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# Realising a single labour market for researchers

## Report of the ERA Expert Group

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This is the Final Report of one of the seven Expert Groups set up by DG Research of the European Commission in the context of the follow-up to the Green Paper "The European Research Area: New Perspectives" adopted by the Commission on 04 April 2007.

Expert Groups were set up for each of the six ERA dimensions identified in the Green Paper, and one on the overall vision and rationales for ERA.

The list of Expert Groups is as follows:

EG 1: Realising a single labour market for researchers
EG 2: Developing world-class research infrastructures
EG 3: Strengthening research institutions
EG 4: Sharing knowledge
EG 5: Optimising research programmes and priorities
EG 6: Opening to the world: international cooperation in S&T
EG 7: Rationales for ERA

The overall objective of each of the Expert Groups EG 1 to EG 6 was to identify and define possible measures and actions concerning the relevant ERA dimension, taking into account existing expertise, available evidence and the major elements stemming from the debate launched by the Green Paper. Expert group EG 7 was tasked with developing and expanding rationales for ERA and refining or suggesting a reformulation of the ERA vision proposed in the Green Paper, based on an analysis of the main issues and factors affecting the efficiency, effectiveness and attractiveness of the European research system.

More information on the ERA Green Paper debate, public consultation and follow-up can be found at: http://ec.europa.eu/research/era

# Preface

Highly qualified human resources are fundamental to the development of a knowledge-based society. Knowledge is produced, consolidated and questioned by people that value curiosity throughout their lives. Providing an attractive environment for creative and innovative researchers was recognised by the Commission's Green Paper as one of the remaining major challenges for the future of the European Research Area.

Within EG Researchers, the Expert Group on 'Realising a single labour market for researchers' was constituted in June of 2007 in order to identify realistic policy options which, both in the near- and long-term, may stimulate the establishment of such an environment. Increasingly, both geographical and cross-disciplinary mobility are recognised as constitutive of most researchers' careers. Europe has a long way to go in order to make such mobility possible within many domains of knowledge. It is an ambitious task, and one that will undoubtedly require the active involvement of governments, funding agencies, research institutions and the researchers themselves. It is also quite clear that the engagement of both the public and private sector will be crucial.

The different members of the Expert Group were asked to begin by identifying key existing obstacles and to provide real 'stories' to illustrate the many serious difficulties faced by researchers across Europe. These were discussed extensively by the Group and served as a basis for the formulation of the Policy Options that we propose.

The Group was privileged to have the support and engagement of two devoted rapporteurs. Fulvio Esposito had the immensely demanding job of transforming the vast amount of material that was accumulated into a single coherent text, while Jean-Philippe Lhernould played a major role in condensing and compiling the more 'specialised' material on social security issues. As you might expect, fine-tuning of the messages included in this report took a significant time. Mine was an easy task. I helped to draft the executive summary, which was straightforward, given the format chosen for the main text.

We received invaluable and crucial support from the European Commission, in particular from the Unit C4 – Universities and Researchers, for which we are very thankful. The help of Conor O'Carroll in improving the readability of the report is also gratefully acknowledged.

On behalf of the Expert Group, I wish to extend our sincere thanks to the support we have received from everyone involved in the genesis of this report. But, a special thanks goes to Fulvio for his perseverance, professionalism and wonderful good-nature.

**Alex Quintanilha**

**Chair**

# Executive Summary

It has become increasingly evident that a more concerted strategy is necessary to address the human resources needs of the European Research Area (ERA). Such a strategy should establish realistic goals and develop clear methods for their implementation. The present Report addresses the Policy Options that the Expert Group 'Realising a single labour market for researchers' (EG Researchers) has identified in order to ensure more attractive careers for researchers and to progressively eliminate the obstacles hampering their mobility.

We have chosen an architectural image in order to highlight the complementary nature of the components of the tetrahedral structure that we have conceived. For each of the proposed **four cornerstones** we identify the obstacles and hindrances that, in our view, continue to hamper the development of ERA, and provide some 'case studies' in order to illustrate our concerns.

We then provide Policy Options, some of which have already been successfully tested and could therefore be generalised almost immediately, others could be implemented progressively.

The recommendations in this report are addressed to all bodies in receipt of public funds for research. This is meant to include the funding agencies who disburse funds and those who receive them, in the public and private sector (universities, research centres and companies). All must take individual and collective responsibility for the implementation of the recommendations; in our opinion they will determine whether Europe does indeed become a single labour market for researchers. We believe that the European Commission can take the lead by implementing the recommendations in the Seventh Framework Programme.

## Obstacles and hindrances that continue to hamper the development of ERA

### First cornerstone – attraction, ethical recruitment and retention of researchers

There are often substantial obstacles that threaten our capacity to maintain and boost the regional pool of skilled researchers needed to fuel the EU research and innovation system. Namely:

- a lack of transparent recruitment and career progression mechanisms;
- the complexity of employment application procedures;
- an imbalance between demands of the workplace and personal life;
- a lack of attractiveness for young talents;
- the remaining 'insufficiently equal' opportunities, particularly for women.

### Second cornerstone – mobility in all its facets (geographical, sector, disciplinary and 'demographic')

Other issues continue to hinder the mobility of researchers within Europe as well as between Europe and third countries. These include:

- a lack of resources to support the direct and indirect costs of mobility;

- an insufficient weight given to mobility as a valuable component of the researcher CV;
- the persisting reluctance to move between the public and the private sector;
- the lack of a strategic approach to the accumulated experience of senior and/or retired researchers.

### Third cornerstone – researcher-friendly social security and supplementary pension systems

Significant challenges remain in promoting an equitable and cohesive social system for researchers within the EU. These include:

- lack of awareness of social security and supplementary pensions rules and rights;
- the need to improve cooperation between national administrations, research authorities and institutions both in social security and supplementary pension areas;
- relatively little tailoring of social security rules of Regulation 1408/71 (883/2004) to individual researcher profiles (whether EU citizens or third-country nationals);
- need to exploit potentialities of current instruments to set up (a) pan-European Pension Fund(s) for researchers;
- the need to encourage the use of tax incentives to facilitate the participation in supplementary pension schemes.

### Fourth cornerstone – The European Charter for researchers and Code of Conduct for their recruitment as a dynamic process

In March 2005, the Recommendation on a Charter for European Researchers and a Code of Conduct for their Recruitment was addressed by the EC to Member States. The 'Charter & Code' were undersigned by a considerable number of (public) research institutions. Yet, there is scant awareness of this document among researchers and its implementation by institutions.

## Policy options

For each of these Cornerstones, we have identified a number of Policy recommendations that address a wide range of stakeholders:

### First cornerstone – attraction, ethical recruitment and retention of researchers

Any organisation in receipt of public funds for research, is required:

- to advertise externally any research position vacancy supported by those funds, especially on the European Researcher's Mobility Portal;
- to take concrete actions aimed at simplifying application procedures, thus encouraging participation by external applicants;
- to treat researchers, from the early career stages, as professionals, also in terms of remuneration and social security, irrespective of the type of contract;
- to clarify in a transparent manner the long-term career prospects of each position;
- to promote the achievement of scientific independence by the youngest stratum, through, for example, reserved funds such as the ERC Starting Investigation Grants;
- to insure that transferable skills are included in the evaluation procedures for researcher recruitment and career progression, to promote and assist the transition from team members to team leaders;
- to take positive and urgent actions for promoting fair gender representation among all (selection) committees, boards and governing bodies;
- to adopt a dual career policy, inspired by successful existing models;

- to allow researchers who are eligible for pregnancy (or parental) leave while working in a fixed-term contract to receive an extension of their contracts, and the associated funds, for the duration of their pregnancy and/or parental leave;

- to develop, when it is entitled to award doctoral degrees, structured doctoral programmes, moving away from the traditional, highly individualised apprentice model, oriented only to academic profession to a new model, oriented to a wider employment market, to give PhD graduates multiple career options in the Knowledge Society;

- to limit, whenever possible, the number of 'research products' (e.g. publications) to be attached to an application for a researcher position, in order to favour an assessment based on 'performance relative to opportunity', rather than on absolute performance.

## Second cornerstone – mobility in all its facets (geographical, sector, disciplinary and 'demographic')

Any organisation in receipt of public funds for research, is required:

- to consider and value mobility in all its facets as an integral part of the researcher curriculum;

- to allocate incentives to compensate direct and indirect costs of mobility (e.g. in the case of intersectoral mobility, make best use of fiscal incentives for companies, grant incentives for the public institutions, and career incentives for the researcher);

- to avoid that talents attraction is practiced to the detriment of less developed regions, promoting Institutional partnerships, within which mobility of researchers is anchored to overall development projects for the partner institutions;

- to promote and support virtual mobility activities and infrastructures (e-conferences, e-seminars, electronic newsletters, thematic portals, e-fora and chats, video-conference infrastructure; virtual labs etc.), as effective and efficient complements to physical mobility;

Any organisation in receipt of public funds for research is encouraged to investigate how best to systematically involve retired senior researchers in value added activities such as non-salaried mentoring of early career researchers and the promotion of the excitement of science and research careers to school children and to the public generally;

At European level, the EC is urged to establish an 'international placement agency' for retired senior researchers who are willing to act as mentors, experts, conference organisers and peer reviewers. The agency would direct this highly valuable support at less well endowed research groups in Europe and in developing countries.

## Third cornerstone – researcher-friendly social security and supplementary pension systems

The addressees are invited to take actions according to their responsibilities.

**Information, training and cooperation between social security players**

Addressed to: European Commission (EC), Member States (MS), Training and Reporting on Social Security (TRESS), ERA-MORE – Feasible in: mid-term

- to systematically organise EU and national training sessions on EU coordination Regulations for research institutions' staff and ERA-MORE Mobility Centres;

- to draft new, and spread awareness of existing EU and national social security info packages (websites, guides, etc.) for mobile researchers;

- to establish close cooperation between the EC, Ministries in charge of Research, the Administrative Commission on Social Security for Migrant Workers, TRESS network and ERA-MORE Mobility Centres to ensure information flows, exchange of good practice, best use of existing rules and assess feasibility and appropriateness of new rules to remove further obstacles to mobility of researchers.

**Posting & 'Article 17 agreements' – (specific to researchers)**

Addressed to: European Commission, TRESS and Member States – Feasible in: mid-term.

To promote, by gathering data on future application of both 'Article 17 of Regulation 1408/71 agreements' and EU rules on 'posting' of researchers, their wider application to the benefit of researchers by also making an extensive use of Recommendation 16/84 of the Administrative Commission on Social security for Migrant Workers to researchers.

**Access to unemployment benefits and specific rule(s) on conflict of law – (not specific to researchers)**

Addressed to: EC, MS – Feasible in: mid-term
Within the context of EU 'Action Plan for Mobility 2007-2010' to:

- explore the feasibility of amending unemployment benefits exportation rules for migrant researchers/ workers (Article 68 of Regulation 1408/71 (Art. 64 of Reg. 883/2004);
- explore the relevance and the impact of a specific rule of conflict of law applicable to 'new forms of mobility', in view of inserting them, if appropriate, in the EU legislation.

**Third-country researchers: agreements, information, Directive 2005/71 – (specific to researchers)**

Addressed to: MS, EC – Feasible in: mid-term

- to encourage (e.g. through a Commission or Council Recommendation) the signature of (or the amendment of existing) bilateral and/or multilateral social security agreements between EU Member States and non-EU countries including appropriate rules for mobile researchers;
- to set up more efficient information systems on social security agreements by for instance making full use of the European and National Researchers' Mobility Portals;
- when monitoring the implementation of Directive 2005/71 on the admission of third-country researchers to the EU, to pay specific attention to a correct application of Article 12 of that Directive concerning equal treatment with national as regards social security rights.

**Pension subsidies attached to fellowships – (specific to researchers)**

Addressed to: MS, EC – Feasible in: short-term.
Target group and pension pillars: research fellowship holders, supplementary and private pensions

To introduce **subsidies** for research fellows who are not covered by any domestic pension system, by also facilitating their building up of pension rights with a financial institution (third pillar).

**Setting up of a Pension Support Centre in the Member States**

Addressed to: EC, MS – Feasible in: mid-term.
Target group and pension pillars: researchers (pilot group), statutory and supplementary pensions

After assessing its legal and concrete feasibility, to set up a Pension Support Centre by also making use of existing information tools/services.

**Promoting the setting-up of National Pension Registers in the Member States**

Addressed to: MS, EC – Feasible in: mid-term.
Target group and pension pillars: researchers (pilot group), statutory and supplementary pensions

To promote by the EC the setting-up of national information systems (pension registers) on accrued pension rights in each MS and promote their interlinking.

**A Pan-European Pension Fund (IORP) for Researchers**

Addressed to: IORP pension schemes – Feasible in: mid-term.
Target group and pension pillars: researchers, supplementary pensions

For the EC to launch a feasibility study and furthermore stimulate the development of supplementary pension pan-EU schemes for researchers based on the 'IORP' Directive.

**Promoting the introduction of tax incentives for participating in second and third pillar systems**

Addressed to: MS, EC – Feasible in: mid-term.
Target group and pension pillars: all workers, supplementary pensions

To promote by the EC national tax relief systems for contributions paid to supplementary (including 'IORP') schemes and to financial institutions managing private pension schemes.

## Fourth cornerstone – The European Charter for researchers and the Code of Conduct for their recruitment as a dynamic process

Any organisation in receipt of public funds for research which signed the C&C is required:

- to promote knowledge and awareness of C&C; the EC should provide human, structural and financial means for the management and organisation of a European information campaign including the establishment of an ERA and C&C promoters' network;
- to define and advertise a Human Resources Mission Statement, in line with the C&C spirit, focusing on the recruitment, career development and retirement procedures of their respective researchers; the European Commission should play a proactive role in the dissemination and promotion of the institutional HR mission statements;
- The European Commission is urged to design and promote a 'ERA – Researchers' Human Resources Label' indicating research institutions, which
  - participate actively in the network of ERA and C&C promoters;
  - advertise and monitor the implementation of their specific Researchers' Human Resources Mission Statement;
  - accept some form of external monitoring.

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# 1. Context and objectives

Under the Chapter of the ERA Green Paper entitled Making ERA a reality, the mandate for the Expert Group (EG), as stated in the Terms of Reference, is to:

1. review and assess the current situation regarding the areas included in the 1st dimension for the development of the ERA: '*Realising a single labour market for researchers*';

2. identify evidence-justified issues which require new/improved policy initiatives, and to identify policy options to address these issues.

In responding to these Terms of Reference, **the EG recognises that the Policy Options it recommends form but one part of the complex, multifaceted and global approach needed to realise a robust and successful European Research Area (ERA).**

It is apparent from the Green Paper consultation[2] that a more **systemic and systematic approach is necessary to address the human resources needs of the ERA, in order to make it operational**. To do so, it is necessary for policy makers to:

1. **establish conditions to ensure researchers' careers are more attractive;**

2. **reduce and progressively eliminate the obstacles still hampering the seamless mobility of researchers.**

Clearly, these are not easy tasks, especially in view of the high heterogeneity of national regulations in areas such as:

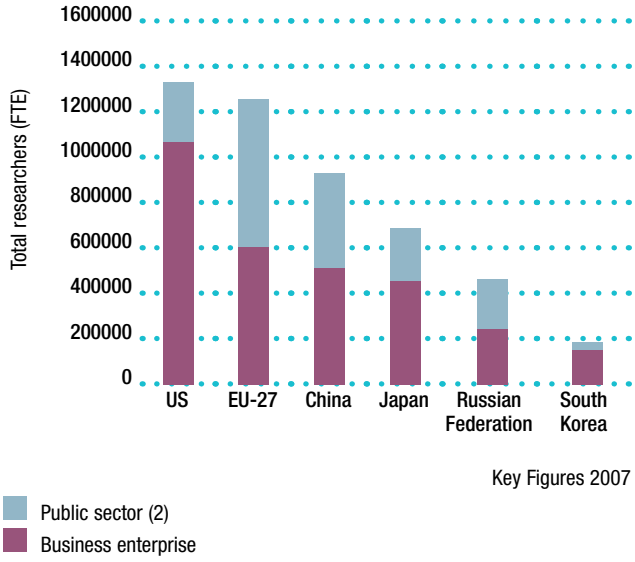
- **education and qualifications framework;**
- **access to research professions, recruitment procedures and researcher career structure, and**
- **salaries and social security.**

Thus, despite all of the positive actions taken at national and European level, it is by no means clear that Europe has the researcher labour force needed to help realise the objectives of the ERA, particularly when international comparisons are made[3]. For example, in 2003, the number of researchers in full time equivalent (FTE) per thousand labour force amounted to 5.4 in the EU in 2003, compared to 10 and 9 in Japan and the USA, respectively, and remains essentially unchanged since 1999.[4] At Member State (MS) level the picture is quite varied, with considerably lower figures in 15 Member States, while a handful of Member States show a figure close to or above those for Japan and the USA.

As the figure below shows, **the deficit in the share of researcher workforce as compared to the USA and Japan is mainly located in the business sector**. Of the estimated total of 1,180,000 researchers (FTE) in the EU–25 in 2003, about 50% were employed in the business sector, with respect to some 68% in Japan and about 80% in the USA.

**FIGURE 1 (A)**

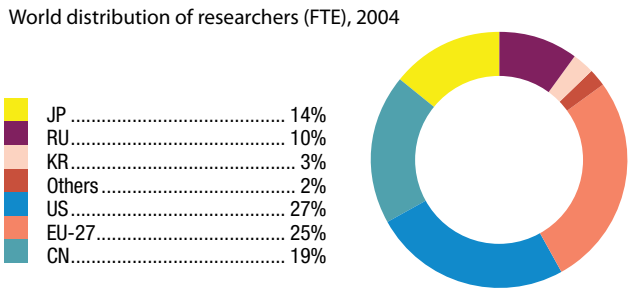
Number of researchers (FTE) by world region, 2004(1)




Source: DG Research
Data: Eurostat, OECD
Notes: (1) US: 2002; RU, KR: 2005. (2) The private non-profit sector is included in public sector.

**FIGURE 1 (B)**

Number of researchers (FTE) by world region, 2004(1)




Source: DG Research
Data: Eurostat, OECD

In terms of the global higher education market, it is widely recognised that Europe with its complex, multilingual patchwork of countries, each one with its own Research and Higher Education system(s), has limited attractiveness compared to other countries, particularly the USA. This also holds true for the world labour market for researchers, where the competition to recruit young researchers will only increase as demographic trends will see an ageing research (and general) population in industrialised countries around the world. Recruiting abroad for students and faculty in universities is the trend in Australia, Canada, the USA but also increasingly in India and other countries.

In relation to geographic mobility, of particular concern are recent data from EUROSTAT that demonstrate that only 6% of research labour force are citizens of a country other than their country of residence[5].

A major challenge in recruiting, attracting and retaining the highly skilled in Europe is to convince many of the Higher Education Institutions (HEI) that **training of a researcher is only the first step in a profession that may lead to different careers** (see e.g. EC Communication '*One profession, multiple careers*'[6]). Currently, many European HEIs still educate and train researchers as 'academic apprentices'. This is no longer adequate in a knowledge-based society nor for an economy based on knowledge and innovation[7].

It should be noted that, in this report, **the whole population of researchers[8] is in focus, irrespective of the working area, career level, and employer** (universities, research organisations, companies, government laboratories and institutions etc). This is particularly important in view of the fact that the '3% target' is expected to be composed of 1% GDP public and 2% GDP private investments in R&D. While there seems to be a broad commitment across Member States to strive towards the 1% public funding (often in an undefined, mid-term future), the same cannot be said regarding the proposed increase to invest 2% of the GDP on researchers and research in Europe by the private sector.

**The group intends to address the proposed policy options to any organisation, whether private or public, in receipt of public funds for research[9].**

Also, there is the thorny issue of employment. In most areas of employment there still is a single relationship between the employer and the employee. This is not always or no longer the case for researchers in the public sector, where in some EU countries there are, with increasing and spreading frequency, four parties: the employee (researcher), the team leader, the employer (a HEI, university or public research organisation), and the sponsor (external funding agency, either public or private). The team leader and employer are often confronted with budget cuts at the final stage of contract discussions and have to accept to get less and do more, leading to stress and increased workload, not only for him/herself but first of all for the researchers of his/her team.

Increasingly, and not only in the early career steps, researchers are employed on a short-term contract, for the express purpose of carrying out a specific piece of research. Under such employment conditions there is little scope for researchers to develop other 'transferable skills' (for example, project management, team leadership, teaching, innovation and entrepreneurship, and communications), which would broaden their employability outside academia. Moreover, it may be of no obvious benefit for the employer to invest on skill enrichment and career development of these 'project-based', fixed-term researchers, and in many cases it would not be permitted by the funding agency, as they are funding a time-limited research project and not a long-term researcher career development.

A seamless mobility of researchers is a prerequisite for making the ERA a reality. **Although mobile researchers may already take advantage of EU rules which preserve social security and retirement pension rights, a real research-friendly social security system has not been realised yet**. The EG therefore recommends concrete initiatives which are compatible with fundamental EU legal principles. It also provides

suggestions which should facilitate circulation of information between stakeholders (researchers, European and national institutions).

It has to be stressed that, irrespective of the contractual conditions of their work, **researchers should be treated as professionals, starting from their early career stages**.

Since the advent of the Lisbon Agenda, in 2000, some important steps forward have been taken by the European Commission, in close collaboration with the Member (and Framework Associated) States (MS), to develop a better Europe for researchers. Within many MS, the Lisbon agenda has become a priority to define their research, development and innovation policies. Using the Open Method of Co-ordination (OMC), the following four instruments were developed to facilitate researcher mobility, enhance their career development and clarify their status.

**These instruments should be considered as catalysts for making the European Research Area a more attractive location for researchers at all stages of their career.**

## 1.1. The European Researcher's Mobility Portal[10]

The Commission's Communication *'A Mobility Strategy for Researchers in the ERA'*[11] aimed at enhancing the living and working environments of researchers in Europe in order to attract and maintain a high level of human resources in research, both quantitatively and qualitatively.

Among the four main tasks identified to foster the overall environment of researchers, there was *'Improvements regarding information on mobility: new developments in the information provision to researchers and better dissemination of vacancies (…)'*.

According to a Resolution of the Council of 2001[12], one of the priorities for the implementation of the mobility strategy for researchers in the ERA was the setting up of the European Researcher's Mobility Portal (RMP). This latter went on-line in 2003 with the aim of improving access to adequate information on jobs, fellowships and grants throughout Europe as well as on the entry conditions, access to employment, social security rights, taxation and the cultural aspects of a host country. As a shared initiative between the Commission and the participating countries, the European Researcher's Mobility Portal is currently complemented by 31 national mobility portals (more are in the pipeline).

## 1.2. The European Network of Mobility Centres (ERA-MORE)

Following this, the European Network of Mobility Centres (ERA-MORE) was established and officially launched in 2004, co-funded by the Commission. The aim of the ERA-MORE Centres is to provide customised assistance to researchers and their families in all matters relating to their mobility experiences, e.g. information about social security, pension rights, recognition of diplomas, housing, entry conditions, language courses and other practical information. Today, the ERA-MORE Network counts about 200 Mobility Centres and numerous local contact points in 32 different countries, Croatia, FYRoMacedonia and Serbia are joining the Network in 2008.

## 1.3. Third-country Directive ('Scientific Visa')[13]

The Commission worked with the Member States to develop a Directive on opening borders to non EU researchers and their families. This now means that researchers from a Third country can easily move to the EU without the need for a work permit. Moreover, in some EU countries, their spouse is also entitled to work. The commitment by those countries that opted in to this Directive is that it should have been fully implemented by October 2007. To date fifteen EU countries (Austria, Belgium, Estonia, France, Germany, Ireland, Italy, Latvia, Lithuania, Poland, Portugal, Romania, Slovenia, Slovakia and The Netherlands) have set up legislation implementing the Directive; the other countries are drafting their new laws or amending the existing ones[14].

The implementation of the Directive is urgently needed for building a competitive and attractive ERA. Moreover, the Recommendation on short-term visas[15] has so far not had a significant impact on national procedures. Therefore, see, as an example, the '*Odyssey of Alexej*'.

**THE ODYSSEY OF ALEXEJ**

Alexej has finally completed his MD degree in his home non-EU Country and wants to travel, get to know the world, while becoming a good immunologist! He is convinced that he has now to become a 'real scientist', through working also in a lab, and thus applies to a number of Doctoral candidates programmes in several EU nations for a position in immunology. Dutifully, he sends his CV, where he proudly lists 15 publications in national journals: an exceptionally good record at his medical school! He is indeed a brilliant student!

His disappointment begins when he gets no replies to his many applications. The mail system is not working maybe? But this is the email era! He sends out all applications again, and also dares addressing directly several professors of immunology (bypassing the addresses indicated by the Doctoral candidates programme websites).

Good move! But just to learn that there is no good way for those European professors to evaluate properly his CV or compare it to those of European students (from MS).

Alexej does not want to waste any additional time, and decides to start a journey as a 'tourist' in Europe, aiming at visiting some of the labs he contacted.

But… he needs a visa for the Schengen area, plus an additional visa for each non-Schengen country he wants to visit (a procedure that takes from several weeks to several months) and he has to complete his journey within three months if he travels as a tourist. In addition, he has to prove that he has relatives or friends in each nation who are willing to financially support his stay. Finally, he has to be back home before the three months elapse, not to be considered an illegal immigrant!

Well, Alexej would love to see the *Tour Eiffel* and the Coliseum but at the end he decides to stand a better chance in Singapore, where excellent immunologists (including European ones) are working, without facing long and cumbersome visa procedures! He is sure that he will shortly travel in Europe as a pure tourist, and as a young scientist… from the Far East!

## 1.4. The 'Charter and Code'

The EC Recommendation on a '***European Charter for Researchers and the Code of Conduct for their Recruitment***' (*C&C*)[16] emerged from a bottom-up, Europe-wide consultative process. It sets out the rights and responsibilities of researchers, employers and funding agencies and encapsulates best practices drawn from across European policies and interests as set by a wide range of organisations, including universities, businesses, public and private research bodies, associations and government agencies. Over 200 organisations, representing around 800 institutions in 23 countries, have signed up to the *'Charter & Code'*[17]. However, what is not clear is the number of organisations that are **actually implementing** the Charter & Code.

Whereas mobility was the driving force for the three former initiatives, **the *C&C* ranges in breadth across all aspects of the 'researcher's life'**, their employers and sponsoring funding agencies. The real challenge now is the real life implementation of the C&C and its promotion through concrete actions.

This report is deeply rooted into the principles of the *Charter and Code*. It unbundles some key issues and proposes a number of Policy Options aimed at obtaining visible short- and mid-term results on the way to help insure that Europe provides an attractive and competitive environment for researchers to live and work in.

The **Policy Options** are proposed in relation to the four cornerstones:

1. attraction, ethical recruitment and retention of researchers;
2. mobility in all its facets;
3. researcher-friendly social security and supplementary pension systems;
4. the European Charter for Researchers and Code of Conduct for their recruitment as dynamic goals.

# 2. First cornerstone – attraction, ethical recruitment and retention of researchers

**SUMMARY**

There are a number of substantial obstacles to maintaining and growing regional capacity regarding the pool of skilled researchers needed to fuel the EU research and innovation system. The Expert Group considered in particular:

- the lack of transparent procedures for recruitment and career progression;
- the complexity of employment application procedures;
- the imbalance between demands of the workplace and personal life;
- the lack of attractiveness for young talents;
- the still 'insufficiently equal' opportunities for everybody, particularly for women.

These obstacles are discussed below along with policy options aimed at removing them.

## 2.1. Recruitment procedures

### *2.1.1 Transparency of recruitment/career progression procedures*

**Lack of transparent recruitment and career progression procedures represent the first, major obstacle to researchers' attraction, retention and mobility and consequently to a fully realised ERA**.

As stated in the Green Paper: *'Currently, opportunities for mobility are frequently curtailed by institutional and national boundaries. In particular, academic research positions remain too often 'reserved' for national or even internal staff'*[18]. This situation is exacerbated by the fact that conspicuous differences exist in the employment status/contract of researchers. In some countries, for example, researchers have public servant status. As a result, especially in southern Europe and the new Member States, relatively few foreign researchers are recruited by academic, public non-academic, and private institutions. Also, internal recruitment[19] often occurs, and there is a very limited intersectoral mobility (of academics coming from public non-academia and even less from private sector, and the reverse)[20]. This situation appears to be incompatible with Community legislation against discrimination: to ensure the effective mobility of workers within the European Union, Council Regulation n° 1612/68 of 15 October 1968[21] is based on the general principle of eliminating any direct or indirect discrimination based on nationality as regards employment, remuneration and other working conditions. Whatever is the status of the researcher, non discrimination must be respected, regardless of the nationality or the nature of the legal link between the worker and his employer[22] (public servant or not).

***A crucial issue is the availability of information about calls for research positions***, particularly in the public sector. Table 1 below shows the number of positions posted on the European Researcher's Mobility Portal. Whilst the database has grown since 2004 its use as a posting site is still quite limited. There is certainly substantial scope for active promotion of the Portal, as well as simplification of access to the diverse range of information it contains.

**TABLE 1**

European Researcher's Mobility Portal use

| | Online | XML | TOT |
|---|---|---|---|
| 2004 | 284 | 284 | 568 |
| 2005 | 799 | 589 | 1,388 |
| 2006 | 1,749 | 3,074 | 4,823 |
| 2007 | 2,176 | 2,626 | 4,802 |

(Last update, March 2008; on-line refers to jobs posted directly on the Portal and XML refers to jobs coming from local databases)

Some countries have regulations in place ensuring that positions of certain kind, mostly professor positions and

university management positions, have to be announced in the official gazette or in major newspapers. But **common standards and a systematic approach to advertising vacancies are still missing, with resulting concerns about the impact of academic inbreeding on scientific productivity[23].** Setting a European wide framework can be fraught with difficulties when national legislation is taken into account, be it Data Protection or Freedom of Information. However, it is important to take the lead and show what may be possible (see, for example, the MINERVA code[24]).

However, experience shows that mere promotion of a European wide database for available positions might not be sufficient to counteract a highly fragmented researchers' job market and indifference/reluctance of many recruiters (and sometimes of the team leaders and/or of the researchers themselves) to open up to this international job market[25]. National mandates to place job advertisements into the (inter)national official gazette are no longer sufficient in an integrated European Research Area. International advertising now often occurs through electronically available specialised journals or large mailing lists obtained through previous collaborations. The best way has to be identified **to urge employers to also put every position into the job database on the European Researcher's Mobility Portal** which must be widely known and used by all potential applicants. Targets for legal instruments could be public higher education institutions or more generally research institutions which benefit from European funding programmes[26]. In time, the Portal would become **the** location for all research employment opportunities.

An added value deriving from an increased transparency in advertising available positions is that it can help provide an idea of the scientific positioning of the recruiting organisation, which is not only of interest for potential skilled candidates but also for the private sector.

In relation to recruitment, it is important to note that countries such as China and India have developed a wide range of policies and initiatives aimed at the strategic management of their Science, Engineering and Technology (SET) diaspora for national economic growth and development[27]. In Europe, the ERA Public Consultation showed a good level of support for enhancing linkages with expatriate researchers as well as support for initiatives which would better enable non-European researchers based in Europe to keep in touch with other fellow nationals. Clearly, the European Researcher's Mobility Portal has a key role to play in progressing these linkages and it could act as a focal point for researchers wishing to return to Europe.

### *2.1.2 Reducing the complexity of employment application procedures*

To encourage participation by external (to the recruiting organisation/country) candidates, the first selection step of recruitment should be made on the basis of a '*dossier de candidature*'[28], without the need for a physical interview or a written examination organised on site[29]. All candidates must have the right to see the assessment criteria on which their application will be based. This is already common practice in many countries and sectors. It has a proven effect of encouraging applications from candidates of different nationalities and from outside the recruiting institution. Examples are available which show that changing from the interview-based to the dossier-based procedure has resulted in a ten-fold increase in the number of external applicants to doctoral candidate positions[30]. In addition, candidates need to be given clear information on what the long-term prospective of the jobs might be (see also 3.3.1 below) and, in each Member States, the mutual recognition of diplomas principle should be respected[31]. **The free movement of workers in an enlarged EU requires a simpler and clearer system for the recognition of professional qualifications**[32].

It is important to acknowledge, however, that the public and private sector organisations have varying recruitment procedures to reflect their core business objectives and the way the researcher careers develop[33].

In this respect, researchers need to be educated on these different procedures, to allow them to strategically manage their opportunities for career development.

**POLICY OPTION 1.1.**

Any organisation, whether public or private, in receipt of public funds for research is required:

1. to advertise externally any research position vacancy supported by those funds, especially on the European Researcher's Mobility Portal;

2. to take concrete actions aimed at simplifying application procedures, thus encouraging participation by external applicants.

## 2.2. Achieving a healthy balance between demands of the workplace and personal life

**How to achieve a balanced professional and personal life, irrespective of gender and age, is a complex issue.**

In recent years, there has been increased attention to work-life balance (WLB) issues in academic and professional workplaces. Originally, it referred essentially to women, particularly mother of young children, who needed to balance the paid with the unpaid workload. Now its meaning enlarged, and it refers to professionals – both women and men – who have difficulties in finding time for personal life, because of the nature of many contemporary forms of work.

Meeting family and social responsibilities should not penalise career development. In the competitive environment of leading edge research, the time allocated to professional work is more or less proportionally related with the chance of scientific success (measured as number and/or importance of publications, impact factor, citation index etc.). Often this commitment is made at the expense of time allocated to private life. Many scientists make a choice at the post-doctoral stage: some give up the idea of having a family, others accept a reduced scientific production for some years. Finally, there are 'the happy few' who manage to reconcile research career and family building, thanks to the help of supportive partners, often scientists themselves[34,35].

Because research is such a focused and time consuming activity, **research related professions often appear too demanding for many individuals (and, possibly, talents), especially for women, who still continue to be the primary care providers in many countries.** The particular challenges regarding recruitment and advancement of women are discussed in more detail in Section 3.4. However, it should be noted that these challenges are not limited to EU countries[36].

There is one line of action that could attenuate the negative affects of a low publication rate or gap in CV. This would be to promote as a general rule, in all type of applications for a researcher position, **not to ask for a 'complete list of publications' but only for the best 5 or 10** (depending on the job level) **products of the researcher's work** (e.g. papers, but also patents, books etc., according to the specificities of the research area).

In this way:

- quality instead of quantity becomes more important in the selection process;
- the assessment becomes based on 'performance relative to opportunity', rather than on 'absolute performance';
- a more equitable judgement is produced, allowing for individual life circumstances, e.g. the circumstances of women who have taken time out for childbearing and, in general, 'career breaks' [37].

**POLICY OPTION 1.2.**

Any organisation, whether public or private, in receipt of public funds for research is invited to limit the number of 'research products' (e.g. publications) to be attached to an application for a researcher position, in order to favour an assessment based on 'performance relative to opportunity', rather than on absolute performance.

## 2.3. Attraction of young talent to research careers[38]

### *2.3.1 Researchers are professionals, from their early career stages*

As mentioned above, in many EU countries, young talents can be averted from choosing research as their profession also by the absence of a career perspective, of career management programmes and mentors. Competitive remuneration is another issue, particularly when compared to other professions requiring a similar level of training or to salaries for researchers in countries such as the USA. In this regard, a recent study on researchers' salaries carried out for the European Commission has shown that **the average salary for EU researchers is almost €23,000 less than the average in the USA**, and also below average salaries in Australia, India and Japan. The study also notes the huge variations within the European Research Area (from €9,800 in Bulgaria to €35,000 in UK and to €46,500 in Switzerland) and significant differences between male and female researchers (as much as 35% in some countries). The value given to experience and the different levels of starting salaries also show up great differences across the EU. For example, a UK researcher can expect a significant increase in salary as his or her career progresses – maybe as

much as 335% – while a Danish researcher will maybe see a 90% increase[39].

**TABLE 2**

Country total yearly salary average of researchers in EU-25, Associated Countries, Australia, China, India, Japan and USA (2006, N=6.110, all currencies in EURO and in terms of PPS, converted through corrective coefficients)[40]

| Country/ Level of experience | Remuneration average in EURO | Corrective coefficient | Remuneration average in terms of PPS |
|---|---|---|---|
| Austria | 62.406,14 | 103,1 | 60.529,72 |
| Belgium | 58.461,67 | 104,4 | 55.997,77 |
| Cyprus | 45.039,32 | 89,1 | 50.549,18 |
| Czech Republic | 19.620,24 | 53,1 | 36.949,60 |
| Denmark | 61.355,15 | 140,5 | 43.669,15 |
| Estonia | 11.747,76 | 55,8 | 21.053,33 |
| Finland | 44.635,16 | 121,8 | 36.646,27 |
| France | 50.878,64 | 107,0 | 47.550,13 |
| Germany | 56.132,16 | 105,2 | 53.357,56 |
| Greece | 25.685,20 | 83,3 | 30.834,57 |
| Hungary | 15.812,37 | 57,1 | 27.692,41 |
| Ireland | 60.726,59 | 122,3 | 49.653,79 |
| Italy | 36.201,41 | 106,1 | 34.120,09 |
| Latvia | 10.488,09 | 48,6 | 21.580,43 |
| Lithuania | 13.851,30 | 46,7 | 29.660,17 |
| Luxembourg | 63.864,75 | 113,5 | 56.268,50 |
| Malta | 28.078,37 | 69,5 | 40.400,54 |
| Netherlands | 59.103,20 | 104,2 | 56.720,93 |
| Poland | 11.659,07 | 54,0 | 21.590,87 |
| Portugal | 29.000,93 | 87,0 | 33.334,40 |
| Slovakia | 9.177,68 | 50,2 | 18.282,24 |
| Slovenia | 27.755,73 | 73,1 | 37.969,53 |
| Spain | 34.908,30 | 89,8 | 38.873,39 |
| Sweden | 56.053,43 | 118,9 | 47.143,34 |
| United Kingdom | 56.048,37 | 106,2 | 52.776,24 |
| ***EU 25 Average*** | ***37.947,64 €*** | | ***40.128,17 €*** |
| Bulgaria | 3.556,43 | 36,4 | 9.770,40 |
| Croatia | 16.670,71 | 61,6 | 27.062,84 |
| Iceland | 50.802,81 | 150,3 | 33.800,94 |
| Israel (*) | 42.551,98 | 71,4 | 59.579,92 |
| Norway | 58.997,46 | 141,1 | 41.812,52 |
| Romania | 6.286,09 | 46,6 | 13.489,46 |
| Switzerland | 82.724,92 | 138,1 | 59.902,19 |
| Turkey | 16.248,69 | 61,9 | 26.249,91 |
| ***Associated countries average*** | ***34.729,89 €*** | | ***33.958,52 €*** |
| Australia(*) | 64.149,80 | 102,9 | 62.341,89 |
| China(*) | 3.150,00 | 23,0 | 13.695,65 |
| India(*) | 9.176,96 | 20,3 | 45.206,70 |
| Japan | 68.872,10 | 111,1 | 61.991,09 |
| United States | 60.156,03 | 95,8 | 62.793,35 |

(*)The corrective coefficients in those countries are the PPP published by the World Bank. PPP expressed as the local currency unit to international dollar[41]

In fact, in recent years, due to a slowing economic growth and the ensuing shortage of resources for research and education (particularly in the public sector), the situation appears to be worsening. This is particularly so in the universities, who are the principal agents for carrying out research in the public sector across Europe. Here, researchers have also (sometimes heavy) teaching duties and they are more and more encouraged by their institutions to develop fund raising activities/services, with little or no value in terms of their scientific 'growth'. **A highly competitive ERA can only be realised if the funding issue of the HEI is seriously reconsidered.**

Another potential deterrent for the young talents to make research the professional choice of their life is the unclear long-term career prospects, particularly in the public sector. In several EU countries, the practice is widespread of proposing a long series of post doc appointments, without a clear career track, nor transparent and merit based tenuring mechanisms[42]. In contrast to other professions (medicine, law, architecture, engineering etc) there is no clear progression. This could be construed as a strength, in that research provides many career options[43]. However the lack of at least one clear pathway may represent an obstacle, except for those 'exclusively' dedicated to research.

**Transparency must be the golden rule: when recruiting a person, the person has the right to know their career prospects and if, how and when the position has the possibility of becoming a permanent one**. It is also essential that Early Career Researchers are advised by their supervisors about the labour market and career options within their fields[44].

A further problematic issue relates to the development of ***scientific*** independence for junior researchers. Early Stage Researchers are funded mainly in two ways, through an individual scholarship or fellowship or hired as part of a project team. Funding ranges from 3-4 years for doctoral candidates to a typical 2 year duration for post-doc researchers. In the case of fellowships, the researcher has a degree of autonomy in selecting the research project. Rarely, is the fellowship portable, so that the researcher may move to another institution. It has to be noted that the term 'fellowship' covers a large variety of grants, from a simple post-doctoral scheme to allow the individual to gain research experience, to one that is expressly there to help them develop as a team leader[45]. The former usually comprises a salary for the fellow and a bench fee as a contribution to research and other costs.

More advanced grants can include salaries for the team leader and for other researchers, equipment, consumables, travel etc. In contrast, a researcher hired under a project grant is there expressly to carry out a specific piece of work, as part of a team led by a Principal Investigator. Thus, frequently, 'prospective researchers' are not recruited as such, but as **bare manpower to be inserted in research projects** already conceived to the details by the senior members of the research team. A 'one-to-one' *magister* to *discipulus* relationship is often established, in which not always the achievement of scientific autonomy is regarded as a 'plus' (and even less as a 'must') for progress[46].

Across Europe, there is a variety of funding schemes to support the transition of researchers from team members to team leaders. **The recent ERC Starting Grant call, reserved to researchers within 9 years from the achievement of their doctoral degree, represents a concrete step forward to solve this problem.** It will directly impact on a relatively small number of persons, but it is an important signal launched to the whole system[47]**.**

Despite these encouraging signs of increased perception of the problems related to being a young researcher today in Europe, the parallel increased precariousness of project funding and the increased proportion of grant-dependent salaries may act as additional detriments to the pursuit of research careers. The momentum to fund more research has focused on the research output (including publications, patents, commercialisation and spin off companies) and not enough on **the production of highly talented human capital that is far more important**. These people represent the talent pool for future European researchers.

The research activity of many doctoral candidates and even of many post-docs is not rewarded in proper contract relations with their funding institution. **Stipends without social security** are still wide-spread in Europe. In the main, post-doctoral researchers are employees although in some cases they are funded on the basis of a stipend[48]. What is clear is that across Europe, and even within countries, there is a lack of consistency in how people with the same level of research experience are treated. This can result in instances where researchers receive low pay with inadequate cover for social costs (health insurance, pensions, maternity and paternity leaves, etc). The tradition of the academic apprentice persists although, at least, when the researcher is an employee ***the Fixed-Term Workers Directive***[49] **demands that they be treated equal to permanent staff:** fixed-term workers shall not be treated in a less favourable manner than **comparable permanent workers** solely because they have a fixed-term contract or relation (unless a different treatment is justified on objective grounds) (clause 4).

**POLICY OPTION 1.3.**

Any organisation, whether public or private, in receipt of public funds for research is required:

1. to treat researchers, from their early career stages, as professionals, particularly in terms of remuneration and social security, irrespective of the type of contract;
2. to clarify in a transparent manner the long-term career prospects of each position;
3. to promote the achievement of scientific independence by the youngest stratum, through, for example, reserved funds such as the ERC Starting Investigator Grant Programme.

### *2.3.2 Doctoral Education appropriate to realising the ERA*

Doctoral candidates represent the 'logical' bridge between the EHEA and the ERA, when training through research evolves to and melds with training for research (see following EUA Salzburg Principles).

**EUA SALZBURG PRINCIPLES**

1. The core component of doctoral training is the advancement of knowledge through original research. At the same time it is recognised that doctoral training must increasingly meet the needs of an employment market that is wider than academia.

2. Embedding in institutional strategies and policies: universities as institutions need to assume responsibility for ensuring that the doctoral programmes and research training they offer are designed to meet new challenges and include appropriate professional career development opportunities.

3. The importance of diversity: the rich diversity of doctoral programmes in Europe – including joint doctorates – is a strength which has to be underpinned by quality and sound practice.

4. Doctoral candidates as early stage researchers: should be recognised as professionals – with commensurate rights – who make a key contribution to the creation of new knowledge.

5. The crucial role of supervision and assessment: in respect of individual doctoral candidates, arrangements for supervision and assessment should be based on a transparent contractual framework of shared responsibilities between doctoral candidates, supervisors and the institution (and where appropriate including other partners).

6. Achieving critical mass: doctoral programmes should seek to achieve critical mass and should draw on different types of innovative practice being introduced in universities across Europe, bearing in mind that different solutions may be appropriate to different contexts and in particular across larger and smaller European countries. These range from graduate schools in major universities to international, national and regional collaboration between universities.

7. Duration: doctoral programmes should operate within an appropriate time duration (three to four years full-time as a rule).

8. The promotion of innovative structures: to meet the challenge of interdisciplinary training and the development of transferable skills.

9. Increasing mobility: doctoral programmes should seek to offer geographical as well as interdisciplinary and intersectoral mobility and international collaboration within an integrated framework of cooperation between universities and other partners.

10. Ensuring appropriate funding: the development of quality doctoral programmes and the successful completion by doctoral candidates requires appropriate and sustainable funding.

Whereas a full compatibility of career development schemes across Europe seems out of reach for the whole researcher population at the moment, this may be achieved for doctoral education. **An increased compatibility among doctoral programme schemes would favour the development of international programmes and facilitate mobility**. This would in turn contribute to build ERA and break barriers which, thus far, boosted fragmentation and competition at the expense of critical mass and collaboration.

There is no doubt that doctoral education in Europe is rapidly changing. In a recent EUA[50] survey, 16 countries (from 37 surveyed) state that their universities now have introduced graduate schools that provide structured doctoral education and research training. This **includes**

**a move away from the traditional apprenticeship model of the student-supervisor relationship** to a more structured research degree programme with independent review at key points in the process and a tailored programme of research and generic/transferable skills development.

### TRADITIONAL DOCTORAL PROGRAMME

Doctoral student enrols with a researcher supervisor to work on a highly focused research project and, depending on their research productivity, graduates anywhere between 3–8 years later without any formal training in broader research methodologies or management skills.

### AN EXAMPLE OF A STRUCTURED DOCTORAL PROGRAMME

- Structured 'taught courses' in generic and domain-specific areas organised on a trans-institutional basis augment the traditional doctoral programme;
- doctoral training characterised by a high quality research experience supplemented by formal training in key technologies, management and communications and determined by a Doctoral Studies Committee in cooperation with the student;
- formalised career development and, where relevant, targeted skills enhancement visits to partner international centres and external work placements;
- course content and oversight of the quality of the student/supervisor.

In Ireland, the new term 'Fourth Level'[51] is now used to describe doctoral education. The difference between the traditional doctoral programmes, can be summarised by contrasting the old model with the new one (see Box).

It is clear that, within the ERA**, supervision and training of doctoral candidates should be improved and re-structured, moving from the highly individualised apprentice model to a more team-oriented and collective form of supervision**[52]. However, it is also important that any changes/restructuring keep in focus the core component of doctoral training, i.e. the advancement of new knowledge through original research.

In order to attract talented people to research, they must be first attracted to embark on a doctoral programme. As already stated, the traditional approach within universities is that the first step, the doctoral programme, is really an academic apprenticeship. This was certainly true in the past when only small numbers of dedicated individuals chose this option, with a high probability of gaining academic employment. This cannot be any longer the case, as doctorate is becoming the third level of high education within the Bologna Process, and as the increasing investments in R&D require more and more doctoral candidates as part of the research process.

If Europe is expected to increase the number of researchers as part of Lisbon targets, then doctoral candidates must be offered something more interesting and more useful (career wise) than the traditional model.

Recent OECD and national data indicate that more than 50% of doctoral graduates do not pursue a career in academia. As can be seen from the following table, between 13% (Germany) and 78% (Portugal) doctoral graduated continue in academia (teaching professional). The average seems to be around 35%.In the UK, 22% work in academic research positions and 14% in research roles outside academia[53]. In Ireland, just under 50% of doctoral graduates are employed in academia[54].

**TABLE 3**

Employed doctorate holders by occupation

Responses by type of stakeholders to statements about the level at which leadership should be taken for a common approach to the development of research infrastructures

| ISCO-88 code | ISCO-88 Title | Argentina 2005 | Canada 2001 | Germany 2004 | Portugal 2000-2004 | USA 2003 |
|---|---|---|---|---|---|---|
| 1 | LEGISLATORS, SENIORS OFFICIALS AND MANAGERS | 1.0 | 11.5 | 4.3 | 2.8 | 10.5 |
| 2 | PROFESSIONALS | 84.0 | 73.8 | 80.9 | 88.2 | 81.2 |
| 21 | Physical, mathematical and engineering science professionals | 20.5 | 15.9 | 18.0 | 6.6 | 16.2 |
| 211 | Physicists, chemists and related professionals | 17.6 | 6.5 | 5.0 | 3.7 | 5.2 |
| 212 | Mathematicians, statisticians and related professionals | | 0.4 | | 0.1 | 0.9 |
| 213 | Computing professionals | 0.4 | 3.9 | 2.1 | 0.3 | 3.8 |
| 214 | Architects, engineers and related professionals | 2.5 | 5.1 | 10.8 | 2.4 | 6.3 |
| 22 | Life science and health professionals | 21.5 | 9.4 | 34.3 | 2.3 | 14.2 |
| 221 | Life science professionals | 15.7 | 3.3 | 1.9 | 0.4 | 6.0 |
| 222 | Health professionals (except nursing) | 5.5 | 5.9 | 32.4 | 1.9 | 7.2 |
| 223 | Nursing and midwifery professionals | 0.3 | 0.2 | | 0.0 | 1.0 |
| 23 | Teaching professionals | 36.4 | 37.1 | 13.3 | 78.3 | 33.1 |
| 231 | College, university and higher education teaching professionals | 35.4 | 37.1 | 6.6 | 76.4 | 29.7 |
| 232 | Secondary education teaching professionals | 0.3 | | 5.3 | 1.5 | 1.9 |
| 233 to 235 | Other teaching professionals | 0.8 | | 1.4 | 0.4 | 1.6 |
| 24 | Other professionals | 5.6 | 11.4 | 15.3 | 1.1 | 17.6 |
| 241 | Business professionals | 1.2 | 1.8 | 3.1 | 0.1 | 4.6 |
| 242 | Legal professionals | 1.4 | 0.8 | 3.9 | 0.1 | 0.4 |
| 243 | Archivists, librarians and related information professionals | 0.0 | 0.2 | | 0.1 | 0.5 |
| 244 | Social science and related professionals | 2.8 | 8.5 | 3.1 | 0.9 | 7.6 |
| 245 | Writers and creative or performing artists | 0.0 | | 2.3 | 0.0 | 1.8 |
| | Other professionals | | | 1.9 | | 2.5 |
| **Other** | Other ISCO-88 | 10.3 | 14.7 | 14.8 | 8.6 | 8.4 |
| **Unknown** | | 4.7 | | | 0.3 | |
| **TOTAL** | **Total** | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: http://www.oecd.org/dataoecd/17/57/38055153.pdf7

**While the percentage of doctoral graduates retained in academia (or even decrease)** ***the new doctoral graduates*** **experience will be highly valuable to those who move into the wider employment market and should attract more undergraduates**.

**POLICY OPTION 1.4.**

Any organisation, whether public or private, in receipt of public funds for research and entitled to award doctoral degrees is required to develop structured doctoral programmes, moving away from the traditional, highly individualised apprentice model, oriented only to academic profession to a new model, oriented to a wider employment market, to give doctoral graduates multiple career options in the Knowledge Society.

### *2.3.3 Transferable skills*

As mentioned above, **the training of a researcher is often only the first step in a career path which may lead to employment in a range of professions and sectors**. The opportunity for Early Career Researchers in particular to obtain transferable skills in addition to their disciplinary training will inevitably enhance their employability options and this point was well-appreciated at the EUA DOC-CAREERS 2nd Workshop held in May[55].

The United Kingdom is well advanced in supporting the academic sector to embed personal and professional skills development into research degree programs. Payments for the career development and transferable skills training of researchers were introduced as part of the recommendations contained in the 2002 Roberts Review – *SET for Success*[56]. The Institute of Knowledge Transfer has also been suggested as a model for the provision of transferable skills training which could be made open to all researchers across Europe[57], and in 2006 the Graduate School of Engineering and Physical Sciences at Imperial College London won the *Times Higher Award for Outstanding Support for Early Career Researchers*. The courses cover research management, personal effectiveness, communication and presentation, networking and team working, and career management.[58]

An interesting approach in a number of countries is a **Skills Statement** that communicates to students, supervisors and, most important, employers the skills and attributes of a doctoral graduate. Such Skills Statements have been developed in various countries including the UK[59], the USA, Belgium and Australia[60]. The European Universities Association (EUA) has recently announced the 'Dublin Descriptors'[61] in the context of the Framework for Qualifications for the European Higher Education Area[62].

The EUA has recently announced a new service, a Council for Doctoral Education (EUA-CDE**)** that will develop and advance doctoral education and research training in Europe. The objectives of the new Council include:

- enhancing the quality of doctoral education in Europe by fostering debate and promoting the exchange and dissemination of good practice;
- encouraging and supporting the development of institutional policies and strategies as well as the introduction of effective leadership and management practices;
- strengthening the international dimension of doctoral programmes and research training through improved cooperation among its members and by establishing dialogue with partner organisations in other world regions;
- identifying and monitoring emerging trends in doctoral education inside and outside Europe;
- promoting the doctorate as a key professional qualification and underlining the importance of young researchers for a knowledge-based society.

EUA President, Professor Georg Winckler highlighted: *'The EUA Council for Doctoral Education (EUA-CDE) has been created in response to the growing demand from universities in Europe for a more structured approach to promote cooperation and exchange of good practice between doctoral schools and programmes in Europe. Doctoral education will play a key role in achieving Europe's ambitious goals to strengthen its research capacity and international competitiveness, and the new Council will be crucial for the development, advancement and improvement of these goals.'*

**POLICY OPTION 1.5.**

Any organisation, whether public or private, in receipt of public funds for research is required to insure that transferable skills are included in the evaluation procedures for researcher recruitment and career progression, to promote and assist the transition from team members to team leaders.

## 2.4. Reducing barriers to the recruitment of women[63]

Guaranteeing real equal opportunities and a flexible work place environment is far from scoring high among the objectives of the majority of research institutions in Europe[64]. **The price for this is almost exclusively paid by women at the moment**[65]. Although the situation is improving (at a very slow pace, see the SHE-figures[66] for statistics), there is still a substantial imbalance in the proportion of women in the highest positions of research careers. This is despite the fact that among the doctoral candidates women frequently outnumber men.

In all EU-countries, women who have a baby, have rights, or even obligations, to take pregnancy and maternity leave[67]. However, most funding agencies, including the EU, do not take this into account in their grants. That is, women cannot be denied the right to take the leave according to the national laws, but if they have a fixed-term appointment, which is virtually always the case if their appointment is based on a grant or fellowship, this term is not extended with the period of the leave[68]. Therefore, in fact women researchers who have children - who will generally be in the post-doc or junior researcher phase of their career, where competition is severe - **do not have an equal opportunity** to do as much work and thus publish as much as their male colleagues of the same age during the period of the grant.

**Extending all types of grants with remuneration for the cost of the time of the national pregnancy and maternity leave can redress this inequality. Where men have a right to paternity leave the same rules should apply.**

Providing a supportive work environment for researchers is an issue for both public and private sector organisations. And it is important to be aware of initiatives that have been developed to help address this issue. For example, in the oil and gas industry, Schlumberger has developed guidelines for improving the working and living conditions for women in the field. In the public sector, The Science Foundation Ireland has introduced a scheme, the Principal Investigator Career Advancement (PICA) Programme, which supports outstanding researchers who have taken periods of maternity, paternal, adoptive or careers leave in the last five years[69].

One of the main obstacles to attracting more women to science relates to the selection and hiring procedures at universities and research institutes (and to a lesser extent in for-profit organisations), where human resources principles regarding gender balance in appointments may not be sufficiently appreciated by senior researchers.

However, the wide variety of hiring procedures and customs within Europe make it difficult to develop region-wide detailed guidelines on appointments. Nonetheless, an example of good practice that could be applied at the European level is offered by the ADVANCE programme[70]. **An obligatory fair balance of gender and minorities in the applicant list has resulted in a major increase in women in faculty positions**.[71]

Another interesting initiative is Schlumberger's 'Faculty for the Future', a strategic partnership with the education sector in emerging economies to encourage women in their pursuit of academic careers in science and technology[72].

The successful implementation of equal opportunity policies/procedures within universities, of course is something that has to be done over the long-term and carefully monitored. The success is also linked to the development of corresponding 'family-friendly' workplace policies and a culture that actively promotes the research careers of both males and females[73], see as an example the following story.

**A WOMAN'S CAREER**

Pilar is a plant biologist that loves her job. Since high school she has been among the best and enthusiastic students. She obtained her Doctoral candidates, the first to graduate of her course, then moved to Yale University, USA, for her post-doctoral studies. At Yale, she meets Peter, a bio-informatician, also a post-doc, motivated and hard-working as she is. After two years they decide to look into the possibility to move back to Europe and almost at the same time realise that Pilar is pregnant. What nice news for a young couple! They decide to stay for two additional years at Yale, where they already have their jobs organised, while starting their family which is about to include…. twins (Robert and Rosy). Needless to say that this is a big change for both of them, but even more amasing is how this is about to affect their job search in Europe.

Peter gets a number of good offers as young group leader in competitive departments in Europe. Pilar, to keep the family together, applies to the same Universities that Peter has just considered, but gets offers for 'second' post-doctoral positions only (which could eventually evolve into a researcher 5-year contract).

Pilar wants to start her lab to progress in her career, but at the end accepts a post- doctoral position in the same university that Peter has selected as his best choice and possibility for career. But plant physiology is not top in that university, thus Pilar finds herself in a position not adequate for her CV, her ambitions and, most important, for what she thought her life should be. But Robert and Rosy take a lot of her energy.

Is there a possibility for a happy ending?

**A.** Pilar decides to accept a job offer from another country, as group leader in an excellent plant physiology department. She takes the twins with her. Her career is saved, her personal life is hell. Peter travels back and forth, when he can. The kids are 'confused'.

**B.** Pilar decides that family comes first, eventually accepts a teaching job at the university where Peter is having a wonderful career. This is not the job of her dreams, but the family is kept together and she has time for the kids.

**C.** Pilar and Peter cannot cope with the stress of the new life. They just split and agree on having 'kind of' shared custody of the kids, but Pilar's career, as single mother of two, is more stressful and hard that she ever could think of.

**D.** Pilar and Peter go on searching for good jobs in European Universities/Institutes that can offer adequate positions to both of them, while offering support to parents, flexible working hours, in-house day-care.

Comment: D is the dream that could make ERA a reality. A to C are, unfortunately, taken from 'real cases'.

**The promotion of innovative dual career strategies could also help address realising equal opportunities in the research professions within the ERA**. A scheme in which a researcher's partner, after the researcher has been selected for some grant that implies geographical relocation, is helped with finding a job in the same region is a good way to support the mobility of researchers. One way to start with dual career policies would be for the EC to participate in an existing successful dual career program like for example *Partnerjob*[74]. Its website offers a simple tool to employees' spouses/partners seeking work at their new location. It provides a database of job openings worldwide posted by member companies and spouses/partners have also access to a job database. In this program, both large companies like Schlumberger and Shell and large international non profit organisations like the OECD and UNDP participate, to help partners of persons who are eligible for international mobility to find a job in one of the participating organisations. Note that a dual career program like this one does not imply that, in the case a researcher receives a grant or is selected for a position, the accompanying partner will be employed in the same or even in the same type of organisation[75]. **The main goal of these programmes is to enhance the quality of research**

**by making it just as feasible for researchers (male or female) with families as for those without family responsibilities to move to another country**.

### THE WORST OF TWO WORLDS

Louise is an ambitious microbiologist. After her doctorate and a first post doc position she is sure she wants to continue her career in scientific research. Her ideal is to become, after a while, a full professor in a research institute or university. She is less interested in a job in industry, which she could easily get. In fact, she was offered a position in a large firm in which she would have her own lab and would soon earn a lot more than she could think to earn in a university, but refused.

She takes the decision that, if she wants a career in research, it is better to refrain from having children, as she is afraid this will be very bad for her career. Childcare is looked down upon in her country and not widely available; and part-time work is considered fatal for any serious career in science. In the university department where she does her post-doc she only knows two female professors and neither have children.

To broaden her experience and gain international experience, she applies for a second two-year post doc position in a very prestigious research institute in the U.S., which would allow her to work together with world-renowned scientists. She is accepted and is very glad to temporarily move to the U.S. However, her husband cannot find a position in the U.S. and therefore stays in their home country, in his own job. He finds it very difficult to cope with the separation and after slightly more than one year Louise leaves the lab in the U.S. and returns home. She has to accept to work on a post-doc position for three more years in her old university, and then gets a position as an assistant professor with a heavy teaching load. Although she performs well, she gets surpassed twice by younger male colleagues for promotion. She feels that one of the reasons is that her leaving the U.S. lab has given her the stigma of being an unreliable colleague and of not really being ambitious.

After 10 years, in her forties, Louise thinks about leaving science altogether, without a family and no career to speak of.

Another, more controversial, way to enhance the mobility of researchers with families is to have a dual career couple hiring policy, i.e. to offer the accompanying partner of the selected researcher a job in the same organisation. Many universities in the U.S. have successfully applied such a strategy. Contrary to what is often feared, this does not endanger the quality of the staff, as the strategy is explicitly meant to remain competitive in recruitment, to be able to attract highly qualified staff who would not consider to move to another place if their partner were not offered a job. In general, the job offered to the accompanying partner is not a tenure-track position[76]. In the case of research grants it would be more difficult for the EC to apply such a scheme. However, one possibility would be to offer some facilities to couples of researchers who both apply (individually) for a grant, such as extra help with housing or child care, as they cost less money because they need only one house etc. There are examples within the U.S. of medical schools modifying traditional tenure systems to accommodate the personal and professional needs of their faculty (e.g. 'by lengthening or removing fixed probationary periods; providing perquisites for part-time faculty; and developing multiple career tracks with equivalent salaries and benefits regardless of tenure status')[77].

There is a lack of long-term success of equal opportunity support programmes which have been attempted in various research institutions of several MS. This may in part be explained by the fact that they are short-lived, and designed to attract but not to retain and promote women candidates. Perhaps most importantly, these programmes did not secure the support of men in decision-making positions.

In some countries there are special programs or grants for women who want to return to a job in science after having been at home for a couple of years. In the UK the Daphne Jackson Trust[78] runs such a program for women in Science, Engineering and Technology (whether in an academic or industrial context). This idea could be applied to other kinds of mobility too, for instance, from industry to academia.

The **long-term career options** within an institution/area are key also for retaining women. For those with child raising responsibilities, short-term and/or insecure academic positions are not viable employment options. Many women quit just because institutions (and the excellence criteria) persist in awarding only 5-year renewable contracts.

**POLICY OPTION 1.6.**

Any organisation, whether public or private, in receipt of public funds for research is required:

1. to take positive and urgent actions for promoting gender representation among all (selection) committees, boards and governing bodies;

2. to adopt a dual career policy, inspired by successful existing models;

3. to allow researchers who are eligible for pregnancy (or parental) leave while working in a fixed-term contract to receive an extension of their contracts, and the associated funds, for the duration of their pregnancy and/or parental leave.

# 3. Second cornerstone – mobility in all its facets (geographical, sector, disciplinary, virtual and 'demographic')

**SUMMARY**

There are also obstacles to enhancing a seamless mobility of researchers within Europe and to-from Europe and third countries. The Expert Group considered in particular:

- the lack of resources to support the direct and indirect costs of mobility;
- the lack of proper consideration of mobility as an integral part of the researcher CV;
- the persisting barriers to mobility between the academia and the industry, or, more generally, between the public and the private sector;
- the lack of a common approach aimed at making optimal use of the experience of senior and/or retired scientists attractiveness for young talents.

These obstacles are discussed below along with policy options aimed at removing them.

## 3.1. The value of mobility

Mobility of researchers is critical to the realisation of the ERA. However, it is important that it is seen as a multi-faceted concept – with varying issues, risks and challenges depending on the type of mobility involved: **physical (geographic), public/private sector, virtual, and disciplinary.** Mobility issues may also vary depending on the career stage of the researcher.

It is also important that it is seen as a means to an end, rather than an end in itself. A 'one size fits all' approach is therefore to be avoided regarding policies and mechanisms developed to enhance researcher mobility[79].

There is no question that policy development regarding mobility has been constrained by the paucity of data about mobility patterns – particularly those to do with intersectoral mobility. More resources need to be committed to the development of meaningful and reliable data sets, time series data and indicators to support policy makers in their efforts to make the ERA a reality[80].

The increasing internationalisation of R&D has also had a substantial impact on the way knowledge is produced. This global phenomenon raises many questions about the adequacy of the training of new generations of researchers suited to working in international projects and **draws attention to the importance of mobility in all its forms for ensuring competitiveness of the ERA[81]**.

An unconventional form of mobility can be considered the promotion of interactions between researchers belonging to different generations (a 'demographic' mobility), which allow the juniors to take optimal profit from the experience of the seniors. This is discussed below in Section 4.2.

### *3.1.1 Geographical, physical and virtual mobility*

**Physical mobility** of researchers plays a critical role in the early stages of career development, and also in responding to the demands for specialist skills. However, mobility implies costs of various nature and origin for the individuals and sometimes for their institution. Thus, new technologies will most likely increase the relative proportion, role and efficacy of **virtual mobility**, a cheaper and, from many points of view, easier alternative to physical mobility. Advances in Information and Communication technologies have enabled a range of research activities and collaborations that are not dependent on a physical presence. Virtual mobility is likely to take on greater prominence within institutions as a cheaper means for researchers to collaborate compared to geographical relocation. In relation to infrastructure, setting up and equipping of labs is expensive and institutions with limited resources can find it difficult to establish a presence in some experimental activities. Virtual laboratories, where researchers can perform experiments remotely, offer one way of overcoming such limitations and the sharing of

e-infrastructure costs between institutions/research groups is to be strongly encouraged.

'Shuttle' stays are also an effective way of enhancing mobility of researchers in resource weak countries and also for those with family commitments. The advantages can include: not having to engage in the host countries' tax systems; not having to deal with what can be prohibitive relocation expenses for some countries; less disruption for families; and the potential to continue to be employed in the home country[82]. Yet **the benefits of physical mobility usually outweigh the costs and many countries recognise this fact**[83]. The European Marie Curie fellowship programme, as indeed many national schemes, are founded on the principle of international mobility.

A key challenge for Europe is to **train, retain and attract** competent researchers and balance the value of circulation with the need for stability. In some domains of research, the long lasting investments of an institution in its researchers should be somewhat 'protected'. In other words, what may be good for the individual (mobility) should not be harmful for the institution, which has the need to count on some 'stability'. The issue is how to reconcile these sometimes conflicting, but legitimate, expectations. **Some actions that combine physical and virtual mobility and the concepts of centres and networks of excellence could be a solution**[84].

It is also important, as part of ethical recruitment procedures, that **Europe as a whole and its MS should not promote or contribute to talent drain** from the less developed nations or regions[85,86]. EU policy needs to be coherent in terms of its Lisbon Agenda goals and its development assistance schemes which may and should also **focus on capacity building of research and higher education in less developed regions and countries**.

Recommended approaches would include schemes such as:

- opportunities for short-term, multiple mobility, circular mobility insuring that researchers/faculty return and contribute to capacity building at home on a regular basis;
- encouraging European researchers to offer short-term support in developing countries;
- sandwich programs for the training of graduate students and researchers;
- agreements for sending European graduates to developing country laboratories for short-term.

It is important to mention the Commission's Communication *'On circular migration and mobility partnerships between the European Union and Third countries'*[87]. The looks at ways to facilitate circular migration to help EU Member States address their labour needs while exploiting potential positive impacts of migration on development and responding to the needs of countries of origin in terms of skill transfers and of mitigating the impact of brain drain.

Besides, the new Marie Curie International Research Staff Exchange Scheme (IRSES) in FP7 must be reminded. It aims at promoting staff exchange between several European research organisations and organisations from countries covered by the European Neighbourhood policy[88] as well as countries, with which the Community has an S&T agreement.

### *3.1.2 Public/Private Sector mobility*

Partnership between public and private sector organisations in research and development is essential if Europe is to be competitive in the global economy. Nonetheless, there are a number of barriers to the effective mobility of researchers between the sectors. These have been identified in a recent Commission report and include:

> *'difficulties in the transfer of pension and social security rights, the loss of acquired benefits and professional status, differences of cultures regarding, on the one hand, confidentiality of research results and intellectual property protection and, on the other, the pressure of publication for evaluation and career development. Furthermore, traditions and priorities differ between academia and industry: universities remain the main producers of scientific knowledge, and are one of the main training grounds for researchers, while industry focuses on market applications and commercial results.[89]'*

The Commission report proposes a set of practical recommendations to overcome the above barriers[90]. The main ones of direct relevance to this Expert Group report are summarised below:

- **provision of transferable skills training as part of graduate and doctoral programmes in partnership with the business community;**

- **joint-supervision of doctoral candidates – one from each sector;**
- **develop intersectoral mobility opportunities – particularly through consultancy and internships and advertise vacancies;**
- **ensure proper recognition of intersectoral mobility in the evaluation process;**
- **favour co-location and collaboration through jointly funded research grants and fellowships.**

Moreover, freedom of movement for workers within the Community (articles 10 and 39 EC, article 7(1) of Regulation (EEC) N° 1612/68 of 15 October 1968), interpreted by ECJ, implies to take account of professional experience and seniority gained in the exercise of a comparable activity within the public administration of another Member State by a Community worker[91]. This principle could also be useful to require that experience and seniority be taken into account in case of mobility between private and public sectors (all researchers are workers, in both sectors – nature of the contract has no incidence).

Under FP7 (People programme), **the Industry-Academia programme (IAPP)** should be cited. This action seeks to open and foster dynamic pathways between public research organisations and private commercial enterprises, in particular SMEs, including traditional manufacturing industries, based on longer term co-operation programmes with a high potential for increasing knowledge-sharing and mutual understanding of the different cultural settings and skill requirements of both the industrial and academic sectors.

### *3.1.3 Disciplinary mobility*

Inter/multi and transdisciplinary mobility is considered a key component in innovation. The solutions to many global research challenges are increasingly seen to require a cross disciplinary approach with researchers able to communicate effectively with specialists in other fields[92]. The advances in ICTs have also fuelled the potential for greater trandisciplinary activity. In building the world class cohort of researchers required to realise the ERA objectives it is clearly important that attention be paid to adding value to researcher training through the provision of skills for working in multidisciplinary environments.

**POLICY OPTION 2.1.**

Any organisation, whether public or private, in receipt of public funds for research is required to:

- consider and value mobility in all its facets as an integral part of the researcher curriculum vitae (CV);
- allocate incentives to compensate for the direct and indirect costs of mobility (e.g. in the case of intersectoral mobility, make best use of fiscal incentives for companies, grant incentives for the public institutions, and career incentives for the researcher);
- ensure that talent attraction is not practiced to the detriment of less developed regions, also by promoting Institutional partnerships, within which mobility of researchers is anchored to overall development projects for the partner institutions;
- promote and support virtual mobility activities and infrastructures (e-conferences, e-seminars, electronic newsletters, thematic portals, e-fora and chats, video-conference infrastructure; virtual labs etc.), as effective and efficient complements to physical mobility.

## 3.2. The added value of experience: the role of retired senior researchers in building the ERA

Even after their official retirement, many researchers are willing and able to contribute to science. While it would be an unacceptable waste not to make good use of the knowledge and experience of retired researchers, it is important that they do not, by doing a job on a voluntary (unpaid) basis, take or keep jobs that could be occupied by younger researchers. Therefore, it is proposed to develop a programme for retired researchers that only involves tasks that other researchers cannot accommodate within their existing workloads, or that are sorely needed but cannot be afforded within existing institutional resources.

Retired researchers can perform a range of value added functions. These include in particular coaching/mentoring

of younger scientists, promotion of careers in science to schoolchildren, and reviewing of conference papers, writing of textbooks etc. They are cost-efficient: the retired scientists do not receive a salary because they receive a pension, and can be productive in terms of scientific output, coaching or mentoring young scientists, etc. Although voluntary and not salaried, such working condition should not be totally without mutual obligations.

There is scope for an EU programme offering the services and knowledge of retired researchers and lecturers to less developed regions and countries. This could also play a role against talent drain from less favoured countries/regions, e.g. designating special funds for local doctoral candidates supervised by retired scientist. The UN Transfer of Knowledge Through Expatriate Nationals (TOKTEN) programme and the HERDER programme in Germany could serve as models[93].

In the **Netherlands**, there is (since 1978) a highly successful network of retired experts and managers, who are sent out as volunteers to developing countries to share their skills and experience. This is a good and inspirational example of a network of senior experts[94]

**POLICY OPTION 2.2.**

Any organisation, whether public or private, in receipt of public funds for research is encouraged to investigate how best to systematically involve retired senior researchers in value added activities such as non-salaried mentoring of early career researchers and the promotion of the excitement of science and research careers to school children and to the public generally;

**POLICY OPTION 2.3.**

At European level, the EC is urged to establish an 'international placement agency' for retired senior researchers who are willing to act as mentors, experts, conference organisers and peer reviewers. The agency would direct this highly valuable support at less well endowed research groups in Europe and in developing countries.

# 4. Third cornerstone – research-friendly social security and supplementary pension systems

**SUMMARY**

In order to facilitate mobility of researchers within the ERA, and more generally to promote an equitable and cohesive social system within the EU, initiatives should be taken to:

- improve researchers' knowledge of social security and supplementary pensions rules and rights;
- improve administrative cooperation both between national social security authorities and supplementary pension institutions;
- make most appropriate use and, when needed, adapt and tailor social security rules of Regulation 1408/71 (883/2004) to researchers' profile;
- open up pan-European Pension Fund(s) for researchers by making use of existing instruments;
- encourage the participation of researchers in supplementary pension schemes through tax incentives.

Barriers to realising the above are identified and Policy Options to overcome them are proposed.

In the light of the Green Paper on the *European Research Area – New Perspectives*, the Expert Group has focused also on social security and supplementary pension schemes (also called occupational pension schemes). The specific mandate of the group was to investigate the main problems encountered in these areas by mobile researchers and propose actions to meet identified needs. According to EU regulations, **social security** includes eight risks[95], in which co-ordination between national systems is ensured by Community rules that provide inter alia for: a) for 'aggregation of periods', which means that periods of insurance, employment or residence completed under the legislation of one Member State are taken into consideration, where necessary, for entitlement to benefit under the legislation of another Member State; b) equality of treatment between nationals and non-nationals (a person residing in the territory of one Member State shall be subject to the same obligations and enjoy the same benefits as the nationals of that Member State).

It is worth recalling that pension provisions can be conceived as being divided into three pillars:

- 1st pillar: statutory public pension, in which participation is generally compulsory for the entire employed or resident population. These schemes, covered by regulation 1408/71 are usually financed on a pay-as-you-go basis, where current contributions are used directly to finance pension payments to retired people. These pension benefits are guaranteed by the State and the scheme is usually managed by a public body.
- 2nd pillar: mandatory or voluntary supplementary pension, mostly sector-wide (multi-employer), company based or set up by social partners. In general, under the second pillar employers and/or employees pay contributions to a pension institution, which invests them. The assets held by the pension institution are used to pay retirement benefits to the members of the scheme.
- 3rd pillar: voluntary individual supplementary pension, offered under various contract schemes by a financial institution.

## 4.1. Removing obstacles to mobility for researchers

Researchers are primarily motivated in their career decision-making by their interest in the research discipline and, particularly in their early career stages, do

not pay excessive attention to their social security rights. Obviously, this cannot imply that they can dispense with the need for a secure employment (a position) and the income that goes with that, and must not imply that the employers exploit this 'naïve' attitude.

Responses to the European Commission's on-line consultation[96] questionnaire suggest that problems concerning the concrete problems in social security co-ordination and difficulties in transferring supplementary pension rights schemes within Europe were perceived as causing '*substantial concerns for mobile researchers*'. Indeed, pension rights emerged as the '*most problematic*' dimension of social security (37.8%), followed by health insurance (28%), unemployment benefits (27.1%), and family benefits (22%).

There are currently several problems affecting social security rights and/or statutory and supplementary pensions for mobile researchers which need to be addressed. Among the main ones rank:

- lack of awareness of social security and supplementary pension rights;
- supplementary (occupational) pension acquisition rules vis-à-vis highly mobile researchers;
- difficulties (or even impossibility) to transfer supplementary (occupational) pension capital from one country to another;
- improvable cooperation practices among national social security systems;
- lack of clarity and homogeneity of the 'legal status' of researchers.

***Lack of awareness of social security and supplementary pension rights***

It is not easy for European workers in general and, in particular for researchers, to find comprehensive, easy-to-access and targeted information about the consequences on social security and on (supplementary) pension rights of working for variable lengths of time in Member State(s) different from that of their permanent residence. A pensions study showed that lack of awareness makes it difficult for researchers to take informed decisions about mobility and to evaluate the impact that pensions have on mobility and vice versa [97].

***Supplementary (occupational) pension acquisition rules vis-à-vis mobile researchers***

In addition to the relatively low remuneration of researchers (in particular young researchers in public sector in most Member States (see point 3.3 Attraction of young talent to research careers), supplementary and statutory pension schemes entry requirements, such as minimum age of entry, waiting periods[98] and vesting periods[99], can represent serious obstacles to mobility. In many cases, researchers reach their mid-30's before they are able to join a supplementary pension scheme. Indeed, one of the key factors shaping engagement with pension schemes concerns the pervasive effects of researchers moving in fixed-term contracts at inter-institutional, intersectoral or national level. This common form of mobility for researchers does discourage them from making pension contributions. In general, researchers working on temporary contracts although technically eligible to contribute, are often disinclined to join occupational schemes until they have a permanent post[100].

***Difficulties or even impossibility to transfer supplementary (occupational) pension capital***

In some countries/occupational sectors, even when entry requirements to a supplementary pension scheme are met, it is very difficult to transfer pension capital to other pension schemes across borders/sectors. Repeated mobility, at geographical and intersectoral levels, may imply as a consequence, a long history of precariousness, and (highly) serious financial difficulties for mobile researchers when they retire.

***Improvable cooperation among national social security administrations***

In some cases, researchers have the right to transfer their entitlement, but the process can be very difficult due to the complexity of procedures and, on occasion, limited advice/information.

***Lack of clarity and homogeneity of the 'legal status' of researchers***

The legal status of researchers varies widely including; employed, self-employed, civil servant, fellow, holder of grant or stipend, doctoral candidate and post doc etc. Most of these are insecure and provide only limited employment and social security rights. This wide variation in professional status exacerbates the risk of a

reduced social security coverage for researchers, a risk which is not necessarily linked to mobility.

***Researchers' attitude towards the complex area of social security and supplementary pension(s)***

Researchers are fully dedicated to their research and reluctant to face administrative problems and risks of loosing rights linked with their legal status or with their cross-border mobility. They may be deterred from moving to another Member State by the complexity of the system and by the fear of negative consequences on their social security and supplementary (occupational) pension rights[101]. Even though this is not a justification, it has to be recognised that the management of social security and supplementary pension rights for highly-mobile categories of workers (often holding short-term assignments) encounters more complex and time-consuming procedures than for other workers.

## 4.2. Methodology

The Expert Group presents some **concrete Policy Options** in the area of social security and supplementary pension schemes which have been developed according to the following criteria:

1. Social security provisions shall not limit free movement of workers (and more specifically researchers) within Europe. According to the Lisbon agenda and its goals to strengthen innovation, including through freedom of knowledge circulation, **all efforts should be made to ease mobility of researchers within the EU**.

2. Some Policy Options specifically address researchers' problems or situations, while others may also concern other categories of workers in similar circumstances. Of all these proposals, some may concern a given category of researchers out of the entire community of researchers.

3. Policy Options **try to identify and treat separately various mobility patterns**:
   - Intra-EU mobility vs. third-country/EU mobility (incoming/outgoing);
   - Mobility in the framework of agreements between institutions vs. 'free lance' mobility;
   - Cross-border vs. purely domestic matters.

4. As regards retirement pensions, some Policy Options may only apply to statutory pensions or to supplementary pensions, while others apply to both and consider pensions in their entirety.

5. Policy Options (in this chapter) **indicate who is in charge of their implementation and the estimated timing**
   - EC, Member States (legislative, administrative level, etc.), etc.
   - Short-term (ST) & mid-term (MT).

6. Policy Options **are based on legal and non-legal instruments**:
   - Some are legally binding (e.g. Amendment of EC Regulations);
   - Some are legal but refer to non-binding procedures (e.g. EC Recommendations);
   - Some are not legal, as for instance codes of good practices;
   - Some are related to administrative procedures, exchange of information.

7. Policy Options **intend to be innovative**:
   - They try to bring a significant added value compared to the existing EU procedures/ regulations and other international rules and current practices.

8. Policy Options are based on case studies:
   - Several concrete case studies will present the main problems encountered by mobile researchers. These cases will remain anonymous: names of researchers and of countries have been removed. Nonetheless, they illustrate issues at stake and may apply to all Member States.

## CASE STUDY 5.1 – THE STORY OF PEDRO M.

An example of a normal researcher's career/mobility path from social security and supplementary pension rights perspectives.

The European citizen Pedro M. is a highly mobile researcher. Besides his native country (country A), he has carried out research in four other Member States. This makes his status in terms of social security and supplementary pension often unclear and complex, sometimes unfavourable.

***Period 1 – 4 year doctoral-fellowship in country B***

Pedro M. graduated at the University of P in nanotechnology when he was aged 25. Then he moved to a public university in country B on a doctoral research fellowship for four years. His wife, also a researcher, accompanied him.

Issues: He has no social security coverage in country B Does he have complete or partial social security coverage in country A?

Supplementary retirement problems: As he was not 'employed' by the university, he did not receive employment rights, such as building up a supplementary pension. In addition, he did not build up any state pension in country B as fellows do not participate in the national scheme due to an exemption rule applicable to foreign students/Doctoral candidates–fellows younger than 30 years.

***Period 2 – 1 year-post-doctoral fellowship in country C***

After a period of six-months of unemployment during which he returned to country A with his family, he finds a one-year fellowship position, but now at post-doctoral level, at a college in country C. His wife and young children go back to A where she has found a stable job.

Issues: Between the two periods of work, is he entitled to unemployment benefits? As a fellow in country C, is he covered by the country C's social security? What is the status of members of his in terms of social security coverage, in particular, family benefits?

Supplementary retirement problems: he does not build up any supplementary pension in country C.

***Period 3 – 3 years of employment in country D. in a private company***

He is then offered a fixed-term job as an employee with a research company in country D where he is attracted by the security of a salary and employment contract. Here he does build up supplementary pension rights. During this time he is sent for a period of 6 months by his employer to country A, his native country, to carry out a research project. After a total of 3 years working, he faces a period of 3 months of unemployment.

Issues: Which national social security legislation is applicable while he is working in country A? Is he entitled to unemployment benefits, given the fact that he spent the 3 month period with his family in country A? If so, which country should provide them?

Supplementary retirement problems: he builds up supplementary pension rights in country D, including for the posting period in country A However, he hears that the dormant rights in his supplementary pension might not be well protected.

***Period 4 – 4 years of employment in country E. in a public research institute***

After the period of **9** months of unemployment, he finds a job in a public institute in country E where he goes back to academic research. However, he misses his wife and children. He returns to country A at the end of almost every week. After 4 years in E, he moves back to country A, where he finds an interesting and permanent position at the university he once graduated.

Issues: during his period of work in country E, which national legislation is applicable to him and which benefits is he entitled to, given the fact that he may be considered as a frontier worker[102]? What is the status of members of his family in terms of social security coverage, in particular family benefits?

Supplementary retirement problems: During his stay in country E he has not built up any pension rights as the vesting period – the period of employment with an employer before being allowed into the pension scheme retroactively – is 5 years. He left his employer before being entitled to participate in the scheme.

The previous case illustrates a typical researcher's mobility profile, i.e. relatively frequent mobility for short periods of time. The questions presented in the same case are addressed by national legislations and/or EU regulations. However, either because of the complexity of applicable rules (at least for persons who are not specialist in social security co-ordination rules) or because of the lack of awareness of information available, or due to the not always smooth administrative cooperation between national/regional/local services, problems may occur for mobile researchers.

It is important to again underline that researchers:

- need to be highly mobile in order to access information and knowledge where it is available in Europe and worldwide, without being impeded by undue obstacles;
- often hold short/medium-term assignments for a relatively long period of their careers. It is not rare that a researcher first has to spend 3-4 years as a doctoral candidate, then 2 or 3 or even more short/medium periods (e.g. each one lasting from 3 months to 2 or 3 years) as a 'post-doc' in another (or the same) country;
- should have a higher level of intersectoral mobility, e.g. between academia and industry and vice versa. Currently, in Europe this is not yet the case, and the reasons that prevent or do not help this type of mobility also include not always smooth co-ordination between different national social security systems and/or supplementary pension systems.

**CASE STUDY 5.2 – THE STORY OF PAULA K.**

Paula K., age 39, is a permanent researcher for a public political sciences institute located in country A. and, as such, is a civil servant. She is offered a job for 3 years in country B. to complete a survey about the history of immigration in the Nordic countries. She is supposed to alternate periods of work in countries B. and C. Paula is offered a very attractive salary.

However, she has previously experienced difficulties with her social security as a mobile researcher in Europe and worries that she and her family may lose benefits if she takes up this opportunity **.** She does not know where to find reliable information. This uncertainty makes her question the overall benefits of changing her job.

In fact, she has already had a very mobile career and has gone through several administrative difficulties. Before becoming a civil servant in country A., she completed a two year doctoral research in country D. thanks to a government stipend and then carried out her research activities in country E. for two years as a self-employed researcher. Between her research in countries D. and E., she was jobless for 9 months. Her family has always remained in country A. After another 6 month period of unemployment in country A, she was hired by the public institute in that country.

Information she sought (not always successfully) as a mobile researcher included:

- How do simultaneous periods of work in more than one Member State impact on my social security status?
- Is she entitled to benefits during her periods of unemployment?
- How do public and private statuses combine?
- How are employed, unemployed and 'stipend' contribution periods in various countries coordinated?
- How will her retirement pension be calculated?
- What is the social security status of members of her family, especially concerning family benefits?

## 4.3. Policy options for a fine-tuned social security co-ordination system

Regulation 1408/71 (883/2004)[103] aims to facilitate free movement of workers within the EU by setting rules which ensure that social security rights of individuals will not be affected by their cross-border mobility.

Nevertheless, the Regulation does not establish a single European social security scheme nor does it harmonise national standards or set minimum social security standards. It only provides rules which coordinate national schemes: '*Community law does not detract from the powers of the Member States to organise their social security systems*' [ECJ Poucet & Pistre, 17 Feb. 1993, C-159/91 and C-160/91]. For instance, Regulation 1408/71 ensures that a migrant worker who has worked 5 years in Italy and 20 years in Belgium will get two pensions which will take into account, after a pro rata calculation, periods accomplished in both Member states.

*Finally, it should be recalled that Regulation 1408/71 applies to statutory social security schemes, most of which are legal and compulsory schemes, based on solidarity. By exception and through a voluntary declaration, non-statutory schemes fall within its scope. It concerns, for instance, some compulsory conventional schemes playing the same role as statutory schemes which they replace.*

As also observed in Case Study 5.1 the situation presented above is addressed by national legislations and/or EU regulations, but again, complexity of applicable rules and/or lack of awareness of information and/or insufficient administrative cooperation can present problems for researchers and contribute to discouraging them from moving to other countries.

Three directions can be explored to meet mobile researchers' needs:

- to develop cooperative actions within the framework of Regulation 1408/71;
- to amend rules of conflict concerning applicable legislation[104] and material rules of coordination[105];
- to improve the status of Third-country researchers within the EU.

### *4.3.1 Cooperative actions and information within the framework of Regulation 1408/71 (883/2004)*

**CASE STUDY 5.3 – THE STORY OF ADRIANA P.**

Adriana P. is a senior researcher in economics. She has had an international career. Besides country A (her country of origin) where she worked for 20 years in total, she spent 5 years in country B, 4 years in country C and finally 11 years in country D. She is now retiring in country D, her state of residence. As regards her pension, the country D social security administration where she was employed failed to take account of her international career and told her that since national social security schemes were not connected, she would have to ask for a pension in every Member state where she had worked. She received different information from the country D pension office which she asked to calculate her pension benefits. However, she has not received any money yet since the country D office can't hasn't yet managed to gather all the relevant information from the other national retirement pension offices. In order to speed up the process, she has been asked to send as many papers as possible to show where she worked in Europe and for which periods.

*Extensive administrative action to facilitate workers mobility must be carried out along the following lines:*

- increase awareness of, and improve information for mobile researchers about social security rights and obligations including statutory and supplementary retirement pension rights;
- better cooperation between national administrations;
- implementation of electronic transfer of data.

Some of these aspects are addressed by Regulation 883/2004 which will become effective once the new implementing regulation to replace Regulation 574/72 is agreed.

Such goals must be achieved as soon as possible as they are the main obstacle to researchers' mobility.

**POLICY OPTION 3.1 – INFORMATION, TRAINING AND COOPERATION BETWEEN SOCIAL SECURITY PLAYERS**

The addressees are invited to take actions according to their responsibilities.

Addressed to: European Commission (EC), Member States (MS), Training and Reporting on Social Security (TRESS), ERA-MORE – Feasible in: mid-term

- to periodically organise EU and national training sessions on EU coordination Regulations for research institutions' staff and ERA-MORE Mobility Centres;
- to draft new, and spread awareness of existing EU and national social security info packages (websites, guides, etc.) for mobile researchers;
- to establish close cooperation between the EC, Ministries in charge of Research, the Administrative Commission on Social Security for Migrant Workers, TRESS network and ERA-MORE Mobility Centres to ensure information flows, exchange of good practice, best use of existing rules and assess feasibility and appropriateness of new rules to remove further obstacles to mobility of researchers.

### *4.3.2 Application of Regulation 1408/71 (883/2004)*

Article 13 and subsequent of Regulation 1408/71 (art. 11 and subsequent of Regulation 883/2004) set rules of conflict to determine which national social security legislation will be applicable for mobility within the EU. In principal, all migrant workers are subject to the legislation of their workplace, notwithstanding other criteria such as their place of residence (*lex loci laboris*). For all migrant workers, including researchers, EU social security coordination rules aim to neutralise the negative effects of migration.

Researchers having an internationally mobile career will be subject to different social security schemes. Despite the undeniably important benefits coming from current co-ordination rules Member States (such as for instance the possibility to accumulate rights acquired in different countries), the overall coordination system may be inconvenient in specific circumstances. As clearly pointed out in a recent Communication by the Commission[106], administrative and legal obstacles to mobility can be mapped in the area of social security.

For instance, in the same Communication, there is an emphasis on **new trends in mobility patterns that include** *'…young and higher-skilled workers engaged in "multi-mobility practices" with (…) short mobile periods responding to specific needs in a professional career, a tendency illustrating that mobility is becoming more integrated into career perspectives'*. In the Communication, the Commission considers that coordination regulations are not adapted to these new forms of mobility: '*new forms of mobility (shorter periods, varying statuses, multi-mobility practices) can make their application problematic. For example, a mobile worker, who frequently works on short-term contracts in different Member States, could be faced with a number of different social security schemes.*[107] *It is therefore time to look at whether there is a need to develop new instruments better suited to the needs of mobile workers and the companies that employ them.*' New rules may, therefore be envisaged, more adapted to the needs of mobile workers and their employers. In connection with that approach, it is worth trying to answer these two questions:

- How current coordination rules could be applied more efficiently, to meet the needs of internationally mobile researchers?
- Is it worth proposing a new system of conflict of law for specific categories of mobile researchers?

**Promoting posting procedures**

'Posting' is a technique that allows a worker temporarily (max. 2 years: Regulation 883/2004) sent to another Member State to remain affiliated to the social security scheme of the Member State of habitual work. Posting can be particularly useful for highly mobile workers, who can remain under the authority of the same employer and under a single national legislation, despite international mobility.

When posting is envisaged by a research institute, the following actions could be undertaken to facilitate its access:

- improving information for researchers and research institutes about posting rules and procedures;

- listing (by the Administrative Commission on Social Security for Migrant Workers) of research institutes for which posting procedures should be facilitated and speeded up by national competent authorities (through for instance pre-agreement procedures).

Easier access to posting should be strongly promoted, as it can address some of the problems experienced by highly mobile researchers who, despite the fact that they are very mobile, can thus remain employed by the same research institute.

Posting can also be promoted through the application of 'Article 17 agreements' (see below).

**Developing 'Article 17 agreements'**

Article 17 of regulation 1408/71 (Article 16 of Regulation 883/04) states that '*two or more States…may by common agreement provide for exceptions to the provisions of Articles 13 to 16 in the interest of certain categories of persons or a certain person*'.

That provision is a useful tool which can facilitate, for instance, the permanence of the application of one national social security legislation for mobile researchers when posting (e.g. due to excessive duration with respect to the maximum time permitted by posting rules) and other rules of conflict of law (such as the *lex loci laboris* principle) would differently apply.

In that respect, it is important to recall the Recommendation of the Administrative Commission for Social Security for Migrant Workers n° 16 of 12 December 1984 that encouraged the EU member States to conclude agreements pursuant to Article 17 of Regulation 1408/71 applicable to employed persons who own *'special knowledge and skills'* (obviously researchers fit with that definition).

It seems that there are no structured and comparable data available among EU Member States on the application of this Recommendation. As concerns 'posting rules', an informal agreement between Member States provides that posting of migrant workers can be extended for a variable period (up to 5 years or more). It would be useful to investigate how this is applied by EU Member States and whether and how this practice could be extended through bilateral and/or multilateral agreements.

Article 17 applies not only to posting but also to any other forms of cross border mobility. Therefore, Member States' authorities may consider the opportunity, with the support of the European Commission, to promote bilateral or multilateral agreements determining the applicable legislation or allowing researchers to choose, under clear conditions, their legislation (of either their home or host country) or to be subject to a national legislation set by criteria agreed upon by parties involved in 'Article 17 agreements'.

**Adapting the legislation applicable for specific categories of mobile researchers**

In parallel with the implementation of the other options recommended in this report, i.e. improving information, better use of posting as well as Article 17 rules, etc.) it should be explored whether there is room for designing specific rules for short-term (and/or multiple) forms of mobility of, but not necessarily only, researchers. The main goal is to ensure better flexibility of coordination rules and simplicity. If current rules were to discourage some researchers to be mobile, in contradiction with Article 42 EC, they should be changed.

The ideas below are put forward as exploratory ways of reducing complexity of rules to apply in some cases, if the impact of initiatives suggested in this report were insufficient or not appropriate. Their feasibility as well as positive impact on researchers' mobility may depend on many factors and would require further analysis.

The determination of the applicable legislation is one of the most delicate questions of Regulation 1408/71 (and Regulation 883/2004). Some mobile researchers suffer from the lack of adaptation of EU coordination rules to 'the new forms of mobility' referred to by the above mentioned Communication as well as of the ill-fitting national social security arrangements regarding research funding.

In order to design specific rules of conflict of law for researchers, it is necessary to insert a definition of 'researcher' into Regulation 1408/71 (and 883/2004), based upon Directive 2005/71 on a specific procedure for admitting third-country nationals for the purposes of scientific research:

'*a researcher is somebody who holds an appropriate higher education qualification, which gives access to doctoral programmes, who is selected by a research organisation for carrying out a research project.*'

For 'research' the following widely used definition could be used[108]:

*'Research means creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications'.*

The current process of simplification of EC co-ordination rules through the introduction of Regulation 883/2004 should not prevent the exploration of feasibility of the inclusion of (a) new rule(s) to determine the legislation applicable to match the profile and meet the needs of mobile researchers. Whereas some mobility patterns concerning researchers fit into the current system of rules of conflict, some of them may demand better tailored rules. Indeed, the current system of conflict of law is more adapted to long term cross border mobility and not always to new forms of mobility (short periods of migration, missions abroad, work in several Member States throughout the career, variety of status, frequent periods of unemployment, etc.). Therefore, even if current coordination rules ensure that mobile researchers will not be left without coverage of a national social security system and that their social security rights will not be affected by cross-border mobility, other actions can be envisaged.

In particular, a new system of conflict of law would be relevant to address new forms of researchers' mobility if other types of intervention (see above: better fluidity of information, posting, 'Article 17' procedure) were insufficient. In other words, if obstacles to mobility remain too important despite the possibilities opened by other tools, the question should be addressed by a renewed legislation.

For instance, for some researchers who work under different types of contracts and encounter periods of unemployment, the application of *lex loci laboris* may not be appropriate. Various options could be taken into consideration, favouring (but not assuring) the competence of a single national legislation throughout the research career or at least during part of it. For example, at the early stages to ensure visibility and stability of social security rights; this would certainly increase the attractiveness of a researcher career. With such an option, the problems of lack of information and complexity would become less critical.

The choice of the legislation applicable may depend on the type of mobility the researchers will face. Among possible options are:

- application of the legislation of the first workplace (as a researcher);
- application of the legislation of the first Member State in which the researcher has worked for a certain length of time;
- application of the legislation chosen by the researcher, provided 1° s/he is closely connected with this country (through elements such as work, place of residence, etc.) and 2° that this country is not opposed to its competence;
- application of the legislation of the State of residence (provided that the place of residence, currently based on subjective criteria such as the centre of his/her personal interests and his/her intentions, can be more clearly defined).

A survey should be done in order to have a more accurate knowledge of mobility patterns involving researchers.

**Amending some material rules of Regulation 1408/71 (883/2004)**

### CASE STUDY 5.4 – THE CASE OF LAURA H., DOCTORAL GRADUATE

Laura H. completed her doctoral graduate in biology at a university in country A in May 2005. Three months later, she was hired (as an 'employee') by a pharmaceutical laboratory (country B) for a two-year post-doc) contract. At the end of her working contract (September 2007), she returned to country A to get married and looked for a permanent job there. In the meantime, she thought she would receive country B. unemployment benefits since she paid social security taxes in this country.

After several meetings at the local unemployment office in country A and many calls to the country B unemployment office, she was finally informed that, according to Article 67(3) of Regulation 1408/71, since she had not completed her last periods of work or insurance in country A, she was not entitled to unemployment benefits in country A. She could have received country B unemployment benefits for a period of three months (maximum exportation period), but she hadn't completed the file before leaving country B.

This story highlights an important aspect concerning access to unemployment benefits: researchers (like any other workers) who take up a job in a Member State and return to their State of origin (or another Member State) afterwards are entitled to unemployment benefits for only a very short period and under strict conditions.

Indeed, in the current system of EU coordination (as well as under Regulation 883/2004), unemployment benefits are subject to the following conditions:

- they can be paid by the last State of work in another Member State for a period of only three months (under Regulation 883/2004 for up to six if the Member State agrees). In this case, benefits are at the expense of the Member State where the migrant last worked and are administered by the Member State in which the migrant is seeking a job;

- the Member State where the person is seeking a job does not have to provide its national benefits if the unemployed person has not worked in this State immediately before being unemployed.

Together with possibility to ameliorate the above current rules, it should be assessed if, for instance the Member State of last employment may be the administrator of unemployment benefits of migrant workers seeking a job in another Member State.

As already pointed out, although the limitations on export of unemployment benefits affects all migrant workers, young researchers are particularly affected as their contracts are often linked to duration of project funding (often up to 2 years) without any 'bridging funds' between projects. This exposes them to periods of unemployment which they may wish for several good reasons to spend in their 'home' country.

In principal, researchers can find a new job before leaving their former workplace. However this is often very difficult due to work pressure and time constraints. It is worthwhile repeating that 'young researchers' include doctoral candidates, but often also 'post-docs', i.e. people up to 35 or even 40 years old. At this age, it is of course not unusual for a researcher to have a family, which makes social security a matter of considerable importance, not least when confronted with unemployment.

**Policy options concerning the application of social security rules of coordination (Regulations 1408/71 and 883/2004)**

### POLICY OPTION 3.2 (SPECIFIC TO RESEARCHERS) – POSTING & 'ARTICLE 17 AGREEMENTS'

Addressed to: European Commission, TRESS and Member States – Feasible in: mid-term

By gathering data on future application of both 'Article 17 of Regulation 1408/71 agreements' and EU rules on 'posting' of researchers, to promote their wider application to the benefit of researchers by also making an extensive use of Recommendation 16/84 of the Administrative Commission on Social Security for Migrant Workers to researchers.

### POLICY OPTION 3.3 (NOT SPECIFIC TO RESEARCHERS) – ACCESS TO UNEMPLOYMENT BENEFITS AND SPECIFIC RULE(S) ON CONFLICT OF LAW

Addressed to: EC, MS – Feasible in: mid-term

Within the context of EU 'Action Plan for Mobility 2007-2010' to:

- explore the feasibility of amending unemployment benefits exportation rules for migrant researchers/ workers (Article 68 of Regulation 1408/71 (Art. 64 of Reg. 883/2004);

- explore the relevance and the impact of a specific rule of conflict of law applicable to 'new forms of mobility', in view of inserting them, if appropriate, in the EU legislation.

### *4.3.3 Status of Third-country researchers*

Although social security issues related to Third-country researchers lie with national competence, they are of particular importance in the context of increasing international mobility and thus require attention by Member States.

**Improving mobility of non-EU researchers between Member States and outside the EU area**

**CASE STUDY 5.5 – AN INDIAN MATHEMATICIAN...**

Rajhi S. is an Indian senior mathematician who studied and carried out research in his native country before spending 10 years in a research institute in EU country A. After that, he worked as a researcher in EU country B for 5 years. He returned to his native country permanently in 2005 after a final international period of research in another non-EU country (three years). He paid social security retirement contributions in each of these countries. Unfortunately, he has been informed that although he can aggregate his periods of insurance in EU countries A and B, he cannot aggregate periods completed in non-EU countries. Moreover, he believes he will not be able to export the EU country A and/or the EU country B benefits to India.

The lack of coordination between national social security legislations may be a source of difficulty for third-country researchers who intend to complete part of their career in the European Union. They run several risks after returning home or moving to a country outside the EU if there is no bilateral agreement:

- absence of social security rights, despite their contributions, when benefits are not exportable;
- loss of rights because of the lack of possibility to aggregate periods of contributions or insurance;
- lack of information about their social security rights, partly due to the fact that international social security law does not take into account forms of mobility which could enable mobile workers to deal with the complexity of their international career.

**Facilitating mobility of non-EU researchers to a single EU Member state**

**CASE STUDY 5.6 – ...AND AN AMERICAN LAWYER**

Liz F. is an American researcher specialising in comparative criminal law. In the spring of 2007, she was offered a two-year research contract by the Institute of Criminal Sciences at a University located in EU country A. Unfortunately, she became ill after a couple of months in country A and could not work for the remainder of the contract. After six months in country A, she returned to her home country. During the time spent in country A and after her departure, she had no clear idea whether she was entitled to sickness benefits in kind (reimbursement of medical treatments) and in cash (money benefits) and from which institution she should claim them. She was also afraid of becoming disabled: in which case, she does not know if she will be entitled to a pension and which country would provide it.

In this case, EC rules are not applicable because it is a 'one EU Member State migration', as ruled by the European Court of Justice: Regulation 1408/71 provisions *'do not apply to situations which are confined in all respects within a single Member State'* (ECJ 11 October 2001, Mervett Khalil). In other words, Regulation 1408/71 does not apply to migrants who move from a non-EU country and remain within a single EU Member State.

Article 12 of Directive 2005/71, which provides that holders of a residence permit shall be entitled to equal treatment as nationals for branches of social security as defined in Regulation 1408/71, may apply. However, some questions remain:

- does equality of treatment in the meaning of Article 12 of Directive 2005/71 apply to export of benefits (for instance, will non-EU researchers be entitled to unemployment benefits or retirement pensions when leaving the EU if nationals are entitled to such a right)?
- how does equality of treatment apply to family members?

The answers to such questions depend on the interpretation of the scope of Article 12.

**CASE STUDY 5.7 – RESEARCHERS MUST BE HEALTHY**

Hicham A. is an Algerian researcher working temporarily in EU country A for 2 years as a posted worker. His employer is a cancer research institute located in Algiers. He is insured for social security in Algeria. As he has been ill since his first days of work in country A, he was not supposed to be reimbursed for his health costs since he is not insured in country A. However, the bilateral social security agreement between Algeria and country A provides that Algerian workers posted in country A receive healthcare benefits in kind (reimbursement of medical treatments) during their stay in country A as if they were insured in country A. He will also be granted, through the bilateral convention, benefits in cash directly by the Algerian competent institution if the illness is due to an accident at work, although the accident has taken place outside Algeria.

EU Member States have signed several bilateral social security agreements with Third countries. These agreements include specific coordination rules to provide social security benefits for mobile workers and their families. The scope of these agreements may vary: some agreements coordinate all branches of social security, but most cover only a specific branch or branches (for example, pension rights). However, most of the agreements provide protective rules for posting: during a variable period of time (up to several years), posted workers are covered for healthcare expenses by the temporary workplace as if they were insured in this country.

Information about these agreements should be disseminated within the research community. For example, the German Researchers' Mobility Portal has a link to the German Ministry of Social Affairs, which provides key information about bilateral agreements (i.e. duration and conditions to retain the home country social security regime when moving to the other country). France also has a dedicated web site which sets out the agreements signed with non-EU countries[109].

**Policy options concerning a better status of non-EU researchers undertaking research in the EU**

**POLICY OPTION 3.4 (SPECIFIC TO RESEARCHERS) – THIRD-COUNTRY RESEARCHERS: AGREEMENTS, INFORMATION, DIRECTIVE 2005/71**

Addressed to: MS, EC – Feasible in: mid-term

- to encourage (e.g. through a Commission or Council Recommendation) the signature of (or the amendment of existing) bilateral and/or multilateral social security agreements between EU Member States and non-EU countries including appropriate rules for mobile researchers;
- to set up an efficient information systems on social security agreements by for instance making full use of the European and National Researchers' Mobility Portals;
- when monitoring the implementation of Directive 2005/71 on the admission of Third-country researchers to the EU, to pay specific attention to a correct application of Article 12 of that Directive concerning equal treatment with national as regards social security rights.

## 4.4. Fine-tuned supplementary (occupational), pension rights[110]

The target group and the main obstacles to be tackled in relation to this 'cornerstone' have been described in the general introduction of the report.

This section outlines possible solutions to reduce obstacles to researchers' mobility related to the supplementary (occupational) which, in some cases, may be extended to statutory and/or private ('third pillar') pension schemes. The proposed solutions aim at filling information gaps, at promoting administrative co-operation among EU Member States competent authorities and at fully exploiting existing legislation.

The EC awareness of the relationship between the issues of supplementary pensions and mobility is demonstrated by the amended proposal for a Directive on improving the portability of supplementary pension rights of the European Parliament and the Council. The Directive[111] aims at introducing minimum requirements as regards 'waiting and vesting periods ' and ensuring an adequate protection of 'dormant' rights[112].

Even though the Directive concerns all migrant workers, its implementation can be of great help for a better functioning of a single European labour market for researchers and for improving their pension rights. Therefore, some of the policy options hereafter are specific to researchers, whereas most of them apply to all migrant workers, among which researchers may be considered as a pilot group.

**The EG proposes here an integrated set of solutions in order to answer the question: How can obstacles to researchers' mobility coming from differences between supplementary schemes throughout Europe be reduced?**

This approach in some cases also include actions that may concern statutory pension rights and/or private insurance schemes. By adopting an integrated approach, the pension rights situation of researchers can be improved considerably already in the short-term, and progress further in the medium and the longer term, by the implementation of the measures proposed below. It should be noted that, whenever possible, the measures were designed to be compatible with the current legislative framework.

1. **Solution and idea for the short-term**

    1. To introduce **subsidies** for research fellows who are not covered by any domestic pension system, by also facilitating their building up of pension rights with a financial institution (third pillar).

2. **Solutions and ideas for the medium and long-term**

    2. To establish a **Pension Support Centre** (PSC) at European level which would provide advice and support on statutory, mandatory and voluntary supplementary (occupational) pensions. The category of researchers could be used as a pilot professional group for the PSC;

    3a. To create a tool for surveying pension rights nationally through **National Pension Registers (NPR)**. The category of researchers could be used as a pilot professional group for the NPR;

    3b. **To interlink national pension registration systems**. The category of researchers could be used as a pilot professional group;

    4. To establish a **Pan-European Pension fund for researchers** based on the current **pension fund (IORP)**[113] **Directive;**

    5. To introduce substantial **tax incentives** for fellows researchers who are not covered by any domestic pension system to enable them to build up their pension rights with an EIORP (second pillar) or a financial institution (third pillar).

### *4.4.1 A short-term solution*

**To introduce subsidies for research fellows who are not covered by any domestic pension system by also facilitating their building up of pension rights with a financial institution (third pillar).**

This proposal is targeted at researchers who do not hold legal status (such as 'employee' or 'self-employed'), allowing them to be granted full statutory pension coverage and/or supplementary pension rights. Thus, it refers to researchers who work on a stipend or fellowship or any other similar form of grant basis and, as such, are normally not able to build up any (or to only build up reduced) statutory or supplementary pension rights.

Young researchers, i.e. doctoral candidates and, in some cases, also young post-docs are considered as 'students' and therefore paid by 'stipends' instead of employment contracts (either fixed-term or permanent). This practice allows research institutions, employers, and funders to hire a higher number of researchers, because of 'economies' or social security costs but may entail a lack or reduced social security and/or supplementary pension rights.

The *'Charter & Code'*[114] and the FP7 guidelines recommend granting full rights and social security coverage for all researchers, including early-stage researchers.

The solution suggested here to counteract the negative pension consequences for the youngest researcher

stratum being in 'no man's land' (neither 'employee' nor 'self-employed') could be through is a (temporary) scheme of EC and national subsidies for early stage researchers to eliminate or narrow their pension gap due to their peculiar legal status. It could take the shape of additional money ('backpack') which is added to their 'stipend/fellowship' and earmarked for building up pension rights, when this is not possible due to the nature of remuneration received. The same (i.e. the 'backpack') would apply when the pension gap is determined by international mobility.

There are already some examples of good practice, not only concerning pensions, which make use of favourable private insurance schemes to remedy current gaps[115]. These practices should be spread in the short-term, while in the medium/long-term a coherent strategy should be endorsed at Community level, to ensure adequate social security coverage.

**POLICY OPTION 3.5 – PENSION SUBSIDIES ATTACHED TO FELLOWSHIPS – (SPECIFIC TO RESEARCHERS)**

Addressed to: MS, EC – Feasible in: short-term
Target group and pension pillars: research fellowship holders, supplementary pensions

To introduce **subsidies** for research fellows who are not covered by any domestic pension system, by also facilitating their building up of pension rights with a financial institution (third pillar).

### *4.4.2 Medium and long-term solutions*

As a preliminary remark, it can be said that working towards an interoperable three-pillar pension system in the Member States would be the ideal situation for internationally mobile workers: were the pension systems (first, second and third pillar combined) of all the Member States interoperable, then mobile workers could easily and with minimal costs transfer their pension capital from one MS to the other. This condition, however, is not the current one, nor is it around the corner. Many differences exist in the pension systems of the Member States, methods of finance, tax rules, legal rules etc., together with the principle of subsidiarity and the different history and background of the national pension systems. Thus, it is not realistic to expect a uniform pension system being realised in the short or medium-term.

**2. Pension Support Centre (PSC)**

Dedicated to researchers for a trial period, a **Pension Support Centre (PSC)** could be established in a number of EU Member States, thereby limiting its operational costs. It would cover statutory and supplementary pensions.

For a practical start, such a PSC:

- would provide mobile researchers with information about how the domestic pension system(s) work;
- could be consulted by them about the effects of working abroad for a defined period on pension rights.

The PSC could help and advise mobile researchers on how to fill up any pension gap.

This initiative would gather expertise on pension issues for a highly mobile research workforce.

Information tools already exist: e.g. Eulisses[116]: it should be concretely explored how they could be taken into consideration in this context.

Establishing a PSC in a Member State does not require any new legislation, however, appropriate measures should be taken to guarantee data protection.

**POLICY OPTION 3.6 – SETTING UP OF A PENSION SUPPORT CENTRE IN THE MEMBER STATES**

Addressed to: EC, MS – Feasible in: mid-term
Target group and pension pillars: researchers (pilot group), statutory and supplementary pensions

After assessing its legal and concrete feasibility, to set up a Pension Support Centre by also making use of existing information tools/services.

**3a. National Pension Register (NPR)**

The Pension Support Centre (PSC) could be accompanied by the development of a **National Pension Register (NPR)** in each EU Member State**.** While the PSC would provide its services (possibly in connection with ERA-MORE Mobility Centres) on the basis of existing

information, it should also create the conditions for the establishment of a NPR in each MS.

The pension register would consist not only of a databank, but also of an user friendly, internet-based application through which everybody at any moment can login with a private password and inquiry on his/her pension rights (old age pension, partner pension, disability pension etc). Countries which already have a pension register in place, at least for the first pillar, are closer to this step are Sweden, Denmark and the Netherlands.[117] In the future, second and eventually third pillar pension rights could be added.

The NPR may start in a pilot phase with a specific category of workers, such as researchers, to be extended to other citizens, once its effectiveness is proven**.** The main objective of this register would be to gather all relevant pension information and provide the 'customers' with an easy online overview of their situation and position with respect to pension rights. As an added value, these pension registers would promote among the general population (and among researchers in particular) awareness and knowledge on old-age pensions, which is presently not well developed, particularly among the younger strata.

**3b. Interlinking the National Pension Registers (NPR)**

Once the NPR are established and working, the next step would be to interlink them to improve availability and exchange of updated information. Again, such an ambitious and complex project may start with a specific category of workers, such as researchers, to be then extended to other citizens.

In this scenario, even 'highly mobile' researchers, currently penalised by the lack of communication between the regimens and schemes of the various States, would have an easy-to-interpret and updated picture of all their accumulated pension rights, in first and second pillar pension schemes, in the EU MS. Clearly this objective requires a long-term horizon.

**POLICY OPTION 3.7 – PROMOTING THE SETTING-UP OF NATIONAL PENSION REGISTERS IN THE MEMBER STATES**

Addressed to: MS, EC – Feasible in: mid-term
Target group and pension pillars: researchers (pilot group), statutory and supplementary pensions

To promote by the EC the setting-up of national information systems (pension registers) on accrued pension rights in each MS and promote their interlinking.

**4. A pan-European Pension Fund for researchers**

It is suggested to launch immediately a feasibility study on the possibility of establishing, in the medium-term, a **pan-European Pension Fund for researchers**. Such a Fund (for instance an 'IORP-type' fund, i.e. a second pillar provider based on the current Pension Fund Directive)[118] would make it possible for intra-European mobile researchers to build up their supplementary pension rights within a single pension fund, while still complying with the different social, labour and pension legislation of the participating Member States[119].

With a pan-European Pension Fund (EPF) the national pension systems will remain intact, only, the pension contributions would be paid to the national section (i.e. of the country where the researcher works within one overall pension fund). This Fund would encompass pension schemes for researchers working in different Member States. At the date of retirement, the benefits coming from the different pension sections will be cumulated and paid out by the EPF.

The concrete advantages of such a Fund – that may either be a dedicated pension fund for researchers, or a section of pension funds with a wider number of affiliates – would also be that during their working life researchers only have to deal with (the national section of) a single

pension fund, thus he/she would always know where to obtain information, advice and an overview of his/her pension rights accumulated in different countries.

Furthermore, the EPF would provide an improved service to internationally mobile researchers, as the pension fund would be well adapted to deal with this target group, unlike conventional national pension funds, of which internationally mobile workers may not fit the standard client profile.

**5. Tax incentives**

Tax incentives would help building up pensions on an individual basis with an EIORP (second pillar) or a financial institution (third pillar). In situations where no pension or insufficient pension provisions are available, tax incentives can be given to encourage citizens to participate in second or third pillar pension schemes, to build up a pension capable of preserving the standard of living after retirement.[120]

Having said that this area belongs to national competence, it is worthwhile noting that almost all Member States give tax incentives for employees who participate in a supplementary pension scheme (second pillar). These pension schemes are in general carried out by a sectoral pension fund, a company pension fund or an insurance company. In some countries certain pension schemes are compulsory while other are voluntary. The widespread principle is that the contributions are income deductible and the benefits are taxable.[121]

The main characteristic of private pensions (third pillar) is that they are voluntary. These private pensions can be provided by pension funds, insurance companies or banks. The taxation of private pensions varies in Member States. In most of them however the EET system is applied, so the contributions are income deductible and the benefits are taxable.[122]

In some instances, the tax relief on private pension contributions or on extra contributions for a supplementary pension depends on the amount already built up in the first and second pillar. In this way, the third pillar becomes a compensating layer.

In summary, the proposal is that MS give a tax relief for contributions paid to a pension scheme like the new EIORP (second pillar) or to a financial institution (third pillar). This could provide a help solution not only to non-salaried researchers such as fellows, but also to researchers who are now building up insufficient or no pension rights in the regular schemes. This proposal outlines a possible way Member States can look at their pensions system, and does not require any new EU legislation.

**POLICY OPTION 3.8 – A PAN-EUROPEAN PENSION FUND (IORP) FOR RESEARCHERS**

Addressed to: IORP pension schemes – Feasible in: mid-term
Target group and pension pillars: researchers, supplementary pensions

To launch by the EC a feasibility study and furthermore stimulate the development of supplementary pension pan-EU schemes for researchers based on the 'IORP' Directive.

**POLICY OPTION 3.9 – PROMOTING THE INTRODUCTION OF TAX INCENTIVES FOR PARTICIPATING IN SECOND AND THIRD PILLAR SYSTEMS**

Addressed to: MS, EC – Feasible in: mid-term
Target group and pension pillars: all workers, supplementary pensions

To promote by the EC national tax relief systems for contributions paid to supplementary (including 'IORP') schemes and to financial institutions managing private pension schemes.

*Concluding remarks*

The policy options presented in chapter 4.4 are designed to reinforce each other and may affect either only researchers' supplementary pensions or both supplementary and statutory pensions. The Pension support centre (PSC) helps with reducing the complexity of pension issues for mobile researchers and to come to a better understanding. Furthermore the national pension register allows for a clear and complete overview of the pension provisions in a country, thus making it easier for the PSC and/or the European pension fund (EIORP) to assist the researcher.

It is proposed that the EC support activities aimed at interconnecting these national registration systems EU-wide in the long-term. This would allow the customer to get an electronic overview of all his/her pension rights built up in several EU countries. It makes sense to start with first pillar pensions; subsequently, second and third pillar pension rights can be added to these registration systems.

The EC should promote tax relief for contributions paid to a second pillar pension scheme or a third pillar private pension scheme for those who built up insufficient pension rights. The open coordination method can be helpful in this respect.

The IORP fund is the provisional end point, giving rise to an adequate pension scheme for mobile research workers.

The combination of a Pan-European Pension fund (IORP) for researchers and the mutual recognition of pension schemes for tax purposes and by the promotion of pension registers in the MS is for the mid (and long)-term the best track.

# 5. Fourth cornerstone – the European Charter for Researchers and the Code of Conduct for their Recruitment as a dynamic process

**SUMMARY**

In March 2005, a Recommendation was addressed by the EC to the Member States, on a European Charter for Researchers and the Code of Conduct for their Recruitment. The *'Charter & Code'* were undersigned by a considerable number of (public) research institutions, but their actual implementation or simply the knowledge of these documents still appears to be scant.

The Expert Group identifies possible ways of overcoming this impasse by boosting a '*C&C process*', based on an information campaign and more active involvement of the undersigning institutions, by specifically addressing the *C&C* in their Human Resources policies (i.e. 'HR Mission Statements'). The characteristics of a 'label' to be awarded to the institutions significantly involved in the process are also outlined.

## 5.1. The imperative of promoting a 'Charter & Code process'

Most of the issues raised in the previous sections could be successfully tackled by applying the principles discussed in the ***European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers*** (*'C&C'*), a set of recommendations presented by the European Commission on March 11, 2005[123].

The *C&C* emerged from a bottom-up, Europe-wide consultation and encapsulates good practices drawn from across European policy and interests as set by a wide range of organisations, including universities, businesses, public and private research bodies, associations and government agencies. These two documents, addressed to researchers as well as to employers and funders in both the public and private sectors, were produced with the ambition of representing key elements in the European Union's policy to make research an attractive profession and they are a vital feature of its strategy to stimulate economic growth and employment. They should be a reference point for the management of researchers' careers 'aimed at enhancing and maintaining a supportive research environment and working culture within which researchers act as professionals and where employers and funding agencies recognise researchers as professionals'[124].

More than 200 organisations, representing over 800 institutions in 24 countries, have signed up to the Charter today. However, what is not clear is the number of organisations that are actually **implementing and monitoring the impact of the *C&C*.** In some sectors there is reluctance to endorse the C&C as they currently stand**.** Among possible explanations for this reluctance the EG identified:

- lack of communication on the *C&C* and interpretation of their contents;
- (presumed) legal obstacles to implementation in the individual Member States or Associated States due to national legislation;
- perception of some elements of the *C&C* as difficult to be reconciled with the basic mission and/or the corporate culture of the organisation.

Two years after the publication of the *C&C*, a first European wide stocktaking was mandated by the Commission to Deloitte/The Evaluation Partnership – *Evaluation of Communication and Information activities relative to the European Charter for Researchers and the*

*Code of Conduct for the Recruitment of Researchers*. It shows that, despite the undersigning by 800 public institutions (no private company signed yet!), there is still a **dramatic lack of knowledge about the C&C and their contents**. Accordingly, national reports show that the awareness of *C&C* among the whole researchers' population, from doctoral candidates to senior researchers, is still very low.[125] A number of institutions in almost all Member States (plus Israel, Norway and Switzerland) have signed C&C as a sign of commitment toward the underlying principles, but irrespective of such official endorsement, **the information has seldom reached the people that would most benefit from the *C&C* recommendations.**[126] A crucial result of this exercise is the need to start a European wide campaign to disseminate knowledge about *C&C*.

In addition, the *C&C* are very broad and wide reaching documents, and here reside their strengths together with some potential weaknesses. Among the large number of elements, there are some which are felt, at the present state, as 'unacceptable' to some organisations[127].

**This section of the report focuses on policy options aimed at relaunching the *'C&C Process'* to alleviate bottlenecks and solve at least some of the above mentioned problems, also by unbundling the core *C&C* principles and examining different elements** separately, still under the broad umbrella of the C&C.

The concept of the C&C being a process is not new: the stakeholders in the elaboration of the *C&C* have always claimed that these documents are a first step in an ongoing project, i.e. that it should continue to evolve in time and to be adaptable to changing conditions, inside and outside the EU. This message has not been spread and advertised widely enough, so that some of the potentially interested institutions still feel that undersigning the *C&C* they sign a 'statement of compliance' rather than the endorsement of a set of dynamic goals and a commitment to attain them.

Important as they are as documents, the *C&C* were never intended to be considered as written in stone. Rather, *C&C* have to be understood as a contribution to a common understanding on what attractive recruitment and working conditions mean for all researchers within the ERA.

**The *C&C* recommendations inspire progress towards a cultural frame of dynamic, developing goals to be achieved**, and are themselves adaptable to changing conditions, inside and outside the EU.

## 5.2. A new phase – boosting the *'Charter & Code process'* ( 2008- 2013)

In order to tackle the many concerns discussed above, the current first phase of the '*C&C process*' (2005-2007) should be followed by a second (2008-2010) and a third phase (2011-2013). The strategy for the following phases should be based on the result of a stocktaking exercise at the end of each previous phase.

The following Policy Options will focus on the **dissemination of *C&C*** as the priority structural element in the second phase of the '*C&C* process'[128] and the timetable of its implementation is harmonised with the Bologna agenda.

### *5.2.1 A Europe wide Information Campaign 2008-2010*

The European Commission should take a specific action with FP7 to achieve wide knowledge of the *C&C* principles. This line of action should include:

- a rebranding exercise encompassing the *C&C*, ERA-MORE and the European Researcher's Mobility Portal with unique logo;
- a professionally managed project supported and financed by the EC[129];
- human, structural and financial means provided to broadly advertise and explain *C&C* in all public and private research institutions.

Only institutions who signed the *C&C* are eligible for submitting these project proposals, indicating quantitative, measurable objectives to be achieved by 2010. The proposing institutions will commit themselves to broadly advertise and explain C&C not only internally, but also to other public and private research institutions.

The projects will include the creation of an **ERA and *C&C* information network** of **ambassadors**, with representational duties, and **promoters**, with operational duties.

Ambassadors and promoters should belong to organisations that have signed *C&C*. The operational network consists of promoters having a professional interest in belonging to the network. The ambassadors should not only have a professional but also a personal interest in participating in the campaign**.** They 'lend their face' to the campaign, so they should be

renowned and trusted by the researchers' community (e.g. university rectors or vice-rectors of a university, directors of research laboratories or of doctoral schools, experienced scientists or bright, communication-talented young researchers etc.).

The professionally managed information campaign that this group foresees should include:

- the creation of 'ERA branded' promotional material, specifically devoted to particular chapters or issues addressed in *C&C*;
- the organisation of exchange opportunities like conferences, meetings and workshops;
- the provision of manuals and templates, in the different EU languages, adapted to the local needs.

**To ensure sustainability and to create the basis for the next phase, a stocktaking exercise must be planned together with the promoters' network for 2010.** Stocktaking of the campaign in 2010 should be done in parallel to the Bologna stocktaking, in order to plan the successive phase of the process (2011-2013).

**POLICY OPTION 4.1.**

Any organisation, whether public or private, in receipt of public funds for research which signed the *C&C* is required to promote knowledge and awareness of *C&C*; the EC should provide human, structural and financial means for the management and organisation of a European information campaign including the establishment of an ERA and *C&C* promoters' network.

### *5.2.2 The institutional, C&C-based 'Human Resource Mission Statement'*

Research institutions must be encouraged to produce a **'Human Resources Mission Statement', which represents their own specific 'tailoring' of *C&C* principles**. This document should focus on;

a) **the recruitment, career development and social security (including pension rights) procedures developed for researchers working in the institution**,

b) **how the impact of these procedures is monitored**.

The 'Human Resource Mission Statement' may consist of *capita selecta* from the *C&C*, complemented with ingredients specific to the organisation. It will contribute to defining the overall specific mission of individual institutions.

**POLICY OPTION 4.2.**

Any organisation, whether public or private, in receipt of public funds for research which signed the *C&C* is required to define and advertise a Human Resources Mission Statement, in line with the *C&C* spirit, focusing on the recruitment, career development and retirement procedures for researchers; the European Commission should play a proactive role in the dissemination and promotion of the institutional HR mission statements.

### *5.2.3 Design and delivery of an 'ERA Human Resources Label'*

**A label can be delivered exclusively to those organisations which design, adopt, implement and monitor the implementation of their specific Human Resources Mission Statement** in the spirit of the C&C and cooperate in building the promoters' network. The label can be maintained over time only if the awarded organisations accept some form of external monitoring of their continuing commitment to the *C&C* principles.

Monitoring of progress on the various elements of the unbundled *C&C* could be done by creating a form of scoreboard (such as the *Innovation Scoreboard*) or by producing reports such as the *Trends Report* of the EUA for the Bologna process as a way of introducing peer pressure. An OMC Expert Group can be charged with the task of recording progress, sharing information on best practices and organising peer reviews for those institutions and MS/AS expressing their interest on a voluntary basis.

**POLICY OPTION 4.3. THE EC IS URGED TO DESIGN AND PROMOTE A 'ERA – RESEARCHERS' HUMAN RESOURCES LABEL' INDICATING RESEARCH INSTITUTIONS, WHICH:**

- participate actively in the network of ERA and *C&C* promoters;
- advertise and monitor the implementation of their specific Researchers' Human Resources Mission Statement;
- accept some form of external monitoring.

# Annex 1 - Composition of the Expert Group

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## Support from the European Commission - DG Research

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# Endnotes

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1. *Some of which extended to statutory and/or private pension rights.*

## 1. Context and objectives

2. Commission Staff Working document, Result of the Public Consultation on the Green Paper *The European Research Area: New Perspectives, SEC (2008) 430.*
3. See e.g. *Key Figures 2007* at http://ec.europa.eu/invest-in-research/monitoring/statistical01_en.htm.
4. Unless otherwise stated the data in this section are from the DG Research publication *Key Figures 2005*.
5. http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-SF-007-075/EN/KS-SF-007-075-EN.PDF.
6. http://cordis.europa.eu/documents/documentlibrary/2063EN.pdf.
7. ESF Policy Briefing 16, *Towards a new paradigm for education, training, and career paths in the natural sciences*, 2002; EMBO/ELSF *Careers in the life sciences*, 2003.
8. According to the agreed definition provided by the Frascati manual, OECD, 2002, researchers are: *professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems and also in the management of the projects concerned.*
9. In this report, not only the direct disbursement of funds from public institutions, but also fiscal incentives are meant with the expression 'public funds'.
10. As from June 2008, the activities hereby reported as 'European Researcher's Mobility Portal', 'ERA-MORE Network', 'European Charter and Code' and 'Era-link' will be overarched by one unique and common logo thus becoming, respectively, EURAXESS Jobs, EURAXESS Services, EURAXESS Rights and EURAXESS Links.
11. COM(2001) 331 Final.
12. Council Resolution of 10 December 2001, OJ C367, 21.12.2001. In its resolution, the Council reiterates the importance of eliminating persistent obstacles to the mobility of researchers, identifying them as 'multifaceted in nature, including those of a cultural, social, administrative, legal and regulatory nature'. The Council also endorses **efforts to improve information on the mobility of researchers, in particular through the creation of a dedicated Internet Portal (…)**. These statements form the basis for the identification of priorities for the implementation of the Mobility Strategy, namely: (...) to improve the provision of information and services to mobile researchers.
13. The Council Directive 2005/71/EC of 12 October 2005 on a *specific procedure for admitting Third-country nationals for the purposes of scientific research ('Scientific visa')* O.J. L 289/15 of 3.11.2005.
14. This Directive should be compared to the proposal for a Directive on the admission of highly skilled immigrants which could be considered as the *lex generalis* if adopted. COM (2007) 637 F 10/23/2007 also includes a specific scheme for 'young professionals':
    workers will receive a special residence and work permit, called the 'EU Blue Card' for an initial period of two years (compared to one year in Directive 2005/71), entitling them to a series of socio-economic rights (the principle of the right to take social insurance to other EU Member States is expressly mentioned) and to more favourable conditions for family reunification than in Directive 2005/71;
    holders of a 'EU Blue Card' can move to a second Member State for highly qualified work under certain conditions – i.e. only after two years - after two years of legal residence in the first Member State and mobile workers are allowed to add up periods of residence in different Member States in order to obtain long-term EC residence;
    a fast-track procedure for the admission, based on common criteria (3 months).
    For other matters, Directive 2005/71 still seems to be more interesting for Third-country researchers.
15. Recommendation of the European Parliament and of the Council of 28 September 2005 to facilitate the issue by the Member States of uniform short-stay visas for researchers from third countries travelling within the Community for the purpose of carrying out scientific research (2005/761/EC). O.J. L 289/23 of 03.11.2005.
16. *The European Charter for Researchers and the Code of Recruitment for Researchers*, (2005/251/CE).
17. For a full list see http://ec.europa.eu/eracareers/europeancharter.

## 2. First cornerstone

18. Some institutions prevent by rule that Doctoral candidates remain in the same institution after their qualification (e.g. EPF Lausanne). This does not seem to be a solution for supporting mobility, especially in the absence of a structured career management procedure/programme and/or of mentors helping the young researchers to find a job after their qualification. Intriguingly, nothing is foreseen in this direction by these institutions.
19. Referred to also as 'inbreeding', a term borrowed from biology, which indicates the crossing between genetically related individuals.

20. Bruegel Policy Brief 2007 Why Reform Europe's Universities? Issue 2007/04.
21. Regulation (EEC) No 1612/68 of 15 October 1968 on the free movement of workers within the Community.
22. ECJ, 3 March 1989, *Echternach*, Case 389/87.
23. Horta, Hugo; Veloso, Francisco and Grediaga, Rocio Naval gazing: Academic inbreeding and scientific productivity, Paper submitted to the CHER Conference 2007, UCD Dublin: The Research Mission of the University, September 2007.
24. Minerva Code: http://www.researchinaustria.info/conference/slides/vallerga.pdf
25. In accordance with Regulation (EEC) No 1612/68 of 15 October 1968 (OJ N°L257, 19.10.1968).
26. Switzerland is developing minimal standards (in the form of a check list) for recruitment procedures as one of the action lines in the implementation of the C&C principles. In Flanders, Ministerial recommendations give financial impetus to Universities who prevent inbreeding.
27. Séguin, Beatrice, State, Leah, Singer, Peter and Daar, Abdallah – 2006 Scientific diasporas as an option for brain-drain: re-circulating knowledge for development, Int. J. Biotechnology, Vol. 8, Nos. 1/2. pp. 78- 90. See also, Barré, Rémi, Valéria Hernandez, Jean-Baptiste Meyer, and Dominique Vinck. 2003. Diasporas scientifiques: IRD Editions Paris.
28. Any other practice could be considered as an obstacle to free movement of workers (article 39 of the EC treaty).
29. While it is straightforward to assess applications from researchers who already have a publication track record there can be difficulties in interpreting the qualifications of prospective doctoral candidates. However there are a set of initiatives worldwide to make this easier. For example, the China Scholarship Council (www.csc.cn) can act as a filter to ensure the quality of Chinese graduates.
30. The University of Camerino, in Italy, adopted the C&C in May 2005 and modified accordingly the recruitment procedure for Doctoral candidates, replacing written & oral examinations with a dossier-based selection. The applications increased from 67 in 2004 to 280 in 2007, of which the proportion of non-Italians increased from 0 to 64%.
31. Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications, which repeals Directives 77/452/EEC, 77/453/EEC, 78/686/EEC, 78/687/EEC, 78/1026/EEC, 78/1027/EEC, 80/154/EEC, 80/155/EEC, 85/384/EEC, 85/432/EEC, 85/433/EEC, 89/48/EEC, 92/51/EEC, 93/16/EEC and 1999/42/EC.
32. The relevant directive is Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005. When, in a host Member State, access to or pursuit of a profession is regulated, i.e. subject to possession of specific professional qualifications, the competent authority in this Member State allows access to the profession in question and pursuit thereof under the same conditions as for nationals, provided that the applicant holds a training qualification obtained in another Member State which attests to a level of training at least equivalent to the level immediately below that required in the host Member State.
33. It is generally admitted that a scientific career in the private sector is more risky and involves more mobility in the career options than in the public sector. In the private sector, there usually is a pre-selection based on the CV and cover letters, then followed by multiple interviews. The applicants are assessed on the basis of three main factors: technical competence/scientific expertise, personality (including complementary skills and motivation. Lastly, the private sector used to hire with a long time perspective and with open career options. In the public sector, on the contrary, there are still too many institutions who hire, at best, on the basis of scientific competence only and where the notion of life-long, pre-defined career paths with 'mechanical' career progression is still the rule. It has to be stressed however that these preconceptions have to be revised. In many modern public institutions, selection procedures and career development become as competitive and multifaceted as in the private sector. And both in the private and the public sector, the researcher's job security is fading away. This is one of the main reasons for the lack of attractiveness of a researchers career.
34. See for instance E.D. Martinez et al. (2007) *Falling off the academic bandwagon*, in EMBO reports, Vol. 8 (11), 977-981, for a recent analysis of male and female scientists' considerations, among other things about family and travel requirements, in planning their careers.
35. *Women in European Research*, Futuris on the Web www.euronews.net
36. Committee on Maximising the Potential of Women in Academic Science and Engineering, National Academy of Sciences, National Academy of Engineering, and Institute of Medicine 2006 *Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering*, ww.nap.edu/execsumm_pdf/11741.pdf
37. The two principal research funding agencies in Australia (the Australian Research Council and the Nathional Health and Medical Research Council) both assess research grant applications 'relative to opportunities' of the investigators. www.arc.gov.au and www.nhmrc.gov.au.
38. Although at first glance it might appear difficult to support the employment of young researchers without discrimination towards others, article 6 of Directive 2000/78/EC of 27 November 2000 envisages the possibility of a **justification of differences of treatment on grounds of age:** '1. Notwithstanding Article 2(2), Member States may provide that differences of treatment on grounds of age shall not constitute discrimination, if, within the context of national law, they are **objectively and reasonably justified by a legitimate aim, including legitimate employment policy, labour market and vocational training objectives**, and if the means of achieving that aim are appropriate and necessary. Such differences of treatment may include, among others: (a) the setting of special conditions on access to employment and vocational training, employment and occupation, including dismissal and

remuneration conditions, for young people, older workers and persons with caring responsibilities in order to promote their vocational integration or ensure their protection; (...).

39. *Remuneration of Researchers in the Public and Private Sectors*, European Commission, April 2007 http://www.ec.europa.eu/eracareers/pdf/final_report.pdf.
40. The full report can be downloaded at http://ec.europa.eu/eracareers/pdf/final_report.pdf.
41. See http://devdata.worldbank.org/wdi2006/contents/Table4_14.htm.
42. Directive 1999/70/EC of 28 June 1999 concerning the framework agreement on fixed-term work concluded by ETUC, UNICE and CEEP (*Official Journal L 175, 10/07/1999 P. 0043 – 0048*) provides that, to prevent abuse arising from the use of successive fixed-term employment contracts or relationships, Member States, after consultation with the social partners, must introduce one or more of the following measures (taking account of the needs of specific sectors and categories of workers):
    - objective reasons justifying the renewal of such contracts or relationships;
    - the maximum total duration of successive fixed-term employment contracts and relationships;
    - the number of renewals.

    A reference to the possibility of a long-term contract may be considered as a specific need of the research sector. However, the abuse of successive fixed-term contracts has to be prevented, and, where relevant, punished by effective measures, for example by their conversion into contracts of indefinite duration (ECJ, 7 September 2006, Case C-180/04, Andrea Vassalo, OJ C 156, 12.06.2004, p. 6).
43. *Researchers in the European Research Area: one profession multiple careers*, EC Communication, 2003, http://cordis.europa.eu/documents/documentlibrary/2063EN.pdf.
44. This is an issue addressed in a Science editorial in 2004 (Kennedy, Donald, Austin, Jim, Urquhart, Kirstie and Taylor, Crispin 2004 'Supply without Demand,' *Science* Vol. 303 p1105. See also: *Changing supply and demand for S&T professionals in a globalised economy, OECD 2006.*
45. Examples of 'post-doc' schemes are IRCSET and IRCHSS fellowships and the European Marie Curie fellowship that explicitly supports researcher career development. The SFI PIYRA awards and the ERC Starting Investigator Grants are examples of schemes to support the development of team leaders.
46. In the past, national research funding agencies and research institutions did not to take the career development of post-doctoral researchers into account when evaluating research proposals. This is changing and there are now concrete examples of career development as part of the funding process for researchers. Fro example, in the UK a number of the Research Councils including Arts and Humanities (AHRC), the Biotechnology and Biological Sciences Research Council (BBSRC) and the Engineering and Physical Sciences Research Council (EPSRC) have career development as part of grant reviews. The two main research councils in Ireland have career development as an integral part of the peer review process (www.ircset.ie, www.irchss.ie). However it should be noted that in most cases this is for individual fellowships only. Career development of researchers hired on project grant schemes is not a priority.
47. It has to be remembered the important contribution made by the Marie Curie Schemes in successive Framework programmes (with budget about 10% of total) to support Doctoral candidates and post-doc researchers. In the current FP there are €4.727 billion allocated to Marie Curie and half of that targeted at Doctoral candidates researchers. A core part of the MC schemes is career development and not just funding researchers as part of a team. As another example of grant programmes specifically addressed to young researchers, the European Young Investigators (EURYI) program. This Programme was extremely competitive (3% probability of success, grants of 1.250.000 Eur) and it has been discontinued (see http://www.esf.org/activities/euryi.html). Similar programmes supported by Member States exist and have been extremely successful. The President of Ireland Young Researcher Award (PIYRA) is the Science Foundation Ireland's most prestigious award for researchers from around the world to carry out their research in universities in Ireland. The PIYRA Awards recognise outstanding engineers and scientists from around the world who, early in their careers (no more than five years since Doctoral candidates), have already demonstrated or shown exceptional potential for leadership at the frontiers of knowledge. Awards are normally up to €1 million over five years (see also the UK research fellowship with about €170,000/yr over 5 years. http://www.rcuk.ac.uk/acfellow/info.htm.
48. *Doctoral Programmes in Europe's Universities Achievements and Challenges*, EUA 2007.
49. Council Directive 1999/70/EC of 28 June 1999 concerning the framework agreement on fixed-term work concluded by ETUC, UNICE and CEEP (*Official Journal L 175, 10/07/1999 P. 0043 – 0048*), clause 4.
50. *Doctoral Programmes in Europe's Universities Achievements and Challenges*, EUA 2007.
    http://www.eua.be/fileadmin/user_upload/files/Publications/Doctoral_Programmes_in_Europe_s_Universities.pdf
    At the Vrije Universiteit Brussel a vademecum for the 'good Ph.D. promoter' has been realised, rooted in the C&C. This vademecum is an addendum to any ( compulsory) contract signed between a Ph.D. candidate, his /her promoter and the institution. An ombudsperson is appointed by the board of directors of the University to tackle all types of complaints regarding the implementation of this vademecum.
51. *Reform of Third Level and Creation of Fourth Level Ireland*, IUA 2005. (http://www.iua.ie/publications/documents/publications/2005/Reform3rdCreation4thlevelBrochure.pdf)
    http://www.iua.ie/iua-activities/4th-level-ireland/index.html
52. Eurodoc has proposed a Charter on Supervision and Training of Doctoral candidates 2004. Based on this document, common standards for supervision and training should be developed in the

context of both the ERA and the EHEA. In Ireland all universities adhere to the Irish Universities Quality Board (IUQB) guidelines Good Practice in the Organisation of PhD Doctoral candidates Programmes (www.iuqb.ie).

53. 'What do PhDs do?' – *Trends*, CRAC 2007.
54. 'What do Graduates Do?' – *The class of 2005*, HEA, 2007.
55. EUA DOC-CAREERS 10 May 2007 University/Business collaboration in doctoral programmes at University Pierre and Marie Curie, Paris Institute of Doctoral Training – www.eua.be/fileadmin/user_upload/files/EUA1_documents/Jean_Chambaz_-_2nd_WS_DOC-CAREERS_doc-career2.pdf.
56. http://www.rcuk.ac.uk/rescareer/rcdu/training.htm; http://www.grad.ac.uk/cms/ShowPage/Home_page/p!eecddL
57. http://www.ikt.org.uk/
58. http:// www.imperial.ac.uk/graduateschools.
59. While the broad focus on generic / transferable skills is on doctoral candidates this is now being extended to post-doctoral researchers to include all early stage researchers. For example, the UK GRAD Programme has recently received additional funding to extent its remit to include the personal, professional and career development of research staff in HE. The new contract will create a national body that will support UK universities implement the principles of the C&C. The main aims of the project include providing mechanisms for sharing practice and building an evidence base to demonstrate progress.
www.crac.org.uk/crac%5Fnew/news/news7.asp
60. Research Councils UK: Joint Skills Statement http://www.grad.ac.uk/cms/ShowPage/Home_page/Policy/National_policy/Research_Councils_training_requirements/p!eaLXeFl
Catholic University of Leuven: Competency Profile http://www.kuleuven.be/personel/competentieprofiel/skills.htm
University of South Australia: Research Degree Graduate Qualities http://www.unisa.edu.au/resdegrees/gradquals.asp
Carnegie Mellon University, Pittsburgh, Pennsylvania: Transferable skills http://www.studentaffairs.cmu.edu/career/CareerBriefs/trans kills.html
The University of Sydney: Graduate attributes project http://www.itl.usyd.edu.au/GraduateAttributes/interpretations.cfm
61. http://www.upc.edu/eees/contingut/arxius/Descriptors_dublin%5B1%5D_2004.pdf
http://www.bologna-bergen2005.no/Docs/00-Main_doc/050218_QF_EHEA.pdf
62. 'The framework of qualifications for the European Higher Education Area' as adopted at the Bergen conference of European Ministers Responsible for Higher Education 19-20 May 2005. http://www.bologna-bergen2005.no/Docs/00-Main_doc/050218_QF_EHEA.pdf.
63. Council Recommendation 84/635/EEC of 13 December 1984 on the promotion of positive action for women (OJ 1984 L 331, p. 34), which expressly refers in its preamble to Article 2(4) of Directive 76/207/EEC of 9 February 1976 (on the implementation of the principle of equal treatment for men and women as regards access to employment, vocational training and promotion, and working conditions, OJ 1976 L 39, p. 40), recommends Member States in particular: (1) To adopt a positive action policy designed to eliminate existing inequalities affecting women in working life and to promote a better balance between the sexes in employment, comprising appropriate general and specific measures, within the framework of national policies and practices, in order: (a) to eliminate or counteract the prejudicial effects on women in employment or seeking employment which arise from existing attitudes, behaviour and structures based on the idea of a traditional division of roles in society between men and women; (b) to encourage the participation of women in various occupations in those sectors of working life where they are at present under-represented, particularly in the sectors of the future, and at higher levels of responsibility in order to achieve better use of all human resources. (3) to take, continue or promote positive action measures in the public and private sectors. (4) to take steps to ensure that positive action includes as far as possible actions having a bearing on the following aspects: adapting working conditions (... ) (8) to make efforts also in the public sector to promote equal opportunities which might serve as an example ...
64. The Commission has launched the second phase of consultation of the social partners at European level on the issue of reconciliation of work, private and family life. The present report should be considered in this context.
65. European Commission Research Directorate-General, *Science policies in the European Union Promoting excellence through mainstreaming gender equality*. A Report from the ETAN Expert Working Group on Women and Science, European Commission Research Directorate-General, Women and Science Excellence and Innovation – Gender Equality in Science, 2005. Women in Scientific Careers: Unleashing the Potential, OECD, 2006, Paris. Linn, Marcia 2007, Women in Science. 'Can Evidence Inform the Debate?' Science Vol. 317, pp. 199-200. *Ceci, Stephen J. and. Williams Wendy M Eds 2007 'Why Aren't More Women in Science?' Top Researchers Debate the Evidence American Psychological Association, Washington, DC, 2007. Science Vol. 317 13 July 2007* Bornmann, Lutz Bias cut Women, it seems, often get a raw deal in science — so how can discrimination be tackled? *Nature* Vol. 445 - 1 February 2007 p566 *InterAcademy Council June 2006 Women for science*. An advisory report. www.interacademycouncil.net/
Lawler, Andrew 2006 Universities Urged to Improve Hiring and Advancement of Women Vol. 313 Science www.sciencemag.org, p 1712.
66. http://ec.europa.eu/research/science-society/pdf/she_figures_2006_en.pdf.
67. Council Directive 92/85/EEC of 19 October 1992 concerning the implementation of measures to encourage improvements in the safety and health of pregnant workers, workers who have recently given birth and women who are breastfeeding.
68. Currently, Council Directive 92/85/EEC does not provide for an extension of contract for researchers who are eligible for pregnancy leave as a way to protect them against discrimination. We can only

refer to ECJ case law, which considers that 'where non-renewal of a fixed-term contract is motivated by the worker's state of pregnancy, it constitutes direct discrimination on grounds of sex, contrary to Article 2(1) and 3(1) of Council Directive 76/207/EEC of 9 February 1976 on the implementation of the principle of equal treatment for men and women as regards access to employment, vocational training and promotion, and working conditions' (ECJ, 2001-10-04, *Jimenez Melgar*, Case C-438/99). Nonetheless, the article 2(4) of Directive 76/207/EEC of 9 February 1976 (on the implementation of the principle of equal treatment for men and women as regards access to employment, vocational training and promotion, and working conditions) is specifically and exclusively designed to authorise measures which, although discriminatory in appearance, are in fact intended to eliminate or reduce actual instances of inequality which may exist in the reality of social life. It authorises national measures relating to access to employment, including promotion, which give a specific advantage to women with a view to improving their ability to compete on the labour market and to pursue a career on an equal footing with men (See ECJ, Case C- 450/93 *Kalanke*, paragraphs 18 and 19, Case C-409/95 *Marschall*, paragraphs 26 and 27, and Case C-158/97 *Badeck and Others* [2000] ECR I-1875, paragraph 19).

69. Awards are up to €200,000 direct costs per year for a 3-year full-time or 4-year part-time period (with additional 30% indirect costs) – http://www.sfi.ie/content/content.asp?section_id=474&-language_id=1
70. http://advance.uci.edu.
71. Two programmes, namely "Marie Heim-Vögtlin programme (Re-start)", have been activated in Switzerland that, offer starting grants to facilitate the recruitment of researchers returning to science (left due to family obligations or a change of residence as a result of their partner's career development). The support is for 2-4 years, but there is a certain degree of pressure on the institutions to promote the permanent hiring of the successful cases. The "Dual Career" initiative of the ETH Zurich does provide support in exploring career opportunities for partners of ETH faculty members, who have recently been recruited from abroad and provides them a start-up aid. On the topic of selection and hiring, other examples of good practices are available, for instance the protocol developed (in an **Equal project) by Nijmegen University**. An additional example is given by the **Dutch NWO** which gives a premium to universities if they promote a woman assistant professor who won a NWO grant to associate professor, or an associate professor to full professor. In this way, the first selection (for the grant) is gender neutral and only based on quality of the applicant, but, thanks to the premium, women's advancement is encouraged.
72. This programme provides funding for advanced graduate studies. The long-term goal is to support role models and facilitate an improved gender balance at faculty level so that more young women are attracted into scientific disciplines. Grant recipients in the Faculty for the Future programme are expected to return to their home countries to continue their academic careers.
73. For example, the *InterElles* Club networks big French companies. *InterElles* aims at exchanging and sharing best practices of companies which already have an active network of women in scientific and technological environments. The ultimate aim being to foster the career development of women, to propose actions favouring the mixing of both genders at all levels of the enterprise.
74. www.partnerjob.com offers a simple tool to employees' spouses/partners seeking work at their new location. It provides a database of job openings worldwide posted by member companies and spouses/partners have also access to a job database filtered from Monster sites worldwide.
75. On a smaller scale, the dual career advice office of ETH Zurich provides the same service to spouses of newly hired employees from a foreign country, extended with family services like help with finding housing, childcare/schools, etc.
76. See Wolf-Wendel, L.E., Twombly, S.B., & Rice, S. (2003). *The two-body problem*: *Dual-career couple hiring practices in higher education.* Baltimore: Johns Hopkins University Press, for a review study on dual-career couple hiring in American universities.
77. Mary Deane Sorcinelli (2000) *Principles of Good Practice: Supporting Early-Career Faculty. Guidance for Deans, Department Chairs, and Other Academic Leaders*, American Association for Higher Education http://styluspub.com/resources/freestuff.aspx.
78. http://www.daphnejackson.org/

## 3. Second cornerstone

79. This point was emphasised by a number of stakeholder contributors to the ERA consultation. See also *Mobility of Researchers between Academia and Industry: 12 Practical Recommendations*, p8 – European Commission 2006.
80. The work of Eurostat (EC) and the OECD provides a good basis for this.
81. This mobility cannot be effective without respect of the mutual recognition of diplomas and experience principle as interpreted by ECJ (See ECJ 9 September 2003, *Burbaud*, Case C-285/01: Community national seeking admission to the French public hospital service cannot be required to pass the entrance examination for the French national school of public health if he can show that he has received equivalent training in another MS). It also implies to take into account professional experience and seniority gained in the exercise of a comparable activity within the public administration of another MS by a Community worker (ECJ, 26 October 2006, *Commission v/ Italian Republic*, Case C-371/04; 23 February 1994, *Scholtz*, Case C-419/92; 12 may 2005, *Commission v/ Italian Republic*, Case C-278/03; 30 November 2000, *Commission v/ Spain*, Case C-205/04; 7 October 2004, *Commission v/ France*, case C-402/02).
82. The European Law and Policy Research Group www.liv.ac.uk/law.
83. For example, Ireland's national R&D plan, the Strategy for Science Technology and Innovation (SSTI), recognises the need for mobility and has allocated annual funding for Doctoral candidates to cover stays abroad as part of their study. In Italy, some Doctoral

candidates courses and Schools consider a minimum of six months outside the Country as mandatory to be admitted to the final evaluation for the Doctoral candidates thesis.

84. The Canadian programme of Networks of Centres of Excellence addressed the need to answer to dual demands of deepening excellence in a few institutions with the equal need to avoid undermining expertise in others; thus creating networks among the best in various disciplinary /research areas was the response offered by Canadian government. The program offers supports for short-term and virtual mobility - http://www.nce.gc.ca.
85. In a recent press release, the UNCTAD Director, Habib Ouane, stated that 20% of trained personnel from least developed countries has already moved to rich ones and quoted as a good practice a recent agreement between Malawi and UK, aimed at investing in the African country to promote locally MD training courses. Recent (2007) data, obtained from a presentation on 'brain drain' by Prof. Goolam Mohamedbhai, President of the International Association of Universities, are impressive: the number of *highly qualified professionals leaving Africa exponentially increased from 2000/year in 1960-75 to 20,000/year currently!*
86. Council Directive 2005/71/EC of 12 October 2005 on a specific procedure for admitting Third-country nationals for the purposes of scientific research (OJ L 289, 3.11.2005, p. 15–22).
87. COM (2007) 248 final.
88. The European Neighbourhood Policy (ENP) was developed in the context of the EU's 2004 enlargement, with the objective of avoiding the emergence of new dividing lines between the enlarged EU and its neighbours and instead strengthening stability, security and well-being for all concerned.
89. *Mobility of Researchers between Academia and Industry* – 12 Practical Recommendations, p8 – European Commission, 2006.
90. *Mobility of Researchers between Academia and Industry* – 12 Practical Recommendations – European Commission, 2006.
91. ECJ, 26 October 2006, *Commission v/ Italian Republic*, Case C-371/04; 23 February 1994, *Scholtz*, Case C-419/92; 12 may 2005, *Commission v/ Italian Republic*, Case C-278/03; 30 November 2000, *Commission v/ Spain*, Case C-205/04.
92. See for example Research Councils UK http://www.rcuk.ac.uk/research/multidis/default.htm and Philips Recruitment (EMEA) 2005 building the pool of talented researchers to achieve Europe's goals and future innovation.
93. The TOKTEN initiative makes it possible for professionals from developing countries who live abroad to return to their home countries and offer technical short-term assistance (http://www.unv.org/en/how-to-volunteer/unv-volunteers/expatriate-professionals.html); the German HERDER Programme sends retired professors and lecturers to South East European universities (The Herder mobility programme – http://www.hrk.de/eng/projekte_und_initiativen/119.php). See also the 'Equity Advisors' of the ADVANCE project quoted before.
94. www.pum.nl.

## 4. Third cornerstone

95. *Social security* refers to legal schemes covering the following risks: (a) sickness and maternity benefits; (b) invalidity benefits, including those intended for the maintenance or improvement of earning capacity; (c) old-age benefits; (d) survivors' benefits; (e) benefits in respect of accidents at work and occupational diseases; (f) death grants; (g) unemployment benefits; (h) family benefits.
96. Commission Staff Working document, Result of the Public Consultation on the Green Paper *The European Research Area: New Perspectives, SEC (2008) 430.*
97. Ackers, L. and Oliver, E. (2008) Scientific Mobility and Pensions: A Summary Report (available at www.liverpool.ac.uk/law/elprg).
98. *Waiting period*: the length of time an individual must be employed by a particular employer before joining the employer's or sector's pension scheme.
99. *Vesting period*: the minimum membership period of a pension scheme. When a member leaves a pension scheme before the end of the vesting periods he will not have (vested) pension rights.
100. See above Ackers, L. and Oliver, E.
101. See above Ackers, L. and Oliver, E.
102. *Frontier worker*: any worker employed (or self-employed) in the territory of a Member State and residing in the territory of another Member State to which s/he returns as a rule daily or at least once a week.
103. Regulation (EC) no 1408/71 of the Council of 14 June 1971 on the application of social security schemes to employed persons and their families moving within the Community OJ l 149 of 5 July 1971, last codified by Council Regulation (EC) 118/97, OJ L 28, 30.01.1997. Regulation (EC) no 883/2004 of the European Parliament and of the Council of 29 April 2004 on the coordination of social security systems OJ L 166 of 30 April 2004. Once its implementing Regulation will be adopted, the Regulation 883/04 will enter into force (expected in 2009).
104. *Conflict of law*: rules which determine which national legislation, among those which have a connection with the situation, will be applicable to a cross-border situation. Regulation 1408/7 and 883/2004 set rules of conflict.
105. *Material rules of coordination*: they refer to the special provisions relating to the various categories of benefits contained in Regulation 1408/71: sickness and maternity, invalidity, old age and death (pensions), accidents at work and occupation diseases, death grants, unemployment, family benefits and family allowances for employed and unemployed persons, benefits for dependent children of pensioners and for orphans.
106. Communication from the Commission to the Council, The European Parliament, The European Economic And Social Committee and the Committee of the Regions on the 'Mobility, an instrument for more and better jobs: The European Job Mobility Action Plan (2007-2010)', COM(2007) 773 final.

107. Provided that the worker is not posted, in which case he would continue to be subject to the national social security rules of the Member State where he is employed. Another category that deserves special attention consists of those working in international road and air transport.
108. *Proposed Standard Practice for Surveys on Research and Experimental Development*, Frascati Manual, OECD, 2002.
109. www.cleiss.fr.
110. Some of which extended to statutory and/or private pension rights.
111. Proposal for a directive on the minimum requirements for enhancing worker mobility by improving the acquisition and preservation of supplementary pension rights of 9.10.2007 COM(2007) 603 final. It is worth recalling that in its original proposal the Commission had also included the transferability of supplementary pension rights, then deleted in the revised proposal, because of the lack of consensus in the Council of Ministers.
112. Accrued pension rights in a pension fund to which no new contributions are added, e.g. because of a change of employer, are not or not sufficiently indexed, therefore devaluating through inflation.
113. Directive 2003/41/EC of the European Parliament and of the Council of 3 June 2003 on the activities and supervision of institutions for occupational retirement provisions, OJ L235 23.09.2003 p.10-21The IORP-directive allows for companies (having their HQ in a country and branches in different countries) to place their complementary pension scheme in a pension fund situated in another EU member state. Thus, no longer do companies have to set up a pension fund in each separate country, as they can set up just one pension fund where all the pension rights of the employees in the different EU countries are accrued.
114. **Funding and salaries** Employers and/or funders of researchers should ensure that researchers enjoy fair and attractive conditions of funding and/or salaries with adequate and equitable social security provisions (including sickness and parental benefits, pension rights and unemployment benefits) in accordance with existing national legislation and with national or sectoral collective bargaining agreements. This must include researchers at all career stages including early-stage researchers, commensurate with their legal status, performance and level of qualifications and/or responsibilities. *The European Charter for Researchers and the Code of Recruitment for Researchers*, (2005/251/CE).
115. In some countries/institutions the 'stipend' (bourse) is accompanied by financial compensatory packages. E.g. in **Belgium** research body Brains and KBC Insurance have signed an agreement which gives foreign researchers access to a private pension scheme at favourable conditions; in **France** Fondation Kastler and AXA have agreed on a health insurance to be granted to 'boursiers' i.e. researchers on stipend. Moreover, the French government has begun a campaign to transform Doctoral grants devoid of social benefits into full rights working contracts. AREA Science Park Trieste (**Italy**) has signed an agreement with the main Trade Union Organisations and with a private insurance agency to provide the personnel on Consultancy Work Contracts ('Contratti di collaborazione coordinata e continuativa') with social security coverage in case of sickness, disabling therapies for severe diseases, maternity leave, protection in the event of accident at work, and thus, to avoid discrimination between that personnel and other employees. Besides additional protection, fringe benefits are provided for with particular reference to health and safety at workplace, canteen service, marital leave, trade union rights and training. Apart from the Nordic countries, there are only a few EU countries/institutions, where the 'employment' status is granted to early stage researchers. **Spain**: after RD 63/2006, there has been an advancement in some of the researcher grants funded by MEC (Ministry of Education and Science) and other institutions will have a mixed scheme, with a partial protection of Social Security (at a reduced amount and excluding unemployment) during two years, and a regular employment contract during next two years.
116. http://ec.europa.eu/employment_social/social_security_schemes/eulisses/jetspeed/
117. See www.minpension.se for the Swedish pension register and www.pensionsinfo.DK for the Danish pension register.
118. Directive 2003/41/EC of the European Parliament and of the Council of 3 June 2003 on the activities and supervision of institutions for occupational retirement provisions, OJ L235 23.09.2003 p.10-21.
119. Where the obligation for researchers of participation in a domestic pension fund is laid down in legislation, an opt-out possibility needs to be realised.
120. There is a pension gap in such situations. As a consequence of that the benefits will not be sufficient to keep up the standard of living after retirement.
121. There are three levels at which pensions may be subject to this tax: on the contributions, on the investment returns and on the payment of the benefits. The common system is EET, it means that the contributions are tax exempt (E), the returns on investment by the pension provider are tax exempt (E) and that the benefits are taxed (T).
122. There are a few Member States which do not stimulate private pillar pensions. The tax treatment of such pensions is the same as other investments and savings.

## 5. Fourth cornerstone

123. http://europa.eu/eracareers/europeancharter.
124. 'Changing supply and demand for S&T professionals in a globalised economy', p16 – OECD 2006.
125. EMBO has run a questionnaire on C&C by mail sent to PIs and the first assessment of the questionnaire indicated that about 80% of the PIs in Academia know nothing about the *C&C*.
126. For example, in Ireland, a recent survey of Marie Curie funded researchers showed that 80% were unaware of the *C&C*.

127. For example, the approach to the *C&C* in the UK and Ireland was to conduct a gap analysis before taking any decision. This meant analysing each component of the Charter and comparing it with national legislation and practice by funding agencies and employers (universities, business etc). An issue did arise for both countries in relation to the treatment of doctoral candidates where the Charter seems to indicate that they should be employees. The UK and Irish tradition has been to treat doctoral candidates as professional students and there are no plans to change this approach. In Ireland all seven universities have signed up to the *C&C* despite our reservations on the issue of doctoral candidates researchers. The UK HEIs are compliant with the *C&C* in almost all other areas. The UK GRAD Programme has recently received additional funding to extent its remit to include the personal, professional and career development of research staff in HE. The new contract will create a national body that will support UK universities implement the principles of the *C&C*. The main aims of the project include providing mechanisms for sharing practice and building an evidence base to demonstrate progress. www.crac.org.uk/crac%5Fnew/news/news7.asp.
128. The third *C&C* phase (2010-2013) might concentrate on the adaptation of *C&C* to changing conditions if the stocktaking exercise at the end of phase two proves this to be a necessity.
129. Swiss institutions are explicitly asking for more professional help with the *C&C* related project management.

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