**Supplementary material to:**

**THE EU’S FIFTH FREEDOM:**

**WHY AND HOW TO DEVELOP THE “FREEDOM OF KNOWLEDGE”**

**PROBLEMS AND PROPOSALS CONCERNING GRANTS, ACADEMIC POSITIONS, AND INSTITUTIONAL COLLABORATIONS**

Thomas Sturm[[1]](#footnote-1)\*

In the main article, I have described the meaning, rationale, and limits of the fifth freedom goal, as a necessary component for realizing a fully unified and progressive European Research Area. Now, in this supplementary material, I aim to show by specific examples and problems from different areas of the collective organization, funding, and administration of scientific research just how far we really are from full realization of this fifth freedom.

I will present evidence in the form of cases of unnecessary or unjustifiable national rules and practices that lead to discrimination of researchers in processes of applying for doctoral and postdoctoral grants, academic positions, and national research funding, and also to problems in institutional collaborations. I have chosen this format to help readers recognize similar cases in their own environments and encourage them to denounce them, to facilitate public discussion of each type of problem, and to prepare constructive proposals for policy makers. The classification of cases into problems of application processes for doctoral and postdoctoral grants, academic positions, national research funding, and institutional collaborations is not meant to be comprehensive or final. However, it matches the most relevant academic activities that cross internal EU borders and which are affected by the lack of the fifth freedom.

I also distinguish between open and hidden discrimination. Some cases may be mixed or unclear. But such differentiations are useful, both for deciding over what needs to be done in each (type of) case, and to highlight how easy it may be to overlook non-obvious but nonetheless problematic practices. I refer to rules *and* practices: while I mostly focus on explicit regulations, some cases consist of administrative practices that have no explicit rules covering them but result in discrimination or unnecessary paperwork, nonetheless. Finally, the reader will notice that the cases I report are focused on only a few countries. Nevertheless, these examples are significant and symptomatic: many others exist throughout EU countries. Taken individually, each case might be viewed as too unimportant to report. However, their sum produces unnecessary costs and stands in the way of realizing the fifth freedom.

Sections 1 and 2 address questionable bureaucratic barriers and practices that inhibit full free mobility of researchers, while Section 3 deals with national research funding. Section 4, finally, concerns a problem of large-scale institutional collaborations. Together with this evidence, I will present proposals for how to advance the fifth freedom goals in specific ways: first, for free mobility during early career stages and concerning academic positions, then for national research funding, and finally for transnational institutional collaborations within the EU. The proposals will have to be discussed and decided on by different political actors, from funding agencies and academic administrations to political institutions and organizations at the regional, national, and European levels. In this regard, the proposals mostly speak for themselves, but sometimes I have been explicit about who should take action. Each of the constructive proposals can and should be considered on its own. Rejection of one should not lead to rejection of any others.

1. ***Doctoral and postdoctoral grants***

**1.1. Open discrimination**

*Example 1:* Italian universities have no specific contractual instruments for temporarily employing non-national researchers who have been selected under the Marie-Skłodowska-Curie Actions program. This leads to the use of inadequate forms of contracting these researchers, for instance as consultants or via scholarships.

*Example 2:* One requirement of the Spanish ministerial bureaucracy for junior research position applications (such as for the prestigious Ramón y Cajal postdoctoral fellowship but also others) is that they be signed using a digital signature issued by Spanish authorities. Foreign applicants must either obtain the technology which involves meeting a series of further conditions which are difficult to realize from abroad or submit the documents to a Spanish consulate or embassy in their home country. Either option represents a considerable burden in terms of bureaucracy, travelling or costs that Spanish applicants do not face. This is not only discriminatory but also unnecessary, since there is no need for formal signatures at the application stage; these should matter only when the funding is to be granted.

*Example 3*: If an applicant wins a Ramón y Cajal fellowshipand wishes to sign a contract, the Spanish Ministry for Science and Innovation requires that they present a so-called *NIE* (“Número de Identidad de Extranjero”: an identification number for tax and other administrative purposes). They can get this number at local offices only if they can show evidence of residence in Spain; however, usually one cannot take up residence (e.g. rent an apartment) without already having a NIE. To avoid a bureaucratic dilemma similar to the one described satirically in Carl Zuckmayer’s novel *The Captain of Köpenick* (Zuckmayer 1931/1971), the Spanish administration offers a provisional NIE, which subsequently has to be made permanent. This is an example of unnecessary bureaucracy. An EU passport or ID should suffice for signing the contract.

*Example 4*: A doctoral student with Italian citizenship had to obtain different sworn translations of university documents and qualifications for her doctoral and postdoctoral grants and positions in Spain and then again in Poland. (An alternative, which some universities in the EU still require, even from EU citizens wishing to enter doctoral programs, is the Hague Apostille.) For this, the student had to pay a total of around 1,000 Euro and acquire fiscal ID numbers, which required a lot of time and many other documents. In addition, in Poland, to be employed as a postdoctoral researcher, she was required to fill out a document requesting personal information about her parents, including information about their jobs. These demands are too personal and totally irrelevant for her job.

*Example 5*: One of the requirements for applying for some doctoral scholarships in Spain – such as the FPU, FI, and FI-SDUR (a Catalan scholarship) – is providing one’s average undergraduate marks via the so-called “nota media del expediente académico” (https://www.educacionyfp.gob.es/en/servicios-al-ciudadano/catalogo/gestion-titulos/estudios-universitarios/titulos-extranjeros/equivalencia-notas-medias.html). This official document certifies average grades for degrees obtained outside Spain, but expressed according to the Spanish rating system (from 0 to 10, with 10 being the highest mark). Consider students wishing to move to Spain with Master’s and Bachelor’s degrees from Italy, for example, where grades range from 0 to 30, with 30 being the highest grade. The student’s average marks must be converted to the Spanish rating system through equivalence tables. The conversion procedure uses a parameter expressing the frequency of a given grade, relative to the Spanish system. Now, Italian students obtain 30 points more frequently than Spanish students obtain 10 points – there is more grade leniency in Italy. Consequently, an Italian average grade of almost 30 points is calculated to equal approximately 8.35 points in the Spanish system. Crucially, this average grade is below the minimum average accepted by the regulations for scholarships such as the doctoral grant from Spanish Ministry of Universities (FPU). Hence, someone with almost the highest average grade in Italy cannot even apply for a Spanish FPU grant. More generally stated, the lack of an EU-wide grading systems can lead to discrimination.

**1.2. Hidden discrimination**

*Example 1:* Here is a recent advertisement for doctoral scholarships at the University of Barcelona: <http://www.ub.edu/beques/3rcicle/PREDOCSUB/convocatoria.html>. The directives do not, of course, impose any nationality requirements. However, when an Italian student tried to apply for one of these scholarships, it proved impossible to submit the application without a Spanish digital certificate (cf. again Section 1.1, Example 2). She contacted the support agent in the administration: no response.

*Example 2:* The language required for generating the “nota media” (cf. Section 1.1, Example 5) is Spanish. If candidates’ academic transcripts are in a different language, they must also submit sworn translations of each of their transcripts (typically two: Bachelor’s and Master’s degrees). Sworn translations are expensive, and a candidate must pay several hundred Euro to obtain them. It would be more efficient if all institutions in the EU/ERA required academic transcripts to be written in English.

*Example 3:* Another problem for applicants is that national funding offers are often accompanied by relevant informative materials, many or all only in the EU member state’s national language or languages. A recent instance of this is, again, the Spanish government’s Ramón y Cajal postdoctoral fellowship, where many sections are given in Spanish only –

from the front page (https://www.aei.gob.es/en/announcements/announcements-finder/ayudas-contratos-ramon-cajal-ryc-2022)

including the offer (<https://www.aei.gob.es/sites/default/files/convocatory_info/file/2022-12/Convocatoria%20RYC%202022_%20F.pdf>)

and the FAQs (<https://www.aei.gob.es/sites/default/files/convocatory_info/2023-01/Q%26A%20RYC2022.pdf>).

*Example 4*: Mobility opportunities as part of national doctoral or postdoctoral stipends or fellowships are typically limited to only a few months. While not being discriminatory as such, such restrictions can reduce mobility unnecessarily, as the start-up costs may be too high.

1. ***Job applications***

**2.1. Open discrimination**

*Example 1*: To apply for lecturer positions at Spanish universities, or for postdoctoral positions with the Spanish Research Council (Consejo Superior de Investigaciones Científicas, CSIC), foreign researchers must certify for the equivalence of their doctorate. The process of recognizing foreign PhD titles at Spanish universities is called “homologación”, and it is notoriously bureaucratic, costly, outdated, and discriminatory. Each Spanish university might require slightly different documentation, and, in any case, a considerable number of documents is asked for (cf. e.g. https://www.ub.edu/portal/web/farmacia-es/homologacion-de-titulos-extranjeros-de-educacion-superior). Again, the CSIC requires all foreign applicants to submit online proof of equivalence of their PhD before they are allowed to apply (https://sede.csic.gob.es/tramites/bolsa-de-trabajo). Although things have improved over the last twenty years, and Spanish universities are usually helpful in these matters, all this takes time and effort. Depending on the language of these documents, universities will require a sworn translation (English is generally accepted but certainly not German). To translate all these documents costs several hundred Euro. Other documents required might include the first degree (Master’s or similar) certificate as well as extensive documentation listing all classes taken as an undergraduate, certified by the university where the applicant studied. This means that if the applicant is, say forty years old, they would have to recover documents from twenty years back. In addition, the “homologación” is a two-step process in which the university must first evaluate all the documentation provided, which can take months. Only if the PhD is recognized can the second necessary step start, which consists of registration of the PhD by the ministry responsible. This second step is only a formality but also takes time. The fees Spanish universities charge for the “homologación” of PhD differ but can be around 600 or 700 Euro. The whole cost can amount to 1,000 Euro.

*Example 2*: In assessing candidates for a lecturer’s position, teaching and research activities carried out abroad are still evaluated negatively by some Italian universities if these activities were based on temporary contracts or invited lectures. However, as the case-law has decided, “contract teaching and lectures by invitation cannot a priori be evaluated negatively; it must be rather taken into account that, in other countries, teaching assignments or lectures are awarded on the basis of the professor’s merit, with the consequence that in particularly prestigious universities only professors teach who, regardless of the qualifications formally obtained, are deemed ‘worthy’ of teaching. It follows, therefore, that an assessment which leads to penalizing a priori the candidate who has enriched his professional experience must be considered flawed.” (Judgment of the Council of State of 4 September 2007, no. 4635)

**2.2. Hidden discrimination**

*Example 1*: In the Italian examination process for the qualification of university professor (*Abilitazione Scientifica Nazionale*), in the area of the “non-bibliometrics” fields (humanities and social sciences, including law) only journals listed by the Italian National Agency of Evaluation (ANVUR) are accepted as relevant. Even though the ANVUR list includes non-Italian journals, these are a minority. Many prestigious international scientific publications are excluded or ignored. This favors Italian over non-Italian researchers.

*Example 2*: An opening in 2023 for a position as a junior lecturer (*professor lector*) at the University of Barcelona was published only in Catalan, not in English or even Spanish. Being asked how that conforms with the fact that the position was open to all academics satisfying the necessary requirements, the university administration responded that this is so for all announcements of this kind, and only as an exception positions in the specific “Serra Húnter” plan are published in Catalan and English.

While it seems fair to expect that non-nationals who obtain an academic job ought to learn, within a reasonable time, the relevant national language, it is discriminatory to demand this already at the application stage from non-nationals. One can hardly expect that academics from other EU countries (or beyond), who look for positions in different countries, already know all the languages.

*Example 3*: Another form of hidden discrimination occurs when – not a rare event – calls for academic positions are announced in obscure sections of university webpages, or mixed up with positions advertised for lab technicians, secretarial staff, etc. Universities could and should do better to be more open to foreign academics.

Let me sum up the significance of the problems and cases of Sections 1 and 2. Researchers from EU countries applying for national doctoral or postdoctoral scholarships or academic jobs often face administrative, linguistic, and financial obstacles and costs that citizens of the country offering the scholarship or position do not face. If similar barriers were found concerning the four freedoms of the EU’s Single Market, these would be considered (more or less) discriminatory. These barriers undermine the goal of full free and equal mobility of researchers. In addition, the examples often show how seamless interoperability between national institutions and public administrations inside the EU is unnecessarily limited and, very often, inefficient. Things need to change.

**PROPOSALS CONCERNING DOCTORAL/POSTDOCTORAL GRANTS AND JOB APPLICATIONS**

1. Researchers and scientific institutions and organizations, including funding organizations, need to receive more sustained and systematic information concerning the fifth freedom, the ERA, and the European Pact for Research and Innovation. Straightforward and clear information about the existence of these goals might already have a positive effect towards realizing them. The EU Commissioner for Research could take a lead role here. An important action could also be an online survey that collects potential cases of discrimination and makes them publicly known.
2. We need a general campaign to raise awareness in all scientific organizations of hidden and open forms of discrimination according to nationality. Any unjustifiable, unnecessary, and avoidable administrative regulations and practices in EU countries that discriminate against citizens from other EU countries should be abolished. Discriminating academic career development based on nationality is no less a violation of equality than discrimination based on gender, sexuality, religion, or race. All science policy makers at the regional, national, and European levels should become active here.
3. Establishment of anti-discrimination officers in scientific organizations that look for hidden and open discrimination according to nationality, in analogy to gender equality efforts.
4. Evaluation systems for Bachelor and Master’s degrees need to be unified throughout the EU, since – despite the Bologna process – different national and local regulations still result in discrimination and unnecessary bureaucratic work, as when a Master’s degree must legally certified or accompanied by the Hague Apostille.
5. Reductions in costs for student mobility: academic institutions in the EU should issue and accept Bachelor’s and Master’s certificates (also) in English.
6. Within the EU, doctoral titles from certified universities should become universally accepted, without the need for additional certification. Universities should provide an (additional) English translation of the doctoral certificate. A doctoral certificate from an EU country should imply equivalence for being allowed to apply for academic jobs.
7. In processes of application, unnecessary national and technocratic documents that act as bureaucratic or technocratic barriers should be abolished. For instance, for applications at postdoctoral levels, a passport or ID card and a doctoral certificate should be sufficient (together with the other typical documents, such as a CV, research statements, etc.).
8. All information concerning national offers of doctoral and postdoctoral stipends and academic positions open to EU citizens must be accompanied by complete English translations.
9. If full free mobility of national doctoral and postdoctoral grants cannot be achieved immediately, the duration of possible stays in other EU countries should be substantially increased. For instance, if scholarship holders so desire, they should be able to spend around 30%-50% of the duration of the scholarship at academic institutions in other EU countries. In return, researchers could be asked to commit themselves to education projects for a similar time within their home countries.
10. ***National research funding***

**3.1. Open discrimination in national grants with binational Co-PIs**

*Example*: The DFG allows applications by foreign Co-PIs within the framework of “priority programs” (*Schwerpunktprogramme*, SPPs), provided there is a Germany-based Co-PI, so that the funding can remain at a German academic institution. However, this option is linked to a clearly discriminatory rule: the foreign applicant (in any case only as a Co-PI, with a Co-PI from a German academic institution) must prove that the individual project is *essential or necessary for the success of an entire SPP*. This special rule is not justified in any way by the DFG, and no criteria for its application are given, so its interpretation is entirely arbitrary.

Such restrictions have a discriminatory effect on EU researchers not based in Germany. In addition, they are counterproductive for knowledge mobility and thus for scientific progress itself (cf. main article, Section 2) since national projects deprive themselves of the expertise of researchers not based in Germany. This, again, is in clear conflict with the ideal of the fifth freedom. It should be noted here that perhaps the DFG may not be able to change this rule, as it may be derived from national budget laws. In that case, the German parliament and government should act; the German *Bundesministerium für Bildung und Forschung* (BMBF) could take a lead role.

**3.2. Restrictions concerning the portability of national grants**

As seen above (main article, Section 1), the ERA project includes, remarkably and ambitiously, demands for EU-wide mobility of nationally funded projects – not yet common practice. National funding organizations still mostly refuse to allow grants to go abroad with researchers. I will not list these restrictions here; they are easily accessible in the rules provided by funding organizations. When discussing the nationalist objections, I have shown that if one accepts the significant arguments offered for promoting the fifth freedom (main article, Section 2), then the burden of proof is shifted to those who think that nationalist interests exclude EU-wide mobility of national research funding (see main article, Section 3). I have also shown that some national funding organizations have already changed some of their policies towards the “money follows researcher” principle. In addition, just as with the other four freedoms, economic and other advantages of the fifth freedom can outweigh the risks or costs involved. To repeat, a piecemeal social engineering approach will help us best to figure out the truth, and to overcome what may be nationalist or other biases.

**PROPOSALS CONCERNING NATIONAL RESEARCH FUNDING**

1. The first three proposals concerning grants for doctoral/postdoctoral positions and other academic applications need to be repeated here: First, we need more information directed at all institutions and academics about the fifth freedom, the ERA, and the European Pact for Research and Innovation; secondly, a campaign for more awareness in all administrations and academic institutions targeting hidden and open forms of discrimination in terms of nationality; thirdly, the establishment of anti-discrimination officers in administrations and agencies that look for hidden and open discrimination, in analogy to gender equality efforts. The actors who could or should take lead roles are described above.
2. All national or regional grant agencies in the EU should follow the “money follows researcher” principle, at least for early career researchers to increase their mobility. Since funding agencies often cannot or will not act on their own here, parliaments must allow their funding agencies to let grants flow more freely. One need not demand 100% freedom here: through budgetary regulations, parliaments can set limits on how much of their research budgets can be open to realizing the fifth freedom. EU-wide agreements could proceed in a gradual manner and allow for transition phases and other means for coping with existing inequalities in the scientific strength of different regions or countries. To get the process going, the EU Parliament and EU Council could take the lead, but one can also imagine pilot projects between countries who want to move forward here.
3. If full free portability of national research grants cannot be achieved immediately, concrete steps towards creating the 5th freedom can and should nonetheless be taken. Five specific ideas are:

(a) National funding agencies such as the DFG should no longer uphold discriminatory regulations against EU researchers not located in Germany in collaborative funding schemes.

(b) National funding agencies could experimentally open a selection of their grant schemes fully to all researchers who are EU citizens, allowing portability of grants to other EU countries, for a defined period – say, 5-10 years – and afterwards evaluate results. It should be checked whether this leads to mutual benefits or to increased inequalities.

(c) Researchers working on topics relevant to one EU country (e.g., Germany), but do so in another EU country (e.g., Spain), could be given the opportunity to receive and move funding from former country’s national funding resources (the DFG, for example). Cooperation should be made easier, especially for junior researchers, for the purposes of long-term cooperation between the two (or more) countries. For its part, a funding organization from the first country should see the benefit in connecting talented researchers from other countries to its system at an early stage.

(d) National funding organizations from one EU country could allow PIs from other EU countries, provided the universities in the former country accept them as guest researchers for limited periods, while the PIs keep their positions in their home countries and manage projects from there, too.

(e) National funding agencies should receive full credit for promoting research in other EU countries.

***4. Institutional collaborations***

*Example*: In the first years of this century, the German Max Planck Society (MPG) developed an international strategy of founding Max Planck Institutes (MPIs) abroad. Several such institutes were founded, among them some outside of the EU, such as those in the USA or China. However, an attempt by the MPG to build a joint institute “Convivencia” – devoted to transcultural history – with the Spanish CSIC in Madrid remained unrealized because of the different principles and regulations for hiring people. While MPIs hire academics overwhelmingly on a temporary basis, to boost careers during doctoral and postdoctoral stages, the CSIC tends to hire on a permanent basis only (both systems have advantages and disadvantages, of course). No compromise could be found, to the disadvantage of both sides. This is an example of how divergent national or institutional can practices block scientific progress and undermine the free flow of researchers, knowledge, methods, and the means of research.

**PROPOSALS CONCERNING IMPROVING INSTITUTIONAL COLLABORATIONS**

1. One should use this failure for a thorough critical examination of what kind of flexibility and coherence concerning research contract systems would help bring us closer to the goal of the fifth freedom in the area of institutional collaborations.
2. Added funding from EU cohesion programs – already proposed in combination with the Horizon program (https://publications.jrc.ec.europa.eu/repository/handle/JRC123485) – could support multi-country cooperation between EU countries with significantly different economies, helping to overcome mobility barriers related to, e.g., salary differences.
3. If this road were taken, then (i) projects from partner countries that work recognizably towards realizing the fifth freedom by, e.g., reducing or removing national bureaucratic hurdles and (ii) projects that have adopted the best practices within EU countries should be strongly preferred. Arguably, (i) and (ii) could also be made necessary conditions for funding support from EU cohesion programs.

**References**

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1. \* 1. ICREA, Pg. Lluís Companys 23, 08010 Barcelona, Spain. - 2. Dept. de Filosofia, Universitat Autònoma de Barcelona, 08193 Bellaterra (Barcelona), Spain. Email: Thomas.Sturm@uab.cat [↑](#footnote-ref-1)