

## Evaluation criteria

### *GUIDELINES AND CRITERIA FOR EVALUATING APPLICATIONS DURING THE REMOTE ASSESSMENT PROCESS*

#### Overview

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The remote assessment process is carried out by independent evaluators: professors and experts in each discipline.

To score candidates in the remote assessment process, evaluators will use a qualification grid with three concepts to assess; each will have a specific weight.

Each evaluator shall give a rationale, with a brief explanation in writing, of the reasons for the score of each application evaluated as well as its strengths and weaknesses.

In addition, evaluators must perform a qualitative evaluation of various aspects of the candidate; the purpose of doing so is double:

- To provide additional information to evaluators who take part in the final face-to-face assessment process.
- To break any draws between candidates who obtain identical scores in the remote assessment process.

#### Score

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Each aspect evaluated must be scored with one of the values on the following scale:

Qualification	Score
Exceptional	8
Excellent	7
Very Good	6
Good	5
Normal	4
Mediocre	3
Poor	2
Very poor	1

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## Aspects evaluated

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Each evaluator must score, for the same application, three aspects (qualifications and curriculum, project and reference letters); each of them has a specified weighting:

### 1. QUALIFICATIONS AND CURRICULUM

**Summary:** *The candidate's qualifications will be evaluated, considering, in particular, their relative position within their graduating class (if this information is available) and the academic and/or professional curriculum in relation to the stage of the career they are in and the opportunities, in this respect, they may have had.*

In regard to qualifications, the main elements assessed will be:

- The average score of the academic record and the difficulty of studies accredited. University and faculty will be taken into account, as well as the difficulty and demands compared to other universities and faculties.
- The relative position of the candidate compared to other students in their class when this information is available.

In addition, the following aspects will be taken into account:

- Qualifications obtained in supplementary training courses and programmes.
- Academic trajectory: for equivalent qualifications, progression in performance is evaluated more favourable when compared to academic transcripts in which regression is observed. Qualifications obtained on subjects that are linked to the statement of purpose proposed by the candidate will also be taken into account.
- The awards and distinctions candidates have received in relation to their qualifications.

The following will be evaluated in regard to the curriculum:

- Quality and depth of curriculum in relation to the applicants' possibilities. In this respect, younger candidates, therefore, cannot be penalised for accrediting incipient curricula.
- However, the scope, quality and depth of the activities accredited by the applicant (courses, attendance of seminars, written and audiovisual publications, professional experience, etc.) will also be taken into account, as will the intellectual curiosity demonstrated to complete their curriculum.
- Consistent, focused trajectories throughout their entire course of studies. In the event that there are changes in their trajectory, they must be justified and rationalised.
- If the professional stages and, above all, academic stages are related to the statement of purpose presented and, if not, the reasons must be adequately explained.

- Not to penalise candidates who, because they were studying while working a steady job, may have gotten lower scores than other candidates.
- Expressly take into account the efforts shown by the candidate to overcome a difficult family situation, from a socioeconomic perspective.

This section will be weighted at 50%.

## 2. MOTIVATION AND STATEMENT OF PURPOSE

**Summary:** *the excellence of the ideas presented at the statement of purpose submitted, considering its originality, innovative nature and its potential impact and the quality and suitability of the educational institution chosen.*

This section will evaluate, on the one hand, the statement of purpose and, on the other, the choice of the centre chosen and studies.

The following should be taken into account in regard to the statement of purpose:

- Firstly, that "la Caixa" Foundation Fellowships are fellowships of excellence. Therefore, the evaluation of candidacies is carried out only under the criteria laid out in this document, and does not take into account personal factors unrelated to the criterion of excellence, nor are any type of quotas established.
- The project must be consistent and be well structured, and proposed studies should be part of a broader trajectory, either professional or academic. In this regard, the candidate must state, and the evaluator score, to what extent the studies for which a fellowship is requested is a necessary step in the right direction.
- In the statement of purpose, candidates must rationalise the interest in the studies they want to pursue, the suitability of the educational centre or centres where they propose to carry out such studies and, in international programmes the country or countries selected.
- They must also rationalise the need to carry out the proposed studies to achieve the objectives pursued.
- The social return of the studies should be evaluated; the term "social return" should be understood in its broadest sense: progress of science and knowledge, wealth creation and possibility of transferring to third parties what they learned during their studies.
- Finally, the statement of purpose should be something newly developed and original. Proposals that involve elements of risk and creativity, whether scientific or business related, in particular the proposals that raise serious entrepreneurial projects are encouraged.

The following will be taken into account in regard to studies chosen:

- Firstly, the call does not require candidates to pre-prove admission to a university or the programme indicated as their first choice. Therefore, the candidates that do not give proof of said admission should not be penalised.
- However, the interest and concern of the candidate for obtaining information on the programmes of studies that best align with their personal project should be encouraged. The following may be considered in this regard:
  - The quality of the studies to be pursued and that of the centre where they are given, whenever possible.
  - If it is a reasoned choice and whether alternative options have been considered.
  - Whether they have realistically assessed the possibilities of being admitted.
- In general, applications that entail contact with new academic, cultural or scientific environments are given preference. Similarly, interdisciplinary ideas or those with cross-sector aspects will be encouraged.
- Candidacies of applications for postgraduate fellowships programmes abroad, for which the fellowship means a first opportunity to pursue this level of studies in the country of destination will be given preference, along the lines of what is previously mentioned.

This section will be weighted at 30%.

### 3. REFERENCE LETTERS

**Summary:** *the reference letters received in support of the candidate will be scored, taking into account both the specificity of their content regarding the candidates well as the profile of the people who write them.*

In this section:

- The level of who writes the letter will be taken into account, as will the relationship of the sender with the project submitted by the candidate.
- Value will be placed on whether the letter is written personally and is specific to the project supported and whether it refers not only to subjective and personal aspects of the candidate, but also to their intellectual abilities and the academic or professional project presented.

This section will be weighted at 20%.

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## Level of familiarity

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The evaluator should indicate their level of familiarity with the subject and candidate’s application evaluated. It must be self-assigned between two levels, each corresponding to different degrees of familiarity.

The evaluator should be aware that candidates evaluated correspond to pre-PhD studies and, therefore, in all cases correspond to early stages of professional or academic careers.

Along these lines, the level of familiarity refers to the general field of discipline within which a project should be qualified, rather than the specific domain of the proposal.

The qualifications of evaluators are weighted differently, for the same application, if the level of familiarity indicated by each of them is not the same.

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## Qualitative score

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In addition to the three aspects mentioned above, and from which the candidate will receive a score in the remote assessment process, evaluators, at this stage, will score four additional aspects. These aspects, however, will not be transferred directly to the final score of the application.

These 4 aspects are:

- The candidate's academic and / or professional potential
- The social impact of their project
- The impact of the fellowship on the candidate's trajectory
- Expository clarity demonstrated in the report

Each of these aspects will be scored on a scale of 1 to 5 points based on the following correspondence:

Qualification	Score
Exceptional	5
Very Good	4
Good	3
Acceptable	2
Poor	1

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## Remote assessment process

### *PROCEDURES*

The objective of the evaluation and selection process of applications in the remote assessment process is to select the best candidates for incorporation into the final stage of each call. Another purpose of this selection is to:

- 1) Respect the diversity of applications from the various disciplines.
- 2) Ensure minimum representation for the candidates assigned to the various remote assessment panels constituted.
- 3) Promote that the highest quality candidates pass the remote assessment stage, regardless of the panel they have been assigned to.

### Expert evaluation

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Candidacies sent for evaluation in the remote assessment process are reviewed by  $n$  experts from the same area of discipline as the application evaluated, or from a closely related field.

The process to evaluate the applications in each remote assessment panel is as follows:

1. According to the established criteria and weights, the final mark for each expert is calculated.
2. It is checked whether there are significant discrepancies in the evaluation of one and the same candidacy between the experts.
3. The final mark for each candidate is calculated by adding the marks of all the experts and weighing them according to the level of expertise they had provided.
4. Draws are resolved.
5. Each candidate's marks are normalised according to each expert and the final classification is obtained.

### Processing discrepancies

The evaluation system detects significant discrepancies between experts' evaluations for the same application, so applications can be referred back to those experts to review their original scores if deemed appropriate.

Each expert's mean score in regard to all candidacies evaluated is taken into account to fine-tune the discrepancy detection system.

The discrepancy detection formula is as follows:

- $mark_{A,p}$  = Mark from Expert p for Candidate A
- $mean\ mark_p$  = Mean mark from Expert p for all candidates evaluated in this programme.
- $mark'_{A,p}$  = New mark from Expert p for Candidate A taking into account the mean evaluation from that expert.

n = Minimum discrepancy value from which the application is submitted for re-evaluation.

#### Step 1:

Calculate the new marks taking into account each expert's mean for each mark of each candidate:

$$mark'_{A,p} = mark_{A,p} - mean\ mark_p \text{ (New marks can be negative)}$$

#### Step 2:

Calculate the magnitude of the discrepancy between the new marks of the experts that are further apart from each other and refer it to a minimum value:

Being  $\max(mark'_{A,p})$  the maximum new mark of the candidate A among all the experts and  $\min(mark'_{A,p})$  the minimum one, if  $\max(mark'_{A,p}) - \min(mark'_{A,p}) > n \rightarrow$  The application is submitted for re-evaluation.

For an evaluation like the current one, where the minimum mark is 1 and the maximum mark is 8, values  $n > 2$  are considered discrepant.

## Familiarity with the discipline evaluated

Each expert has, in the scoring form of each application, a section in which they must indicate their level of expertise with the discipline of the candidacy evaluated.

They must choose between two possible levels of expertise:

**LEVEL 1:** Their knowledge corresponds, generically, with the field of the discipline evaluated and their evaluation, therefore, can be considered that of an expert.

**LEVEL 2:** Their knowledge does not correspond, generically, with the field of the discipline evaluated and therefore, their evaluation cannot be considered strictly that of an expert, but it is sufficient taking into account the characteristics of the call.

The final score of an application in its panel is the result of applying different levels of weighting when the levels of expertise indicated by experts evaluating the application do not coincide.

In particular,

- If an expert indicates a higher level of expertise for an evaluated candidacy, an additional half point of weighting is divided between these experts with greater expertise:

$$panel\ mark_A = \sum_{p=1}^m mark_{A,p} * \frac{weight_{A,p}}{\sum_{p=1}^m weight_{A,p}}$$

Where,

- $mark_{A,p}$  is the mark from expert p for candidate A (before checking discrepancies).
- $weight_{A,p}$  is the weight of expert p in the candidate A.
- $panel\ mark_A$  is candidate’s A final mark in the panel.

Example 1:

There are 3 experts in the panel (m=3):  $p_1, p_2, p_3$

Evaluators 2 and 3 have indicated a high level of expertise with the discipline of a certain evaluated candidacy A, which gives a weighting value of the score for each evaluator and a total value of the sum of all weights:

$$p_{A,1} = Level\ 2 \rightarrow weight_{A,1} = 1$$

$$p_{A,2} = Level\ 1 \rightarrow weight_{A,2} = 1.25$$

$$p_{A,3} = Level\ 1 \rightarrow weight_{A,3} = 1.25$$

Therefore,

$$\sum_{p=1}^3 weight_{A,p} = 3,5$$

So the final weighting of each expert’s score and from the remote assessment process will be:

$$\frac{weight_{A,1}}{\sum_{p=1}^3 weight_{A,p}} = 0,286;$$

$$\frac{weight_{A,2}}{\sum_{p=1}^3 weight_{A,p}} = 0,357;$$

$$\frac{weight_{A,3}}{\sum_{p=1}^3 weight_{A,p}} = 0,357;$$

Example 2:

There are 3 experts in the panel:  $p_1, p_2, p_3$



No experts have indicated a high level of expertise with the discipline of a certain evaluated candidacy, which gives a weighting value of the score for each evaluator and a total value of the sum of all weights:

$$p_{A,1} = \text{Level 2} \rightarrow \text{weight}_{A,1} = 1$$

$$p_{A,2} = \text{Level 2} \rightarrow \text{weight}_{A,2} = 1$$

$$p_{A,3} = \text{Level 2} \rightarrow \text{weight}_{A,3} = 1$$

Therefore,

$$\sum_{p=1}^3 \text{weight}_{A,p} = 3$$

So the final weighting of each expert's score will be:

$$\frac{\text{weight}_{A,1}}{\sum_{p=1}^3 \text{weight}_{A,p}} = 0,33;$$

$$\frac{\text{weight}_{A,2}}{\sum_{p=1}^3 \text{weight}_{A,p}} = 0,33;$$

$$\frac{\text{weight}_{A,3}}{\sum_{p=1}^3 \text{weight}_{A,p}} = 0,33;$$

## RESOLUTION OF DRAWS

Resolve draws in all cases by looking at:

- Scores obtained for each candidate in each criterion evaluated.
- The order of consideration (predetermined) from the criterion evaluated.
- The level of expertise acknowledged by each expert for each application.

Suppose three aspects (a1, a2, a3) evaluated for each application (A, B, C...) and each expert's scores (p1, p2, p3) for each criterion evaluated for one and the same candidate (A):  $Q_{a1,p1,A}, Q_{a1,p2,A}, Q_{a1,p3,A}, Q_{a2,p1,A}, Q_{a2,p2,A}, Q_{a2,p3,A}, Q_{a3,p1,A}, Q_{a3,p2,A}, Q_{a3,p3,A}$ . The experts have weights:  $\text{weight}_{A,1}, \text{weight}_{A,2}, \text{weight}_{A,3}$ .

Each score corresponds to:

$Q_{a1,p1,A}$  = Score of the criterion (a1) by the expert (p1) of the candidacy (A).

Suppose the following order of determination to resolve draws:

1st -  $Q_1$  (score for criterion 1)

2nd -  $Q_2$  (score for criterion 2)

### 3rd - Q<sub>3</sub> (score for criterion 3)

To calculate the final mark of the first section considered, expertise weights would be used for candidate (A) (Q<sub>1,F,A</sub>):

$$Q_{1,F,A} = \frac{weight_{A,1}}{\sum_{p=1}^m weight_{A,p}} * Q_{a1,p1,A} + \frac{weight_{A,2}}{\sum_{p=1}^m weight_{A,p}} * Q_{a1,p2,A} + \frac{weight_{A,3}}{\sum_{p=1}^m weight_{A,p}} * Q_{a1,p3,A}$$

Compare the weighted final marks of each candidate for the first section:

If  $Q_{1,F,A} > Q_{1,F,B} \rightarrow$  Candidate (A) is ahead of candidate (B)

If  $Q_{1,F,A} < Q_{1,F,B} \rightarrow$  Candidate (B) is ahead of candidate (A)

If  $Q_{1,F,A} = Q_{1,F,B} \rightarrow$  The system examines Q<sub>2</sub> and so on successively.

In the event the draw persists, they shall be resolved by entering, as an additional weighting factor, the qualitative score given by each of the experts that have assessed the applications that needed a draw to be broken. In particular:

- Each expert will score several aspects following a qualitative scale on which each of the possible values will have a numerical score assigned:

Aspect	Value							
	V <sub>1</sub>	V <sub>2</sub>	V <sub>3</sub>	V <sub>4</sub>	V <sub>5</sub>	V <sub>6</sub>	V <sub>7</sub>	V <sub>8</sub>
	Associated numerical score							
	Q = 1	Q = 2	Q = 3	Q = 4	Q = 5	Q = 6	Q = 7	Q = 8
Score of A <sub>1</sub>	$Q_{A1} = Q_{A1,p1} + Q_{A1,p2} + Q_{A1,p3}$							
Score of A <sub>2</sub>	$Q_{A2} = Q_{A2,p1} + Q_{A2,p2} + Q_{A2,p3}$							
Score of A <sub>3</sub>	$Q_{A3} = Q_{A3,p1} + Q_{A3,p2} + Q_{A3,p3}$							
Score of A <sub>n</sub>	$Q_{An} = Q_{An,p1} + Q_{An,p2} + Q_{An,p3}$							
Total score	$Q_{A1} + Q_{A2} + Q_{A3} + Q_{An}$							

- The total score for each candidate is calculated in this qualitative section, which will be compared, in the event of a draw, with the other candidates with the same score to determine the final order of these candidacies.

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## Determination of candidates who pass the remote assessment process by panel

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Use a two-stage process to determine the number of candidates who pass the remote assessment process by each panel: remote assessment within the panels themselves and remote assessment according to the ranking of the candidates evaluated in all panels associated with the same committee.

### FORMATION OF PANELS

All applications are associated with a review panel according to the discipline corresponding to the project presented. Each candidate has self-assigned a panel for their application.

In general, each panel cannot have fewer than 10 candidates or more than 40. If the panel does not reach this minimum number, it will merge with another panel among those associated with the same committee. If the panel exceeds the maximum number, it will be split to form as many new panels as needed to avoid exceeding the maximum number of candidates associated with the same panel.

The number of contact committees that will be formed in the final stage of the face-to-face assessment process and the number of sessions each committee devotes to evaluating applications by the interview system is determined at the beginning of the call in response to historical data of previous calls. The Fellowships Programme Office will determine the maximum number of applications that exceed the remote assessment stage based on a formalised procedure.

### PROPORTIONAL ALLOCATION

All panels formed are associated with one of the face-to-face assessment committees planned for the final phase of this Fellowships programme process.

All face-to-face assessment committees planned have a previously assigned number of candidates they must evaluate. This number is also the number of candidates from the panels associated with each committee who pass the remote assessment.

Seventy percent of the total number of assessable candidates are apportioned from each panel, according to the number of candidates that corresponds to the committee to which that panel is associated with.

- In no case can there be any panel that does not contribute any candidate to a committee. If when rounding the value = 0, one candidate is assigned.
- Each panel is assigned a number of assessable candidates according to the proportionality formula mentioned. The system will round upwards if the decimal fraction in a panel is equal to or greater than five tenths, or downwards if the fraction is lower than five tenths.

- If the rounding leads to the number of candidates who pass the remote assessment process exceeding 70% of the positions assigned to a committee, the system shall choose the highest fractions resulting from applying the proportionality formula until the number of applications corresponds to 70%.

EXAMPLE:

COMMITTEE 1			
Total of candidates the committee shall interview			45
Proportional assignment: 70% of the 45 places			32
PANELS			
Panel	Applications	% over total	Places assigned
Panel 1	45	24.59%	8 (7.86)
Panel 2	30	16.39%	5 (5.24)
Panel 3	40	21.86%	7 (6.99)
Panel 4	15	8.20%	3 (2.62)
Panel 5	11	6.01%	2 (1.92)
Panel 6	22	12.02%	4 (3.84)
Panel 7	20	10.93%	3 (3.50)
Total	183	100%	32

## ASSIGNMENT BY CLASSIFICATION

After applying evaluation algorithms described in the first section of this document (see "Expert evaluation"), all candidates have a rating from 1 to 8 and are associated with a remote assessment panel, which in turn is associated to a committee.

To assign the remaining 30% of positions to each committee, a single classification of all candidates linked to the panels associated with the same committee will be created and they will be selected according to the resulting order.

This unique classification will be done according to the following normalisation procedure:

- The mean mark of the candidates from one and the same panel will be calculated ( $mean_p$ ):

$$mean_p = \frac{\sum_{c=1}^n panel\ mark_{c,p}}{n}$$

Where,

p = panel P

n = number of candidates evaluated by that panel.

mark = numerical score obtained by the candidate in the panel, resulting from the procedure described in the first section of this document.

c = candidate C

- The standard deviation of that same panel with respect to all its candidates is calculated:

$$\text{Standard deviation}_p = \sqrt{\frac{\sum_{c=1}^n (\text{panel mark}_{c,p} - \text{mean}_p)^2}{n - 1}}$$

- Finally, standardise the score from each panel for each candidate evaluated:

$$\text{classification mark}_{c,p} = \frac{\text{panel mark}_{c,p} - \text{mean}_p}{\text{standard deviation}_p}$$

The *classification mark*<sub>c,p</sub> is the one used to establish the integrated score of applications from one and the same committee, from which the remaining 30% of candidates who pass the remote assessment process will come.

## Feedback for the candidate

In order to provide adequate feedback to the candidate on the assessment of their candidacy during the remote assessment process, their qualifications for each criteria will be analysed for comparison with the qualifications of the other candidates of their panel.

The following steps shall be followed to perform this process:

1. Standardise the mark of each criteria for each candidate for each expert according to the following procedure:
  - Calculate the expert's mean mark for each criterion (*mean*<sub>p,k</sub>):

$$\text{mean}_{p,k} = \frac{\sum_{c=1}^n \text{criterion mark}_{c,p,k}}{n}$$

Where,

p = expert P

n = number of candidates from the committee.

mark = numerical score obtained by the candidate, resulting from the scores in the various sections, by that expert.

c = Candidate C

k=criterion K

- The standard deviation of that same expert for that criterion is calculated regarding all the panel's candidates:

$$\text{standard deviation}_{p,k} = \sqrt{\frac{\sum_{c=1}^n (\text{criterion mark}_{c,p,k} - \text{mean}_{p,k})^2}{n - 1}}$$

- Finally, each expert's scores for each candidate and criterion evaluated are standardised:

$$\text{standardised criterion mark}_{c,p,k} = \frac{\text{criterion mark}_{c,p,k} - \text{mean}_{p,k}}{\text{standard deviation}_{p,k}}$$

2. For each criterion, the average mark of the various experts is calculated, to then calculate for each candidate the corresponding mark. Once again, the corresponding expertise weights of each expert are used:

$$\text{final criterion mark}_{c,k} = \sum_{p=1}^m \text{standardised criterion mark}_{c,p,k} * \frac{\text{weight}_{c,p}}{\sum_{p=1}^m \text{weight}_{A,p}}$$

3. When the marks for each candidate for each criterion are available, calculate the quartiles (percentages of 25%, 50% and 75%) of each criterion, which are named  $Q_1$ ,  $Q_2$ ,  $Q_3$ , respectively. The quartiles are those numbers that having an orderly list are situated in the 25%, 50% and 75% positions respectively of that list.
4. Finally, a number is assigned to each candidate for each criterion indicating in which segment they are found:
  - If  $\text{new mark}_{c,k} \leq Q_1$ :  $\text{segment}_{c,k} = 4$ ,
  - If  $Q_1 \leq \text{new mark}_{c,k} \leq Q_2$ :  $\text{segment}_{c,k} = 3$ ,
  - If  $Q_2 \leq \text{new mark}_{c,k} \leq Q_3$ :  $\text{segment}_{c,k} = 2$ ,
  - If  $Q_3 \leq \text{new mark}_{c,k}$ :  $\text{segment}_{c,k} = 1$

Note: The algorithms, procedures and formulas used in this document have been prepared by **Miquel Picallo**, a "la Caixa" fellow (North America, 2011).