



Internal Oversight Division

Reference: IA 2019-06

Audit Report

Audit of PCT Netting Pilot

May 3, 2019

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LIST OF ACRONYMS

AIMS	Administrative Integrated Management Systems
ATPO	Austrian Patent Office
EFT	Electronic File Transfer
EPO	European Patent Office
FX	Foreign Exchange
IB	International Bureau
IIA	Institute of Internal Auditors
IOD	Internal Oversight Division
IPEA	International Preliminary Examining Authority
ISA	International Searching Authority
JPO	Japan Patent Office
JPY	Japanese Yen
KIPO	Korean Intellectual Property Office
MOU	Memorandum of Understanding
OI	Office Instruction
PCT	Patent Cooperation Treaty
PoC	Proof of Concept
RO	Receiving Office
ROSPATENT	Russian Federation Federal Service for Intellectual Property
SEPA	Single Euro Payments Area
UN	United Nations
UNORE	United Nations Operational Rates of Exchange
USPTO	United States Patent and Trademark Office
WIPO	World Intellectual Property Organization

EXECUTIVE SUMMARY

1. "Netting" is a settlement mechanism used to allow a positive value (payment) and a negative value (receivable) to offset and partially or entirely cancel each other out. The netting process consolidates all transactions between participants and calculates settlement between the participants on a "net" basis, typically by means of a single payment or receipt.
2. In 2018, the International Bureau (IB) launched the Patent Cooperation Treaty (PCT) Netting Pilot following a positive response to the invitations sent to Receiving Offices (ROs) and International Searching Authorities (ISAs) to participate in the Pilot. The European Patent Office (EPO), Japan Patent Office (JPO) and Austrian Patent Office (ATPO) responded positively to the invitation.
3. The table below shows the status of ROs/ISAs invited to participate in the PCT Netting Pilot as of February 2019.

Receiving Offices (ROs) Participating in Netting	Declined	No Response to invitation	Inactive ¹	Invitation in Progress	Total ROs specifying participating ISAs
43	14	26	43	22	148

Source: Finance Division

4. The table below shows the total amounts involved in the netting process between February 2018 and January 2019, for each participating ISA and in respective currencies.

International Searching Authority (ISA)	Amounts to be paid by ISAs to the IB	Amounts to be paid by the IB to ISAs	Net Position
EPO (Euro)	44,848,447	-62,142,042	-17,293,595
ATPO (Euro)	496,636	-48,744	447,892
JPO (JPY)	5,355,199,449	-23,845,752	5,331,353,697

Source: Finance Division

5. For that period, the IB was a net payer of 17, 3 million Euros (approximately 19, 5 million Swiss francs) to the EPO, while the IB was a net receiver of 5, 3 billion Japanese Yen (approximately 47 million Swiss francs) from the JPO.
6. The netting statistics show that, during 2018, ROs submitted 62,917² international applications to ISAs for search. The three ISAs (EPO, JPO, and ATPO) currently participating in the PCT Netting Pilot handled 44,882 (71.34 per cent) of these applications, whereas the remaining 18, 035 applications (28.66 per cent) were handled by ISAs/ROs not participating in the Pilot.
7. In respect of the 44,882 applications, the three ISAs together handled related search fees for 43,398 applications (68.98 per cent of the 62,917 applications) from ROs that participated in the PCT Netting Pilot. The search fees for the remaining 1,484 (2.36 per cent) applications were directly remitted to the ISAs by ROs that were not participating in the Pilot.
8. The PCT Netting Pilot aims to reduce exposure of PCT fee income to movements in Foreign exchange (FX) resulting from search fee flows, which culminate in 16.1(e) claims,

¹ ROs, which did not submit any international applications to any of the three participating ISAs for search in 2017 or 2018.

² Represents international applications where the ISA is not the same Office that acted as an RO; in other words, the figure excludes international search applications submitted to the ISA through its own national RO.

improve cash management for the IB, ROs and ISAs, reduce banking charges, and improve the efficiency and effectiveness of the PCT process through simplification of procedures.

9. However, the PCT Netting Pilot's impact on reducing exposure of PCT fee income to movements in currency exchange rates addresses only the differences between the UN exchange rate used by the IB to recognize income in its accounts and the FX spot rate on the date of the receipt and/or disbursement of funds. It does not address the FX impact of the Equivalent Amount³ mechanism established by the PCT Assembly.

10. The Internal Oversight Division (IOD) found that the netting process has fundamentally changed the workflows of the IB and the participating ROs/ISAs in respect of PCT search fees. The workflow for handling PCT search fees has been streamlined, with the IB experiencing an evident reduction in the workload relating to claims of foreign exchange losses and gains that arise as per PCT Rule 16.1(e)⁴. Going forward, the process would be further streamlined and more efficient by automating a number of manual tasks undertaken in netting operations.

11. Implementing the netting process resulted in the average notional amount of cash at the bank (Euro currency) for PCT search fees dropping by 69 per cent. This reduction enabled the IB to avoid finance costs related to the prevailing negative interest rates.

12. In addition, IOD noted a nominal monetary decrease in the bank charges related to Electronic File Transfer (EFT) charges, which correlated with the reduction in the volume of EFT transactions – payments and receipts, and with the reduction in the number of claims for reimbursements, from the participating ISAs.

13. The volume of EFT transactions decreased from 90 in 2017 to 39 in 2018 (netting period), which is a decrease of 51 transactions (57 per cent decrease), while the number of claims for reimbursements decreased from 160 (pre-netting period) to 87 (netting period), a decrease of 73 claims (46 per cent decrease). This helped in mitigating other operational risks, such as potential errors due to reduced processing of a large volume of transactions.

14. Leveraging on the setup available in Coprocess (the netting software) and encouraging participation from the current list of non-participating ISAs/ROs, will widen the view of currency exposures, reduce the number of claims for reimbursements under PCT Rule 16.1(e), provide greater predictability to the budgetary process, and enhance financial stability of the IB.

15. Further, the IB should review the resources required for the netting process, considering current resources and structure, future automation and potential increase in the number of netting participants.

16. Finally, the IB would benefit from proposing an amendment of the PCT Regulations and related Administrative Instructions to, inter alia, reflect and align with current netting procedures and work practices.

³ According to PCT Rules, the IB determines an equivalent amount per fee for each freely convertible currency in accordance with the directives of the PCT Assembly. When the exchange rate difference between one or more currencies against the Swiss franc fluctuates above or below five per cent for four consecutive Fridays; the Director General must establish a new equivalent amount for these currencies, which should then be communicated to the ROs and the ISAs.

⁴ Where in respect of the payment of the search fee in a currency prescribed by the RO ("the prescribed currency"), other than the currency fixed by the ISA ("the fixed currency"), the amount actually received under paragraph (d)(i) of this Rule by the ISA in the prescribed currency is, when converted by it into the fixed currency, less than that fixed by it, the difference will be paid to the ISA by the IB, whereas, if the amount actually received is more, the difference will belong to the IB.

1. BACKGROUND

17. In 2012, both IOD and the World Intellectual Property Organization's (WIPO) External Auditors audit reports highlighted the need for the IB to take action to reduce the risk of exposure of PCT fee income to movements in currency exchange rates. The IB needed to take action that would provide greater predictability to the budgetary process and add to the financial stability of the Organization.

18. In response to the highlighted need for action, the IB issued Circular C. PCT 1440⁵, which proposed a number of possible measures, among them, the introduction of a "Netting structure" for all PCT fee transactions between ROs, ISAs⁶ and the IB.

19. "Netting" is a settlement mechanism used to allow a positive value (payment) and a negative value (receivable) to offset and partially or entirely cancel each other out. The netting process consolidates all transactions between participants and calculates settlement between the participants on a "net" basis, typically by means of a single payment or receipt. To perform the netting administration, the IB implemented Coprocess – a netting software system.

20. Essentially, the PCT Netting Pilot is a Proof of Concept (PoC) that aims to reduce exposure of PCT fee income to movements in currency exchange rates, with a view to, among others, provide greater predictability to the budgetary process and thereby enhance the financial stability of the IB.

21. The PCT Netting Pilot aims to reduce exposure of PCT fee income to movements in FX rates with primarily to those search fee flows, which culminate in 16.1(e) claims, improve cash management for the IB, ROs and ISAs, reduce banking charges, and improve the efficiency and effectiveness of the PCT process through simplification of procedures.

22. However, the PCT Netting Pilot's impact on reducing exposure of PCT fee income to movements in currency exchange rates addresses only the differences between the UN exchange rate used by the IB to recognize income in its accounts and the FX spot rate on the date of the receipt and/or disbursement of funds. It does not address the FX impact of the Equivalent Amount mechanism established by the PCT Assembly.

23. In 2018, the IB launched the PCT Netting Pilot following a positive response to the invitations sent to ROs and ISAs to participate in the Pilot. Out of the seven ISAs that were invited, three namely, the EPO, JPO and ATPO responded positively to the invitation. Table 1 below shows the status of ROs/ISAs invited to participate in the PCT Netting Pilot as of February 2019.

⁵ <https://www.wipo.int/export/sites/www/pct/en/circulars/2015/1440.pdf>

⁶ A RO is a Patent Office where a national or resident of a PCT member country can file an international PCT application. An ISA is the Patent Office that will review a PCT application and issue an international search report, a written opinion, on the patentability of the claims. The nationality and residency of the applicant will determine the RO that the applicant can select to file an international application. Each RO designates one or more ISAs from which the applicant can select the ISA for the international application. If the IB is the RO, the eligible ISA will depend upon the nationality and residence of the applicant(s).

Table 1: Status of ISAs and ROs Invited to Participate in Netting Pilot

S/n	International Searching Authority (ISA)	Receiving Offices (ROs) Participating in Netting	Declined	No Response to invitation	Inactive ⁷	Invitation in Progress	Total ROs specifying participating ISAs
1.	EPO	33	12	18	27	15	105
2.	JPO	4	1	1	3	3	12
3.	ATPO	6	1	7	13	4	31
	Total	43	14	26	43	22	148

Source: Finance Division

24. Each month the Finance Division generates a Preliminary Netting Statement that shows the payments, receipts and net position for the participating ISAs. The statement is circulated to the netting participants and following confirmation of the net position, the Division prepares a Final Netting Statement. Based on the net position of the Final Statement, the IB either will have to make payment to the ISA or will be a net receiver. Annex 1 (A) provides a summary of the Netting Statements – payments, receipts and net position, for the period February 2018 to January 2019, for the three participating ISAs, namely - EPO, JPO and ATPO.

25. Table 2 below shows that during 2018, ROs submitted 62,917⁸ international applications to ISAs for search. The three ISAs (EPO, JPO, and ATPO) currently participating in the Netting Pilot handled 44,882 (71.34 per cent) of these applications, whereas the remaining 18,035 applications (28.66 per cent) were handled by ISAs/ROs not participating in the Pilot.

26. In respect of the 44,882 applications, the three ISAs together handled related search fees for 43,398 applications (68.98 per cent of the 62,917 applications) from ROs that participated in the netting process. The search fees for the remaining 1,484 (2.36 per cent) applications were directly remitted to the ISAs by ROs that were not participating in the PCT Netting Pilot.

⁷ ROs, which did not submit any international applications to any of the three participating ISAs for search in 2017 or 2018

⁸ Represents international applications where the ISA is not the same Office that acted as an RO; in other words, the figure excludes international search applications submitted to the ISA through its own RO.

Table 2: PCT International Applications submitted by Receiving Offices

International Searching Authority (ISA)	International applications submitted by ROs for search in 2017 ⁹	International applications submitted by ROs for search in 2018	Share of international applications submitted by ROs for search in 2018 ¹⁰	Share of international applications submitted by ROs participating in Netting for search in 2018 ¹⁰	Share of international applications submitted by ROs <u>not</u> participating in Netting for search in 2018 ¹⁰
	(Pre-Netting period)	(Netting period)			
A. Netting Participants :					
European Patent Office (EPO)	44,542	44,231	70.30%	68.00%	2.30%
Japan Patent Office (JPO)	268	469	0.75%	0.73%	0.01%
Austrian Patent Office (ATPO)	201	182	0.29%	0.24%	0.05%
Subtotal for ISAs participating in Netting Pilot	45,011	44,882	71.34%	68.98%	2.36%
B. Non participating ISAs/ROs:					
Korean Intellectual Property Office (KIPO)	10,429	9,437	15.00%		15.00%
Russian Federation Federal Service for Intellectual Property (ROSPATENT)	3,131	3,150	5.01%		5.01%
United States Patent and Trademark Office (USPTO)	932	1,087	1.73%		1.73%
Australian Patent Office	743	709	1.13%		1.13%
Other ISAs/ROs (15)	3,141	3,652	5.80%		5.80%
Subtotal for ISAs not participating in Netting Pilot	18,376	18,035	28.66%		28.66%
Total excluding search applications submitted to ISA through its own national RO	63,387	62,917	100.00%	68.98%	31.02%
Total of search applications submitted to ISA through its own national RO	180,042	189,162			
Total Search Applications	243,429	252,079			

Source: Finance Division -WIPO Statistics database

⁹ The 2017 netting participation relates to search fees collected under USPTO/EPO/WIPO Memorandum of Understanding (MOU).

¹⁰ The percentage share excludes search applications submitted to an ISA through its own national RO

2. AUDIT OBJECTIVES

27. The audit objectives of the PCT Netting Pilot were to:

- (a) Assess whether the Netting Pilot has achieved its purpose, that is: improved cash management, reduced foreign exchange risk exposure and bank charges;
- (b) Assess whether the changes brought by the Netting Pilot have enhanced the efficiency and effectiveness of the work flows; and
- (c) Assess the adequacy of resources for effective and efficient rollout of the Pilot.

28. The audit assessed the potential effect of the netting on the PCT Rule 16.1(e) regarding foreign exchange losses or gains incurred by ISAs, considering the above stated objectives.

3. AUDIT SCOPE AND METHODOLOGY

29. The audit scope covered financial transactions and other related activities of the PCT Netting Pilot that were undertaken in 2018. The methodology included, among others, walkthroughs, interviewing Finance Division and PCT Operations Division staff members and other personnel involved in the administration and management of the Pilot, data analytics procedures, and reviewing relevant documentation covering 12 months of netting activities.

30. In addition, a sample of six out of 12 months of the Netting period was selected for detailed testing, analytical review of data, and substantive testing in order to ascertain the efficiency and operational effectiveness of the netting process. An assessment that includes all stakeholders will provide a full picture of the impact of the netting exercise on the IB and its partners.

31. The audit was performed in accordance with the International Standards for the Professional Practice of Internal Auditing (*the Standards*) issued by the Institute of Internal Auditors (IIA).

4. OBSERVATIONS AND RECOMMENDATIONS

32. IOD interviewed a number of internal stakeholders, mainly, Finance Division and PCT Operations Division staff members, reviewed the netting processes and procedures and other relevant documentation, conducted analytical reviews including detailed substantive tests on a sample of six out of 12 months during which the netting process was in operation.

33. Further, the analysis and review was based mainly on the transactions involving EPO, JPO and ATPO, which are the three ISAs who are participating in the netting. These three ISAs constitute 71.3 per cent of the net volume of PCT searches in 2018 that were carried out by an ISA that is an Office different from the RO.

34. The ensuing observations and recommendations, present opportunities to further enhance the efficient and effective management of the netting process.

(A) WORKFLOWS, EFFICIENCY AND EFFECTIVENESS OF NETTING

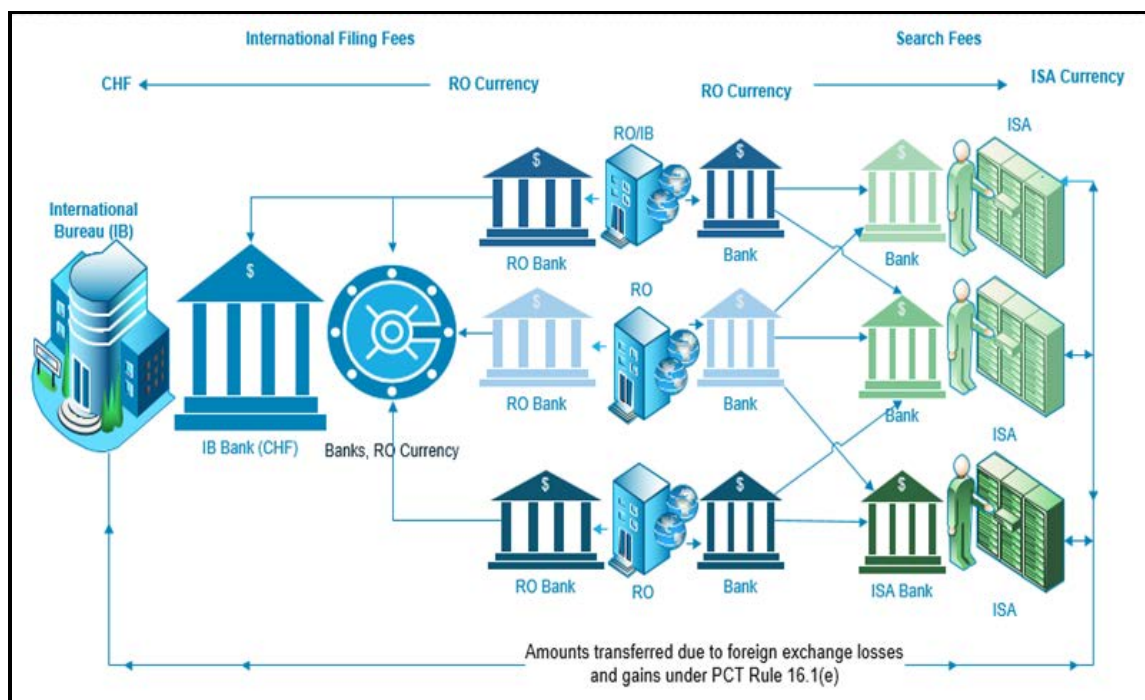
(i) Simplification of PCT Procedures and Alignment with PCT Regulations

35. The PCT Netting Pilot has fundamentally changed the workflows of the IB and the participating ROs/ISAs in respect of PCT search fees. In particular, the workflow for handling PCT search fees has been streamlined with the IB acting as the Netting center and experiencing an evident reduction in claims of foreign exchange losses and gains that arise as per PCT Rule 16.1(e).

36. The Netting process and procedures requires that all transactions for participating ROs are received at ISAs with a consolidated listing containing all transactions included by an agreed date each month thereby simplifying management and administration of PCT fee transactions.

37. Figure A, below graphically depicts the flow of PCT fee transactions (in currencies which are freely convertible) between the ROs, the ISAs and the IB as per PCT Rule 16.1(e).

Figure A: PCT Fee Transaction Payment Flow as per PCT Rule 16.1 (e) Procedure



Source: PCT netting documentation

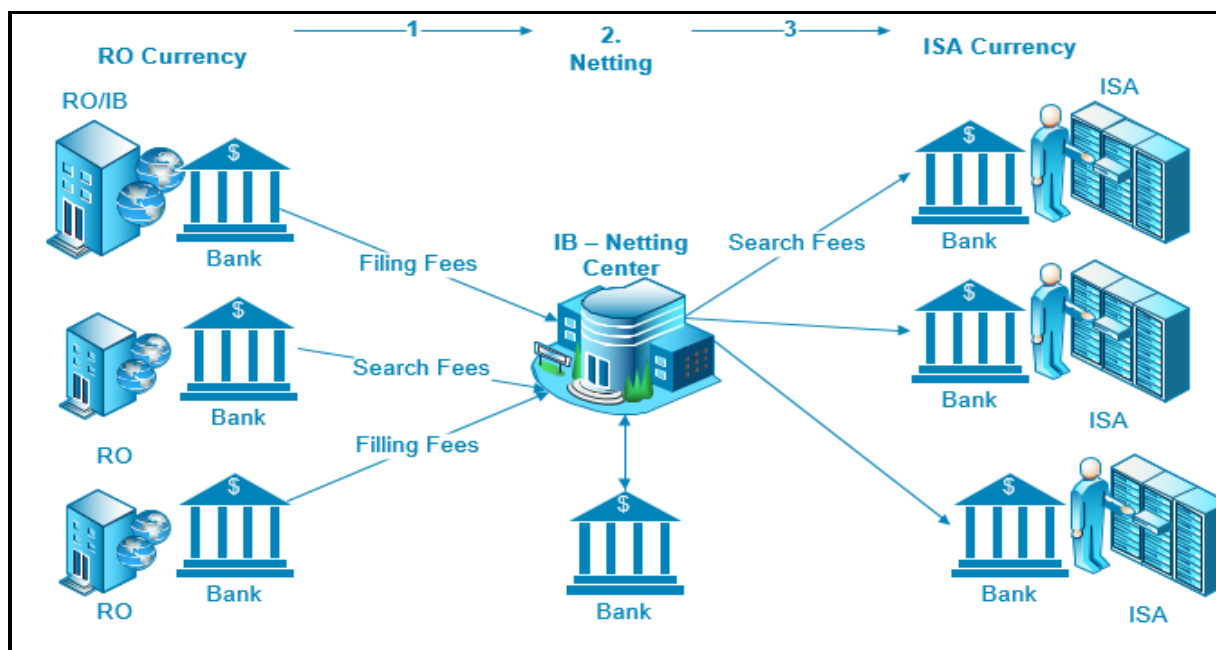
38. In the transaction flow under PCT Rule 16.1(e) in figure A, above, the financial risks associated with the transfer and conversion of search fees between the currency prescribed by the RO and the currency fixed by the ISA are solely borne by the IB. However, the IB is not involved in the transactions at all and thus has no influence on the management of the possible impact of foreign exchange rate fluctuations.

39. In contrast, figure B shows how the same transactions are now processed according to the netting procedures, which aims to, among others, eliminate, PCT Rule 16.1(e) claims for foreign exchange loss or gain incurred by participating ISAs for all participating ROs.

40. Further, as figure B below shows, the ROs collect the international filing fee and the search fee from applicants. However, instead of being required to transfer the international filing fee to the IB and the search fee directly to the ISA, the ROs transfer both fees, the

international filing fee and the search fee, in the (freely/fully convertible¹¹) ROs' currency, to the IB.

Figure B: PCT Fee Transaction Payment Flow for the Netting Pilot



Source: PCT netting documentation

41. Further, as per figure B above, many ROs can make a single payment to the IB (Netting center), covering all their international filing fee and search fee obligations *vis-à-vis* the IB and the ISAs, collected in the (freely/fully convertible) local RO currency. The payments are made as per the Netting Calendar. For an RO which also acts as an ISA, that single payment to the Netting center consists of the balance between the international filing fees the RO “owes” to the IB and the search fees which the IB “owes” to that same Office in its capacity as an ISA.

42. Foreign currency inflows (international filing fees and search fees in RO currencies) and outflows (search fees in ISA currencies) are “netted” at the IB (Netting center as shown in figure B) to give a net foreign currency amount. Consequently, for netting participants, the PCT Rule 16.1(e) procedure will no longer apply.

43. IOD notes that the Regulations under the PCT and related Administrative Instructions have yet to be revised, to reflect the netting process, which will ensure alignment of Regulations and Netting work practices. The IB plans to submit an amendment proposal to the PCT Working Group in June 2019.

(ii) Netting Calendar

44. Prior to the launch of the PCT Netting Pilot, it was a challenge for the Finance Division – Treasury Section, to reliably estimate the monthly cash inflows and outflows including their timing, with sufficient certainty and accuracy. There were numerous gross cash flows in different currencies, between the IB and ISAs, which were spread over different times in the month. This made it difficult for the IB’s Treasury Section to reliably forecast cash flows and plan for foreign exchange trading of different currencies.

45. The netting process has improved cash management by the IB and netting participants (ISAs/ROs) with use of a Netting Calendar, which provides improved information regarding the

¹¹ A fully convertible currency or freely convertible currency is a currency that does not have any government restrictions on currency exchange. Examples of fully or freely convertible currencies are the US dollar and the Euro.

timing of cash flows that are scheduled in accordance with the dates defined in the Calendar. Annex 1 (B) provides the relevant details for the netting calendar for 2019.

46. Netting encourages ROs to combine multiple payments into a single payment flow and therefore reduce transactional fees. Additionally, payments and receipts of netted amounts are made on an agreed date each month based on the calendar. This enables the IB and netting participants to plan, with greater certainty the timing for cash receipts and disbursements. Further, the IB is also less likely to receive random and possibly cumulative claims from ISAs, as there are agreed cut off dates for submission and settlements.

47. Going forward, the IB should continue with the current practice of strict adherence to the cutoff dates as set out in the netting calendar, to ensure effective and efficient service delivery in the event that the number of netting participants grows.

(B) CASH MANAGEMENT AND FOREIGN EXCHANGE RISK

(i) Foreign Exchange Exposure

48. The IB processes claims from ISAs for foreign exchange gain/losses under PCT Rule 16.1(e). The introduction of the netting process has reduced the claims to only non-participating ROs and ISAs.

49. IOD's review of the 12 months period before the PCT Netting Pilot was launched (February 2017 to January 2018) and the corresponding period in which the netting process was implemented, (February 2018 up to January 2019) revealed some improvements in a number of areas.

50. More specifically, as shown in Table 3, the number of claims for reimbursements, from the participating ISAs; EPO, JPO and ATPO, decreased from 160 (pre-netting period) to 87 (netting period), a decrease of 46 per cent (73/160). The EPO had the most significant reduction in the number of claims from 142 to 72 transactions, which translates into a decrease of 49 per cent.

Table 3: Number of Claims for Reimbursements- PCT Rule16.1 (e)

S/n	International Searching Authority (ISA)	Pre-Netting Period (Feb. 2017 - Jan. 2018)	Netting Period (Feb. 2018 - Jan.2019)	Per cent Change
1.	EPO	142	72	-49%
2.	JPO	9	7	-22%
3.	ATPO	9	8	-11%
	Total	160	87	-46%

Source: Finance Division

51. Going forward, an increase in participating ROs and ISAs will have the effect of reducing the number of claims for reimbursements; leading towards a reduction in administrative work for the ISAs as analysis for PCT Rule 16.1 (e) gains/losses will no longer be required.

52. Furthermore, the increased participation of ROs also led to a reduction in the volatility of foreign exchange gains and losses pertaining to claims under PCT Rule 16.1(e) during the two periods under review as shown in Table 4 below¹²:

Table 4: Foreign Exchange Gains and Losses – PCT Rule 16.1 (e)

S/n	International Searching Authority (ISA)	Pre-Netting Period		Netting Period		Per cent Change
		Currency	CHF Equivalent ¹³ (Gain/(Loss))	Currency	CHF Equivalent ¹⁴ (Gain/(Loss))	
1.	EPO	(€ 157,536)	(184,075)	(€ 81,598)	(91,938)	- 50%
2.	JPO	¥164,136	1,422	(¥115,756)	(1,032)	-173%
3.	ATPO	€ 1,940	2,267	(€ 1,233)	(1,390)	-161%

Source: Finance Division

(ii) Foreign Exchange Gains and Losses

53. Foreign exchange gains or losses for the IB may arise due to the differences between the PCT rate and United Nations Operational Rates of Exchange (UNORE) rate for RO payments and foreign exchange gains/losses related to netting spot¹⁵ transactions carried out at spot rates.

54. A review of financial information extracted from the Administrative Integrated Management Systems (AIMS) showed that in 2018, there was a loss of 77,372 Swiss francs arising from netting spot transactions mainly incurred from the Japanese Yen (JPY) currency for which, the IB does not have significant business requirements.

55. The Finance Division estimates that the total loss from spot transactions would have been much larger if the netting process had not been in place. The JPY search fees paid to the IB from other participating ROs benefited from the netting of application fees received by the IB, therefore reducing the overall currency exposure to JPY. Furthermore, the IB is able to convert the JPY search fees at a rate without any margin spread with its banks and therefore ensuring a competitive currency conversion transaction.

56. A review of Netting statements shows that the impact of foreign exchange gains and losses related to PCT Rule 16.1 (e) claims from the EPO reduced significantly from 81,547 euros (94,061 Swiss francs) for the first six months (January to June) of 2018 to 50.67 euros (52.96 Swiss francs) in the second half (June to December) of 2018. Further, during the period April to June 2018, the EPO was still submitting claims as per PCT Rule 16.1(e) covering prior periods for ROs that joined the Netting Pilot during the second quarter of 2018. Annex I (C) details information regarding the foreign exchange losses and gains following netting.

(iii) Volume of Electronic File Transfers

57. The volume of EFT transactions – payments and receipts, for PCT search fees involving the IB, EPO, JPO and ATPO, decreased from 90 in 2017 to 39 in 2018 (netting period), which

¹² The analysis assumes a natural growth rate of searches and evolution of exchange rates during the two periods (pre-netting and netting).

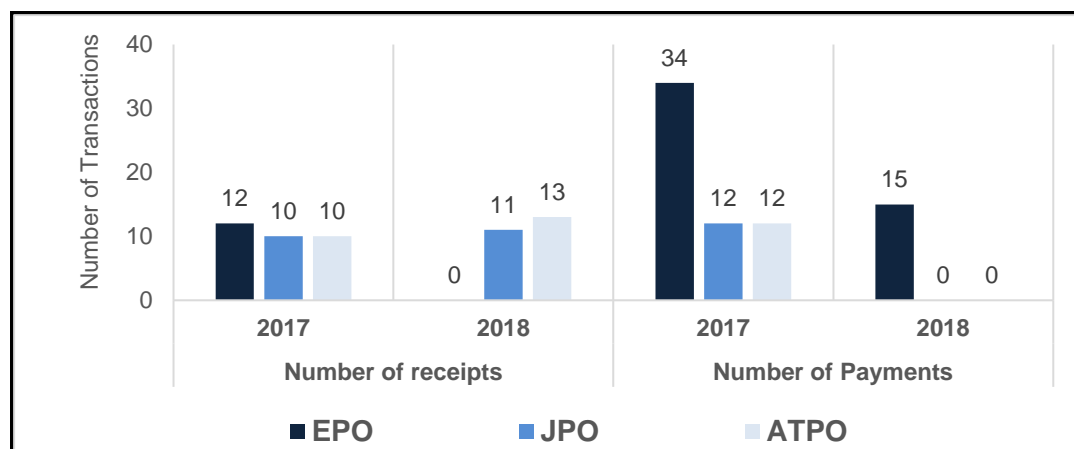
¹³ Using Dec 2017 UNORE: EUR/CHF 1.1685, JPY/CHF 0.008661

¹⁴ Using Dec 2018 UNORE : EUR/CHF 1.1267, JPY/CHF 0.008912

¹⁵ A foreign exchange spot transaction is an agreement between two parties to buy one currency against selling another currency at an agreed price for settlement on the spot date.

is a decrease of 57 per cent (51/90). Figure C below shows the EFT receipts and payments for EPO, JPO and ATPO in 2017 and 2018.

Figure C: Receipts and Payments for EPO, JPO and ATPO in 2017 and 2018



Source: Finance Division

58. The reduction in the number of individual transfers helped reduce the associated bank charges (as further explained below), and exposure to foreign exchange risk. Additionally, it helped in mitigating operational risks such as risk of errors due to processing a large volume of transactions.

59. Generally, the EPO is a net receiver following the netting process therefore the IB has to source and hold sufficient Euro (EUR) currency for settlement and the related bank charges. On the other hand, the IB is a net receiver for netting with the ATPO and JPO. As a result, the net amounts received from the JPO in JPY needs to be traded (sold on the foreign exchange market).

(iv) Bank Charges

60. The IB is charged 10 Swiss francs per file for EFTs executed using the Fides EFT Solution. However, the IB does not incur any bank charges under the Single Euro Payments Area (SEPA) payment initiative. Consequently, there was a nominal monetary decrease in bank charges for the EFT charges, which totaled 430 Swiss francs for the period under review. This correlates with the reduction in the number of individual EFT transfers.

61. In addition, the IB was able to avoid finance costs arising from the prevailing negative interest rates in Switzerland. For example, in the case of EPO transactions, the average notional amount of cash at the bank for PCT search fees dropped from 3.69 million euros to 1.15 million euros due to netting. Based on the prevailing negative interest rates averaging 0.35 per cent and the exchange rate in 2018¹⁶, the reduction in the average amount of cash held at the bank could be estimated to have resulted in a cost avoidance (finance cost) of 10,037 Swiss francs; see Table 5 below for details.

¹⁶ EUR/CHF UNORE :1.1267 (in 2018)

Table 5: Cost Avoidance for Netting EPO Transactions

Details	Pre-Netting Period (Feb 2017 - Jan 2018)	PCT- Netting Period (Feb 2018 - Jan 2019)	Finance Cost
Number of Months	12	12	
Average notional amount for 12 months (EUR)	3,690,282	1,145,119	
Negative Interest charge	-0.35%	-0.35%	
Total Cost avoidance in EUR			€ 8,908
Total Cost avoidance in CHF ¹⁷			CHF10,037

Source: Finance Division

(v) Costs of Conversion of PCT Search Fees

62. The IB has been able to reduce costs of conversion of PCT search fees paid at the equivalent amount to fixed rate and currency set by ISAs; mainly due to the larger volume of different currencies held by the IB, and better conversion rates offered by banks.

63. For example in the case of the EPO, an internal analysis by Finance Division of 13 currencies in 2017, showed that on average the foreign exchange margin spread¹⁸ applied to PCT Rule 16.1(e) claims, ranged from 0.06 per cent for liquid currencies to 2.77 per cent for highly illiquid currencies. Test results showed that if the various currencies were subject to the netting process, the IB would be able to convert these currency transactions without a margin spread. Based on cash flows amounting to 12.4 million euros, the Organization would have potentially saved the equivalent of 20,667 Swiss francs.

(C) RESOURCES AND SYSTEMS

(i) Resources in Finance Division and PCT Operations Division

64. The PCT Netting Pilot has enabled the Finance Division - Income Section and PCT Operations to acquire the capability to deliver on the objectives set out in the Netting Agreements with participating ISAs/ROs.

65. Over time, the work effort in the PCT Operations Division and Finance Division – Income Section is expected or anticipated to increase as the number of netting participants increases considering that a number of ISAs/ROs are yet to respond to the IB's invitation to join the netting. For example, the workload would increase if the Korean Intellectual Property Office (KIPO) joins the netting, as an ISA and all (or the majority) of ROs under it are part of the netting.

66. Whilst the work effort in PCT Operations Division is anticipated to expand due to the requirement to pre-screen PCT search fees collected from participating ROs, this is expected to be offset by a reduction in the work effort related to review of PCT Rule 16.1(e) claims.

¹⁷ Using December 2018 UNORE: EUR/CHF : 1.1267

¹⁸ Foreign exchange spreads that are applicable to ISAs comprise of "bid-ask" spread and "margin" spread. The IB is able to competitively manage its currency requirements with the use of multiple providers, therefore ensuring best execution with only "bid-ask spread" and eliminating margin spreads.

67. The Finance Division - Treasury Section performs the netting processes as part of the regular or normal workload/routine tasks. However, for the Income Section, the workload to process incoming PCT search fees in the netting software and other netting related activities is an additional workload that is expected to increase over time.

68. Going forward, the required resources for the Divisions will need to be reviewed with due consideration to the current resources, future automation and possible increase in the number of Netting participants. The review may include, among others, the need for the Finance Division to formalize a dedicated structure to oversee netting operations with the existing resources of the Netting Pilot.

(ii) Tools and Systems

69. **Coproprocess software:** Whilst the Coprocess software has facilitated the netting process for the IB specifically for the functions of Finance Division, the data in the software is limited to netting participants and therefore not sufficient as a standalone or single source for all currency transactions decisions, which fall under the Finance Division – Treasury Section.

70. To further support effective and informed cash management decisions, the netting initiative should leverage on the setup available in Coprocess and encourage participation from the current list of non-participating ISAs/ROs to improve and widen the view of currency exposures. This information, when used in conjunction or combination with information sourced from other Business Units (for example - information available from Expenditure Section) and other Treasury activities (for example -Investments) will provide a global view of currency exposures related to the IB.

71. **Automation of Manual tasks:** Currently, the entries for monthly netting operations are processed and approved in AIMS but must be manually uploaded in Coprocess. Automation of a number of processes would greatly enhance the netting operations. For example, to reduce the level of manual intervention in the process would involve using AIMS as a source for an automated upload to Coprocess.

72. **AIMS Application data:** Under the current model for RO/IB and Supplementary Search fees, the Finance Division has access to relevant application details (amount due, filing date, Applicant, etc.) in AIMS, which facilitates efficient and effective execution of their work. This is not the case for filing and search fees collected from other ROs, handling fees collected from International Preliminary Examining Authorities (IPEAs), and special fees collected directly from applicants. The implication for Finance Division – Income Section is a limitation on the level of detail for important accounting information.

Recommendation (s)

1. The Finance Division, PCT Operations Division and PCT Information System Division should conduct a review of the workload for PCT Netting, particularly to assess resource requirements to meet current and future netting participants' expectations of an efficient and effective service.

(Priority: Medium)

2. The Finance Division should work with the PCT and other relevant internal stakeholders to:
 - (a) Establish a process (either through direct access to PCT data, or through enhanced application data in AIMS) to provide the Finance Division with complete information related to all PCT fee types (i.e. supplementary search fees, filing fees, search fees, and handling fees), to support the work of the Income Section; and
 - (b) Develop a mechanism to automate the current manual tasks undertaken in netting operations to enhance efficiency.

(Priority: Medium)

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ANNEXES

Annex I (A)	Netting Statement for the Period February 2018 – January 2019
Annex I (B)	Netting Calendar for 2019
Annex I (C)	Netting Statement for Foreign Exchange Losses and Gains in 2018
Annex II	Risk Rating and Priority of Audit Recommendations

[Annexes follow]

ANNEX I (A): Netting Statement for the Period February 2018 – January 2019

Date	ISA	EURO Currency			JPY Currency		
		Amounts to be paid by ISAs to the IB	Amounts to be paid by the IB to ISAs	Net Position*	Amounts to be paid by ISAs to the IB	Amounts to be paid by the IB to ISAs	Net Position
February, 2018	EPO	3,442,022	(4,543,125)	(1,101,103)			
March, 2018	EPO	3,015,645	(4,246,875)	(1,231,230)			-
April, 2018	EPO	3,983,287	(4,878,750)	(895,463)			-
May, 2018	EPO	3,449,423	(5,315,775)	(1,866,352)			-
	JPO				560,953,220	0	560,953,220
June, 2018	EPO	3,902,470	(5,418,743)	(1,516,273)			-
	JPO			-	576,684,900	(2,772,000)	573,912,900
July, 2018	EPO	4,076,635	(5,848,006)	(1,771,371)			-
	JPO			-	592,960,363	(1,924,210)	591,036,153
August, 2018	EPO	3,810,870	(5,903,331)	(2,092,461)			
	JPO			-	578,196,200	(3,768,000)	574,428,200
September, 2018	EPO	3,373,826	(4,542,981)	(1,169,155)			-
	ATPO	68,688	(12,656)	56,032			-
	JPO			-	584,029,900	(2,810,000)	581,219,900
October, 2018	EPO	3,460,116	(4,827,288)	1,367,172			-
	ATPO	90,044	(13,594)	76,450			-
	JPO			-	581,607,286	(3,892,000)	577,715,286
November, 2018	EPO	4,072,120	(6,114,387)	(2,042,267)			-
	ATPO	113,615	(9,375)	104,240			-
	JPO			-	656,536,780	(1,744,000)	654,792,780
December, 2018	EPO	3,966,082	(5,790,806)	1,824,724			-
	ATPO	110,762	(7,963)	(102,799)			-
	JPO			-	563,738,600	(4,144,000)	559,594,600
January, 2019	EPO	4,295,951	(4,711,975)	(416,024)			-
	ATPO	113,527	(5,156)	108,371			-
	JPO				660,492,200	(2,791,542)	657,700,658

Source: Finance Division

*Net Position (Positive): Net Amount to be paid by ISA to IB
Net Position (Negative): Net Amount to be paid by IB to ISA

ANNEX I (B): Netting Calendar for 2019

Cycle	Calendar Month (2019)	Netting Month (Invoice Period)	Netting	Last date for documentation notification to Netting Center (12h00 CET)	RO payment cut-off value date	Final Netting & Netting Statement Reports	Netting Cycle Settlement Date
1	January	December 2018	PCT / ISA fee	Friday, January 18, 2019	Friday, January 18, 2019	Tuesday, January 22, 2019	Thursday, January 24, 2019
2	February	January 2019	PCT / ISA fee	Friday, February 15, 2019	Friday, February 15, 2019	Tuesday, February 19, 2019	Thursday, February 21, 2019
3	March	February	PCT / ISA fee	Friday, March 22, 2019	Friday, March 22, 2019	Tuesday, March 26, 2019	Thursday, March 28, 2019
4	April	March	PCT / ISA fee	Thursday, April 18, 2019	Thursday, April 18, 2019	Wednesday, April 24, 2019	Friday, April 26, 2019
5	May	April	PCT / ISA fee	Friday, May 17, 2019	Friday, May 17, 2019	Tuesday, May 21, 2019	Thursday, May 23, 2019
6	June	May	PCT / ISA fee	Friday, June 21, 2019	Friday, June 21, 2019	Tuesday, June 25, 2019	Thursday, June 27, 2019
7	July	June	PCT / ISA fee	Friday, July 19, 2019	Friday, July 19, 2019	Tuesday, July 23, 2019	Thursday, July 25, 2019
8	August	July	PCT / ISA fee	Friday, August 23, 2019	Friday, August 23, 2019	Tuesday, August 27, 2019	Thursday, August 29, 2019
9	September	August	PCT / ISA fee	Friday, September 20, 2019	Friday, September 20, 2019	Tuesday, September 24, 2019	Thursday, September 26, 2019
10	October	September	PCT / ISA fee	Friday, October 18, 2019	Friday, October 18, 2019	Tuesday, October 22, 2019	Thursday, October 24, 2019
11	November	October	PCT / ISA fee	Thursday, November 21, 2019	Thursday, November 21, 2019	Monday, November 25, 2019	Wednesday, November 27, 2019
12	December	November	PCT / ISA fee	Monday, December 16, 2019	Monday, December 16, 2019	Tuesday, December 17, 2019	Thursday, December 19, 2019

Source: Finance Division

ANNEX I (C): Netting Statement for Foreign Exchange Losses and Gains in 2018

Date	Description	Amount in EUR	Amount in CHF
Jan-18	FX Loss from IB to EPO	(€ 19,310.96)	(CHF 22,381.52)
Feb-18	FX Loss from IB to EPO	(€ 7,614.59)	(CHF 8,773.13)
Mar-18	FX Loss from IB to EPO	(€ 4,059.29)	(CHF 4,785.95)
Apr-18	FX Loss from IB to EPO	(€ 1,024.76)	(CHF 1,225.26)
May-18	FX Loss from IB to EPO	(€ 41,679.42)	(CHF 47,827.26)
Jun-18	FX Loss from IB to EPO	(€ 7,858.78)	(CHF 9,068.52)
	Subtotal (Jan to June)	(€81,547.80)	(CHF 94,061.64)
Jul-18	FX Loss/Gain from IB to EPO	0	0
Aug-18	FX Gain from IB to EPO	99.13 €	CHF 112.19
Sep-18	FX Gain from EPO to IB	225.17 €	CHF 256.51
Oct-18	FX Gain from EPO to IB	145.88 €	CHF 166.27
Nov-18	FX Gain from IB to EPO	(€ 23.73)	(CHF 26.89)
Dec-18	FX Loss from IB to EPO	(€ 497.12)	(CHF 561.04)
	Subtotal (July to Dec)	(€50.67)	(CHF 52.96)
	Total for 2018	(€81,598.47)	(CHF 94,114.60)

Source: Finance Division – Extract from Coprocess

[Annex II follows]

ANNEX II: RISK RATING AND PRIORITY OF AUDIT RECOMMENDATIONS

The risk ratings in the tables below are driven by the combination of likelihood of occurrence of events and the financial impact or harm to the organization's reputation, which may result if the risks materialize. The ratings for audit recommendations are based on the control environment assessed during the audit.

Table II.1: Effectiveness of Risks/ Controls and Residual Risk Rating

		Compound Risk Rating (Likelihood x Impact)			
		Low	Medium	High	Very High
Control Effectiveness	Low	Low	Medium	High	Very High
	Medium	Low	Medium	High	High
	High	Low	Low	Medium	Medium

Table II.2: Priority of Audit Recommendations

Priority of Audit Recommendations	Residual Risk Rating
Requires Immediate Management Attention	Very High
Requires Urgent Management Attention	High
Requires Management Attention	Medium
Routine in Nature	Low

[End of Annex II and of Document]