Annex 2

SAMPLING METHODOLOGY

FOR THE AUDIT OF FINANCIAL INSTRUMENTS ADVANCES

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1 Introduction

The methodology presented in this paper concerns sampling for Financial Instruments for which phased applications for interim payments are made in line with Article 41(1) CPR (i.e. declaration of advance payments by tranches).

It provides technical information related to the selection of a sample inside a Financial Instrument (FI), i.e. the selection of expenditure in form of investments and management costs and fees. The extrapolation based on this sample will allow establishing during an audit of a phased payment whether the condition for the payment of the second and following tranches is fulfilled.[1] At closure, the extrapolation based on all audited items will allow establishing the eligible expenditure.

Some information included in points 2 and 4 could be also useful for audit authorities conducting audits outside the audits of operations, for example:

- verification of FI implementation in the context of audits related to the SME Initiative programmes, or
- verification of implementation periods which could not be covered within audits of operations related to FI with advance payments by tranches (such as implementation related to the last tranche and up to 15% of the amounts included in the previous tranches).

Although the methodology presented in the paper is not applicable in general for sampling in case of FI for which incurred expenditure (instead of advances) is declared to the Commission[2], the information in section 2 can help the audit authority to decide on the sampling design for sub-sampling of such expenditure.

Section 2 below presents elements of the sampling design for a random sample to evaluate compliance with the 60% and 85% implementation thresholds as required by Article 41(1) CPR. Section 3 develops some considerations with regard to the sampling parameters.

Section 4 includes information related to the treatment of a FI advance in the case of incompliance with the required implementation thresholds.

Section 5 clarifies and gives technical information on the sampling methodology allowing the use of sampling results from previous audits of a FI.

Section 6 includes information on the audit work at closure.

Section 7 presents a simplified method for auditing FI within audit of operations and closure audits.

Annex 1 includes the numerical examples on payment modalities under Article 41 CPR to facilitate understanding the specificity of expenditure declared for FI and the related reporting on amounts paid as eligible expenditure.[3]

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[1] i.e. 60% of amount of the first tranche spent when declaring the second tranche, and 85% of the amounts of the previous tranches spent when declaring any subsequent tranche (cf. Article 41(1) of CPR).

[2] As regards FIs implemented pursuant to Article 38(4)(d) CPR, implementation takes place directly at the level of MA (or the intermediate body).
In accordance with the provisions of Article 41(2) CPR, the application for payment should include eligible payments to final recipients, and in the case of guarantees, resources committed for guarantee contracts.

[3] Extract from the Guidance for Member States on Article 41 CPR "Request for payments". The guidance document is available on the fi-compass platform under the following link: https://www.fi-

This methodological paper is addressed to the audit authorities (AA) and is not relevant to selection of the main sample for audits of operations. As part of the selection of the main sample, the AA can decide either to check all the FI operations or to select them at random as other sampling units, with or without specific stratum for FI operations.

In relation to the main sample, audit authorities are strongly recommended to allocate the FIs in a specific stratum, which would facilitate their analysis of the error rate and the actions to be taken in case of deficiencies either at the management of grants and/or financial instruments.

Although the presented sampling methodology was designed to be used by AAs, the interested MAs/IBs could opt to apply it in the framework of their management verifications.

2 Elements of sampling design for random sample to evaluate compliance with the implementation thresholds

2.1. Expenditure included in the population used by AA for evaluation of compliance with the required threshold

The population for verification of the required thresholds consists of the amounts which have been spent as eligible expenditure within the meaning of points (a), (b) and (d) of Article 42(1) of the Regulation (EU) No 1303/2013, i.e.:

- payments to final recipients, and in the cases referred to in Article 37(7) payments to the benefit of final recipients,
- resources committed for guarantee contracts[4],
- reimbursement of management costs incurred or payment of management fees of the financial instrument.

The recommended approach is that the AA establishes a population of the above mentioned incurred amounts[5] in order to verify whether the required implementation thresholds for FI operations in the main sample within audits of operations are fulfilled.

In case either an operation or a payment claim constitutes a sampling unit of the AA in the main sample, it can occur that a FI operation within an accounting year has two separate payments declared and selected for the main sample, which require verification of the implementation thresholds. In such a case, one population of incurred expenditure is recommended to be established for these two payments (tranches) within one FI operation because verification of the last tranche will automatically concern the eligibility of the previous tranches.

compass.eu/publication/ec-regulatory-guidance/ec-regulatory-guidance-guidance-member-states-article-41-cpr

[4] Whether outstanding or already come to maturity, in order to honour possible guarantee calls for losses, calculated on the basis of a prudent ex ante risk assessment, covering a multiple amount of underlying new loans or other risk-bearing instruments for new investments in final recipients

[5] For simplification, these amounts are referred later in the text as amounts disbursed to final recipients and eligible management costs and fees. However, this includes also resources committed to guarantee contracts and payments to the benefit of final recipients.

BOX 1

Example:

In July the CA declared the second tranche of an advance payment of 10 million EUR after reaching the 60% implementation threshold. Subsequently, in May the third tranche of 10 million EUR was declared which requires a disbursement of 85% of amounts included in the previous tranches. The main sample of the AA for audits of operation included this FI operation with the total amounts declared for both tranches. The population from which the AA selects its sample of files (investments and management costs and fees) is the total disbursed expenditure. The AA decided to select the sample of investments from the population of incurred expenditure at the moment of the audit, e.g. in October. The performed verification of a sample of files is then used to confirm the eligibility of both the second and third tranche.

2.2. Sampling unit

- Investment (loan, guarantee, equity) corresponding to eligible expenditure within the meaning of points (a) and (b) of Article 42(1) of the CPR.
- A management cost/fee in the case of reimbursement of management costs incurred or payment of management fees of the financial instrument.

2.3. Stratification

Based on professional judgement, the AA could either decide to draw a sample directly from the whole FI population of investments/management costs and fees, or stratify the population into sub-populations.

If the AA stratifies it can also decide to apply separate strata for:

- loans

- guarantees

- equity investment

- management costs/fees

In the case of a FI implemented by several financial intermediaries, the AA could further decide to stratify its population by financial intermediary. In addition, the AA could add stratification per type of investment within each financial intermediary. Thus for FI with several financial intermediaries, the AA could have different stratification designs, such as either:

- separate strata for each intermediary without any further stratification, or

- separate strata for specific types of investments/management costs and fees without distinguishing between financial intermediaries, or

- separate strata for specific types of investments/management costs and fees by intermediary.

2.4. Sampling selection method

For selection of investments/management costs and fees, the AA could decide to use either equal probability selection (in particular Simple Random Sampling with or without a high value stratum) or Probability Proportionate to Size (in particular MUS standard methodology).

The AA could apply either:

- a statistical sampling procedure for the whole population (using either a standard or a stratified sampling design, see point 2.3 above for details on stratification), or
- cover only part of the population by a statistical sampling procedure and decide, in exceptional cases, to verify the remaining population exhaustively should it consider it particularly risky.

BOX 3

Example:

During an audit of a FI operation including management costs, equity investments and loans, the AA decides to check all the management costs and all equity investments and to apply a statistical sampling procedure only for loans.

2.5. Partial use of results from the previous audits of the FI

The verification of the third and subsequent tranches requires evaluation of compliance with the 85% threshold related to all preceding applications for interim payments. If the FI operation was already subject to a previous audit of the AA verifying the condition of 60% or 85% disbursed eligible expenditure for the previous tranches, two and multi-period sampling designs can be applied to use the results of the audits carried out previously.

Such an approach can be also applied if the AA decided to audit FI investments/management costs and fees already during the audit of the first tranche.[6]

Section 5 below presents statistical formulas related to the additional sampling in the case of incompliance with the implementation threshold of 60% or 85%. These formulas are also relevant for sampling aimed at verification of the implementation threshold or at closure, in which the audit authority is using the results of audits carried out previously.

BOX 4

Example:

During the audit of the first tranche of 10 million EUR for FI with the total amount committed of 40 million EUR, the audit authority (AA) covered only the set up of the instrument and the implementation was excluded from the audit scope.

In the framework of the audit of the second tranche of 10 million EUR, the AA covered the implementation period as from the start of the FI instrument up to the date of the second audit for the

[6] During the audit of the first tranche the Commission recommends that the audit authorities carry out testing of incurred expenditure, if available, in order to increase the cost-effectiveness of the audit work. It will also help for the audit of the condition for the payment of the second and following tranches contributing to the reduction of the audit burden.

total amount of 9 million EUR disbursed to final recipients. The AA detected no irregular expenditure during this audit.

The third tranche was not audited (the amount of the third tranche was not selected as a part of the AA's random sample for audits of operations).

During the audit of the fourth tranche, the AA covered the implementation period as from the date used for audit of the second tranche up to the date of the audit of the fourth tranche (population of additional 19 million EUR disbursed to final recipients). Several irregular investments were detected for a total amount of 1.2 million EUR, leading to an extrapolated error of 2 million EUR out of 19 million EUR in the population audited. To evaluate the compliance with the required threshold of 85% of the amounts included in the three preceding tranches, the AA determined compliance with the threshold as follows:

An extrapolated error for the population audited during the audit of the fourth tranche is considered as an extrapolated error for the whole implementation period up to the audit of the fourth tranche (as in this example no ineligible expenditure was detected during the previous audit).

Thus, in the total amount audited of 28 million EUR (covering 9 million EUR audited during the audit of the second tranche and 19 million EUR audited during the audit of the fourth tranche), the total amount eligible is 26 million EUR. This amount exceeds the required threshold (25.5 million EUR, i.e. 85% of 30 million EUR declared for the 3 previous tranches). Consequently, based on the results of both audits, the AA has concluded that the condition for the payment of the fourth tranche was complied with.

3 Sampling parameters for FI audits

The sampling parameters are determined, in general, in line with the standard rules applied for statistical sampling procedures. However, some specificities of the audits verifying the implementation threshold require two important changes as compared to the standard selection of sampling items for the main sample. They relate in particular to the use of the parameter tolerable error/materiality level as well as the confidence level. For additional information on sampling parameters for closure audits see also section 6 below.

Book value

Section 2.1 provides information on the population to be verified for the compliance with the required thresholds. Whereas in the case of sampling units as loans and equity investments the amount to be included for each sampling unit is generally straightforward (amount paid to final recipient), special attention is drawn to the correct determination of the book value of the population/sampling items in the case of guarantees.

In particular, Article 42(1) of the CPR stipulates that the eligible expenditure refers to resources committed for guarantee contracts (whether outstanding or already come to maturity, in order to honour possible guarantee calls for losses, calculated on the basis of a prudent ex ante risk assessment, covering a multiple amount of underlying new loans or other risk-bearing instruments for new investments in final recipients).

Thus, in the specific case when FIs provide guarantees, a multiplier ratio must be calculated and applied (Article 8 of Commission Delegated Regulation (EU) No 480/2014) to determine the eligible expenditure. It is calculated as the ratio between:

- the value of disbursed loans or other risk sharing instruments, and

- the amount of the programme contributions set aside/committed to cover expected and unexpected losses from new loans/other risk sharing instruments to be covered by the guarantees. It takes into account the programme contribution (ESI Funds + national co-financing.

$$\text{Multiplier ratio} = \frac{\text{The value of the disbursed new loans/other risk-sharing instruments}}{\text{The programme contribution set aside to cover expected and unexpected losses from new loans/other risk-sharing instruments to be covered by the guarantees}}$$

For example in the case of 4 million of eligible expenditure - programme contributions set aside to cover losses from new loans with total value of 20 million euro, the multiplier ratio is 5:

$$\frac{\text{€20 million of disbursed new loans}}{\text{€4 million of eligible expenditure [= €2 million ERDF + €2 million national co-financing]}} = 5$$

BOX 5

Example:

Within a Financial Instrument, two types of guarantees are provided: one with a multiplier ratio of 5 and another one with a multiplier ratio of 4. The amount considered as eligible expenditure, which should be taken into consideration for sampling purpose, related to the two below listed guarantees is as follows:

1) Loan of 100,000 EUR with multiplier ratio of 5: 20,000 EUR of eligible expenditure related to the guarantee

2) Loan of 100,000 EUR with multiplier ratio of 4: 25,000 EUR of eligible expenditure related to the guarantee

Tolerable error (materiality level)

Whereas the tolerable error is 2% of the population value in the standard sampling procedure for the selection of the main sample, for the FI implementation threshold the tolerable error is the difference between the amount actually spent and the minimum implementation threshold, as required in Article 41(1) of CPR.

Materiality level in the case of verification of FI implementation threshold is the tolerable error expressed as percentage of the population value.

BOX 6

Example:

The AA verified compliance with the 60% implementation threshold during the audit of the second tranche using the parameter of the tolerable error as follows:

At the stage of declaring the second tranche of 10 million EUR, 6.3 million EUR was already spent (63% of the first tranche of 10 million EUR, i.e. 0.3 million EUR above the required threshold).

At the stage of the audit, the implementation covered already 6.7 million EUR.

The AA could use for its sampling procedure either the amount of 0.3 million EUR as the tolerable error (the data as at the moment of the payment declaration to the Commission) or 0.7 million EUR (the data as at the moment of the audit).

The audit authority decided to use for its population the data as at the moment of its audit. Consequently, the tolerable error was 0.7 million EUR. As the tolerable error impacts the sample size, this approach led to a significant reduction of the sample size.

In case the eligible expenditure spent is very close to the required threshold, the sampling formulas can result in very high sample sizes. The following approaches could be considered by the audit authorities in such cases:

- decision to apply for the population the date of the audit (and not the date of the payment declaration of the tranche to the Commission) as illustrated by the example above,
- capping of the sample size of the investments/management costs and fees (maintaining the sample size at a level allowing to avoid excessive costs of such audit; the reasoning should be described in the ACR).

Anticipated error

The parameter "anticipated error" is calculated in a standard way, i.e. based on the population value of investments/management costs and fees (the amount of expenditure actually spent). To determine the anticipated error rate the AA could use historical data from audits of FI or a pilot sample (see below information on pilot sample).

Confidence level

The confidence level to be applied for FI audits differs from the one designed for the main sample of operations and depends on the materiality level.

The table below presents the values of confidence level to be taken into consideration depending on the assurance level from the system audits on the programme as well as the materiality level. If no information on the functioning of the system is available, the AA could use 90% as a confidence level.

	Confidence level			
Materiality level	Category 1	Category 2	Category 3	Category 4
2% or more	60%	60%	60%	80%
1.9	60%	60%	65%	81%
1.8	60%	60%	69%	82%
1.7	61%	66%	72%	83%
1.6	67%	70%	75%	83%

1.5	71%	73%	77%	84%
1.4	74%	76%	79%	85%
1.3	77%	78%	80%	85%
1.2	79%	80%	82%	86%
1.1	81%	82%	83%	86%
1.0	82%	83%	84%	87%
0.9	84%	84%	85%	87%
0.8	85%	85%	86%	88%
0.7	86%	86%	86%	88%
0.6	86%	87%	87%	88%
0.5	87%	87%	88%	89%
0.4	88%	88%	88%	89%
0.3	88%	89%	89%	89%
0.2	89%	89%	89%	89%
0.1	90%	90%	90%	90%
0	90%	90%	90%	90%

Standard deviation

To determine the standard deviation of errors for Simple Random Sampling or standard deviation of error rates for MUS standard approach, the AA could use either historical data from audits of FI or a pilot sample.

Pilot sample to determine sampling parameters

If the AA decides to select a pilot sample to determine the sampling parameters (anticipated error rate and standard deviation of errors/error rates), it is recommended that the size of the pilot sample is at least 30 items. It could allow treating this pilot sample as the actual sample if the results obtained based on the pilot sample are conclusive.

Selection of additional sample

The AA may decide to select an additional sample in case it concludes based on the initial sample that the threshold for the payment of a tranche is not reached. In view of the time constrains, a decision to carry out such additional sampling before submission of the accounts would be subject to professional judgement of the audit authority. If such additional audit work would not be carried out before the submission of the accounts, the practical consequence would be that the advance would be withdrawn from the account and declared again in the following year (if sufficient expenditure is incurred). Thus, the expenditure of the tranche would appear again in the population of the following year. Section 4.1 below clarifies how to use the audit work carried out so far if the same tranche is re-declared in the following year.

4 Sampling methodology in the case of using sampling results from previous audits of a Financial Instrument

4.1 Objective of the methodology

The methodology presented in this section is based on two or multi-period sampling procedures and applies to the cases where the AA has already audited previously the Financial Instrument in question. While calculating the sample size, the part of the population not yet audited is treated as an additional period of a two- or multi-period sampling procedure.

It should be noted that it is not obligatory to use an approach of multi-period sampling as presented in this section. In particular, the AA could prefer to select a new sample as from the start of implementation of the FI in question.[7] However, the approach presented below will minimize the sample size for the population of FI incurred expenditure which was not yet audited.

This methodology can be in particular applied in the following situations:

1. In an audit of the first advance, the AA audited, **using a random sampling**, a population of FI expenditure incurred at that time. Such results can be used for the audit of the second tranche, where the AA needs to verify the condition of 60% eligible expenditure.

2. In the previous audit work, during the audit of the second or third tranches, the AA covered by a random sampling procedure a population of FI incurred expenditure. Such results can be used for the audit of the following tranches where the AA needs to verify the condition of 85% eligible expenditure.

3. During the closure audit, the AA would like to use the results of random sampling obtained during the audit of the tranches.

4. During the audit of the second or following tranches, the AA concluded that the implementation threshold of 60% or 85% was not fulfilled. Consequently, the amount of the tranche was deducted from the accounts and declared again in the following accounting year after sufficient additional expenditure was incurred. The AA could use the results of its previous audit for the tranche and carry out the additional sampling procedure from the new additional expenditure incurred.

In addition, this methodology could be used to select additional sampling in the case of incompliance with the implementation thresholds.

4.2 Applicable statistical formulas

Sections 2.5 and 4.1 above clarify the situations for which the formulas included in this section are applicable. Moreover, box 8 below provides an example.

[7] In such a case, the AA can decide either to:
- put the investments/other expense items already audited (that part of the incurred expenditure which still remained in the population) into an exhaustive stratum and to select a new sample from the remaining population as from the start of the implementation of the FI, or
- select a completely new sample from the beginning of the period with a population covering all expenditure, including the already audited items, which remained in the population of the incurred expenditure.
This is possible both in the case of statistical sample and non-statistical sampling.

To minimize a sample size of additional sampling within statistical sampling procedures, the AA could treat the new expenditure, not yet covered by random sampling procedure, as a new period (supplementing the already audited population).

It should be noted that even if the AA was not considering application of multi-period sampling procedure and the sampling procedure already carried out was based on the assumption of having only one period (the formula used was based on one-period sampling), the size of the additional sample could be based on the formula for the two-period sampling.

Formulas to be applied in the case of non-stratified sampling designs

- MUS standard approach

If the AA used for its sample one-period formula within the MUS standard approach:

$$n = \left(\frac{z \quad \times BV \quad \times \sigma_r}{TE - AE} \right)^2$$

The sample size for the additional sampling can be calculated based on the following formula for sample size of the second period presented in the section 6.3.3.2 of the sampling guide:

$$n_2 = \frac{\left(z \times BV_2 \ \times \sigma_{r2} \right)^2}{(TE - AE)^2 - z^2 \times \frac{BV_1^2}{n_1} \times s_{r1}^2}$$

Alternatively, a global recalculation of the sample size could be used, as clarified in section 7.3 of the sampling guidance.

- Simple Random Sampling (SRS)

In case the AA used for its sample one-period formula of Simple Random Sampling:

$$n = \left(\frac{N \times z \times \sigma_e}{TE - AE} \right)^2$$

The sample size for the additional sampling can be calculated based on the formula presented in the section 6.1.3.2 of the sampling guide (unless global recalculation of the sample size is used):

$$n_2 = \frac{\left(z.N_2 \ .\sigma_{e2} \right)^2}{(TE - AE)^2 - z^2.\frac{N_1^2}{n_1}.s_{e1}^2}$$

In case the sampling procedure already carried out was based on two-period sampling, the size of an additional sample can be calculated using the formulas for the third period sampling presented in annex 2 of the sampling guide. The guidance note presents formulas up to 4-period sampling. If needed, the AAs can request the Commission to provide formulas for 5 periods (or more).

Formulas to be applied in the case of stratified sampling designs

- MUS standard approach

If the AA used for its sample one-period formula within the MUS standard approach:

$$n = \left(\frac{z \times BV \times \sigma_{rw}}{TE - AE}\right)^2$$

The sample size for the additional sampling can be calculated based on the following formula for sample size of the second period presented in the section 6.3.4.2 of the sampling guide:

$$n_2 = \frac{z^2 \times BV_2 \times \sum_{h=1}^{H_2}\left(BV_{h2}.\sigma_{rh2}^2\right)}{(TE - AE)^2 - z^2 \times \sum_{h=1}^{H_2}\left(\frac{BV_{h1}^2}{n_{h1}}.s_{rh1}^2\right)}$$

Alternatively, global recalculation of the sample size could be used, as clarified in section 7.3 of the sampling guidance.

- Simple Random Sampling

In case the AA used for its sample one-period formula of Simple Random Sampling:

$$n = \left(\frac{N \times z \times \sigma_{ew}}{TE - AE}\right)^2$$

The sample size for the additional sampling can be calculated based on the formula (unless global recalculation of the sample size is used):

$$n_2 = \frac{z^2 \times N_2 \times \sum_{h=1}^{H_2}\left(N_{h2}.\sigma_{eh2}^2\right)}{(TE - AE)^2 - z^2 \times \sum_{h=1}^{H_1}\left(\frac{N_{h1}^2}{n_{h1}}.s_{eh1}^2\right)}$$

As two-period stratified SRS sampling design is not presented in the sampling guidance, please refer to the clarification in regard to this methodology sent to Audit Authorities on 30 June 2017 (see copy of the document in the package provided with this methodology).

The formulas concerning stratified sampling designs with three or more periods can be provided by the Commission on request as the sampling guidance does not provide information in this regard.

Box 8

The main sample of the AA included the second tranche of FI advance payment. The AA selected a statistical sample using MUS standard approach from the population of 3,000,000 EUR in order to verify compliance with the requirement of 60% implementation threshold. By using the formula:

$$n = \left(\frac{z \times BV \times \sigma_r}{TE - AE}\right)^2$$

the AA obtained the sample size of 35, based on which the AA could conclude positively on the second tranche.

During the audit of the third tranche, the total amount of incurred expenditure in the population as from the start of the implementation was 7,000,000 EUR. Thus, the total amount of 4,000,000 EUR of the population was not covered yet by the sampling procedure.

In order to audit the population not yet covered during the previous audit, the AA used the following formula to calculate the sample size of the second period:

$$n_2 = \frac{\left(z \times BV_2 \times \sigma_{r2}\right)^2}{(TE - AE)^2 - z^2 \times \frac{BV_1^2}{n_1} \times s_{r1}^2}$$

This formula produced the sample size of 17. The 17 new units were selected from the population of 4,000,000 EUR (considered as second period of the total population incurred as from the start of the programming period). After verification of the 17 new sampling units, the AA extrapolated the results using two period sampling template, where:

- sampling data of the first period were completed using the audit results of 35 sampling units and the population value of 3,000,000 EUR of the first audit carried out to verify compliance with 60% threshold

- sampling data of the second period were completed using the results of 17 sampling units and the population value from which these 17 units were selected (population of 4,000,000 EUR).

Using the extrapolated results from both periods, the AA concluded on the third tranche, in particular whether the required threshold of 85% was fulfilled.

4.3 Alternative methodology to verify compliance with the required threshold

In some cases, carrying out a specific additional sampling procedure would not be practical. In particular, if the threshold of 60% or 85% was not reached, it could occur that a verification of a very limited number of items from the population not yet sampled (for example the 2 biggest investments) would be sufficient to establish a compliance with the threshold.

BOX 9
Example:

The AA carried out an audit of the second tranche of an advance payment (10 million EUR) in October following the end of the accounting year. The AA used May (the moment of declaration of the second tranche to the Commission) as the cut-off date for the population.

Up to May, FI eligible spending was 7 million EUR (i.e. above the required threshold of 60%). The AA determined however ineligible expenditure of 1.5 million EUR after extrapolation. Thus, the 5.5 million EUR of eligible expenditure was below the required threshold of 60% (which is 6 million in this case). To determine whether the advance could be maintained in the accounts, the AA decided to check the two biggest investments paid to final recipients after May with the total value of 0.9 million EUR. As no errors were established in these two investments, the condition for the payment of the second tranche (advance) was complied with at the moment of the submission of the accounts to the Commission.

A new (future) audit of the FI can cover a part of the population, which was not subject to audit during previous audit work of the AA. In such a case, the investments audited from an additional population without random selection can be put to an exhaustive stratum for the purpose of selection of an additional sample and extrapolation:

For example, under the assumption that the population increased to 18 million EUR during the audit of the third tranche, the random selection for an additional period could concern a population of 10.1 million EUR (i.e. in this case 18 million minus 7 million audited during the audit of the second tranche minus 0.9 million related to two biggest investments paid to final recipients after May).

5 Confirmation of eligibility at closure (Article 42 of CPR)

The AAs are expected to verify the eligibility of expenditure and confirm the final eligible amounts at the end of the programming period.

For FIs subject to Article 41 CPR, the implementation related to the last tranche will not be covered by the audits of operations as well as up to 15% of the amounts included in the previous tranches. The assurance concerning this expenditure can be obtained by the AA before the submission of the last accounts through audits outside the scope of audits of operations. The scope of these audits is to verify if there is eligible expenditure of at least the amount declared to the Commission during the programming period for all tranches related to a certain FI. The AAs are expected to report the results and to confirm to the Commission the final eligibility of the expenditure spent under FIs at the latest with the last Annual Control Report.

The AA should carry out an audit of a statistical sample of investments/management costs and fees[8] for the eligible expenditure not covered in the framework of audits of operations. The AA could treat this eligible expenditure not covered in the framework of previous audits as an additional audit period in order to use the results of audits carried out previously and to decrease the sample size for this population (see section 4 above).

The AA could proceed as follows:

The total population of a given FI is divided into part of the population already audited and part of the population, which was not covered by a random sample procedure. The part of the population not covered by a statistical/random sample procedure can be treated as an additional stratum/period of the whole population of investments/management costs and fees incurred for a FI during the programming period. The population will include any overbooking, if available. In order to calculate the sample size for this sampling period, the AA can refer to section 4.2.

The AA is expected to establish during the audit work at closure that the total amount of the declared expenditure for a given FI is at least equal to the amount of the eligible expenditure for which the programme contribution is granted (i.e. EU and national co-financing).

The formulas for the sample size calculation presented in the Guidance on sampling methods for audit authorities can be applied. In the case of verification of FI implementation at closure however, there is an important change in the use of the parameter "tolerable error". Whereas it is 2% of the population value in standard sampling procedure for the selection of the main sample, for the FI closure audit the tolerable error is the difference between the amount actually spent as eligible expenditure and the amount of eligible expenditure for which the programme contribution is granted. For information on confidence level to be applied, see section 3.

BOX 10

Example:
The AA verified the compliance with the 60% and 85% implementation thresholds during the audit of the second, third and fourth tranche of a Financial Instrument.

During the last audit of the fourth tranche (verification of the condition of spending at least 85% of the amount included in the previous tranches), the population covered by that audit amounted to 28 million EUR. At closure, the total amount of eligible expenditure incurred was 43 million EUR whereas the total amount of eligible expenditure for which the programme contributions is granted is 40 million EUR.

[8] With regard to financial instruments set up under points (a) and (c) of Article 38(1) of the CPR and for financial instruments set up under point (b) of the same Article implemented by the European Investment Bank (EIB) or other international financial institution, management costs and fees charged by EIB/European Investment Fund (EIF) or by other international financial institution are audited by the external auditors of the EIB/EIF. Furthermore, any management costs and fees charged by the financial intermediaries selected at national level by EIF for loans and equity instruments are checked by the external auditors of EIB/EIF.

The AA decided to cover by its audit work at closure the part of the population which was not covered during the previous work, i.e. 15 million EUR (43 million minus 28 million). To avoid excessive audit work the AA decided to treat this part of the population as the fourth sampling period, which allowed to maintain the sample size below 30 items for this part of the population. The audit population was audited three times previously, during the verification of the thresholds for the second, third and fourth tranche. The tolerable error in this case is 3 million EUR (43 million minus 40 million).

Whereas no errors were detected in previous audits, during the closure audit the AA detected one error in a high value stratum with the total amount of 2 million EUR. As the total amount of final eligible expenditure is 41 million EUR (43 million EUR minus the error of 2 million), the AA concluded at the closure of the programme that the received payments for all four tranches are legal and regular.

6 Simplified methods for auditing FI within audits of operations and closure audits

The AA could apply the following simplified method for verification of the implementation threshold of a Financial Instrument:

Verification of 10% of the sampling units in the population of a FI, with the possibility to cap the sample at the size of 30 items.

During the first audit of a given FI (usually the audit of the second tranche), the AA could check based on professional judgement 10% of the sampling units from the population of a FI (investments/management costs and fees of a FI). The AA could decide for a capping of the sample size using this approach at the size of 30 items.

In the case of stratification of the population of a selected FI (for example by type of investment), the following formulas could be used to determine sample size per stratum of an audited FI:

1) In case of equal probability selection (as in Simple Random Sampling):

$$n_h = \frac{N_h}{N} \times n$$

where:

n_h refers to the number of sampling units in the sample for a stratum

n refers to the number of sampling units for a sample (30 in this simplified approach)

N_h refers to the number of sampling units in the stratum of a population of the incurred expenditure in an audited FI

N refers to the total number of sampling units in the population of the incurred expenditure of FI

2) In case of PPS selection (as in MUS standard approach):

$$n_h = \frac{BV_h}{BV} n$$

where:

n_h refers to the number of sampling units in the sample for a stratum

n refers to the number of sampling units for a sample (30 in this simplified approach)

BV_h refers to the stratum's population of the incurred expenditure in an audited FI

BV refers to the population of the incurred expenditure in an audited FI

It is recommended to the AA to ensure that at least 3 sampling units are selected from each stratum, for which a random selection is carried out.

During the audit of the following tranches, as well as the closure audit, the AA could apply two and multi-period sampling designs using results from previous audit(s). The AA could decide based on professional judgement to select for each additional period of the population at least 5-10% of sampling units (with the possibility to cap the sample for a new period at the size of 10 sampling units). As in the case of the first sample, it is recommended to the AA to ensure that at least 3 sampling units are selected from each stratum, for which a random selection is carried out.

The calculation of the total projected error is based on the standard principles applicable for two- and multi-period sampling. In practice, the projected error is the sum of the projected errors in each period and can be calculated using regular two- and multi-period templates.

BOX 11

The AA verified during the audit of the second tranche of a FI 30 sampling units from the population of incurred expenditure, in order to verify the compliance with the 60% implementation threshold.

During the audit of the third tranche, 10 additional sampling units were selected from the population of incurred expenditure, which was not subject of verification in the previous audit.

The fourth tranche was not part of the AA main sample during the audit of operations. At closure, the AA selected 10 additional sampling units from the remaining population of incurred expenditure (i.e. from the population, which was neither part of the population during the audit of the second tranche nor of the third tranche.)

APPENDIX 1: NUMERICAL EXAMPLES ILLUSTRATING THE PAYMENT MODALITIES UNDER ARTICLE 41 CPR

Extract from Guidance for Member States on Article 41 CPR Request for payment Version 1.0 – 08/06/2015, EGESIF_15-0006-01

ANNEX 1 OF THE GUIDANCE: Numerical examples illustrating the payment modalities under Article 41 CPR

Scenario

- A FI was established, with a funding agreement committing a total programme contribution of EUR 500m.
- The ESI Funds share of the programme contribution to the FI operation is assumed to be also 60% thus EUR 300m, the national co-financing share is EUR 200m.
- The business plan of the FI envisages a total expenditure of EUR 500m:
    - Expenditure of EUR 450m during the period of eligibility (loans to final recipients as provided for under Article 42(1)(a) CPR and related management fees as provided for under Article 42(1)(d) CPR, and
    - Expenditure of EUR 50m to be paid for 10 years after the eligibility period [interest rate subsidies in relation to loans provided by sources other than ESI Funds and disbursed during the period of eligibility, as provided for under Article 42(1)(c) CPR]

Phased applications for payment

- The CA includes payments of programme contributions to the FI in four applications for interim payment. As the business plan of the FI envisages expenditure of EUR 450m during the period of eligibility, each application for interim payment will include a programme contribution of EUR 112,5m (25% of EUR 450m).

National contribution expected to be paid

- The CA submits to the Commission an application for interim payment, including a programme contribution of EUR 112,5m to the FI, of which EUR 67,5m is the ESI Funds share which was paid to the FI.
- The Member State may include in the amount of programme contributions declared in the The minimum national contribution to be paid in this case is 45 mln Euro.

Subsequent payment applications submitted during eligibility period

- Following an application for interim payment including a first tranche of programme contribution of EUR 112,5m of which EUR 67,5 were reimbursed by the Commission, the application for interim payment including the second tranche can only be made when at least EUR 67.5m (60% of EUR 112,5m) were spent as eligible expenditure in the meaning of Article 42(1)(a), (b) and (d) CPR.
- The application for interim payment including the third tranche can only be made when at least EUR 191,25m (85% of EUR 225m) were spent as eligible expenditure in the meaning of Article 42(1)(a), (b) and (d) CPR.
- The application for interim payment including the fourth tranche can only be made when at least EUR 286,875m (85% of EUR 337,5m) were spent as eligible expenditure in the meaning of Article 42(1) (a),(b) and (d) CPR.

Overview table

			During eligibility period				After eligibility period pertaining to programme contributions paid by 31.12.2023 pursuant to Article 42
		Application for payment	**Interim 1**	**Interim 2**	**Interim 3**	**Interim 4**	**Interim 5**
CPR Art	#		2014	2016	2018	2020	
41(1)(a)	**1**	**Cumulative amount of programme contribution paid to FI included in each interim application for payment (not exceeding 25% of total amount of programme contributions committed to the FI under relevant FA corresponding to expenditure in the meaning of Art 42(1)(a),(b) and (d) expected to be paid during eligibility period) [in EUR m]** *Amounts to be entered in the columns (A) and (B) of the Appendix 1 of the payment application*	**112.5**	**225**	**337.5**	**450**	**500**
	2	of which ESIF share paid to the FI (cumulative)	67.5	135	202.5	270	300
	3	of which national co-finacing (cumulative)	45	90	135	180	200
41(1)(b)	4	*of which national co-financing share paid to the FI (cumulative)*	0	30	80	110	200
	5	*of which national co-financing share expected to be paid at the level of the fund of funds*	*45*	*20*	*0*	*0*	
	6	*of which national co-financing share expected to be paid at the level of the financial intermediary*	*0*	*30*	*30*	*15*	
	7	*of which national co-financing share expected to be paid at the level of investment in final recipient*	*0*	*10*	*25*	*55*	
	8	Total amount of cumulative programme contributions effectively paid to the FI (rows 2 and 4)	67.5	165	282.5	380	
	9	Reimbursement by the Commission on the basis of the application for interim payment under Art 41 CPR; co-financing rate 60% (single payment / cumulative payments) [in EUR m]	67.5	67.5 (135)	67.5 (202.5)	67.5 (270)	30 (300)
41(1)(c)	11	Threshold for application for payment (Art 41(1)(c))	0%	60%	85%	85%	
	12	Application for interim payment can be submitted when the following amount of programme contributions previously paid was spent as eligible expenditure in the meaning of Article 42(1)(a), (b) and (d). [in EUR m] *Amounts to be entered in the columns (C) and (D) of the Appendix 1 of the payment application*	N/A	67.5	191.25	286.875	

Example of information filled in the Appendix 1 of the Payment Application (Annex VI CIR 2011/2014)

- This example is based on the example in the previous table and assumes a programme that has a public calculation base.
- For each interim payment application the amounts indicated have to be filled in per priority and category of region, when applicable.

- The first tranche of programme contribution is included in the columns (A) and (B) of the first interim payment application (Interim 1). In columns (C) and (D) the state of play of the corresponding amounts paid by the FIs is included.
- In the subsequent interim payment applications (Interim 2 and 3), the columns (C) and (D) are updated with the state of play of the corresponding amounts paid by the FIs.
- The interim payment application including the second tranche (Interim 4) can only be made when at least EUR 67.5m (60% of EUR 112.5m) were spent as eligible expenditure in the meaning of Article 42(1)(a), (b) and (d) CPR (see example in previous table). The programme contribution is included in the columns (A) and (B) and the columns (C) and (D) are updated with the state of play of the corresponding amounts paid by the FIs.
- Likewise each next interim payment application contains updated columns (C) and (D) whereas columns (A) and (B) are updated when the interim payment application includes the third and fourth tranche of programme contribution (Interim 6 and 9).
- The interim payment application (Interim 12) submitted after the end of eligibility period (however concerning expenditure incurred during the eligibility period) indicates the additional contribution to FI of EUR 50 (Column A and B) and the corresponding expenditure pursuant to Article 42(1)(c) CPR (Column C and D).

	Programme contributions paid to FIs included in payment applications (cumulative)		Amounts paid as eligible expenditure in the meaning of Article 42(1)(a), (b) and (d) CPR (cumulative)	
	(A)	(B)	(C)	(D)
	Total amount of programme contributions paid to FIs	Amount of corresponding public expenditure	Total amount of programme contributions effectively paid, or, in the case of guarantees, committed, as eligible expenditure in the meaning of Article 42(1)(a), (b) and (d) CPR	Amount of corresponding public expenditure
Paym Appl Interim 1	112.5	112.5	0	0
Paym Appl Interim 2	112.5	112.5	50	50
Paym Appl Interim 3	112.5	112.5	60	60
Paym Appl Interim 4	225	225	67.5	67.5
Paym Appl Interim 5	225	225	90	90
Paym Appl Interim 6	337.5	337.5	191.25	191.25
Paym Appl Interim 7	337.5	337.5	200	200
Paym Appl Interim 8	337.5	337.5	250	250
Paym Appl Interim 9	450	450	286.875	268.875
Paym Appl Interim 10	450	450	300	300
Paym Appl Interim 11	450	450	450	450
Paym Appl Interim 12	500	500	500	500

APPENDIX 2: EXAMPLE OF DIFFERENT SAMPLING PROCEDURES THROUGHOUT LIFECYCLE OF A FINANCIAL INSTRUMENT

This example illustrates different audit procedures for a FI operation as from the first tranche of an advance payment until the closure of the operational programme.

1) First tranche

The payment of the first tranche of advance for the amount of 10 million EUR was included in the sample of operations of the AA. The audit covered the set-up of the FI. In view of the early stage of implementation, the AA did not carry out testing of the incurred expenditure.

2) Second tranche

The payment of the second tranche (also covering 10 million EUR) was part of the sample of operations of the AA. In order to establish whether the condition for payment of this tranche was fulfilled, the AA carried out a statistical sampling procedure. It aimed at verifying whether 60% of the amount included in the first payment application has been spent as eligible expenditure (in line with the provisions of Article 41 of the CPR).

Sampling parameters:

In order to determine the sampling parameters for its audit work, the AA established that:

- The population (the incurred expenditure) amounts to 6.7 million EUR. It constitutes 67% of the first tranche.
- Tolerable error (materiality level) is 0.7 million EUR, i.e. the difference between the amount actually spent (6.7 million EUR) and the minimum implementation threshold which is 6 million EUR in this case (60% of the first tranche of 10 million EUR).

  The materiality expressed as % of the population value (amount already spent) is 10.45% (0.7/6.7).
- The system (OP and/or priority axis concerned) was evaluated in category 2 based on the system audit work and other available information.

  Consequently, the confidence level is planned for 60%. (In line with table on confidence levels for FI presented in section 3 of the document, 60% is recommended for the materiality level above 2% in systems of category 2.)
- Anticipated error rate and standard deviation:

  The AA decided to carry out a pilot sample to establish these two parameters. In line with recommendation in section 3, the AA covered 30 items by its pilot sample (in order to treat this pilot sample as the actual sample size if the results obtained are conclusive).

  Sampling design:

Based on professional judgement, the AA decided to use stratified MUS . It stratified its population of 6.7 million EUR into 3 sub-populations:

- managements costs (the total amount of 0.5 million EUR with 50 sampling units: invoices or other documents of equivalent probative values)

- loans (the total amount of 5 million EUR paid to final recipients covering 400 sampling units: loans)
- guarantees (the total amount of 1.2 million EUR of resources committed for guarantees contracts covering 100 sampling units: guarantees)[9]

Sample size:

As indicated above, the AA decided to carry out a pilot sample to establish the anticipated error rate and standard deviation. In line with recommendation in section 3 of the document, the AA decided to cover in its pilot sample at least 30 items (in order to treat this pilot sample as the actual sample size if the results obtained are conclusive).

Based on the book values of individual strata, the AA calculated a sample size for each of the sub-populations using the formula:

$$n_h = \frac{BV_h}{BV} n.$$

which gave the following results:

- management costs

$$n_{management\ costs} = \frac{0.5}{6.7} * 30 = 2.24$$

- loans

$$n_{loans} = \frac{5}{6.7} * 30 = 22.39$$

- guarantees

$$n_{guarantees} = \frac{1.2}{6.7} * 30 = 5.37$$

In order to ensure that there are at least 3 sampling units per stratum, the AA rounded the individual sample sizes of strata as follows ensuring global size of 30:

First stratum: 3 items for management costs

Second stratum: 22 loans

Third stratum: 5 guarantees

Extrapolation of results:

After audit of the 30 sampling units, the AA extrapolated the results and established that:

- Extrapolated error (most likely error) is 0.08 million EUR, and it constitutes 1.19% of the population value.
- The amount of incurred expenditure after deduction of 0.08 million EUR is still above the required threshold of 60% (the threshold is 6 million EUR in this case).

[9] Please see section 3 of the document on the correct determination of the book value of the sampling items in case of guarantees (where eligible expenditure is determined using a multiplier ratio based on Article 8 of Commission Delegated Regulation No 480/2014).

In view of the precision obtained (0.1 million EUR which is 1.49% of the population), the results are fully conclusive and the pilot sample of 30 units can be considered as a final one. The lower error limit is 6.52 (i.e. 6.7-0.08-0.1) and is above the required threshold of 60%.

3) Third tranche

The payment of the third tranche (10 million EUR) was also part of the sample of operations of the AA. In order to establish whether the condition for payment of this tranche was fulfilled, the AA carried out a statistical sampling procedure. It aimed at verifying whether 85% of the amounts included in the first and second payment applications has been spent as eligible expenditure (in line with provisions of Article 41 of the CPR).

In order to minimize the sample size, the AA decided to treat the part of the population not yet audited as an additional period of a two-period sampling procedure.

Sampling parameters:

In order to determine the sampling parameters for its audit work, the AA established that:

- The population (the incurred expenditure) as from the start of implementation amounts to 17.3 million EUR. It constitutes 86.5% of the total amount included in the first and second tranches (20 million EUR).

  As the first sampling procedure covered 6.7 million EUR (which will be treated as the first sampling period), the second sampling period will cover the total amount of 10.6 million EUR (17.3 million EUR - 6.7 million EUR).

- Tolerable error (materiality level) is 0.3 million EUR, i.e. the difference between the amount actually spent (17.3 million EUR) and the minimum implementation threshold which is 17 million EUR in this case (85% of the first and tranches with the total amount of 20 million EUR).

  The materiality expressed as % of the population value (amount already spent) is 1.73% (0.3/17.3).

- The system was evaluated in category 2 based on the system audit work.

  Consequently, the confidence level is planned for 66% (in line with table on confidence levels for FI presented in section 3 of this paper, 66% is recommended for materiality level of 1.7% in systems of category 2).

- Anticipated error rate and standard deviation:

  The AA used the sampling parameters based on historical data from the previous sample, with some adjustments based on professional judgement clarified below.

  Sampling design:

The AA continued with the same sampling design as used for the audit of the first tranche, dividing the additional population into 3 strata: management costs (0.6 million), loans (6 million) and guarantees (4 million). As mentioned above, the AA treated the additional population as the second period of two-period sampling procedure covering 10.6 million EUR.

Consequently, the following formula was used to calculate the sample size of the second period:

$$n_2 = \frac{z^2 \times BV_2 \ \times \sum_{h=1}^{H_2}\left(BV_{h2}.\sigma_{rh2}^2\right)}{(TE-AE)^2 - z^2 \times \sum_{h=1}^{H_2}\left(\frac{BV_{h1}^2}{n_{h1}}.s_{rh1}^2\right)}$$

where:

TE = 0.3 million EUR as explained above

AE = 0.2 million EUR (17.3*1.19%) in line with results of the audit of the second tranche

z = 0.954 which reflects 66% confidence level using two-sided approach; the value of z can be obtained using excel function NORM.S.INV(1-(1-confidence level)/2)

BV_2 = 10.6 million EUR

$\sum_{h=1}^{H_2}\left(BV_{h2}.\sigma_{rh2}^2\right)$=0.4*$\sigma_{rmanagement\ costs2}^2$+6*$\sigma_{rloans2}^2$+4*$\sigma_{rguarantees2}^2$

$\sum_{h=1}^{H_2}\left(\frac{BV_{h1}^2}{n_{h1}}.s_{rh1}^2\right)$=$\frac{0.5^2}{3}.s_{rmanagement\ costs1}^2$+$\frac{5^2}{22}.s_{rloans1}^2$+$\frac{1.2^2}{5}.s_{rguarantees1}^2$

For σ value (anticipated standard deviation) the AA used the historical values, adjusted based on professional judgement. In particular:

The AA used the actual standard deviation of the first period in the guarantee stratum as an anticipated standard deviation for the second period in that stratum.

$$\sigma_{r\ guarantees\ 2period} = s_{r\ guarantees\ 1period}$$

For the loan stratum, the AA also used the data of the first period for this stratum. However, the anticipated standard deviation was adjusted by removing one error from historical data. (In view of the character of this error and changes in the management and control system during implementation of the FI, the AA considered that this error cannot occur in the second period.)

For the establishment of the anticipated standard deviation in management costs stratum, the AA proceeded as follows: the same body is responsible for two different FI operations with similar management costs. The AA had historical data for standard deviation in both operations in the first period. The average standard deviation from both operations was used as the anticipated standard deviation for the operation in question.

$$\sigma_{r\ man\ costs\ 2period\ for\ FI1} = (s_{r\ man\ costs\ 1period\ for\ FI1} + s_{r\ management\ costs\ 1period\ for\ FI2})/2$$

4) Fourth tranche

The fourth tranche (covering 10 million EUR as well) was not selected for sample of operations.

5) Closure of the operational programme

At the closure of the programme the AA carried out statistical sampling procedure using the results of previous audits carried out for the second and third tranche of advance payments. Thus the population

not covered yet by sampling procedure was treated as the third sampling period, i.e. 40 million EUR[10] minus 17,3 million EUR.

[10] Or another amount if the incurred expenditure differs from the total amount of programme contribution paid as advance payments.