



European Federation
of Building
and Woodworkers



**Leonardo Da Vinci Project
„Bricklayer“**

Bricklaying Country report

France

Philippe Méhaut
Dominique Hervy-Guillaume
LEST, Université de la Méditerranée, Aix-en Provence

Introduction

This report describes the main features of the construction sector, of the occupation of *maçon* and of the preparatory training and qualifications for this occupation. It basically follows the conceptual framework, although without keeping entirely to the structure.

Indeed, it seemed necessary first of all to present the sector, but also, on the question of governance, to place industrial relations in the sector in their overall context before focusing on the governance of training (sections I and II).

Similarly, in order to understand the training and qualifications for *maçons*, it was considered useful (section III) to give a brief description of the occupation and of the conditions for its exercise.

Section IV combines an analysis of the training and qualifications. The link between training and qualifications remains close in France (even though qualifications may in principle be acquired by the validation of experience acquired) and the structure of the qualifications needs to be described in relation to the system of training. Section V puts the spotlight on the question of knowledge and skills. Section VI considers questions relating to the labour market and the value of qualifications.

We would like to emphasise that most statistics do not allow the category of "*maçon*/bricklayer" to be singled out directly. A more detailed processing of the *Labour Force Survey* is required.

I Economic structure

In order to understand the rather particular nature of the training, notably in terms of its governance, in the construction sector, first of all some of the economic and institutional features of this sector need to be described.

Construction is usually defined as encompassing three subsectors: civil engineering, building work and finishing. These three activities differ in terms of the size of the firm, types of technology and materials, and occupations involved.

Table 1 gives the composition of the three subsectors for firms with workers.

Table 1: The composition of the three subsectors

	Firms	Workers	Average size	Growth in workforce 1996-2007	% of workforce in > 250 workers
Civil engineering	14 421	268 088	19	1.00%	33.70%
Building work	56 386	393 794	7	1.60%	8.70%
Finishing	127 901	797 470	6	1.80%	10.20%
Total	198 708	1 459 352		Average 1.4%	

Source: Céreq, PSB, 2007

The firms involved in civil engineering works are noticeably larger in size. They include the small number of major leading groups, including those with international operations (such as Bouygues, Grant Agreement : 2008-1929/001-003

Vinci...). But the large groups may also be present in the other two subsectors. Building work and finishing is predominantly carried out by small-scale firms, often with fewer than 10 workers. But there are also a great many self-employed workers often without any employees of their own (about 200,000 undertakings without workers, not included in Table 1).

The whole sector has experienced fairly rapid growth, particularly in recent times, following a crisis between 1995 and 1997. During that period, there were serious difficulties with recruiting workers in the sector. However, since 2008, the trend has once again been reversed (an estimated 30,000 jobs cut in 2008).

Different employers' organisations exist for these three subsectors (and for different sized firms). Civil engineering is covered by the Civil Engineering Federation (*Fédération des Travaux Publics*). Building work and the finishing subsector is the province of the French Building Federation (*Fédération Française du Bâtiment*), representing a network of 57,000 members of which 42 000 have fewer than 10 employees (73,7%). Self-employed workers without employees and also the smallest firms are organised within the Confederation of Self-Employed Workers and Small Enterprises in the Building Sector (CAPEB, *Confédération des artisans et petites entreprises du Bâtiment*). CAPEB represents 356,000 craft firms in the building sector. The 4th employer's organisation is the national federation of cooperative companies (Fédération nationale des SCOP du BTP) with 600 affiliated members of which 50% have less than 10 employees.

A similar internal segmentation exists among the trade unions, but in general, the construction workers' federations form a single group representing the different segments. In building and civil engineering, as in the rest of the country, the (low number of) union members are shared among the competing five confederations.

These sub-units have different negotiating forums and collective agreements, but we will also see that there are strong forms of coordination, particularly in the sphere of vocational training.

In the case of *maçons*, as they are chiefly involved in the building work and sometimes in the finishing sector, we will focus more closely on these two subsectors, and in particular on building work, in the following text.

II Governance

In order to put into context the various facets of governance for training, first of all it is necessary to describe the more general role of the sector in collective bargaining (see, in particular, Jobert et al, 1993). It is known that in France, despite the low unionisation rate, the social partners play a key role at different levels in creating provisions which are more or less generally applicable.

A distinction is usually made between:

- *the cross-sectoral level*, creating general provisions often integrated into law;
- *sectoral level*, producing agreements applying to firms in a particular sector of activity (knowing that some of these agreements are subject to an extension procedure by the State whereby they are made compulsory even for firms not belonging to the signatory organisations);
- *plant level* (plant agreements, role of the works council...) and
- *regional level*, which has become less relevant over the course of time.

Owing to its structure and history, the building sector has a number of special features. The small size of firms means that there is little bargaining at plant level, but also sometimes that the

agreements concluded at other levels are not necessarily implemented. A certain craft tradition still endures. Also, in their analysis of the different sectoral models, A. Jobert et al (1993) classified building in the model of "industrial sectors derived from craft activities". They emphasised the extent to which issues concerning technological advances (and/or the products) coupled with labour shortages and the difficulty in retaining workers, resulted in strong sectoral regulation, bringing training questions in particular to the forefront. It could also be added that this sectoral regulation contributes to limiting social dumping practices. Furthermore, taking into account the presence of firms throughout France, this sector retains (and, owing to the growing regionalisation of public policies, even increases) the regional organisation of bargaining and agreements at this level (see, for example, Verdier, 2006).

In the area of training, since 2003 the following agreements have been signed by the sector:

- 13 July 2004: National Agreement of 13 July 2004 on implementing lifelong vocational training in enterprises in Building and Civil Engineering (*BTP*)
- 13 July 2004: Agreement on apprenticeship supervisors (*accord maître d'apprentissage*, training – certification – charter - remuneration)
- 8 February 2005: Collective agreement apprentice's status, including their salary (higher than in other sectors).

While there is not, to our knowledge, any specific reference to *maçons* in these agreements (confirming that the "craft" concept is gradually giving way to the "industrial" concept -- we will be talking in general terms about skilled manual workers in building and civil engineering, which includes *maçons*), this high output of agreements -- which is also associated with a period of growth and recruitment difficulties -- bears witness to the existence of a sectoral policy, supported by all the social partners, whereby many of these agreements have been signed unanimously.

The impact of this sectoral regulation is reflected in the specific vocational training institutions.

It should first of all be recalled that in the building sector training and apprenticeship is now more developed than elsewhere with around 4.5% of apprentices in the workforce (compared with 1.5% on average in France); for example, 80% of those doing the *maçons* certificate of vocational aptitude (*CAP maçon, certificat d'aptitude professionnelle*) are apprentices and the rest are school-based. The building and civil engineering sector is one of the most active sectors in terms of apprentice training. Back in 1942, the sector acquired a central committee for the coordination of apprenticeship (*CCCA comité central de coordination de l'apprentissage*), a body which was further developed in 1945 (Casella et al, 1991) and is still today actively pursuing a policy to promote apprenticeship and training for the sector. A particular feature is that it is a joint industry body, both at national level and for the associated regional apprenticeship training centres (*CFAs, centres de formation d'apprentis*). It also has an important role in relations with the Ministry of national education (in particular the *CPC du bâtiment*, see below). While historically it championed the model of training in the workplace rather than the school-based model, it was to play a strong role in the development of apprenticeship (for example by developing correspondence courses for apprentices back in 1947). Apprenticeship qualifications are defined by the CPCs and by the Ministry of Education, so the CCCA follows the standards of these diplomas. But it has also developed its own teaching methodology and acquired for this purpose a corps of teachers. Originally financed by a special tax paid by firms in the sector (which still remains today, 0.3% of the total wage bill), it has expanded its resources by collecting the apprenticeship tax (like the CFAs), harnessing funding from the European Social Fund.

Another indication of the strength of the joint-industry character and sectoral regulation is the existence of jointly-managed structures in the sphere of continuing training (the OPCAs), which have a similar role in continuing training for workers: collecting and managing the continuing

training funds, advice for firms and for workers, application of priority measures decided by the sector, funding training courses...). The building and civil engineering sector has two such bodies, one for firms with more than 10 workers (the OPCA *Bâtiment* and OPCA *TP*) the other for firms with fewer than 10 workers (the FAF-SAB)¹, and a last one for craftsmen and their families (FAFCEA). While every sector in France is supposed to have these structures by law or by agreement, the structures in the building and civil engineering sector differ from others in having a more centralised and active policy (in other sectors their role is confined to fund management).

It is therefore possible to talk about a joint-industry approach to establishing guidelines and taking initiatives on training questions, to a greater extent than in the majority of other sectors.

This is reflected in relations with the State.

On the one hand, the sector is involved in framework agreements with the state, for example on developing competences (recent agreement in 2009). In addition, as in all other sectors, the social partners in construction are represented on the consultative vocational committees (CPCs, *commissions professionnelles consultatives*). Each minister (for construction : Education and Labour) responsible for continuing vocational training or technical training institutions or activities may set up, by means of regulation, consultative vocational committees to create and administer qualifications. They operate on a very regular basis and carry out a five-yearly review of training courses concerning the largest groups of trainees (Aventur, 1999, 1996).

Up until 2007, there were 20 CPCs, corresponding to the main branches of economic activity. This organisation has existed since *Decree No. 72-607 of 4 July 1972*². Given the changes in the economy, this organisation founded in the 1970s is no longer suited to the current situation. It is for this reason that a reorganisation was required, which took place in 2007. As regards the national Education Ministry, with effect from *Decree No. 2007-924 of 15 May 2007*, there are henceforward 14 consultative vocational committees.

All the social partners are grouped together within the CPCs. These are permanent committees, each of which comprises four different groups, representing employers, workers, the public authorities and qualified persons. The representatives in the employers' and workers' groups are proposed by the most representative trade union organisations. The representatives of the public authorities are appointed by the ministers concerned including, in any case, one representative nominated by the Minister for work and employment and one representative from each of the appropriate ministries based on the type of training concerned. And, finally, the group of qualified persons comprises persons either from the public sector or from the private sector who are chosen on the basis of their professional activities or their work. They include representatives of teaching staff, representatives from the chambers of commerce and industry, the chambers of trade, etc. (Education Code, Art. D 335 – 33 (V)).

The consultative vocational committee for the construction sector (*CPC No. 5: Building and Civil Engineering and finishing; CPC n°10: wood sector including structure, carpentry and wood construction; CPC n°3 for electricity*)), was reorganised during the 1980s and has set up a subcommittee on general studies, which is responsible for matters of common interest to all the

1 This OPCA includes in its management body all federations and trade unions, clearly demonstrating its capacity for coordination

2 Decree No. 72-607/1972: "*The technical qualifications – CAPs (certificats d'aptitude professionnelle), BEPs (brevets d'enseignement professionnel), specialised diplomas (mentions complémentaires), technical baccalaureats, vocational baccalaureats, craftsman's certificates (brevets des métiers d'art), advanced technician's certificates (brevets de technicien supérieur), craftsman's diplomas (diplômes des métiers d'art), totalling around 650 qualifications, are drawn up by the consultative vocational committees (CPCs) who involve all the social partners in the process of designing and developing the different types of training.*"

vocational sectors covered by the CPC, and for preparing the work programme and the plenary committee proceedings. Each group is represented in the subcommittee. For major problems in each of the vocational sectors: building work, fixtures and finishing, three sectoral subcommittees have been set up. These subcommittees have very precise remits. A special feature is the assistance provided by an appropriate person designated to deal with each specific question.

III The Maçon, utilisation of labour

III.1 A "wide-ranging" occupation

The French “*maçon*” seems to be quite different from the UK bricklayer (there is no equivalent word in French; a person just laying bricks would be regarded as an unskilled worker, who assists the *maçons*³). On the one hand, this is due to the high variety of techniques used in France in the building industry. On the other hand one must keep in mind that many *maçons* work as self-employed or as employees. The *maçon*, as observed by a union representative, is able to build his own house, from the foundations to the roof.

In a presentation on the training for *maçons*, the occupation is defined as follows:

"Before pouring the concrete or laying the first brick of a structure, you prepare the site (marking the boundaries and fencing off the site) and you then carry out the foundation work. Next, you construct the building. Depending on the site, you lay the bricks, breeze blocks or stones. You pour reinforced concrete into timber shuttering to form the walls. Finally, you do the finishing work (rendering, cladding, piping and conduits...). On construction sites for detached houses, buildings or industrial structures, you will most often be working outside with other colleagues under the supervision of a foreman." (source: AFPA).

As mentioned above, the *maçon* may either be an employed worker (usually from a small firm), or self-employed working on own account as a craftsman.

III.2 Who are the maçons and where do they work?

Masonry / building works are the first activities on the construction site. In 2008, the building workforce numbered 475,000 (360,000 employees and 110,000 self-employed craftsmen) out of a total of 1, 317700 workers in construction, accounting for around 38% of turnover; the turnover in construction runs to about €124 billion, of which €62 billion is for building work.

According to the Observatory for Building and Civil Engineering, there are roughly 175,000 skilled employed *maçons* in the sector, to which need to be added the approximately 55,000 self-employed *maçons* (source *Labour Force Survey*, LSF). It must also be remembered that there are *maçons* in other sectors and that around 150,000 employees are recorded in the LSF as "unskilled manual workers in building work".⁴ The table below shows the percentages of *maçons* who were low-skilled, skilled and highly skilled in 2006.

3 More specifically, brickwork is considered to be one of the materials that the *maçon* can use. Following the *maçon's* CAP, additional training used to exist in brickwork for specialised structures using this material. This additional training has been withdrawn for reasons that remain to be clarified during the interviews.

4 Figures to be clarified by calculations using the LSF

Table 2: Breakdown of low-skilled, skilled and highly skilled maçons

Group of production occupations	Low-skilled	Skilled	Highly skilled	% skilled and highly skilled
Maçon	30%	41%	29%	70%

Source: national employment and training trends in building and civil engineering, June 2008

IV VET and Qualifications

IV.1 Various training tracks and qualifications

For the *maçon*, two main qualifications coexist:

- the CAP, a public diploma regulated by the Ministry of Education (and its CPC), which is the main first-level qualification, chiefly for young pupils. School-based training and apprenticeship exist in parallel. Below we focus mainly on this CAP. There are 2 different CAP: the main one, CAP *maçon* (5,644 successful candidates in 2008); and the second one called CAP *constructeur en béton armé* (reinforced concrete builder)(233 successful candidates in 2008).
- The Ministry of Labour also provides a diploma, named “title”, for the occupation of *maçon*. This is mainly for unemployed people and/or further training. The title is focused on technical skills.

One of the peculiarities of VET in the building industry is the existence of a BP (*brevet professionnel*), coming from the craft tradition, for a highly skilled *maçon* who could also be team leader and/or sometimes a self-employed entrepreneur. The BP has the same level as the vocational baccalaureate (*baccalauréat professionnel*) but does not carry automatically the right to tertiary education. Employers are keen to keep the BP. It is possible to link directly a CAP and a BP (apprenticeship) but more often the BP is prepared as further training. Overall, continuing training in the building work subsector expanded in 2006/2007. There were 69,527 trainees undergoing continuing training – 24.5% more than in 2005/2006. In building and civil engineering, there were 39,604 trainees undergoing continuing training in firms with fewer than 10 workers, and 244,182 trainees undergoing continuing training in firms with 10 workers or more.

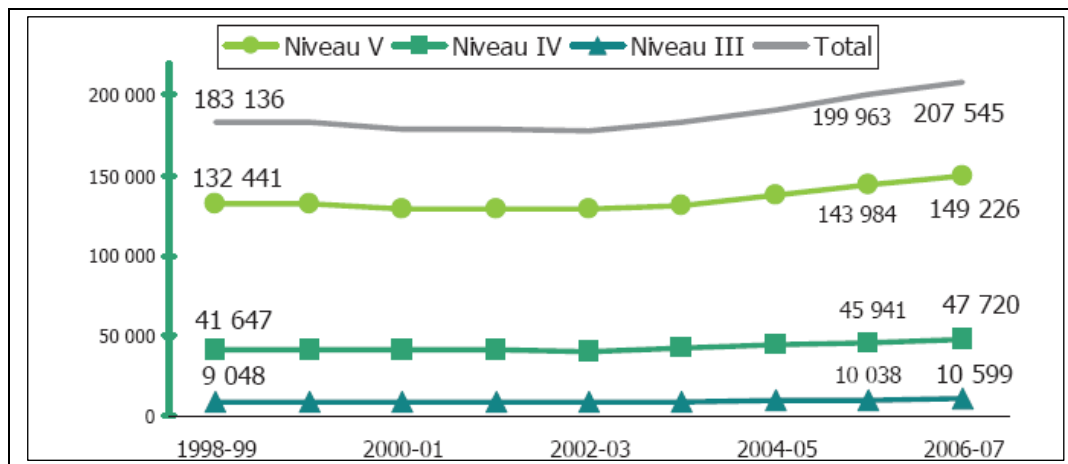
In 1990 a vocational baccalaureat for building work in construction was introduced: the CBGO (*Bac Pro Construction Bâtiment Gros Oeuvre*). In 2007 this became the vocational baccalaureat for construction technicians: organisation and execution of building work (*Bac Pro Technicien du bâtiment: organisation et réalisation du gros œuvre*). The objective of the employers' group in introducing this type of diploma is to ‘provide a qualification for a production professional who is subsequently eligible for a supervisory and management position if he has the required personal qualities’. The Bac Pro is mainly school-based whereas the BP is apprenticeship-based.

The chart in Appendix 1 provides a historical view of the various qualifications delivered by the Ministry of Education. It shows, firstly, that the CAP *maçon* is very old, but has been changed and redesigned many times; secondly, it shows that the distinction between a *maçon* and a *maçon* specialised in concrete building has been abolished; and thirdly, that an additional qualification (for

bricklaying) used to exist (MC at the bottom of the chart) but has also been withdrawn. This follows the trend of most French diplomas towards a broadening in the scope of the qualification. The chart in Appendix 2 provides an overview of the current qualifications in the construction sector.

The diagram below illustrates the number of young people undergoing training in all the construction specialisations in 2006-2007. “Level V” (CAP and ex-BEP) predominates. Within this level, the specialisation of maçon totals around 20,000 pupils, of whom 16,000 are for the CAP. The numbers are growing. The exam success rate is a little over 75%.

Diagram 1: Numbers of young people undergoing training in all construction specialisations in 2006 – 2007



Source: CCCA, national employment and training trends

IV.2 The CAP *maçon*: tracks, qualification, content

We will now focus solely on the CAP *maçon*, as redesigned in 2002.

IV.2.1 Expected school/VET qualification levels

The qualification level for a *maçon* is an upper secondary vocational education (after compulsory general education), i.e a level 5 in the French grid.

IV.2.2 Length and type of VET

As with most of the CAP qualifications, the duration is normally 2 years (full-time), but can be decreased according to the educational level of the young person. Two main tracks are possible: an apprenticeship track (labour contract with an employer, part-time in the firm, part-time in an apprentice centre) and the vocational school-based track (including internships). The apprentice track is dominant (80%). In this case, the main training provider is the apprenticeship training centre (CFA), most of which depend on the employer's and union's organisations or on the Craft Chambers⁵; in both cases, the certification process is the same.

IV.2.3 Location of VET provision

For the two-year school-based track, one part is workshop-based, and 14 weeks must be carried out

⁵ Some apprentices are also found within the public national education system. see Aririghi, Brochier, 2008
Grant Agreement : 2008-1929/001-003

in a firm. Generally, for the apprentice track (455h/year) apprentices spend 3 weeks/month within the firm, and one week/month in the training centre, also with a mix of general and technological courses and workshop-based activities (75% - 25%).

IV.2.4 *Scope/breadth of the VET*

As emphasised in the "Reference Framework for Vocational Activities" (*référentiel d'activités professionnelles*, RAP), the *maçon* is a skilled worker, able to contribute to the building of any kind of building (individual house, offices, flats), as well as to renovate such buildings. He/she must be able to use a wide range of raw materials and techniques, such as bricks, concrete, prefabricated materials. He/she must also be able to work with small pieces of reinforced concrete, and to render the walls. The model referred to in some interviews is of somebody who is able to build a house by himself, in cooperation with other specialists. He/she must prepare his work (site, tools, raw materials, scaffolding, read a plan, be able to take into consideration safety rules, quality rules), communicate with the hierarchy, other specialists, and, on occasions, the client.

Both unions and employers agree that the *maçon* is a broad occupation and, while the working group defined the RAP, some employers have added other tasks and competences. The most difficult aspect was to avoid being too broad. This is explained on the one hand by the wide variety of firms in the industry and by the need to prepare young people for their whole life, including employment mobility. But on the other hand it is also explained by the changing nature of the market for individual firms, working on new building one day and renovation the next, as well as mixing public and private contracts. A good *maçon* must be versatile. This means that in the early stages, the young *maçon* will not be fully operational for all tasks. In the collective agreement, the first period before confirmation in the wage grid is from 6 to 9 months. The fully professional *maçon*, i.e. able to work with autonomy, responsibility needs 3 to 5 years of experience.

IV.2.5 "General" subjects

As in all CAPs, part of the course must cover topics such as:

- Mathematics and physics
- French and foreign languages
- Sports
- History and geography
- Civic and social matters, including labour law

All these subjects are related to the definition of the "person, producer, citizen" concept, as well as to the question of equal standing between vocational education and general education. The curriculum was reformed in 2002, with the twin aims of linking general education and vocational objectives and avoiding an over-strict selection of the pupils based on general knowledge.

IV.2.6 *Nature of continuing VET for career advancement in/from the occupation*

It is possible to move from being a skilled to a highly skilled *maçon* (with or without the BP). Other possibilities for advancement are to team leader or site manager. Most *maçons* are upgraded through seniority and experience. The employers' organisation has put the emphasis on the old tradition of "social promotion" within the industry (with or without formal VET), and the tight labour market for these occupations makes this route attractive to employers.

IV.2.7 Recent changes

Following the collective agreement of 6 November 1998 on youth employment, extended by Ministerial Decree of 23 February 1999, the social partners in the building and civil engineering sector entered into discussions to review technological and vocational qualifications in the sector, from the CAP to higher education qualifications, in order to adapt them to young people staying longer in school education and to the needs of firms and those expressed by the sectors. To this end, the CPC is based on a study conducted by the national paritarian employment committees for building and civil engineering (CPNEs, *Commissions paritaires nationales de l'emploi conjointes du bâtiment et des travaux publics*).

In order to adapt to trends in the industry – the markets have tightened up, deadlines are tighter there is less new building and more maintenance and renovation work -- firms have had to modify their internal organisation, their site management procedures and human resource management. Consequently, as pointed out earlier, the skills sought by firms are no longer solely technical and vocational. They also encompass relations at work and with clients, which comes under the heading of professional conduct (CPNE, 2001). In order to adapt vocational qualifications to this new context, during a session of the CPC, the social partners called for a greater role for and more emphasis on professional knowledge and social skills to be built into the CAP to reaffirm its objective of giving the young people the essential foundations for carrying out this occupation, also with the aim of subsequently preparing for a BP or vocational baccalaureat.

Since the reform, the CAP is organised into units, supervision during training has been expanded and the duration of training in the firm may now be up to 16 weeks for school-based training. The scope of the CAP for construction with reinforced concrete masonry (*construction maçonnerie béton armé*) has been reaffirmed, without however resolving the problem of the diversity of structures worked on, both for new building and for renovation. Its designation is now *maçon* (see Training Route in Appendix 1). This new "*maçon*" CAP was implemented in 2002 (Decree of 21 August 2002).

The new CAP was introduced without conflict between the social partners. Due to the good economic situation until 2008, the building industry faced quite a tight labour market and complained about the shortage of *maçons*. Nevertheless, the apprentice training centres (*centres de formation d'apprentis*) are full, with no additional places available. The CAP is more attractive than some years ago. Employers and unions have signed a specific collective agreement in order to improve the wage level of the apprentice and the quality of training. On the other hand, many students in the colleges, in special sections for those with learning difficulties, are oriented towards the CAP as a "compulsory route". And the number dropping out during the first year of VET is quite high, as well as mobility outside the building industry after some years on the labour market.

More recently, following discussions and the new public policy on the environment, new standards for construction and renovation of buildings are in the process of being introduced. These will have an impact on the design of buildings, utilisation of materials (insulation), and also on the preliminary analyses and conditions for supervision and certification of compliance with these standards. One hypothesis is that there will be an increase in the numbers of specialised technical firms acting as intermediary with the client, turning masonry firms more into subcontractors. The other hypothesis is that these firms will become more high-tech and have higher levels of expertise, allowing them to offer diagnostics, consultancy and execution.

IV.2.8 Specification of learning outcomes/level of attainment

The CAP *maçon* is now mainly delivered through on-site continuous assessment. A national assessment grid has been drawn up. This assessment can be carried out during an internship and/or Grant Agreement : 2008-1929/001-003

apprenticeship period in the firm, or in the workshop. It is clearly task/competence-oriented with an emphasis on the ability to perform as well as to think out and organise the task: the performance is not the sole criterion. There is a debate between the employers and the Ministry of Education: the employers claim that this new organisation is too complex and that they have lost their influence in the panel awarding the qualification; the Ministry of Education has chosen this formula both for cost considerations and to avoid the traditional academic examinations.

IV.2.9 Transferability/permeability of qualification(s)

The employers' strategy, while supporting quite a broad profile, is to increase transferability (and mobility) within the industry. It is also partly due to the organisation of the market by "site" with a special labour contract for the duration of the site. This implies a frequent hiring and firing process and a relatively high turnover due to fluctuations in the firm's activity and to voluntary departures.

V Knowledge, Skills and Competences

There are no significant differences in the way in which the *maçon's* certificate defines the salient features of the "French model" centred on the concepts of knowledge, skills, competences, etc.

It should be recalled that the French approach to vocational training qualifications is essentially "holistic". The aim is, on the one hand, to prepare "the person, the producer and the citizen". On the other hand, it is intended to provide preparation for the person's entire life and not only for short-term participation in the labour market. Finally, the dual value of the qualifications in principle paves the way for future advancement, for example towards achieving a *Brevet Professionnel*.

These different matters are covered in the reference framework for the *maçon's* certificate.

This traditionally comprises a « Reference Framework for the Vocational Activities » (*référentiel d'activité professionnelle*, RAP). The RAP is organised around four main "functions": preparation/organisation, implementation and execution, maintenance of equipment, communication, which are further broken down into activities and tasks. For each activity there are three headings specifying: the necessary means and resources, autonomy and responsibility in implementation, and the expected results (see Appendix 3 for the function of preparation, organisation and the activity "preparation").

Next comes the "Certification Reference Framework" (*référentiel de certification*) which establishes the assessment conditions and brings into play the key concepts of knowledge, expertise, etc...

This "Certification Reference Framework" is organised into "general aptitudes", which break down into three components: obtaining/conveying information, dealing with/taking decisions on matters, and execution. The three components in turn break down into "competence units", for which the common denominator is the wording, "to be capable of..." followed by a description (for example, "to evaluate quantities of materials..."). The grid in Appendix 4 shows the link between *compétences* and activities. For each *compétence* there are corresponding conditions (the "resources") and the assessment criteria. One of the major ambiguities is that, in certain cases, the *compétence* is to some extent "aslant" to the different functions of the reference framework, whilst in others it has little or no relation to the breakdown of a function or even a task. Indeed, while the term "compétence" is used, it would be more accurate to refer to a mix of "knowledge and interpersonal *compétences*".

These compétences are linked to a set of "associated know-how" (*savoirs associés*). For example, the skill of "carrying out shell construction in blocks and bricks" assumes an associated know-how relating to materials, the ability to name them, to give their characteristics, and to use the technical terms, which will be included in the assessment of pupils. This "associated know-how" is also expressed in terms of "knowledge" (*connaissance*), which demonstrates the ambiguity and/or overlapping of these two concepts of know-how and knowledge in the French language (*savoir et connaissance*).

VI Utilisation of labour and currency of the qualification

(see also section 3)

VI.1 Status/social identity of occupation

In the VET system, the *maçon* qualification has not traditionally been academically highly regarded as many young people come from the specific tracks in colleges for those who are drop-outs or quasi drop-outs, or not able or willing to pursue general studies. However, nowadays, more and more young people want to earn their living and undertake this vocational training by choice; since 2004/2005 the apprenticeship training centres have more applicants than available places. Turnover during the 1st year of apprenticeship is high though, due partly to the fact that some students have chosen masonry by default.

The employers and unions have agreed on numerous changes in the status of the apprentice in order to attract more pupils, including higher wages, social advantages, and better working conditions. For all building workers the minimum wages rate has been increasing since 1999 more quickly than in other sectors (*Les Indicateurs sociaux du Bâtiment - Février 2009*). At last, more women - sometimes coming from other sectors and with a good qualification – undertake retraining and are joining the 30 different trades in the sector, including masonry. Their attendance is improving working conditions and the image of the whole sector.

VI.2 Employment status

Data are provided on the basis of the Labour Force Survey, LSF. However, it is known that the majority of workers in the building and civil engineering sector probably have open-ended contracts in a slightly higher proportion than the French average. But there also exists a special "construction site contract", concluded for the duration of a construction project, which it is difficult to include in the statistics. Furthermore, the building and civil engineering sector has significant recourse to temporary workers (see table below). But this is more the case for large companies, particularly in civil engineering. Lastly, the complex subcontracting chains should be mentioned, sometimes ranging from large companies to very small ones. With the economic crisis, temporary employment has strongly decreased since 2009.

Table 3: Temporary employment in the building/ building work sector

IB - building/ building work				
Utilisation of temporary workers	Sector		All sectors	
	(1996-1998)	(2004-2006)	(1996-1998)	(2004-2006)
Proportion of temporary workers*	5.8 %	9.2 %	2.5 %	3.7 %

Source: PSB / Céreq

VI.3 Entry/departure from sector, horizontal mobility

There is no data available for *maçons* alone. However, the construction sector is known for two key features: a significant proportion of young workers gain entry by means of apprenticeships; and high mobility between construction and other sectors is also to be observed. According to the Observatory for the sector, turnover was 25% in 2007 and 2% for *maçons*, which is less than in the tertiary sector (58%) and a bit more than in industry (21%). The sector is therefore often considered as having little capacity to maintain a stable labour force, thereby contributing to its recruitment problems, but also to its perpetual complaint about the inadequate entry of trained workers. Some regions have started to include measures to promote labour stability in their training policies. Mobility between firms in this sector is also high, owing to the site-based nature of construction operations. A lot of departures from the sector are also due to a great number of retirements.

VI.4 Use of migrant labour in occupation

In the past, many *maçons* used to come from Italy, Spain or Portugal. The use of migrant labour has fallen to 14.3% in 2007 (22.1% in 1970), of which 7.5% are from non EU countries (*Les indicateurs sociaux du Bâtiment-février 2009*). Some of these migrants (or their children) are to be found in the self-employed sector. It is also known that on "large-scale construction sites" in the building and engineering sector, particularly in the Parisian region, there is a high concentration of workers of African origin (more labourers than *maçons*), including "illegal" workers (Jounin 2008). And, more recently, a number of firms have been inspected and prosecuted for the illegal use of workers from the new member countries of the EU (Poland in particular).

VI.5 Links between pay and qualifications

A *maçon* with a CAP is regarded as a skilled blue-collar worker in the national collective agreement. But the wage rate is highly dependent on the regional level where minimum salaries are negotiated between employers and employees. According to the Observatory for the sector, 30% of *maçons* are low-skilled (rated 150 to 170 in the collective agreement corresponding to the category of "*ouvriers d'exécution*"), 41% skilled (rated 185 to 210, (*ouvriers professionnels*), with 185 corresponding in principle to the entry threshold for the holder of a CAP), and 29% highly skilled (ratings above 210, "*compagnons professionnels*" -- journeymen/specialist workers). Advancement is possible between these three positions, with or without the qualification, depending on experience. Furthermore, depending on the firm and the workers' competences, seniority may lead to a wage bonus.

VI.6 Working conditions, health and safety

The building and civil engineering sector is regarded as having difficult working conditions: work

carried out outside, carrying loads and risk of accidents (Dares, 2008). More than twice the national average number of accidents take place in the sector and considerably more than three times the number of fatalities associated with these accidents. It has to be underlined that in France data about accidents include the journey between home and work or journey between firm and building site. Nonetheless, the frequency indicator, as an indicator of the gravity of these accidents, has steadily declined since 1990 (INRS, 2007). By contrast, the number of occupational diseases is on the rise, following the national trend, partly due to the better recognition and assumption of responsibility for these health problems. Greater mechanization, lift machines and compulsory health and safety training sessions are contributing to the improvement in working conditions on building sites.

References

- Arrighi J.-J., Gasquet C., (2008), Les jeunes et le BTP, former ne suffit pas, in Beret Pierre et al (eds.), *Transitions professionnelles et risques*. Actes des XIII^{èmes} journées d'études sur les données longitudinales dans l'analyse du marché du travail, Céreq, collection Relief, n° 15.
- Bentabet E., Kirsch J.-L., Stefani S., (2005) Le partenariat social dans formation professionnelle initiale en France, *Cereq, Relief n° 9*
- Caslla P., Tanguy L., Tripier P., (1991) *Apprentissage et paritarisme dans le bâtiment, naissance et évolution du comité central de coordination de l'apprentissage*, Paris, PCA
- CCCA, (2008), Tableau de bord national de l'emploi du BTP
- Cereq, (2008), Portraits statistiques de branche
- Commission paritaire nationale pour l'emploi et la formation dans le bâtiment et les travaux publics, (2001) *Bilan d'activité 2001*
- Dares, (2008), *Les ouvriers du bâtiment et des travaux publics*, Premières Synthèses, February
- Fédération Française du Bâtiment, (2009), Les indicateurs sociaux du bâtiment, février 2009
- INRS (2009), Statistiques accidents du travail et maladies professionnelles du BTP. <http://www.inrs.fr>
- Jobert A., Reynaud J.-D., Saglio J., Tallard M. (sld), (1993), Les conventions collectives de branche, déclin ou renouveau ? *Céreq, Etude n° 65*, Marseille
- Jobert A., (2000), *Les espaces de la négociation collective, branches et territoires*, Octares, Toulouse
- Jounin N. (2008), *Le chantier interdit au public* (Entry to the construction site prohibited to the public), survey among building workers. Paris, *La Découverte*
- Kalck P., (2008), Une vision prospective des métiers développée par les professionnels du bâtiment, *Bref Céreq n° 254*
- Verdier E., (2006), La gouvernance territoriale des risques d'emploi et de travail : vers l'émergence de nouvelles politiques du rapport salarial. *Les cinquièmes journées de la proximité*, Bordeaux : 28 – 30 juin 2006

Appendices

Appendix 1: Training Route for Level V for building / building work (historical view)

Appendix 2 : Current diplomas in the construction sector

Appendix 3: Description of activities for the function "preparation of work" (RAP)

Appendix 4: Table showing the link between skills and activity

Appendix 1 : Training Route for Level V for building / building work (historical view)

Level V

Years

60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

BEP Builder: construction (1969-1987)		BEP Construction: building & building work (1987-2003)	BEP Building building work techniques (2003-...)
✱BEP Builder: civil engineering and industrial elements Option A: production in plant (1970-1987)			
BEP Builder: civil engineering and industrial elements Option B: execution (1970-1988)		BEP Civil engineering (engineering structure) (1988-1993)	BEP Civil engineering (1993-...)

✱ Option administered by the CPC for extractive industries and construction materials

60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08

CAP Construction in reinforced concrete in building (1987-2002)	CAP Reinforced concrete builder (2002-...)
---	--

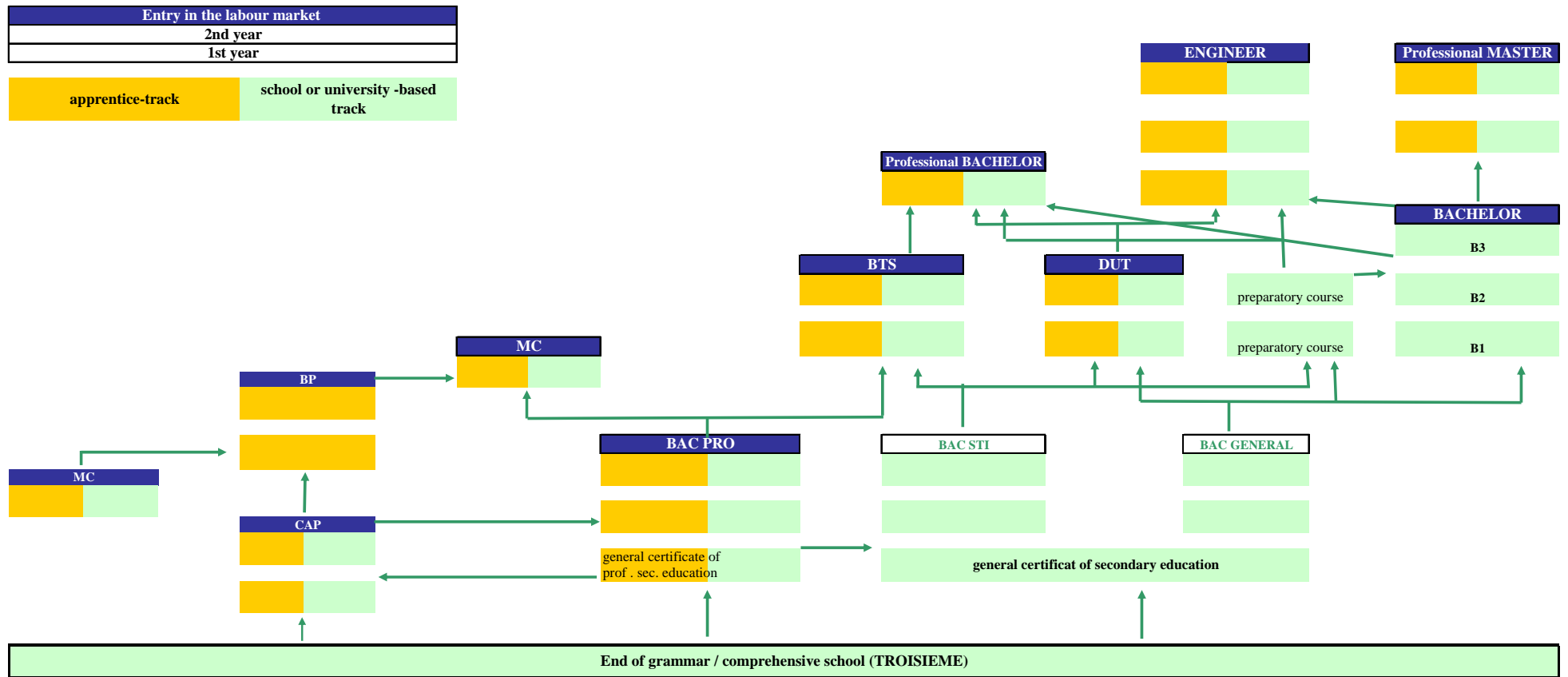
(1950...)

:

CAP Maçon (1950-1973)	CAP Builder in masonry and reinforced concrete (1973-1987)	CAP Construction in masonry - reinforced concrete (1987-2002)	CAP Maçon (2002-...)	MC Brickwork masonry (1998-2004)			
CAP Reinforced concrete worker (1950-1973)							

BEP: Brevet d'études professionnelles (certificate of vocational training)
 CAP: Certificat d'aptitude professionnelle (certificate of vocational aptitude)
 MC: Mention complémentaire (specialised diplomas)
 Qualifications for another training route
 Source: Céreq (Base Reflet)

Appendix 2 : Current diplomas in the construction sector



- CAP** = *certificat d'aptitude professionnelle* = certificate of vocational aptitude / first level qualification
- MC** = *mention complémentaire* = specialized qualification
- BP** = *brevet professionnel* = national diploma attesting the acquisition of a high qualification in a defined prof. activity
- BAC PRO** = *baccalauréat professionnel* = vocational baccalaureate / high school vocational diploma
- BAC STI** = *baccalauréat sciences et technologies industrielles* = technical bac. / technical high school diploma
- BTS** = *brevet technicien supérieur* = higher national diploma
- DUT** = *diplôme universitaire de technologie* = two year technical degree

Appendix 3: description of activities for the function "preparation of work" (RAP)

Certificate of Vocational Aptitude for Maçon

TABLE OF SPECIFIC ACTIVITIES

FUNCTION: PREPARATION ORGANISATION

Activity 1.1: Preparation of work

TASKS:

- **Task 1: ensure that the necessary materials and equipment are available**
- **Task 2: make a survey of the existing structures**

CONDITIONS OF EXECUTION

Means and resources

- **plans of execution, drawings, description, bills of quantities, instructions for use of materials or equipment, health and safety directions, regulations**
- **work clothing and individual safety equipment**
- **measuring instruments**
- **quality control data sheets**
- **verbal instructions concerning execution**

Autonomy and responsibility

- **associated with preparing the site and contributing to the good image of the firm**
- **receives the general instructions concerning execution of works in accordance with customary practice, safety rules and the approach to quality applied in the firm**

Expected results

- **the structures to be produced are identified**
- **the materials, equipment and tools adapted and available to allow effective intervention in absolute safety**
- **delivery errors or problems on the site are reported**
- **the state of progress is taken into account**
- **additional information is requested and errors found in the documents are reported**
- **work clothing is adapted and kept in good condition**

Appendix 4: Table showing the link between skills and activity

**Certificate of vocational aptitude for maçons
LINKING TOGETHER THE REFERENCE FRAMEWORKS FOR VOCATIONAL
ACTIVITIES AND CERTIFICATION**

(Legend of table overleaf)

Left-hand column:

CAPACITIES / SKILLS

CAP for MAÇON

C 1 OBTAIN INFORMATION -- CONVEY INFORMATION

- C 1.1 decipher drawings and plans
- C 1.2 decipher technical documents
- C 1.3 situate his work within the overall site
- C 1.4 prepare a survey and make a drawing of a structure
- C 1.5 identify the levels, sides, markers, orientations
- C 1.6 exchange information using the appropriate means

C 2 DEAL WITH MATTERS AND TAKE DECISIONS

- C 2.1 prepare the work
- C 2.2 organise the workplace
- C 2.3 maintain the equipment in good condition

C 3 EXECUTION

- C 3.1 install a structure
- C 3.2 deal with site waste
- C 3.3 erect and dismantle freestanding scaffolding for new works and renovation
- C 3.4 carry out shell construction in blocks and bricks
- C 3.5 carry out masonry remaining visible in blocks of concrete, bricks, rough stone
- C 3.6 make and put in place reinforcements
- C 3.7 make and put in place formwork
- C 3.8 make and put in place the concrete
- C 3.9 make and/or put in place a component
- C 3.10 carry out the horizontal, vertical rendering and waterproofing courses
- C 3.11 make and put in place a network of piping and conduits
- *the application of the labour code (age condition)

Top right-hand column:

PROFESSIONAL ACTIVITIES

- 1.1 preparation of work
- 1.2 organisation of the workplace
- 1.3 installation of a structure
- 1.4 dealing with site waste
- 2.1 erection and dismantling of freestanding scaffolding for new works and renovation
- 2.2 carrying out shell construction in blocks and bricks
- 2.3 carrying out masonry remaining visible
- 2.4 making and put in place reinforcements
- 2.5 making and putting in place formwork
- 2.6 making and using the concrete
- 2.7 making and/or putting in place a component
- 2.8 carrying out the horizontal, vertical rendering and waterproofing courses
- 2.9 putting in place a network of piping and conduits
- 3.1 keeping the equipment used in good condition
- 4.1 exchanging information

Certificat d'aptitude professionnelle de maçon

MISE EN RELATION DES RÉFÉRENTIELS DES ACTIVITÉS PROFESSIONNELLES ET DE CERTIFICATION

CAPACITÉS / COMPÉTENCES

ACTIVITÉS PROFESSIONNELLES

C.A.P. de Maçon	ACTIVITÉS PROFESSIONNELLES														
	1.1 Préparation du travail	1.2 Organisation du poste de travail	1.3 Implantation d'un ouvrage	1.4 Traitement des déchets de chantier	2.1 Montage/démontage d'un échafaudage de pied en travaux neufs et réhabilitation	2.2 Réalisation des maçonneries brutes en blocs et briques	2.3 Réalisation des maçonneries restant apparentes	2.4 Réalisation et mise en place des armatures	2.5 Réalisation et mise en place d'un coffrage	2.6 Réalisation et mise en œuvre du béton	2.7 Réalisation et/ou mise en place d'un composant	2.8 Réalisation des enduits horizontaux, verticaux et chapes	2.9 Réalisation d'un réseau de canalisations	3.1 Maintenance en état du matériel utilisé	4.1 Échange d'informations
C1 S'INFORMER - INFORMER															
C1.1 Décoder des dessins et plans															
C1.2 Décoder des documents techniques															
C1.3 Situer son travail dans l'ensemble du chantier															
C1.4 Établir un relevé et exécuter un croquis d'un ouvrage															
C1.5 Repérer les niveaux, cotes, repères, orientations															
C1.6 Échanger informations en utilisant les moyens adaptés															
C2 TRAITER DÉCIDER															
C2.1 Préparer son travail															
C2.2 Organiser son poste de travail															
C2.3 Maintenir le matériel en état															
C3 RÉALISER															
C3.1 Planter un ouvrage															
C3.2 Traiter les déchets de chantier															
C3.3 Monter et démonter un échafaudage de pied en travaux neufs et de réhabilitation *															
C3.4 Réaliser des maçonneries brutes en blocs et briques															
C3.5 Réaliser des maçonneries restant apparentes en blocs de béton, briques, moellons															
C3.6 Réaliser et mettre en place des armatures															
C3.7 Réaliser et mettre en place un coffrage															
C3.8 Réaliser et mettre en place du béton															
C3.9 Réaliser et / ou mettre en place un composant															
C3.10 Réaliser des enduits horizontaux, verticaux et chapes															
C3.11 Réaliser un réseau de canalisation															

* Voir application du code du travail (condition d'âge)