

# Doctoral Education in France

**Prof. Mossadek TALBY**

**Director of the Doctoral College of Aix-Marseille Université**

**Member of the EUA-CDE Steering committee**

## National regulatory framework

Decree of the Ministry of Higher Education, Reserach & Innovation

### Major orientations

- Doctoral education is a training to and through research, organized in doctoral schools within HE institutions and as part of the implementation of their scientific strategy, a doctoral college may be set up to organize doctoral policy at this level, to contribute to its visibility and to the mutualization of the activities of the doctoral schools ;
- Doctoral schools bring together research units and teams from one or more institutions ;
- Accreditation of doctoral schools by the Ministry of HERI after evaluation by the High Council of the Evaluation of Research and Higher Education (HCERES) ;
- Recognition of doctoral education as **“research professional experience”** ;
- Possibility given to all HE and research institutions to participate in doctoral education after evaluation by the HCERES and accreditation by the Ministry of HERI.

## National regulatory framework

Decree of the Ministry of Higher Education, Research & Innovation

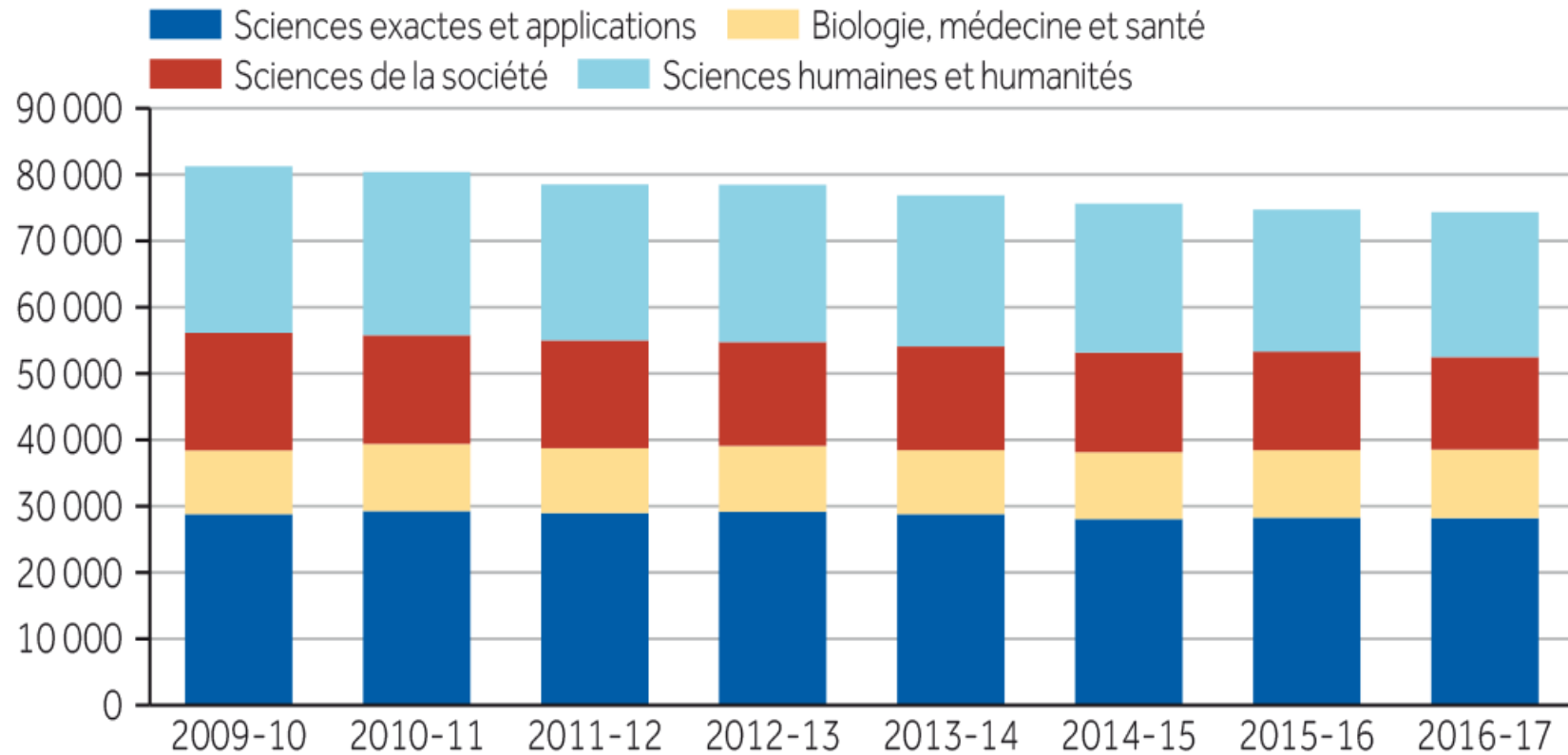
### Sets in particular :

- ✓ National framework for doctoral education and the modalities leading to the award of the national doctorate degree ;
- ✓ Organization, role and missions of doctoral schools ;
- ✓ Modalities and organization of doctoral education: conditions of enrollment/re-enrollment, supervision, doctoral charter, training programmes, individual doctoral follow-up committee, duration of the doctorate, break, thesis defense modalities and defense committee ;
- ✓ International cotutelle : Principles and convention ;
- ✓ Deposit-preservation and dissemination of doctoral thesis dissertations : <http://www.theses.fr/>

## Key figures of Doctoral education in France

- ✓ Number of accredited doctoral schools (2017): **275** ;
- ✓ Total number of doctoral candidates (2016): **~ 74 500** ;
- ✓ Number of new enrolled doctoral candidates (2016): **~ 16 800** ;
- ✓ Total number of awarded doctorate degrees (2016): **~ 14 600** ;
- ✓ Gender balance (2016): **55%** males & **45%** females ;
- ✓ Average duration of doctoral thesis (2016): **~ 48 months** ;
- ✓ Share of international doctoral candidates (2016): **~ 41%** ;
- ✓ Share of new enrolled doctoral candidates in cotutelle (2016): **~ 8.4%** ;
- ✓ Share of doctoral candidates with dedicated funding for doctoral thesis (2016): **~ 72%** ;
- ✓ Share of doctoral candidates in salaried position (2016): **~ 17%** ;
- ✓ Share of doctoral candidates without funding (2016): **~ 11%**.

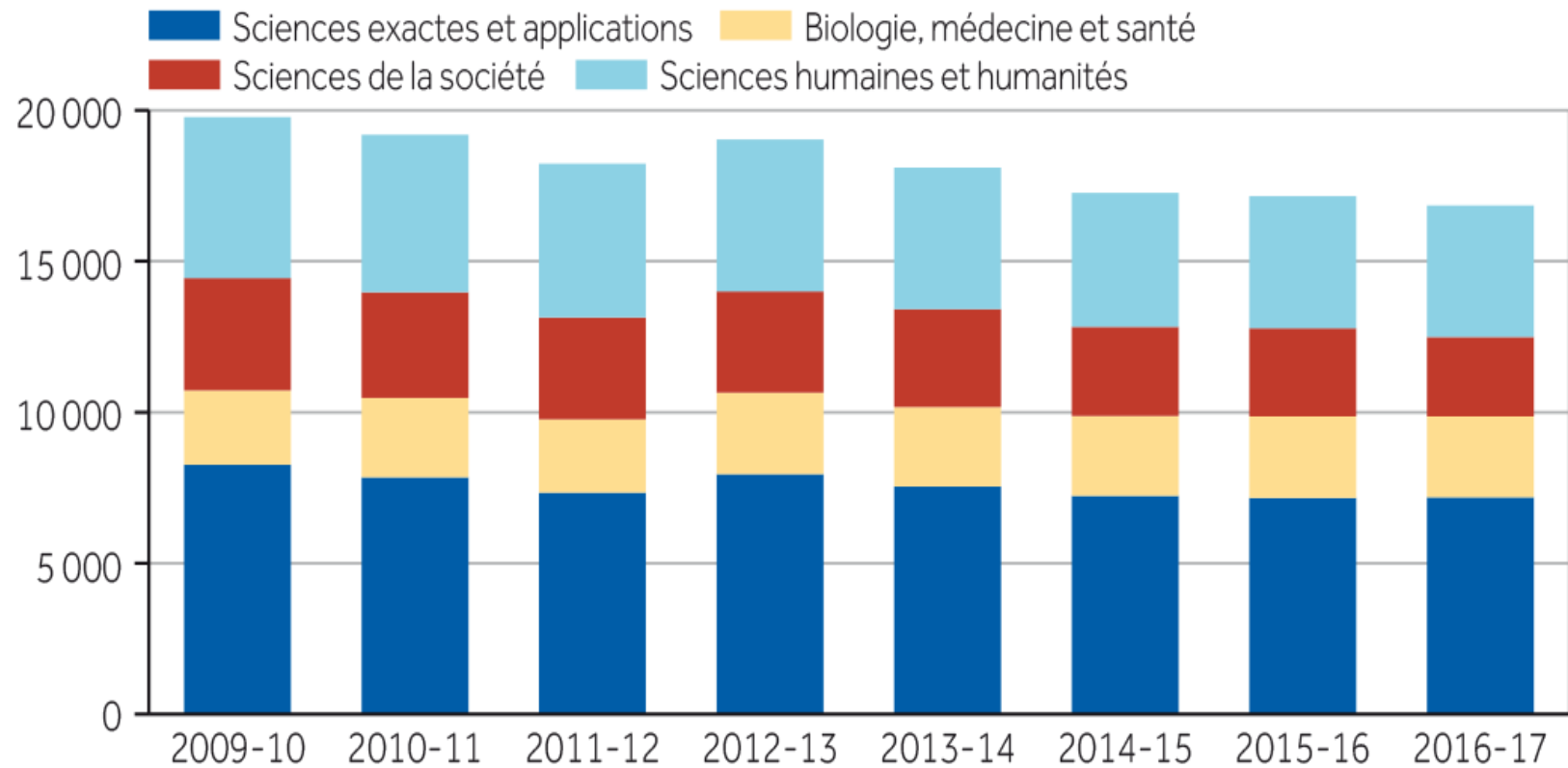
## Evolution of the total number of doctoral candidates in France



Source : MESRI-DGESIP/DGRI-SIES.

**8.5% global decrease in 7 years**

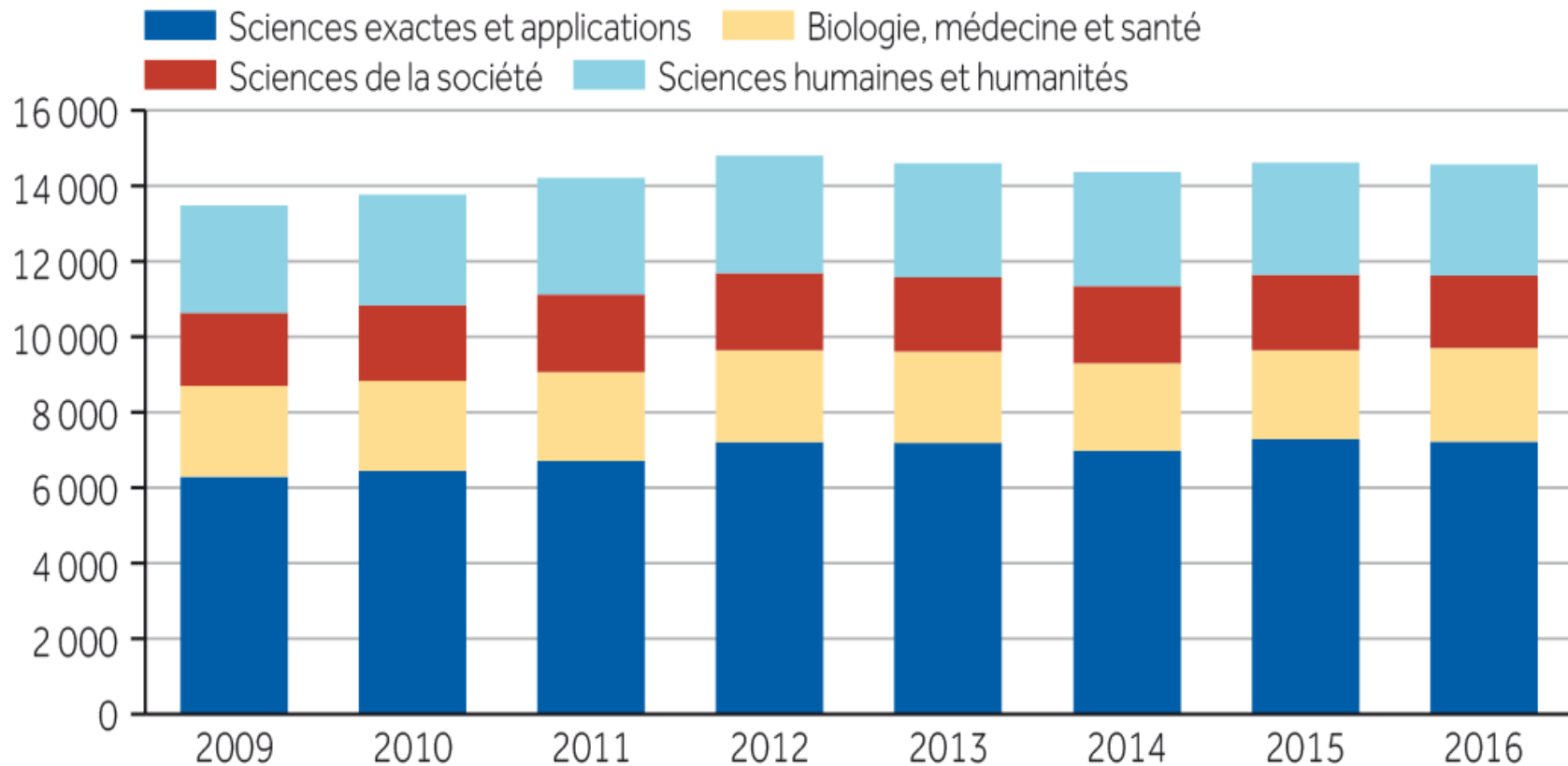
## Evolution of the number of new enrolled doctoral candidates in France



Source : MESRI-DGESIP/DGRI-SIES.

**15% global decrease in 7 years !**

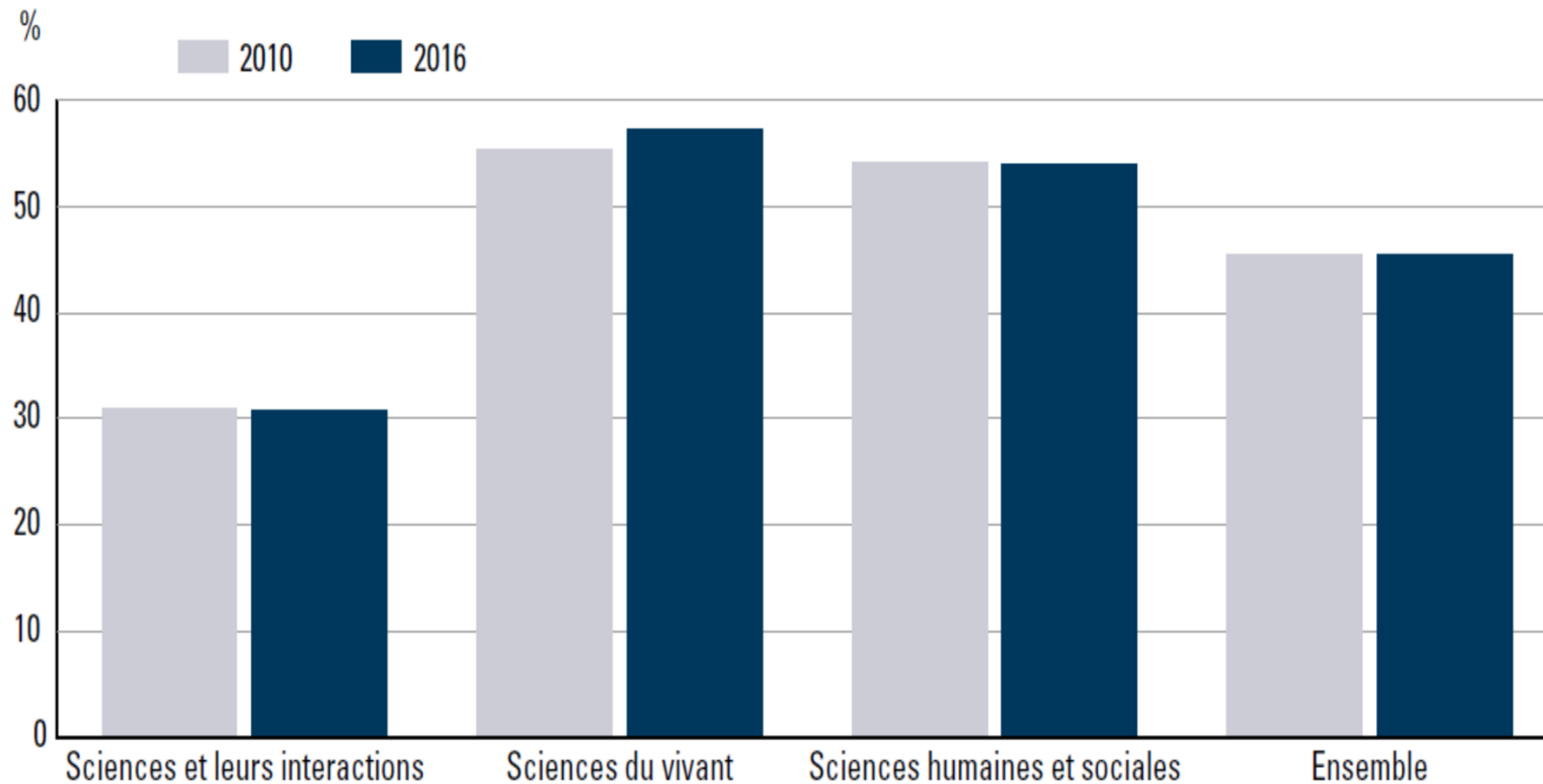
## Evolution of the number of doctoral degrees awarded in France



Source : MESRI-DGESIP/DGRI-SIES.

> 8% global increase in 7 years

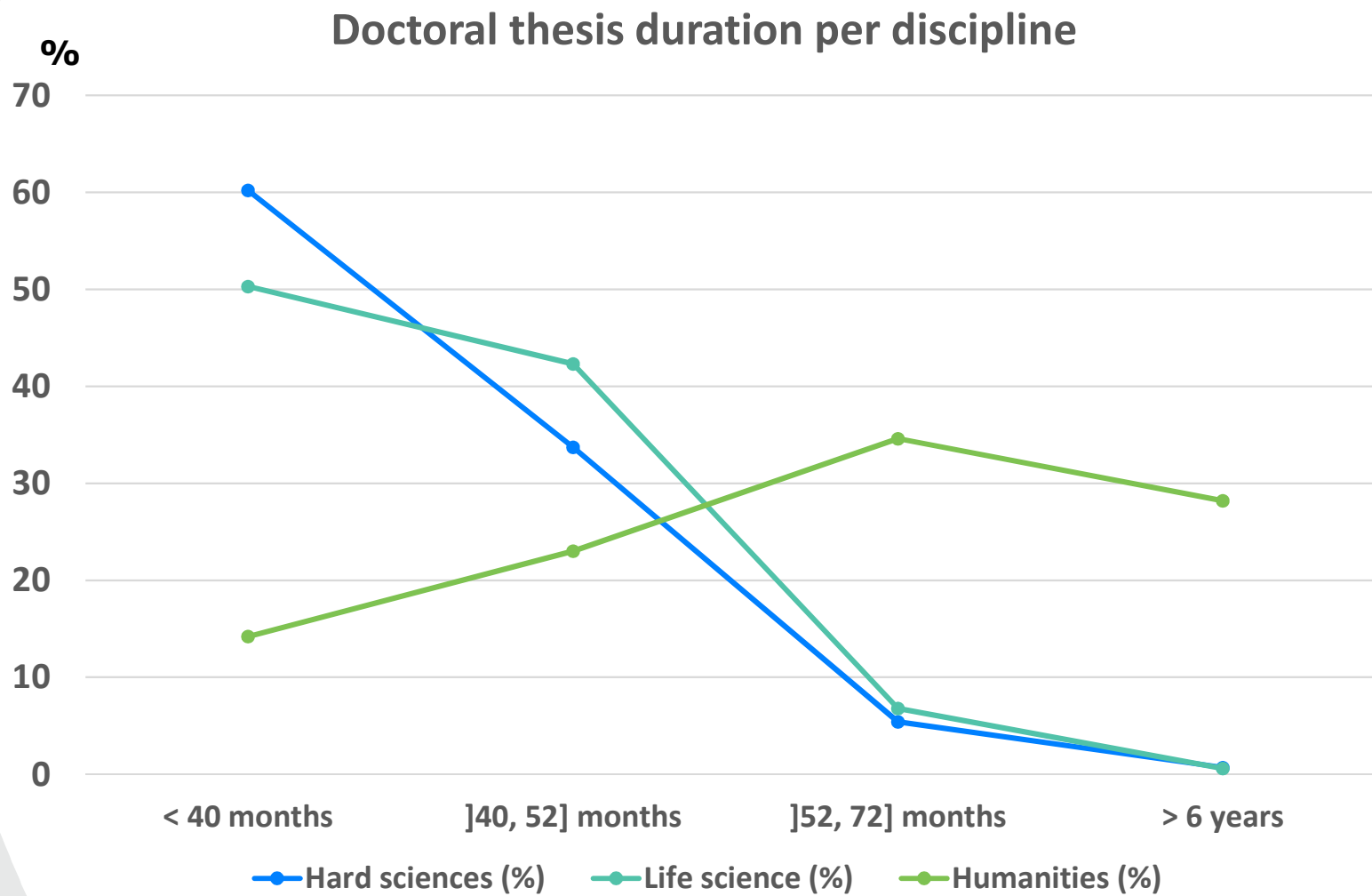
## Proportion of females among doctoral degree diploma graduates per discipline



**Overall gender balance: 55% males, 45% females**

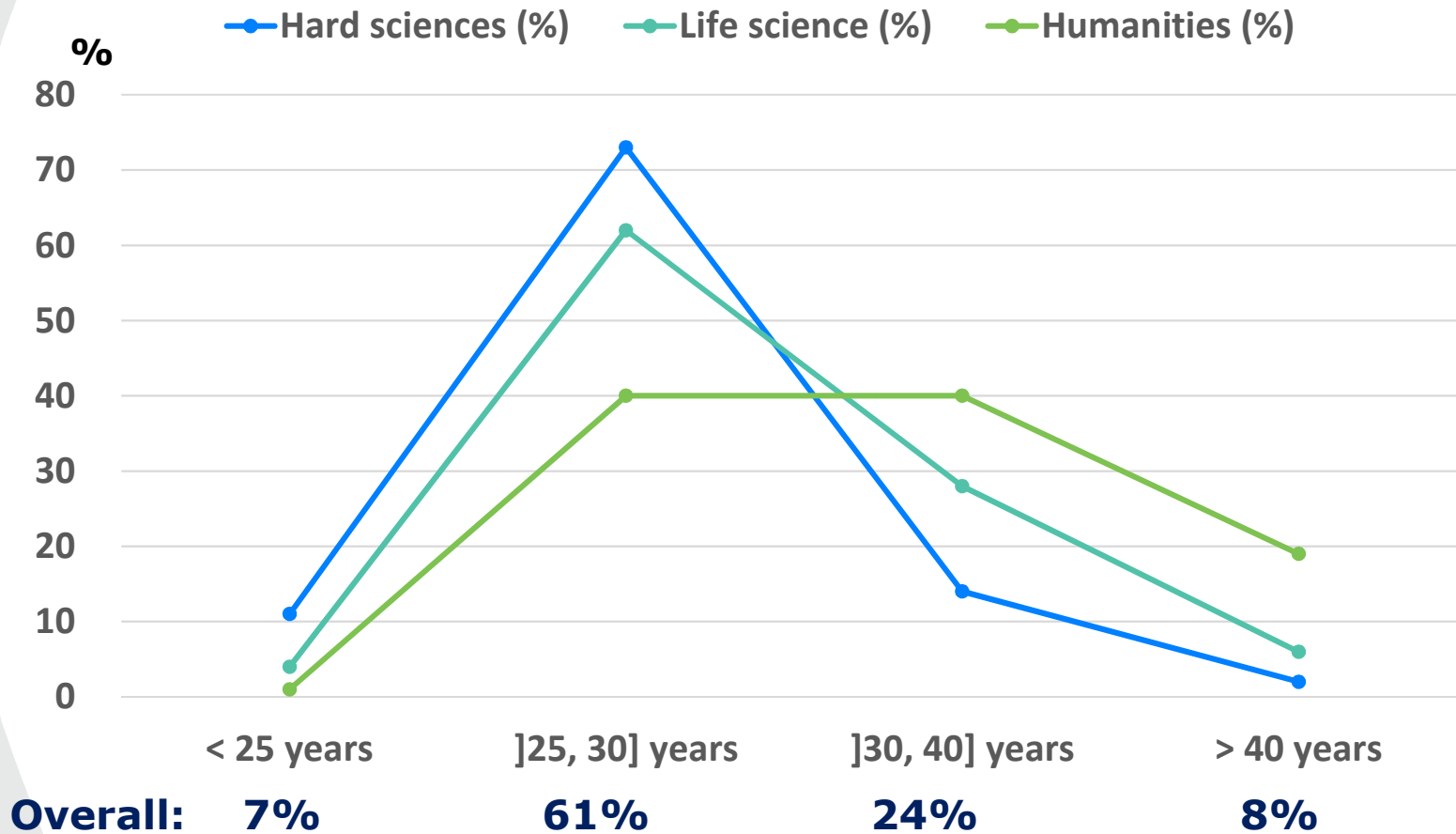


# Doctoral thesis duration



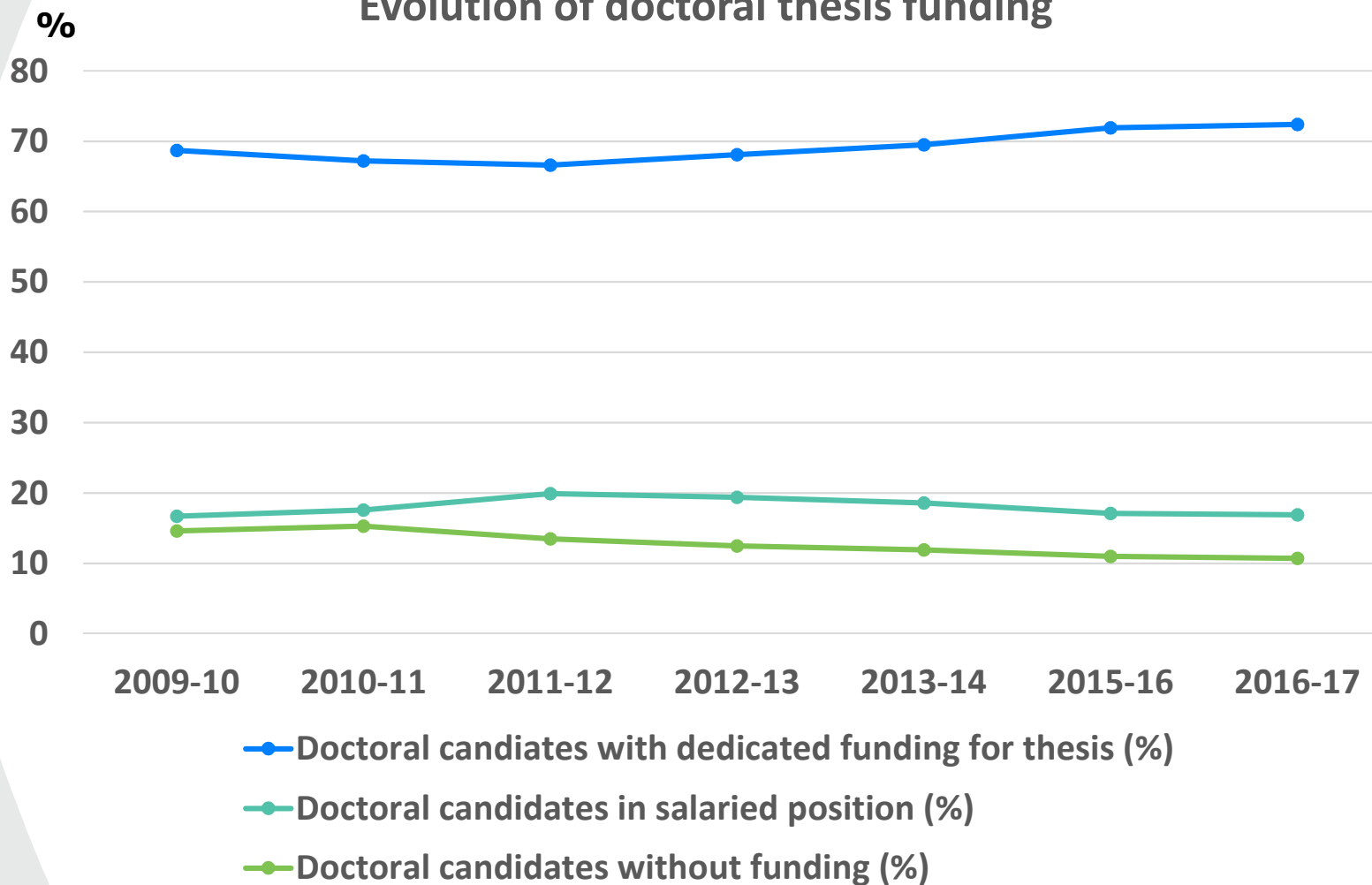
Source : MESRI-DGESIP/DGRI-SIES

## Distribution of 2016 Doctorate degree holders by age range and discipline



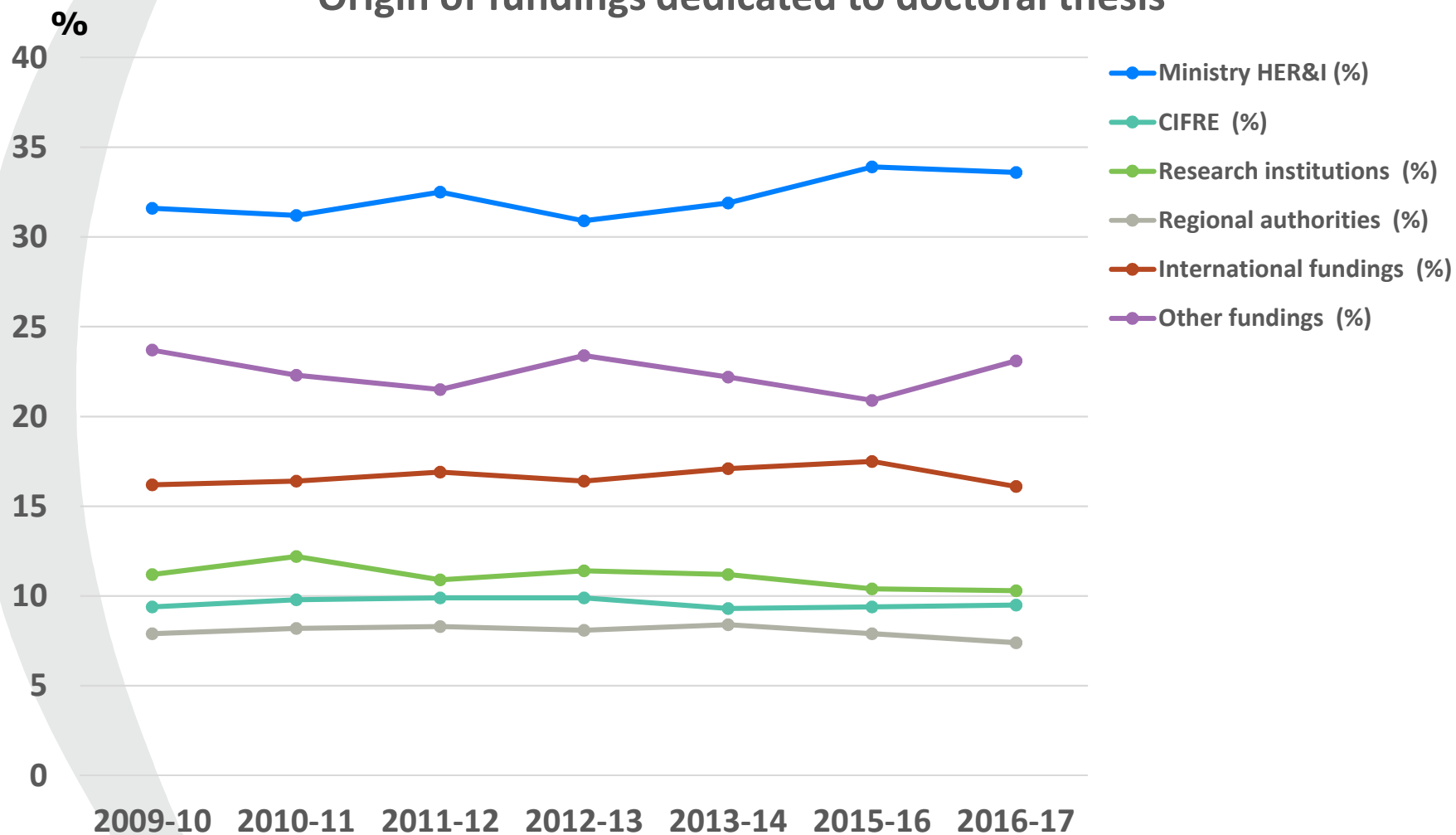
## Doctoral thesis funding

Evolution of doctoral thesis funding



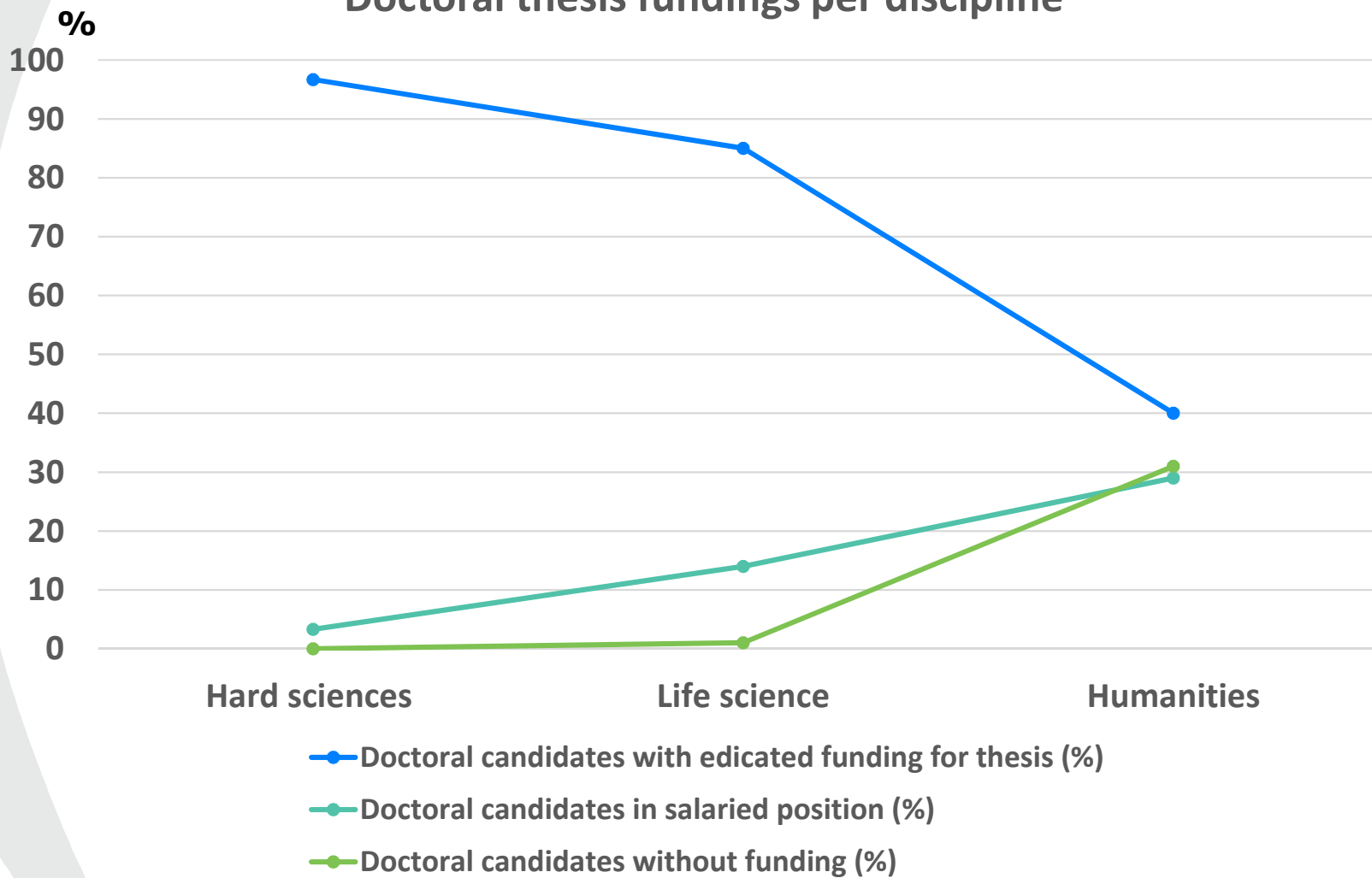
# Doctoral thesis funding

## Origin of fundings dedicated to doctoral thesis



# Doctoral thesis funding

## Doctoral thesis fundings per discipline



Source : MESRI-DGESIP/DGRI-SIES

# CIFRE doctoral contract

## Industrial agreement for doctoral training through research

- **Established in 1981** by the French Ministry of HE Research and Innovation
  - Enables doctoral candidates to prepare doctoral thesis within a company, in close cooperation with an academic research Lab.
  - Since 1981, **27 000** doctoral contracts, over **9 000** recipient Companies, over **4 000** hosting Laboratories.
  - **1 450** doctoral contracts in 2018 and a total of **4 200** on-going doctoral theses.
- **Highly popular funding device**
  - Promotes cooperation between public research labs and non-academic sector.
  - Favors employment of doctorate degree holders in non-academic sector.
- **All scientific sectors concerned**
  - Hard sciences: **59%**, Life science: **14%** and humanities: **27%**
- **Highly effective training**
  - **70%** of CIFRE doctoral graduates employed after **3 months** ; **96%** employed after **12 months** ; **33%** stay in the company.

# CIFRE Doctoral contract

## Industrial agreement for doctoral training through research Public-private sector partnership

ANRT: On behalf of the French Ministry of Higher Education  
Research and Innovation

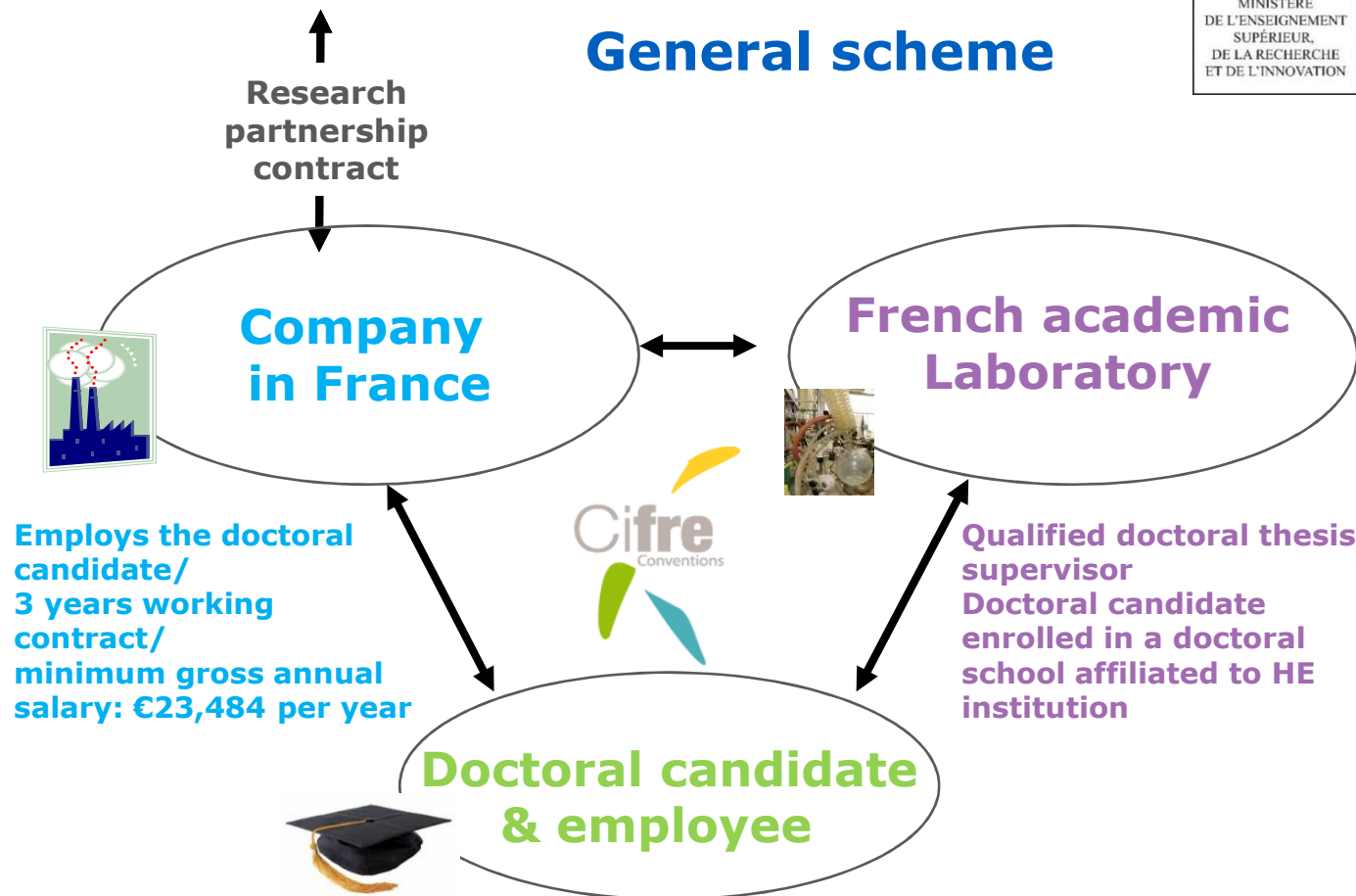


Assesses the  
research project

Assesses the  
involvement of the  
non-academic partner

Grant to company :  
€42,000 for 3 years  
(€14,000 annually)

### General scheme



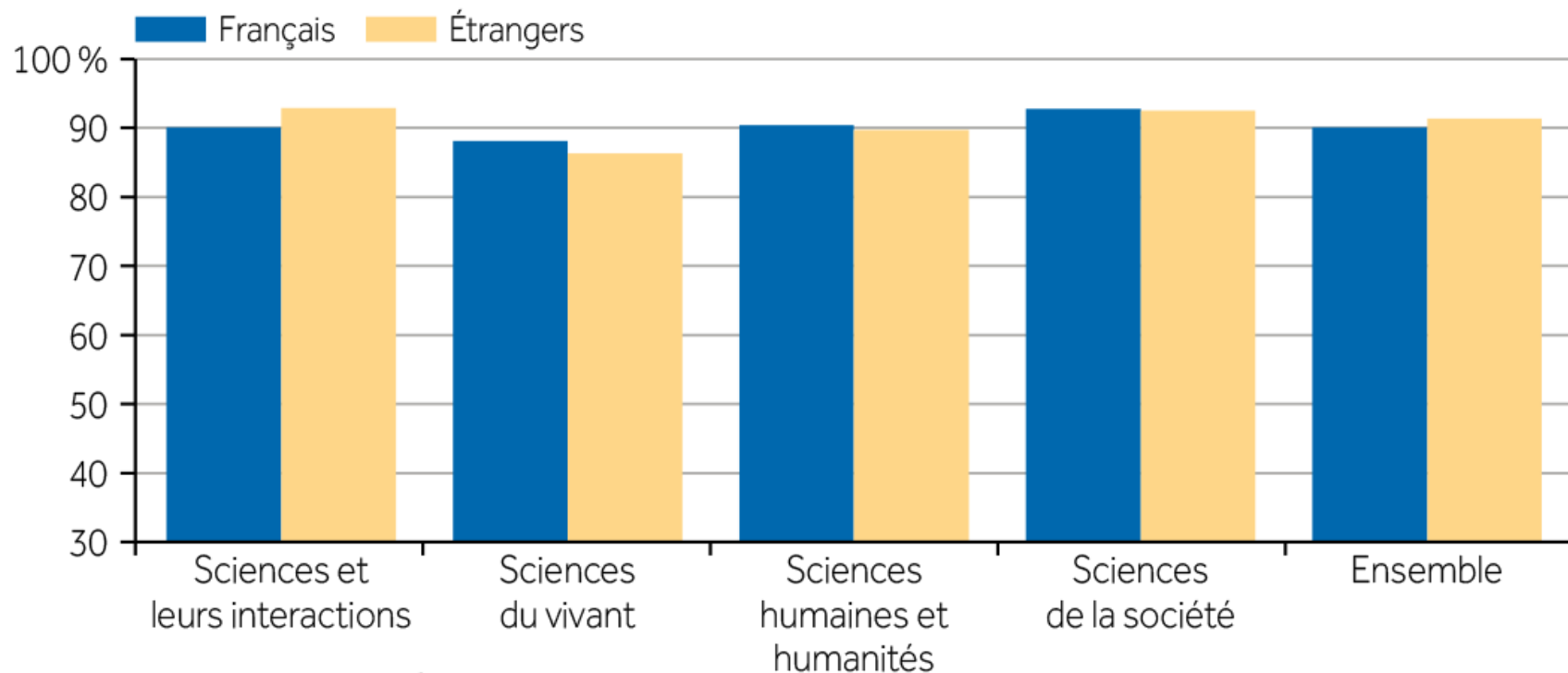


# **Career continuation of doctoral dergee holders**



## Integration rate of doctorate degree holders 3 years after graduation

Taux d'insertion des docteurs de nationalité française et étrangère  
par discipline 36 mois après leur diplôme de doctorat (en %) France entière

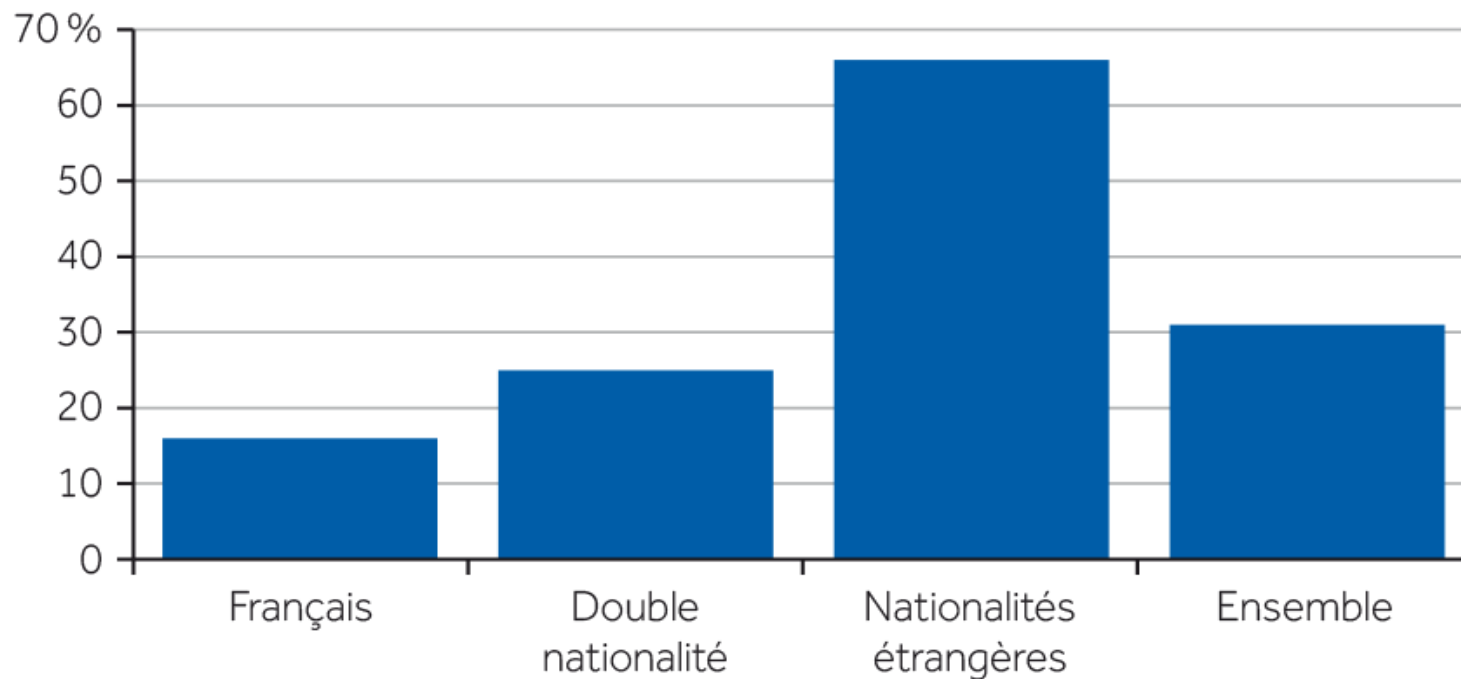


Source : MESRI-DGESIP/DGRI-SIES.

## Doctorate degree holders employed abroad 3 years after graduation

Docteurs en emploi travaillant à l'étranger selon la nationalité  
36 mois après leur diplôme (en %)

France entière

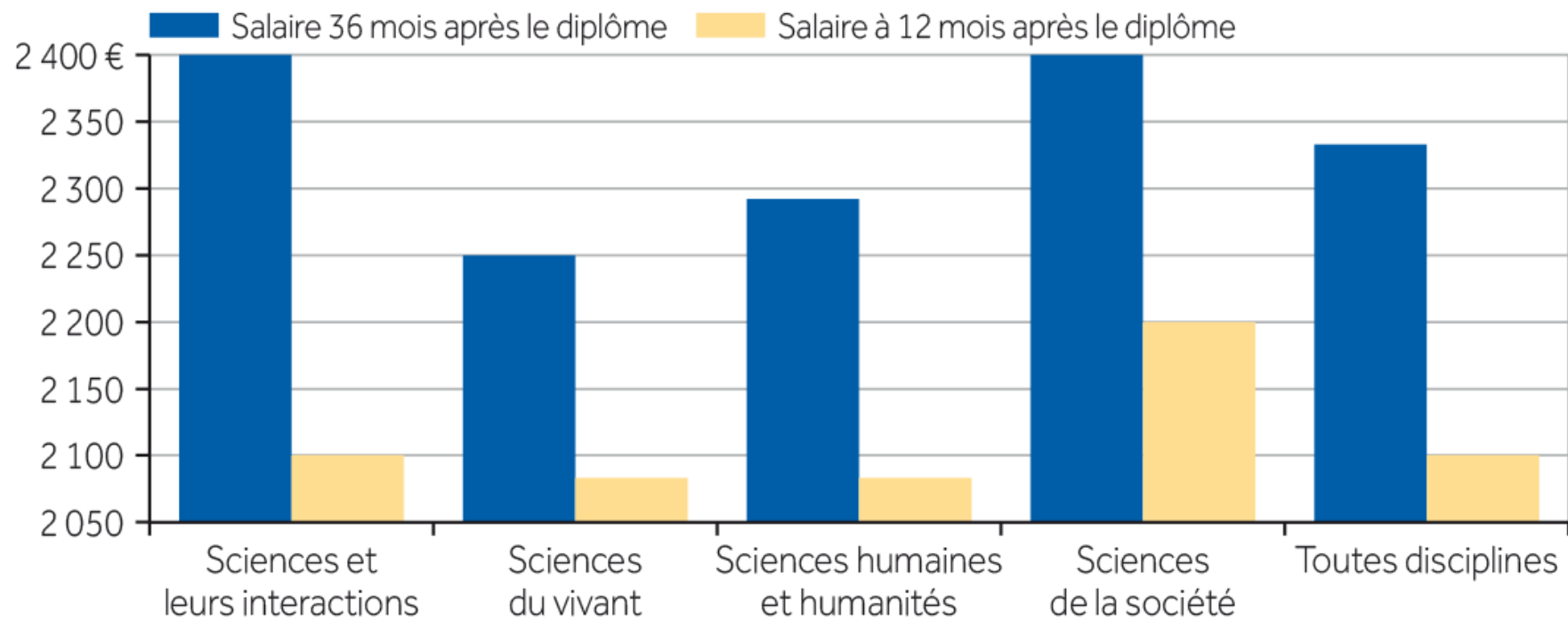


Source : MESRI-DGESIP/DGRI-SIES.

## Median net monthly salary of doctorate degree holders, 1 and 3 years after graduation

Salaire mensuel net médian des docteurs par discipline 12 et 36 mois après leur diplôme de doctorat

France entière



Source : MESRI-DGESIP/DGRI-SIES.

## Conclusions

- Doctoral education in France has evolved significantly over the last 20 years.
- It is regulated at the national level by a ministerial decree that fixes the national framework for doctoral education and the modalities leading to the award of the national doctorate degree.
- It is a research based activity, fully in line with the Salzburg principles and recommendations and mostly with the Principles of the EU commission for innovative doctoral training.
- Collaboration with non academic sectors (Intersectoral mobility), supported mainly through CIFRE programme.
- International mobility supported through Cotutelle agreement with international academic partners.
- Integration rate after graduation is satisfactory.

# Additional slides

## The National Network of Doctoral Colleges

Created in 2015

Gathers 25 French Universities/COMUE

The objectives of the network is:

- to promote the exchange of ideas, experiences and good practices on doctoral education issues ;
- to promote the recognition and enhancement of the doctorate among all public and private actors in the social, economic and cultural sectors, both at the national and international levels ;
- to be the voice of its members in relation with the national regulatory authorities in charge of doctoral education.

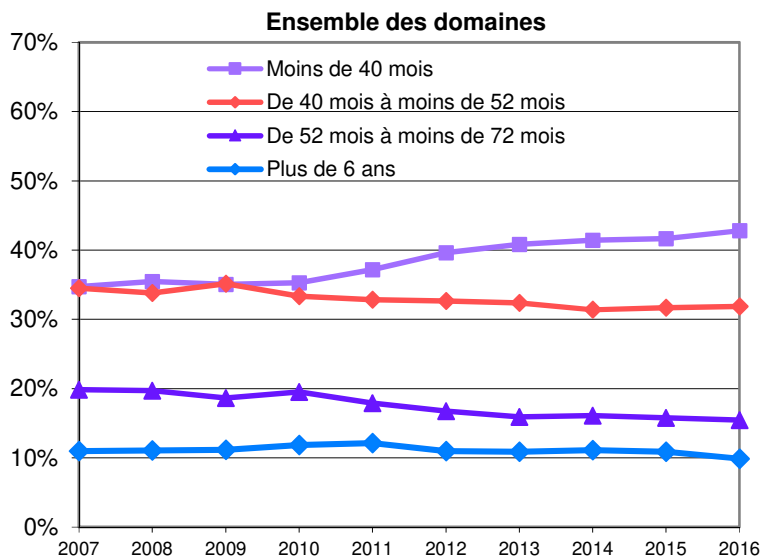
## Doctoral Schools (DS)

Organise the training of doctoral candidates and prepare them for their professional careers at the end of their doctoral work. They bring together research units and teams from one or more institutions.

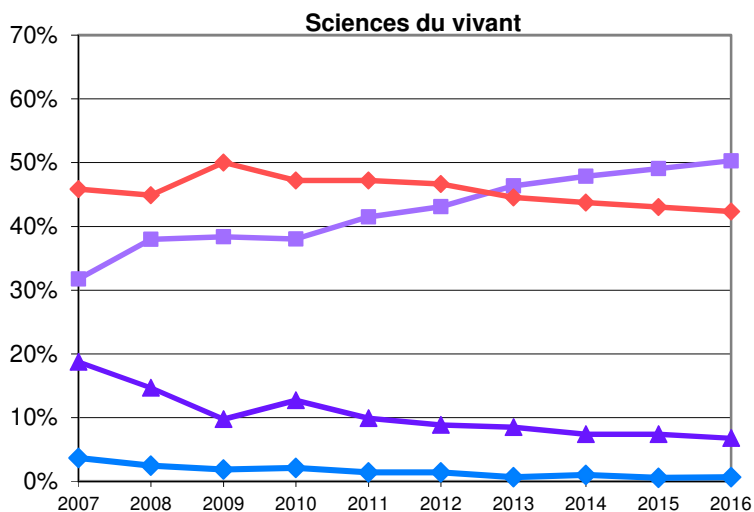
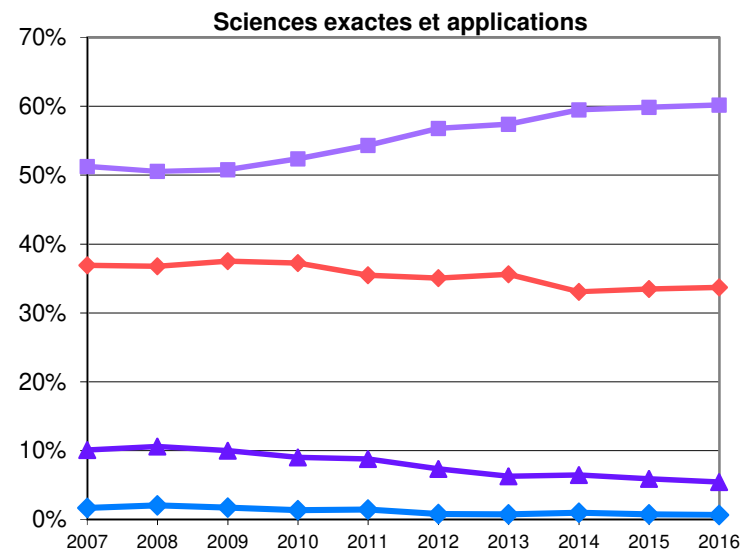
### DS main missions:

- Implement a policy for the admission of doctoral candidates in the DS ... ;
- Organize scientific exchanges between doctoral candidates and with the scientific community: Proposes training activities promoting interdisciplinarity and the acquisition of a broader scientific culture, including knowledge of the international research framework ;
- Ensure that each doctoral candidate receives training in research ethics and scientific integrity ;
- Setup individual doctoral candidate monitoring committees and offer specific training or support to supervisors ;
- Define and implement support mechanisms for the continuation of the professional career path of doctorate degree holders ... and organise the monitoring of the professional careers of trained doctors ;
- Contribute to a European and international opening, within the framework of cooperation actions ...

# Evolution of doctoral thesis duration



Source : MESRI-SIES (enquête sur les écoles doctorales)



Source : MESRI-SIES (enquête sur les écoles doctorales)

