Employers' surveys as a tool for identification of skill needs: feasibility study

Skillsnet expert workshop
7-8 May 2009, Milan, Italy

Workshop summary and conclusions

The workshop was co-organised by the European Centre for the Development of Vocational Training (Cedefop), within its network of experts in the field of early identification of skill needs 'Skillsnet' in cooperation with Gruppo Clas.

Participants: in total 38 experts from 18 Member States (Cyprus, Czech Republic, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Lithuania, Luxemburg, Malta, Poland, Portugal, Romania, Slovakia, Spain and the UK) and from several international and European institutions and organisations attended the workshop.

Background and objectives

The workshop took place in the framework of the new Cedefop initiative which explores the feasibility of employers' surveys on skill needs in Europe as a follow-up to two preceding workshops (Bucharest in 2007, Paris in 2008).

The first workshop in Bucharest in 2007 discussed the potential use of existing surveys at European level for skill needs analysis, compared and discussed methods and approaches used in enterprise surveys in EU Member States and identified three options for future work steps: adjusting national surveys to achieve comparability of results, modifying existing European surveys by including questions on skill needs, launching a new European employers' skills survey. Following up the workshop discussion, the Skillsnet team prepared a conceptual outline to assist future development of the new initiative, identifying its objectives, benefits for the EU and individual MS, target groups and beneficiaries.

The second workshop in Paris in 2008 discussed the conceptual outline and primarily the three options identified in Bucharest. It was agreed that these alternatives are not mutually exclusive and that a new feasibility study should identify the most practicable solutions.

The feasibility study started in the beginning of 2009. The objectives of the workshop in Milan were to present and discuss the interim findings of the feasibility study and in particular:

- to present and discuss the key methodological issues concerning employers' surveys and the possible approaches to the assessment of skill needs;

- to present and discuss the characteristics of the national surveys on employers presently available in the Member State, in order to provide the basis for the evaluation of possible adjustments;

- to present and discuss the characteristics of EU surveys, in order to identify which is/are the one/ones that could be modified by including questions on skill needs;

- to present and discuss the issues that questions on skill needs should tackle and propose the relevant questions.

Workshop summary

The workshop was officially opened by representatives of Cedefop and Gruppo CLAS together with the presentation of the workshop objectives and introduction to the workshop programme.

The workshop started with a presentation on what data can we expect from employers' surveys in the framework of improving the anticipation of changing skill needs. The presentation highlighted the limitations of existing data and the main issues that should be taken into consideration when conducting surveys on employers. In particular it highlighted: that one survey was unlikely to meet all needs; that there were some key data gaps in the labour market information needed to anticipate changing skill needs at a pan-European level; and that the focus should be on obtaining objective information on these needs rather than subjective data or marginal or ephemeral pheneomena. This was complemented with a summary of preliminary results from a sample of the German CVTS3 follow-up survey, with a focus on questions related to assessment of skill needs in companies.

The first roundtable was then dedicated to the 'Potential use of existing international surveys' dealt with the presentation of selected activities conducted by the OECD and the European Commission. The OECD presented the main results of the pilot survey conducted in the framework of the PIAAC project, using a Job Requirement Approach. This also discussed a possible matching between these results and those from employers' surveys. Eurostat presented details of the Continuing Vocational Training Survey (CVTS) and of its undergoing revision for the fourth round. There is now a specific survey on adult education which includes several questions previously asked by the CVTS. Therefore, CVTS will be reduced in detail where it is more appropriate to ask individuals than enterprises to reduce burden. There will be space for additional questions and this opens the opportunity of including a set of new questions aimed at identifying skill needs for the CVTS4. As a last intervention, the European Commission (DG Employment) presented new activities foreseen in the European Public

Employment Service Vacancy Monitor project, in the context of the New Skills for New Jobs (NSNJ) initiative recently launched in the EU.

The next sessions were dedicated to the interim results of the feasibility study on employers' surveys on skill needs. Methodological issues related to of three different key foci of skills assessment/measurement were discussed: changes in the employment/occupational structure of enterprises; the current occupational recruitment needs (vacancies) of enterprises; and the training (provided or needed) by enterprises.

Subsequently, an assessment of the state of the art of the analysis and the detailed questionnaire available from various national surveys was presented (based on the basis of the information provided by the country experts to Cedefop) was presented. The presentation provided a cross-comparison of the types of surveys that are conducted in each Member State and the main characteristics, in terms of methodology and variables surveyed.

The next presentation gave an overview of the characteristics of existing EU surveys. It showed the strengths and weaknesses, of each EU survey that could – in principle – be modified or extended to include questions related to the identification of skill needs.

The second day was devoted entirely to the possible questions to be included in an employer survey on skill needs. The main aspects that the questions should cover were illustrated, and some preliminary questions focussing on the three possible topics outlined above (occupational structure, vacancies, and training) were discussed.

Summary of discussions

The presentations gave rise to several discussions, helpful comments and "warnings" of problems and pitfalls from the experts attending the workshop. The main outcomes of the discussion are summarised below.

The three options assessed

The workshop focussed on the three main options that are being evaluated in the feasibility study: modification of existing EU surveys; harmonisation and adjustment of national surveys; and the launching of a new European survey. It was agreed that the three main approaches were not mutually exclusive, and that it was important to try to progress all three in parallel. It was also underlined that the modification and/or the adjustment of EU and national surveys pose many difficulties because of the different methodologies applied.

The three main options each have their advantages and disadvantages:

- Existing surveys: only limited scope to extend; mainly focussed on macro level not skill needs in detail therefore unlikely to offer sufficient granularity.

- Harmonisation of existing surveys from individual MS: limited possibilities due to national priorities but worth exploring further.

- New survey: undoubtedly desirable, but need to identify key priorities (information gaps for anticipating changing skill needs) at a pan-European level (a sinle survey will not be able to meet every users needs..

The JRA module of PIAAC and other household surveys, such as the LFS, were discussed. These are not fully suitable to detect future skill demands from employers, because individuals may not always know very well the characteristics of the enterprises where they work, and are not able to predict the future strategies. The JRA also does not provide information on unmet skills (skills that are required by the firms but are not provided by employees).

It was suggested that a matched employer-employee approach as already used in some MS could be very useful for the assessment of future skill needs. Thus a 'new' option of matched employer-employee survey could be envisaged and explored further.

A new European survey should be designed in order not to overlap with information that can be derived from other surveys, including the data that will be available after the CVTS4 and the JRA module are completed. New surveys, if any, should be designed to cover the information that will be still lacking after 2011, when the CVTS4 and JRA have been carried out.

Another aspect to be considered refers to whether the initiative should be mandatory or not: in fact, the Member States might not be willing to adjust their surveys spontaneously or to participate in a new survey, mainly because of the costs this entails. Concerning the CVTS4, the questions that could be added to investigate skill needs might be only optional.

It was agreed that the CVTS might be one of the existing EU surveys that have the potential to be used for the identification of skill needs and strategies in enterprises. The Eurostat confirmed that this issue has already been discussed in the Eurostat CVTS Task Force preparing the CVTS4 and Eurostat will be interested to cooperate with Cedefop and its expert network on a possible new set of questions. These aspects will be discussed during the next CVTS Task Force meeting in June. Eurostat informed on the procedure and time schedule. The whole questionnaire has to be completed by the end of 2009. However, the scope for adding new questions is very limited and this will provide mainly macro level data. This option is therefore not able to provide the more detailed data identified as necessary to underpin a robust system for anticipating changing skill needs at a pan-European level.

The possible approaches to obtain information on skill needs

The interim findings stated the three main foci of employer surveys that attempt to obtain information on skill needs are:

1.   to investigate the occupational structure of enterprises;

2.   to investigate vacancies;

3.   to investigate training provided by enterprises.

At present there is a lack of information on all these three approaches at European level. However, it is not possible to gather all the missing information in one single survey, which would be too long and complex. The necessary data could be collected using a variety of surveys (existing or new) with different focus.

In the light of European labour market which also requires European-level monitoring (as also emphasized by the NSNJ initiative), harmonisation efforts should be scaled up to obtain comparable and good quality statistical information on occupations. Data at European level are already available in the LFS. However, it is a household survey and

it is well known that such surveys have several limitations as a source of information on skill demand from employers.

Improvements of the LFS should of course be discussed further with Eurostat, alongside the feasibility of collecting new information from employers.

The **occupational structure** (stock approach) based on data coming from employers is **the key** element in the US approach to anticipating changing skill needs. The Occupational Employments Statistics Survey in the USA clearly confirms that such an approach is feasible. This has taken over 40 years to establish and cannot be replicated overnight. Such surveys can be burdensome to the respondents, and for this reason one should be cautions when proposing them. The burden might be particularly heavy for small enterprises, also because they might not have the data, and employers very often ignore statistical needs (there is a motivational problem to be solved in the EU). Due to the burden, the response rates might be very low. However, the US experience suggest that with the right approach response rates can be very high indeed. This requires measures to avoid the questionnaires being burdensome; oversampling of individual respondents and appealing to employers self-interest. The possibilities of doing something similar in a European context should be explored as a top priority.

At EU level, information on the occupational structure is also already collected through the Eurostat's Structure of Earnings Survey (at the 2-digit level of the ISCO classification) using a mix of data sources, including tailor-made questionnaires, administrative data and estimations with the intention to get information on the employment/occupational structure and earnings. However, this is not a proper employer survey, more a case of country respondents filling in the questionnaire using many different sources and methods. In the UK for example the information is based on the Annual Survey of Hours and Earnings (ASHE). The occupational employment structure of this survey is however not independent but calibrate to match the UK LFS.

As for the assessment of skill needs through surveys on **vacancies**, this approach could, to some extent, be biased, because in the short-term skill needs fluctuations (shortages and redundancies) are to some extent linked to the economic cycle fluctuations. Such surveys are also focussed on only small part of the workforce (the current recruitment needs of employers). Typically these are just a very small percentage of total employment. They also tend to be ephemeral if markets are operating efficiently.

Although larger organisations account for the vast bulk of both vacancies and employment surveys on vacancies should also include small firms.

As regards collecting information on **training**, this could be a good additional indicator of skill needs, complementing the other two approaches. However, due to the burden on respondents, there should be limitations in the volume of information that could be asked.

There are also some specific circumstances that affect training strategies of enterprises, and hence would have an impact on the survey results. For example, employees holding a university degree have greater probability to be trained that employees with a lower level of educational attainment and employees under a fixed-term contract have lower probability to be trained.

At EU level, information on training is collected within the CVTS and as mentioned above new questions related to skill needs are likely to be included in the next round.

Which type of information to collect

It was pointed out that it is difficult to ask employers directly about their skill needs, because they are not used to "thinking" about skills as such and the information they can provide might be subjective (an opinion) and subject to bias. Information on skill needs is best obtained though a set of objective questions that tackle "skills" in an indirect way. It is important to try to collect data on facts, and not biased opinions.

The most immediate way could be to ask employers about occupations, but in a same occupation there can be a huge variation of activities. It could therefore be opportune to inquire directly about the tasks performed, which means collecting data at a more in-depth level of detail. However, having more details (tasks rather than occupations) requires a larger sample, and consequently the survey would be more expensive. It would also be important to obtain information on new and emerging occupations, which entail new and emerging skills. However, it should be made clear what data are really needed for Cedefop's purpose and distinguish from "nice to haves" causing extra burden.

The US approach emphasises collecting data on current occupational structure in great detail. This recognises that tasks and activities vary within categories and that to differentiate this one needs great detail. The US O*NET system then highlights the different competences typical of each occupation.

Some surveys have focussed on "skill gaps" amongst the existing workforce. This may require an approach based around occupational structure. The assessment of skill gaps can then be assessed through a sequence of questions on occupational structure-proficiency-skill gaps. This be too difficult, and to some extent confusing, particularly in large-sized enterprises. It might be preferable to ask employers to indicate which functional areas (sales, production, etc.) need skill upgrading. However, the person who will be answering the questionnaire would probably belong to the personnel department, and would not be aware of the "problems" in all the areas of the enterprises. Skill gaps are better known and assessed by the direct supervisors or direct superiors of the employees. Therefore it is important to identify which person should respond to the questionnaire in the company.

The analysis of skills should not focus only on skill gaps or skill shortages, but should refer also to the deployment of skills within enterprises, so as to assess which are the skills already available. This topic is related to the underutilisation of the skills that employees can offer on the market (over-skilled workers).

For possible surveys on vacancies, it was discussed whether the focus should be just on hard to fill vacancies, because this would of course limit the number of occupations analysed. Besides, the difficulty in filling in a vacancy (and the consequent skill shortage) can be due to the fact that employers do not know how to search for staff. The problem may be due to poor pay or other factors rather than a shortage of skills as such. Also the duration of the vacancy is biased, because employers often post it earlier than necessary.

Hard to fill vacancies are also usually related to other features of the occupation than only skills needed, for example, whether it pays low wages, whether it is a hard job, etc. Questions on these aspects are difficult to be answered by employers, and therefore some other characteristics of the occupation should be used as proxies (for example, whether the job is temporary, seasonal, etc.).

When looking at vacancies, it might also be useful to ask employers about the characteristics of the most recent recruitment, and then compare it to a similar recruitment made in the past (e.g. two years before), so as to capture variations in the required skills.

An additional possibility could be to assess the new recruitments coming directly from school and/or university to assess the efficiency of the education system, i.e. how graduates are prepared to enter the labour market.

It was further pointed out that information on how skills change over time is also of high importance, and it can be obtained – at least partially – through the analysis of the drivers of such changes (i.e. innovation). It is however important not to overestimate some changes that are of temporary nature.

The contextual background is of high importance for the assessments of skill needs are also the so-called "auxiliary questions". These questions may refer to a variety of themes, ranging from the work organisation (for example whether team working is important, or which is the proportion of workers using computers) to the characteristics of the enterprise operations (performance, exports, undergoing expansion, etc.). However, while questions referring to employees (and skills) are available at the establishment level (local unit), questions on the enterprise operations and performance often have to be asked at the enterprise level (legal unit), which means that such information is difficult to obtain through a single questionnaire.

In addition, information on the economic context are relevant to assess current and future skill needs, as well as information concerning the type of enterprise surveyed. Export oriented enterprises or enterprises belonging to specific sectors of the economy – especially those involved in knowledge based sectors – may have different behaviours and hence different skills needs.

It could be useful to include in the survey questionnaire also a set of open questions, which would allow to discover unexpected reasons for employers' behaviour (for instance, they may not hire persons due to the high level of social contributions. Answers to the open questions can be encoded ex-post.

It was agreed that the surveys on skill needs should also cover the public sector, which accounts for a significant share in total employment. It would also be interesting to have information on self-employment, but this is impossible to capture via an employer survey.

Technical aspects of employers' surveys

A basic decision for the development of a new EU employer survey is whether to place it inside or outside the European Statistical System having implications for data quality. This question has to be further explored by the study team.

The discussion revealed that the feasibility study needs a clearer focus on the "measurement/identification subject" (skill needs in enterprises) and various terms used in this context need to be distinguished (skill needs, skill shortages, skill gaps, types of skills, emerging skills). The terminology to be used is therefore crucial and must be as closest as possible to the "language" of enterprises. Particular attention must be paid to realities in enterprises (not only terminology but also data availability, survey burden, responsiveness etc).

It is also necessary to explore more in-depth the requirements for the interpretation of data (link between occupations-qualifications-educational level-skills; link between vacancies-skill needs).

Further technical aspects discussed were the trade-off between the length/complexity of the questionnaire and the frequency of the survey: a one-page questionnaire could be submitted every six months, while a complex questionnaire must have a much lower frequency.

The structure, the length and the complexity of the survey questionnaire are also strongly linked to the method used for data collection. Face-to-face and postal surveys make it possible to ask for more details and to include more complex issues compared to CATI surveys. On the other hand, the costs of a CATI survey are generally lower than those of a CAPI, while postal surveys usually have very low response rates.

But it is notable that this is not true in the US case. It should therefore be a priority to explore how the US BLS manages to achieve such high response rates. Possible explanations include use of rolling samples over a three year period (helping to avoid survey fatigue); avoidance of doubling up surveys (i.e. the same establishments being surveyed for more than one purpose); making questionnaires easy to complete; and finally, appealing to employers' self –interest.

It may also be possible to use a combination of different data collection methods: the CAPI approach can be used to test the survey questionnaire and improve it. Afterwards, the survey could be carried out using a CATI approach. Response rates are a very complex issue. It should be kept in mind that is almost impossible to draw general conclusions on data collection modes (CAPI, CATI, etc.) because the data collection mode is strongly related to the survey as such and the survey subject, but also to national conditions. What works in one country well does not necessarily work in another one.

Conclusions and further steps

It was agreed that it is necessary to clarify which are the actual data priorities and data needs from the perspective of trying to anticipate changing skill needs at a pan-European level, recognising the priorities as set out in the NSNJ agenda. It is necessary to identify minimum information to be collected, taking into account an analysis of currently available data. At the same time it is important to keep in mind Cedefop's strategic objective, which is strongly related to VET.

The various inputs provided by the experts participating in the workshop confirmed that, each possible option for the identification of skill needs has several advantages and disadvantages, which must all be taken into consideration in the feasibility study. Thus the team working on the feasibility study will complete the tasks as specified in technical specifications of the contract, taking into account all the comments made by experts during the workshop and in particular will:

- perform an in-depth evaluation of the mapping of existing surveys in Europe with regard to the three different measurement of skills identified and options to be evaluated; especially on the data needs: what current surveys deliver and what is still missing for Cedefop's purpose

- identify methods and processes that are realistic for measuring/identifying skill needs in enterprises (in terms of resources, time, etc.);

- analyse pros and cons of the two principle ways of development of a new survey: outside and within the European Statistical system;

- evaluate Eurostat data sources correctly and factually. There has to be evidence for strong conclusions, specifically regarding the details of the statistical methodology and, above all, the issue of "harmonisation" (input vs. output harmonised);

- consider the potentials of matched employer-employee surveys (France is an example of such attempt to match Adult Education Survey and CVTS);

- provide recommendations to Cedefop on the minimum set of information (data needs) to be collected at European level to assess skill needs (since it was unanimously agreed that a new survey or a new set of questions on skill needs should not overlap with data that can be derived from other sources);

- provide recommendations to Cedefop on the choices to be made in the short and longer-term.

The feasibility study team will deliver the draft final report to Cedefop by 15 July 2009.

It was concluded that the general objectives in this area can be separated into short-term and long-term. To obtain reliable and detailed data on occupational patterns and trends in the longer-term a long-term strategy is required which should articulate the important strategic investments, which are needed to set up a sufficient statistical infrastructure to support the kind of regular and comprehensive anticipation exercise demanded by the NSNJ agenda. This will involve identifying the key concepts and indicators, including the necessary levels of detail to provide useful LMI for both policy makers and others.

Cedefop will then prepare an enhanced version of the concept paper outlining the short and long-term strategy for collection of data to be used for skill needs analysis. It will be then discussed with Skillsnet experts on employers' surveys.

In the short-term Cedefop will work with Eurostat on questions to be possibly included to CVTS4 (there might be small expert group established by Cedefop within the Skillsnet) and will launch a longer-term follow-up work based on the feasibility study.

The next expert workshop will probably take place in the beginning of 2010.