equity	4,720,535,987	61,793,916	173,369,781
Fixed income	(474,089,814)	212,451,925	(216,902,470)
Total changes in unrealized gain/(loss)	**4,248,446,173**	**274,245,841**	**(43,532,689)**

Source: Master Record Keeper report

53. The compliance team regularly monitored changes in unrealized gains and losses and reported the securities that exceeded the threshold of 25 per cent unrealized gains and losses to the RSG. The documentation showed that investment officers reviewed those securities and recommended a course of action to the RSG on whether to sell or hold them. OIOS, therefore, concluded that internal controls were adequate over management of unrealized gains and losses pertaining to changes in the market value of securities.

<u>The Fund was exposed to a high market risk associated with unhedged foreign currency</u>

54. IMD was to monitor risk contribution due to currency and ensure that it stayed consistent with the benchmark. IMD was expected to monitor, evaluate and manage market risk associated with unhedged foreign currency.

55. In recent years, the fluid and unpredictable nature of foreign currency movements imposed tremendous challenges on the Fund in managing realized and unrealized currency losses. For the quarter ending 30 September 2015, the translation from local currency to the functional currency negatively impacted the performance of the equity and fixed-income portfolios by 1.12 per cent and 1.37 per cent respectively as unrealized currency losses. As at the same date unrealized currency translation losses decreased the value of the equity portfolio by $1.3 billion or 4 per cent, and that of the fixed-income portfolio by $970 million or 7 per cent. The negative translation effect on the total Fund portfolio was $2.36 billion.

56. Foreign exchange movements also negatively impacted the realized gain and loss on the equity and fixed-income portfolios to a significant degree, as shown in Table 4. The adverse impact on the Fund's assets by currency translation was particularly evident in the fixed-income portfolio during 2014 and 2015 when the currency translation loss exceeded the total gain on the investment. The currency loss on fixed income accounted for $56.7 million or 176 per cent of the net realized loss in 2014 and $186.9 million or 122 per cent from January to June 2015.

Table 4
Realized gain/ (loss) on investments
(Thousands of United States dollars)

Realized gain/(loss)	*2013*		*2014*		*Jan-Jun 2015*	
	Equity	*Fixed income*	*Equity*	*Fixed income*	*Equity*	*Fixed income*
Change in market value	1,819,186	39,286	1,730,233	24,482	810,786	33,708
Currency translation gain/(loss)	(81,685)	(17,224)	(51,966)	(56,720)	(183,697)	(186,897)
Total realized gain/(loss)	**1,737,501**	**22,062**	**1,678,267**	**(32,238)**	**627,089**	**(153,189)**

Source: Master Record Keeper report

57. Appreciation of the United States dollar against currencies such as Euro, British pound, Japanese yen and Swiss franc resulted in foreign exchange losses. Pursuant to the investment policy, IMD did not use hedging to manage its currency risk exposure. Foreign exchange losses might erode the Fund's assets.

58. The United Nations Board of Auditors conducted an independent examination of the Fund's financial statements for the year ended 31 December 2014 and evaluated the risks associated with foreign currencies in the Fund's portfolio, concluding with recommendations which were under consideration by the RSG. OIOS, therefore, did not make additional recommendations in this area at this time.

Investment procedures needed to clarify the requirements and exceptions for certain transactions

59. The investment policy and procedures required adequate analysis and appropriate authorization supporting investment decisions. For authorization, the investment policy established the authorization levels corresponding to value or size of transactions by asset class. To support investment decisions, the procedures required an advisor's latest report to be attached to investment recommendations.

60. Investment officers were responsible for recommending and executing the purchase and sale of equity and debt securities. In carrying out these duties, they performed the following functions: (i) reviewed and analyzed information from various sources; (ii) prepared the recommendation form; (iii) sought the concurrence of another investment officer or the approval of the Director, IMD depending on value and size of transactions; and (iv) executed trades.

61. The advisors' reports provided financial information regarding certain securities such as balance sheets, earnings, share prices and various financial ratios upon request by the investment officers. The advisors also recommended a certain course of action: sell, buy or hold those securities, as well as the target price and target numbers of shares. The advisors also provided their summary of reasons in the report. The decisions of investment officers were usually consistent with the advisors' reports; however the investment officers could decide otherwise based on their analyses.

62. To further assess the consistency and compliance of the decision-making process, the audit reviewed a sample of 80 transactions out of 5,789 purchases and sales from June 2013 to June 2015. The sample included two purchases and four sales of exchange traded funds that did not require an advisor's report to execute trades. The sample also included four transactions of debt securities that were made after IMD decommissioned advisory services by the research provider. The review showed that in the majority of cases, the investment officers supported their investment decisions with adequate documentation in compliance with the investment procedures. However, OIOS also noted the following.

(i) For ten transactions, a list of financial data substituted a report;

(ii) For two transactions, the advisor's report was dated four and six months after the trade;
(iii) For three transactions, the trades were retroactively authorized; and
(iv) For one transaction, the trade was executed without the complete authorization.

63. The 10 transactions mentioned in point (i) pertained to the same advisor. The advisor was a specialized research company instead of an investment advisor. The company provided an extensive analyst's report for the securities they covered; however, the coverage was limited at 47 per cent of the sample cases for which the company was responsible. For securities outside their coverage, the company provided a simple list of financial data instead of a research report. While OIOS considered the limited coverage was not extraordinary, given the size and nature of the research company, it was not clear whether the information provided met the definition of a "report" in the investment procedures. The use of this advisor created a conflict of interest situation. IMD was addressing this issue in consultation with the Ethics Office.

64. At the time of the audit, IMD decommissioned the advisors for the Europe and Asia equities, excluding emerging markets and fixed income, and obtained the required information from other sources. IMD was also in the process of deploying the new trade execution system that would necessitate IMD to adjust the current investment procedures.

65. The investment procedures did not adequately specify requirements and exceptions regarding the adequacy of analyses and documentation for decision-making, allowing different interpretations. This caused a situation where the extent of adherence to the policy and procedures in the decision-making process varied by portfolio manager.

66. Ambiguity in the requirements and inconsistent application of the investment procedures would create a condition prone to errors and manipulations.

(5) IMD should clarify in the investment procedures the standards of analyses and documentation that are adequate for making investment decisions as well as any exceptions from such requirements.

IMD accepted recommendation 5 and stated that the IMD Compliance Section with the IMF Front Office has reviewed the documentation requirements related to security selection and this will be reflected in an updated Front Office procedure that is being developed. Recommendation 5 remains open pending an updated investment procedure having the standards of analyses and documentation that are adequate for making investment decisions as well as any exceptions from such requirements.

IV. ACKNOWLEDGEMENT

67. 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

ANNEX I

STATUS OF AUDIT RECOMMENDATIONS

Audit of market risk management in the Investment Management Division of the United Nations Joint Staff Pension Fund

Recom. no.	Recommendation	Critical[4]/ Important[5]	C/ O[6]	Actions needed to close recommendation	Implementation date[7]
1	IMD should define and assign responsibility for reviewing and updating the investment policy, investment procedures and risk management manual.	Important	O	Provide the updated investment policy, investment procedures, and risk management manual.	30 September 2016
2	IMD should standardize and document the process for establishing and adjusting its tracking risk budget as a formal procedure.	Important	O	Provide documented evidence of the updated tracking risk budget and related procedures.	30 September 2016
3	IMD should define in the updated investment policy: (i) the revised approach to Tactical Asset Allocation as a tool for investment and market risk management; and (ii) timelines for approval, communication and implementation of the Tactical Asset Allocation following the Investment Committee meeting.	Important	O	Provide documented evidence of the updated investment policy defining the approach to TAA as a tool for investment and market risk management; and timeline for its approval, communication and implementation.	30 September 2016
4	IMD should establish a threshold that would require a pre-trade risk analysis and incorporate it in its investment decision-making process.	Important	O	Provide documented evidence of a threshold for a pre-trade risk analysis incorporated in the investment decision-making process, and its implementation.	30 September 2016
5	IMD should clarify in the investment procedures the standards of analyses and documentation that are adequate for making investment decisions as well as any exceptions from such requirements.	Important	O	Provide an updated investment procedure having the standards of analyses and documentation that are adequate for making investment decisions as well as any exceptions from such requirements.	30 September 2016

[4] 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.
[5] 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.
[6] C = closed, O = open
[7] Date provided by IMD in response to recommendations.

APPENDIX I

Management Response

UNITED NATIONS — NATIONS UNIES

INTEROFFICE MEMORANDUM — MEMORANDUM INTERIEUR

TO: A:	Mr. Gurpur Kumar Deputy Director Internal Audit Division, OIOS	29 February 2016
THROUGH: PAR:	Ms. Carolyn Boykin Representative of the Secretary-General Investment Management Division United Nations Joint Staff Pension Fund	2 March 2016
FROM: DE:	Mr. Daniel Willey Compliance Officer Investment Management Division United Nations Joint Staff Pension Fund	D Willey 29 Feb 2016

SUBJECT: OBJECT: **Draft report on an audit of market risk management in the Investment Management Division of the United Nations Joint Staff Pension Fund (Assignment No. AS2015/801/01)**

1. Reference is made to your memorandum dated 25 February 2016 providing the report on the above-mentioned audit.

2. I am pleased to provide IMD's comments on the findings and recommendations as requested. Please find attached the Appendix I to the audit recommendations which details IMD's response to the findings.

3. I wish to thank you and OIOS for the recommendations made following the review and for the positive interaction with IMD staff regarding this matter.

cc: Mr. Toru Shindo, Deputy Director, Investment Management Division, IMD
Mr. Daniel Willey, Compliance and Audit Focal Point, IMD
Ms. Cynthia Avena-Castillo, Professional Practices Section, Internal Audit Division, OIOS
Ms. Stara Khan, Senior Risk Assistant, IMD
Ms. Wasantha Jayasinghe, Senior Compliance Assistant, IMD

APPENDIX I

Management Response

Audit of market risk management 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 define and assign responsibility for reviewing and updating the investment policy, investment procedures and risk management manual.	Important	Yes	IMD Compliance and IMD Risk	No later than 30 September 2016	The RSG has assigned this undertaking to the IMD Compliance and the IMD Risk Staff.
2	IMD should standardize and document the process for establishing and adjusting its tracking risk budget as a formal procedure.	Important	Yes	RSG	No later than 30 September 2016	In progress. A draft document has been completed and was presented at the February 2016 Investments Committee meeting. Formal implementation is pending.
3	IMD should define in the updated investment policy: (i) the revised approach to Tactical Asset Allocation as a tool for investment and market risk management; and (ii) timelines for approval, communication and implementation of the Tactical Asset Allocation following the Investment Committee meeting.	Important	Yes	RSG	No later than 30 September 2016	(i). A revised approach has been drafted and is being discussed. (ii). Will be addressed in the updated investment policy.
4	IMD should establish a threshold that would require a pre-trade risk analysis and incorporate it in its investment decision-making process.	Important	Yes	RSG	No later than 30 September 2016	A threshold will be determined and incorporated in the investment decision-making process.
5	IMD should clarify in the investment procedures the standards of analyses and documentation that are adequate for making investment decisions as well as any exceptions from such requirements.	Important	Yes	IMD Compliance	No later than 30 September 2016	The IMD Compliance Section with the IMD Front Office has reviewed the documentation required related to security selection. This will be reflected in an updated Front Office procedure now being developed.

[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.