



CIFRE¹, a passport for employment in a company

Results of the 2016 survey on current situations for CIFREs completed in 2010 and 2014

The French Ministry for Education and Research and ANRT present the results of a survey of former CIFRE doctoral students carried out in early 2016.

The CIFRE initiative boosts scientific employment in companies.

- Thesis completion rates for CIFRE doctoral students have remained particularly high over the years, at 98%. Company-laboratory-ANRT triple supervision is clearly crucial to its success.
- Two-thirds of “former CIFREs” make their career in a company, compared to barely a third of doctorate holders in France in general.
- In companies, 64% of those who terminated CIFRE in 2010 were still working on R&D in a company in 2016; this is triple the figure of Doctors as a whole three years after defending their thesis.
- The median salary of “former CIFREs” is 23% higher than the average for Doctors recruited by companies.
- The vast majority of “former CIFREs” say they are satisfied with their job.

Introductory comments

This survey was carried out in early 2016 and questioned former doctoral students whose CIFRE placement was at least 33 months long and came to an end in 2010 or 2014. Former CIFRE students are hereafter designated as “CIFRE Doctors” or “former CIFREs”.

The response rates resulted in more reliable results for CIFREs completed in 2014 than in 2010, but comparisons with previous surveys allowed us to consolidate the analyses².

- For CIFREs terminated in 2014, 520 “former CIFREs” replied out of 1,082 solicited, which is a response rate of 48%;
- For CIFREs terminated in 2010, 230 “former CIFREs” replied out of 927 solicited, which is a response rate of 25%.

¹ Cifre = Conventions Industrielles de Formation par la Recherche – industrial research training agreements

² Surveys carried out by ANRT, available on request

The profiles of the respondents, in terms of scientific disciplines and education prior to their doctorate, are generally highly representative of CIFRE beneficiaries; social sciences are nevertheless significantly under-represented. For both cohorts, the percentage of women who responded, at 27%, corresponds to the proportion of female CIFRE beneficiaries; in addition, 15% of “former CIFREs” live abroad.

Thesis defence rate

Almost all CIFRE doctoral students complete their theses

The average defence rate for “former CIFREs”, at 98%, is excellent and in line with previous surveys. We observe only a slight variation in this rate according to scientific discipline, with human and social sciences often requiring more research time before theses are ready for defence³.

Year CIFRE ended	Theses defended	Still to be defended	Never defended
2010	98%	0%	2%
2014	90%	7%	3%

The company-laboratory-ANRT triple supervision that features in the CIFRE initiative plays a decisive role in doctoral students’ completion of their thesis. Not only do students receive particular support for the scientific aspect, but their grasp of the strategic reality of business clearly increases their sense of responsibility and the quality of their research follow-up. ANRT carefully selects candidates in conjunction with the French Ministry for Education and Research to maintain the level of doctoral projects, and constantly follows students during the three years of their thesis, ensuring secure supervision.

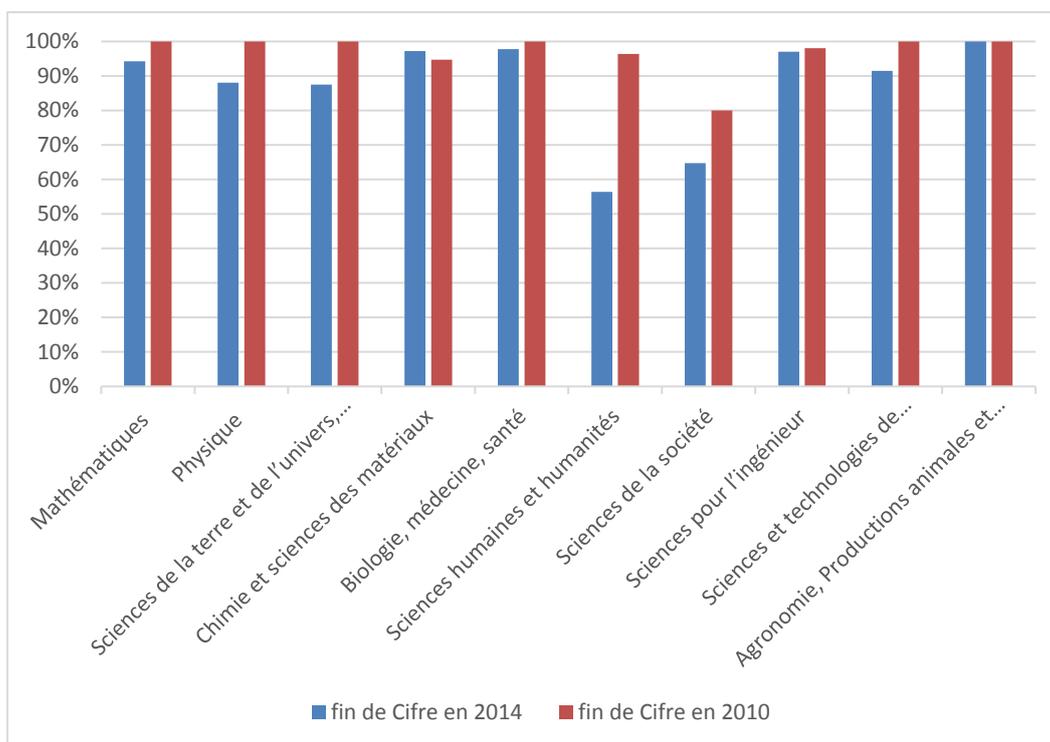


Figure 1: Rate of thesis completion for CIFRE doctoral students by scientific discipline

Current employment situation of “former CIFREs”

³ In 2014, 30% of social and human science doctorates in France took over six years, and only 14% took under 40 months. Source: *L'état de l'emploi scientifique en France*, MENESR, 2016.

The CIFRE initiative contributes to scientific employment in companies

- **Two out of three “former CIFREs” pursue a career in the business world**

Two thirds of “former CIFREs” are recruited by companies. This percentage is in line with the results of previous ANRT surveys. This proportion should be compared with the results published by Céreq⁴, which observes that 36% of those who received a doctorate in 2010 worked in the “private sector” three years later.

This experience of combining doctoral training with the “private sector” naturally increases the employability of CIFRE doctoral students. CIFRE is a passport for employment in a company: doctoral students’ acculturation with the world of business during their three CIFRE years is a determining factor in their choice of career, and also makes them more employable for companies.

The level of insertion of “former CIFREs” in companies remains stable throughout the surveys. As might be expected, whereas one year after completing their CIFRE, 27% are employed by CIFRE partner companies, which together represent 40% of companies that recruit “former CIFREs”, this rate drops to 19% five years later, with these companies still representing 30% of companies employing “former CIFREs”. It seems that “former CIFREs” thus choose to move into companies other than those of their doctoral years; in comparison, the share of “former CIFREs” working in the public sector does not vary to the same extent.

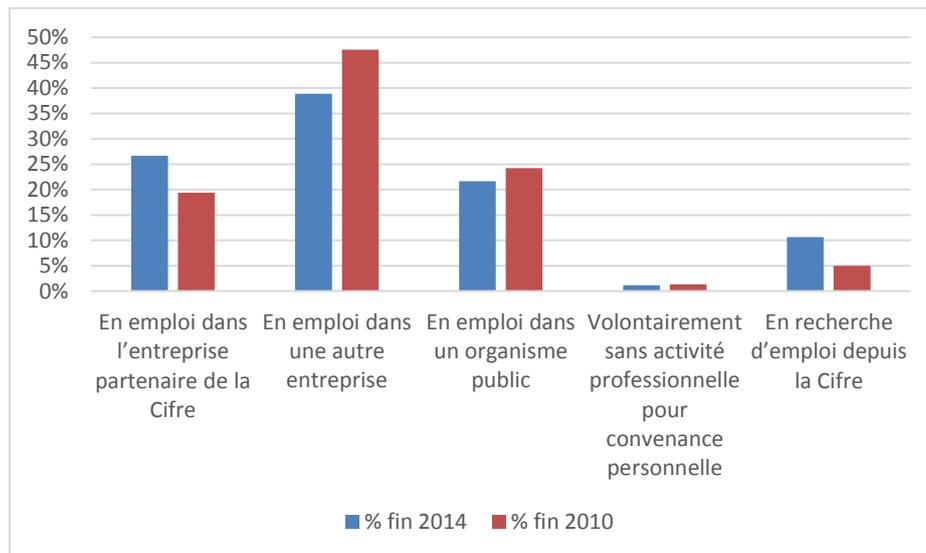


Figure 2: Job situation of “former CIFREs”

Large companies and SMEs are the main employers of “former CIFREs”. Mid-sized businesses (MSBs) constitute a smaller share, which can be compared to the proportion of them that take on doctoral students⁵. Over time, a number of “former CIFREs” appear to leave SMEs to move into large companies, a trend that was already observed among “former CIFREs” during the 2010 decade.⁶

⁴ Professional integration after three years for Doctors who graduated in 2010 – Julien Calmand – Net.doc.144, December 2015.

⁵ 10% of CIFRE Doctors were recruited by a mid-sized business in 2015.

⁶ Survey on the professional career of Doctors that have taken part in the CIFRE initiative and defended their theses since 2000, Technopolis, 2011.

Also worth noting is the lack of gender variation by type of employer.

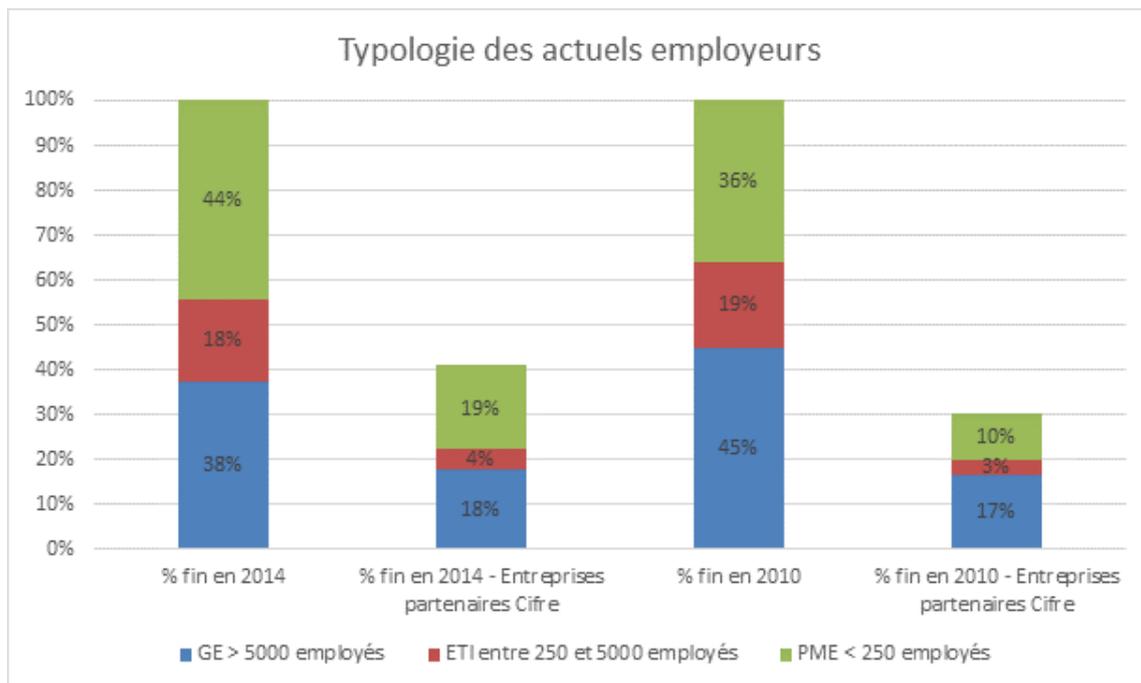


Figure 3: Type of current employers of “former CIFREs”

- **Significant permanent recruitment in companies following CIFRE**

The vast majority of “former CIFREs” are recruited by companies on permanent contracts, and over time, short-term contracts are becoming marginal. The combination of research tax credit and the Young Doctor initiative resulting from the 2008 reform has specifically encouraged companies to hire young Doctors on permanent contracts⁷.

In addition, 93% of “former CIFREs” are hired at manager level from the start of their career, rising to 99% five years later.

⁷ If a young Doctor is recruited on a permanent contract upon completion of his or her thesis, then for the calculation of its research tax credit, the company benefits from a specific advantage resulting from the recruitment of a young doctor: the salary counts double and the operating costs are calculated as 200% of the salary paid during 24 months following the first recruitment, provided that the number of salaried research staff at the company is not lower than the previous year.

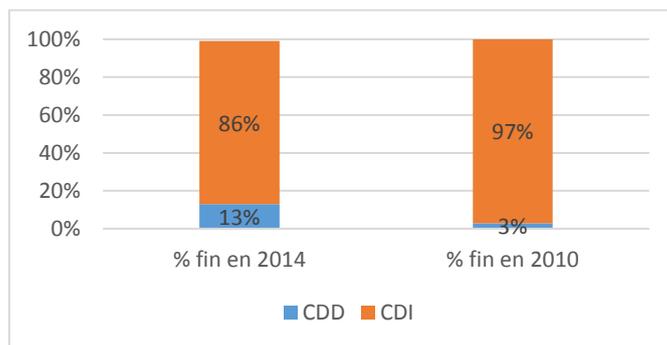


Figure 4: Type of work contract for “former CIFREs” in companies

- Majority of R&D missions within companies

The share of research activities of “former CIFREs”, notably in companies, according to the scientific discipline of their theses, is illustrated by a graph similar to that produced by Céreq³ showing professional integration of doctorate holders after three years. Taking both generations together, “former CIFREs” carry out twice as much research in companies as all doctors employed by companies, whatever the discipline.

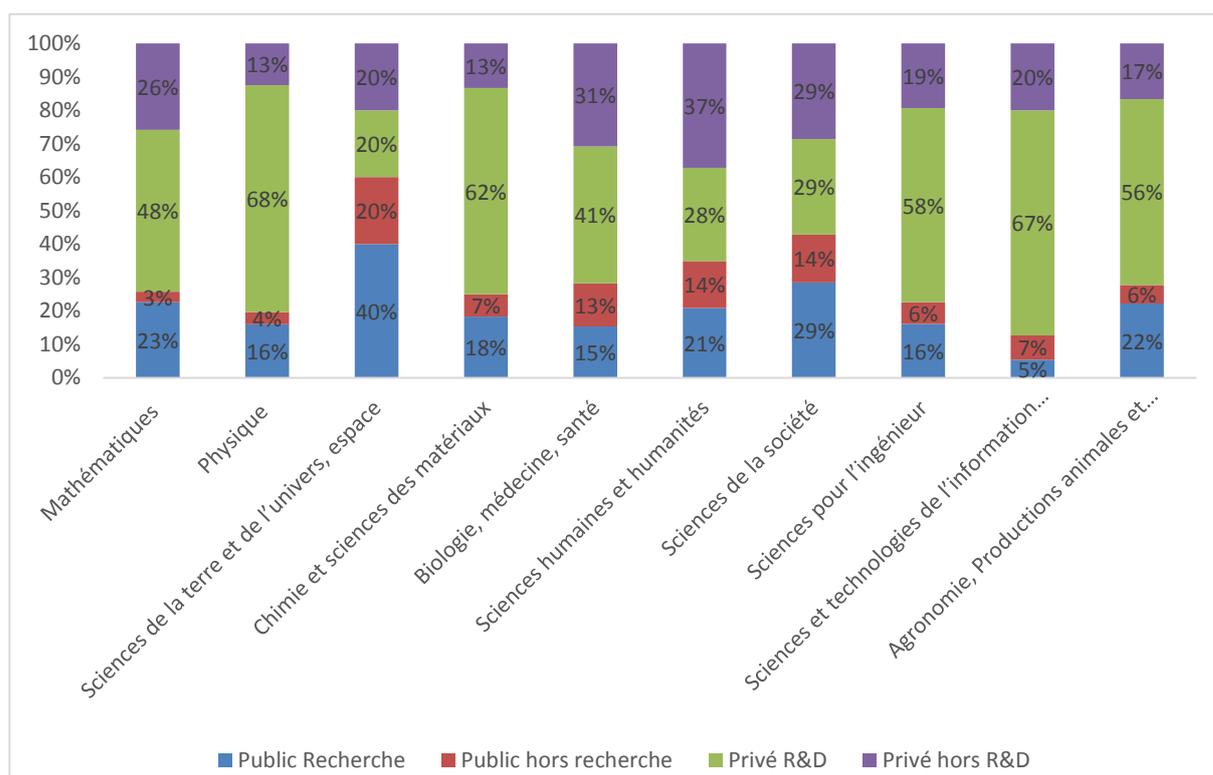


Figure 5: Job profile of “former CIFREs” by discipline and type of employer

At the start of their career, three-quarters of “former CIFREs” are recruited on R&D missions. The research experience of “former CIFREs” is thus recognized and valued by companies from their first job. The missions entrusted to these Doctors are mostly related to their theses.

From one cohort to the next, jobs involving R&D missions drop by 10%. Some jobs evolve into other expertise missions or have no relation to the educational domain; “CIFRE Doctors” can, for example,

take on management positions. The proportion of 64% of “former CIFREs” on R&D missions five years after the end of their CIFRE is three times higher than that observed for all Doctors employed in the “private sector” for an R&D mission, three years after completing their theses (19% according to Céreq data³). “CIFRE Doctors” are therefore clearly recruited for their capacity to carry out R&D missions.

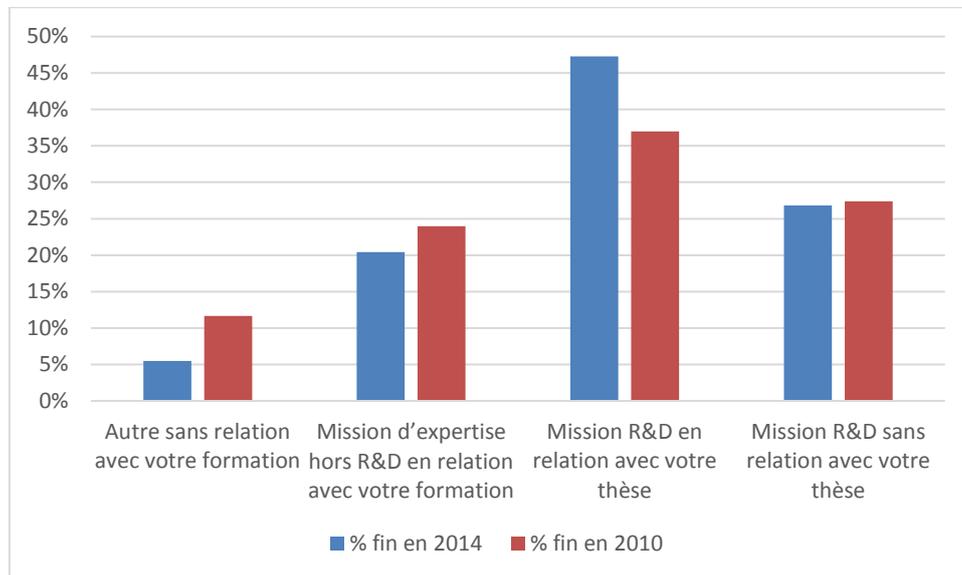


Figure 6: Job missions of “former CIFREs” within companies

The majority of missions are, however, R&D-centred, whatever the type of company. This continuity is observed in both SMEs and large groups.

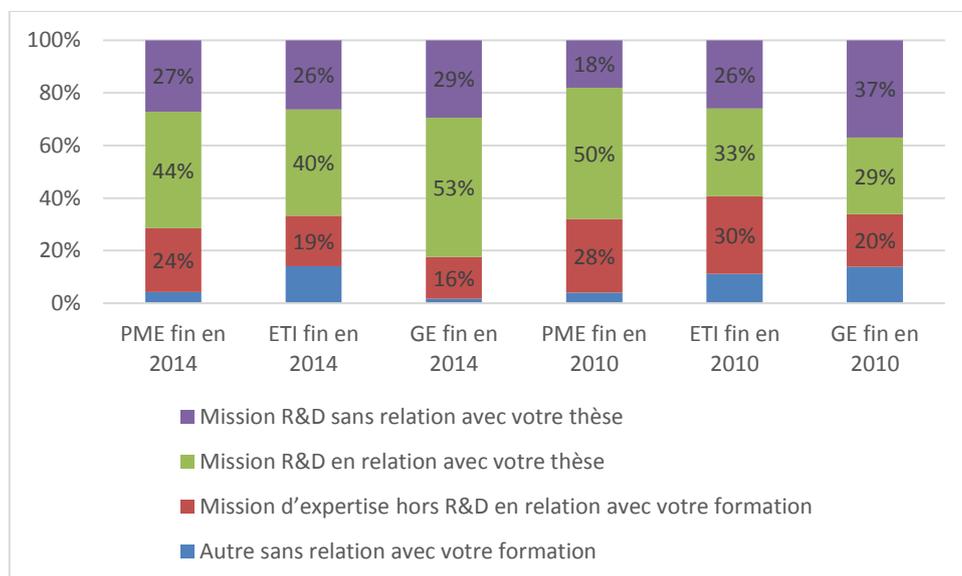


Figure 7: Missions of “former CIFREs” by type of company

Around 4% of “former CIFREs” have set up their own business one year later, rising to 9% five years later. Half of these start-up entrepreneurs pursue their research work, which thus constitutes an excellent bedrock for creation. In parallel, another survey⁸ has shown that entrepreneurship training has a highly positive impact on the desire to set up a business.

⁸ Results of the 2015 survey following the sessions “24H Chrono de l’entrepreneuriat” from 2011 to 2014, on the ANRT website www.anrt.asso.fr, in the Entrepreneuriat section.

- **Higher median gross salary than engineers**

At the start of their career, the median gross salary of “former CIFREs” is €38,000, which is 11% higher than that of engineers who graduated in 2014, estimated at €34,300⁹.

Five years later, the median gross salary of “former CIFREs” is €43,000, which is 10% higher than that of engineers who graduated five years ago, estimated at €39,000⁹ and 23% higher than median gross salaries in the private sector for all of those who received their Doctorate in 2010 (2013 data)⁴. In the space of five years, the gross salary of “former CIFREs” increases by almost 20%.

Among “former CIFREs”, median and average gross starting salaries are 10% higher for men than for women. This pay gap between men and women is nevertheless smaller than the 19.8% gap for managers in general observed in 2015¹⁰. After five years of career, the pay gap between “former CIFREs”, with no gender distinction, appears to shrink.

End in	2014	2010
Average	€38,782	€46,152
Median	€38,000	€43,000
Women		
Average	€37,817	€48,956
Median	€36,000	€43,330
Men		
Average	€42,391	€49,976
Median	€40,000	€45,000

Average and median gross salaries of “former CIFREs” by gender

The academic sphere gains from researchers equipped with business experience

- **A quarter of “former CIFREs” work in the public sector**

One quarter of “former CIFREs” work in the public sector, outside business (cf. figure 2). The academic sphere thus also gains from researchers equipped with experience of the private sector.

At the start of their career, over 80% of “former CIFREs” in public jobs are on temporary contracts, with more than one in two working on post-doctoral research, or with a temporary teaching and research fellow (ATER) status. Five years later, 64% have an established post, most of them as a lecturer. Over a third are still on a temporary contract, working on post-doctoral research or on research or research support missions, corresponding to a second or even third job.

⁹ *L'Usine nouvelle*, special edition December 2015.

¹⁰ *Le Monde* 22/09/2015 www.lemonde.fr

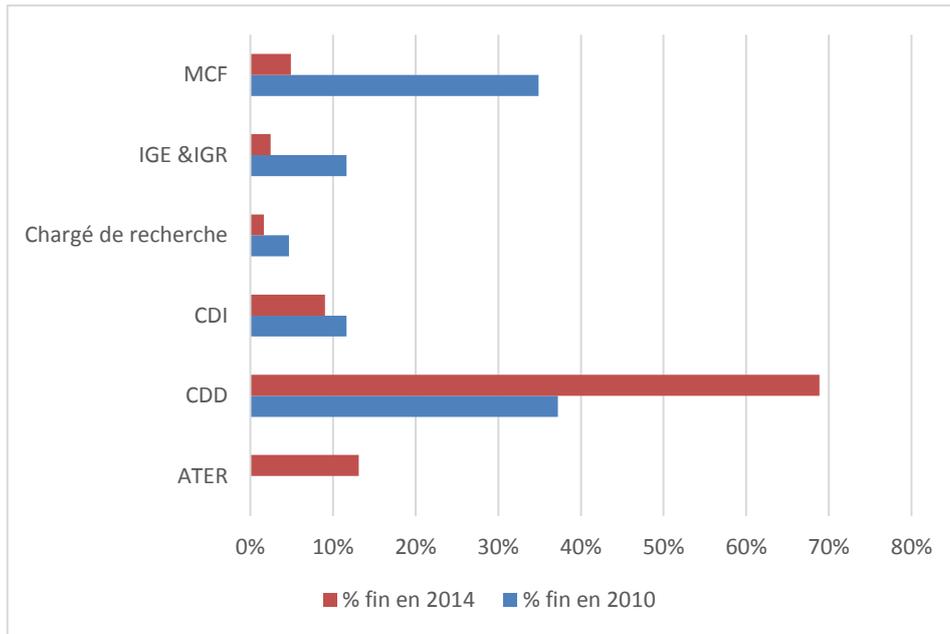


Figure 8: Current public-sector jobs of “former CIFREs”

Over time, the careers of “former CIFREs” evolve towards teaching and research missions, still mostly linked to their thesis. The proportion of post-doctoral researchers remains high, at around 20%, half of them abroad. We do not observe any variation in terms of discipline, gender, or previous education.

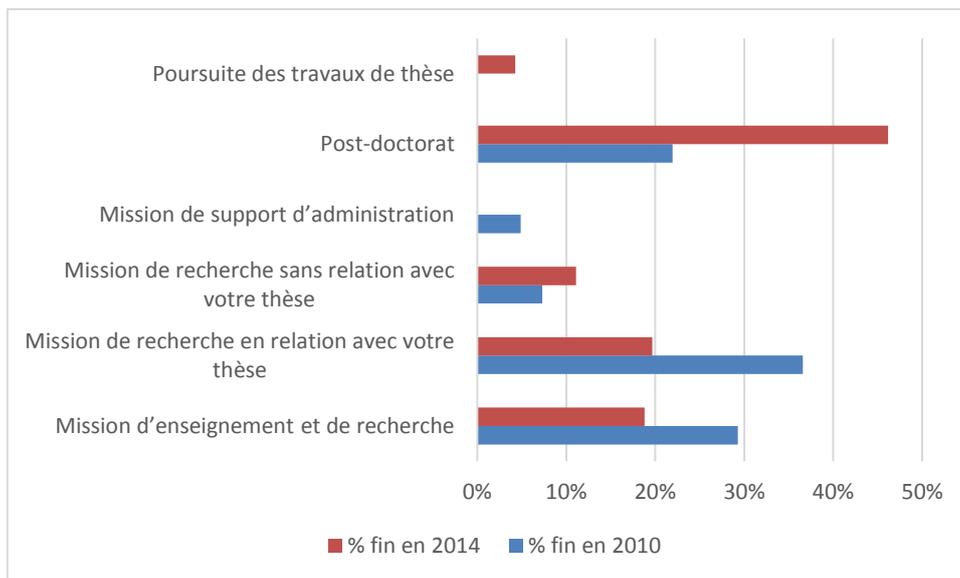


Figure 9: Missions of “former CIFREs” in public-sector jobs

Reactions from “former CIFREs”

“Former CIFREs” are satisfied with their jobs

• ***CIFRE completed in 2014***

“Former CIFREs” who completed in 2014 mostly started to look for employment before the end of their CIFRE; 89% had found a job within six months of completing CIFRE. They are mostly satisfied with their jobs, which are in line with their professional experience for 85% of them, and with their level of education for 81%. In addition, 85% of “former CIFREs” consider that CIFRE was a springboard for their professional integration. These data correspond to the results of previous surveys.

For the 91 “former CIFREs” who consider that their current position does not correspond to their level of studies, this reaction has no relation with their thesis subject, gender or thesis defence.

Are you satisfied with your current job?	Ended 2014	%	Ended 2010	%
yes	401	86%	184	86%
no	63	14%	30	14%
Does your position correspond to your professional experience?				
yes	396	85%	172	81%
no	71	15%	41	19%
Does your position correspond to your level of studies?				
yes	376	81%	169	79%
no	91	19%	46	21%
Was CIFRE a springboard for your professional integration?				
yes	404	85%	188	87%
no	70	15%	29	13%
Do you intend to change job within the next 6 months?				
yes	316	68%	52	24%
no	151	3 %	165	76%

• ***CIFRE completed in 2010***

The satisfaction rate of “former CIFREs” who completed their CIFRE in 2010 is 80%; this corresponds to the findings of previous surveys. However, 15% to 20% of “former CIFREs” are not in the situation they hoped for.

Of those who do not consider CIFRE to be a professional springboard, i.e. 29 “former CIFREs”:

- No trend is observed in terms of scientific discipline or training;
- 3 never defended their thesis;
- Half are on permanent contracts in a company other than their CIFRE partner company and 2 are looking for work;
- 9 do not have an R&D mission and 2 work in academia.

For the 46 “former CIFREs” who consider that their job does not correspond to their level of studies, i.e. a fifth of respondents:

- No trend is observed in terms of scientific discipline or training;
- All of them defended their theses;
- 30 work in business, and 21 of these do not carry out research;

- 5 work in academia.

Most “former CIFREs” who are not satisfied do not work in academia, and we can therefore infer that some of them regret a hoped-for researcher position.

The generation of 2014 intends to change jobs within six months. The 2010 generation is particularly mobile, with 69% of “former CIFREs” already in their second or third job.

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