

**ANTICIPATING CHANGING SKILL NEEDS IN EUROPE: THE CASE FOR A MAJOR
IMPROVEMENT IN CAPACITY**

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Rob Wilson

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Warwick Institute for Employment Research

University of Warwick

Coventry CV4 7AL

Email: r.a.wilson@warwick.ac.uk

Tel: +(44) 2476 523530

r.a.wilson@warwick.ac.uk

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The case for Foresight and Anticipation: Lisbon & other agendas

The Lisbon agenda has emphasised the need to anticipate changing skill needs in Europe. Climate change, globalisation, technological change and demographic developments (including migration) are posing huge challenges, offering both risks and threats, as well as opportunities. The identification of key trends and the provision of accurate and timely labour market information and intelligence (LMII) to those making choices and decisions are crucial to identifying possible new jobs for Europe, as well as those under threat from structural change.

Nobody can predict the future precisely, but everyone can plan in order to make the most of the opportunities they face, and to avoid the worst problems. Such individual strategic plans and choices will influence the future path taken by Europe as a whole. These plans and choices need to be guided by robust LMII. The key question therefore is not **whether** we should try to anticipate the future, but rather **how** to go about it. Rather than relying on luck and individuals' own (possibly ill-informed) judgements, we should apply transparent, systematic scientific methods.

The lack of European investment in the foresight and anticipation of changing skill needs

Other countries have already decided that there is a clearly established case for regular anticipation of economic and labour market change in order to deal with problems of restructuring, and to make the most of the opportunities being offered up by new technologies. The USA and China are investing huge sums in such work. Unless Europe keeps up, there is a danger that we will lose out by not investing in the skills that will be needed in the 21st Century. Of course, much is already going on in Europe, but it tends to be piecemeal and *ad hoc*. There is an order of magnitude difference compared with countries such as the USA.¹ This suggests that we are not doing anywhere near enough.

There are huge gaps in statistical infrastructure and capacity compared with best practice in the rest of the world. European investment in this type of research and related activity (including statistical infrastructure) is weak in comparison with the US (and others). We need to establish the capacity for regular and systematic assessments, at a detailed sectoral level, covering all member states. This needs to be Pan-European because the problems are not confined within narrow national borders. The increasing mobility of labour across national boundaries and related issues such as migration, for example, explain why a Pan-European perspective is needed.

The need for a regular and continuous process of anticipation

Anticipation is not a one-off exercise. It needs to be a continuous and regular process. Only if this is the case can it properly inform EU citizens about the changes they are likely to face. Economic restructuring is itself a normal and continuous process, some sectors changing more rapidly than others. We cannot "hold back the economic tides" that cause this continual change, but we can help our citizens to learn to "surf the waves" by anticipating likely future developments. Other aspects are also important. Ageing, and poorly qualified workforces militate against innovation, learning, networking and anticipation, but early warning and involvement of the social partners can help to oil the wheels of change.

¹ In 2005, the latest year for which data are available, the Bureau of Labor Statistics in the US invested almost 6 million dollars on quantitative employment projections. This compares to around 0.25 million euros invested by Cedefop on the only equivalent project. Of course many individual Member States are doing such work, but so are the individual US states.

It is not practical to try to pick winners, but it is possible to create an environment conducive to change and which deals with the inevitable casualties. We need to create systems that encourage flexibility and adaptability, as well as entrepreneurship and innovation, and enable industries, companies (and individuals) to reinvent themselves. For example, sectors that might appear to be “dead ducks” can often have a second lease of life by restructuring themselves and developing new angles and niches at the higher end of the value added spectrum. Anticipation is needed to foresee the problems and to act in good time, devising strategies, technologies, etc, to cope, often right down the supply chain. This is often best handled at a sub-country or regional level. There is a need for regions to be proactive; but with a strong sectoral focus. Safeguarding jobs often requires diversification. It also requires approaches to anticipation that recognise the importance of economic linkages.

This process is often much easier for larger companies. Smaller companies, in particular, may need special help (this emphasises the public good nature of the problem, reinforcing the case for public intervention). The reaction in individual companies and organisations is often dependent on the personnel in place. They need to have a clear view of the organisation’s priorities, the possible need for closures, new investments; and an acceptance of new ideas, including those “outside the box”. Dialogue with social partners in advance can help prepare the workforce for change.

What is required: How to Anticipate

There is no single solution to the question of **how** to anticipate. A multifaceted approach is required. Quantitative and qualitative approaches to anticipation are complements not substitutes or alternatives. Both are needed. Qualitative approaches are often developed in the absence of firm statistics and more quantitative methods, but they are not a substitute for them. Each approach has its strengths and weaknesses. Anticipation can take various forms: “windows on the future”; general scenario development; SWOT analysis; development of “shared visions”, as well as quantitative projections.

Quantitative methods, such as those based on formal models, are typically based on empirical evidence from past behaviour, using econometric analysis and statistically significant relationships (not simply extrapolations). Qualitative approaches such as scenario development rely more upon expert knowledge and opinion. Detailed sectoral studies also rely on expert input. But this needs to be based on a firm foundation (including robust statistics and econometric and other evidence), otherwise it is mere subjective speculation. Scenario development typically sets out by identifying key drivers, diffusion of technologies often across sectors. Qualitative analysis, including scenario building, provides a means of considering a broader range of alternative possibilities.

Different users may require different types of information. For example, while scenario development may be very valuable for a small number of people involved in developing the scenarios, it provides much less useful information for millions of individuals making career choices who do not have the advantage of being involved in the construction of the scenario. On the other hand, quantitative approaches such as the existing Cedefop model can present a consistent view of one possible future that can be useful to a very wide audience. Of course to get this message across to a wide audience also requires suitable investment in dissemination mechanisms.

In combination, the two broad approaches can provide a comprehensive picture of future possibilities that is useful to a range of different users. It is important to emphasise that it is not just policy makers that require this kind of information. A range of approaches is required: both quantitative and qualitative; and serving different audiences: policy makers, stakeholders, social partners, practitioners and individuals. Together, and in combination, they offer the best hope of providing both policy makers and all EU citizens with the information they need to make rational and optimal choices. Skills are a key part

of the infrastructure of the economy and the choices made by both policy makers and individuals will help to determine the path the economy takes.

Regular and systematic forecasting is therefore necessary. Both Quantitative and Qualitative approaches are essential, but in an ideal world they need to be linked, which requires resources. Simply relying on such synergy to happen by chance is not sufficient. Resources need to be deployed to enable quantitative modellers to exploit the insights from qualitative approaches and *vice versa*. This should be based on a foundation of regular, systematic and quantitative approaches to forecasting and scenario development, and including a Pan-European/global perspective.

It should be emphasised that such projections should not be seen as deterministic nor prescriptive – structural changes and their implications for changing skill needs cannot be mechanistically predicted. Neither qualitative scenarios nor quantitative projections should be seen as precise predictions, rather they are more about preparation for what might come.

It is possible to identify the main employment trends in Europe - where jobs may be created, as well as anticipating job losses due to restructuring. But it is important not to put too much emphasis on where jobs are disappearing, as there is a danger that lobbying from sectors in decline may result in a biased view of things (a falling tree makes a very loud crash, while there is very little sound as the forest grows!). Also it is important not to place too much stress on “shortages”. It is more important to focus on overall skill needs, including replacement demands. Anticipation can be conducted at a range of different levels from Pan-European, through national, regional, sectoral, and local, down to individual enterprises and people.

Obviously anticipation is not a panacea. Policies relating to Trade Rules; Finance, etc, are also crucially important, (as are Intellectual Capital and Property Rights). But anticipation can help to recognise where these are really crucial.

Key objectives

It is desirable to build on existing strengths, networks and capacity but there is a need for much better information systems and investment in tools, network capacity and dissemination.

- **Investing in basic primary data:** - while there have been significant improvements, existing EUROSTAT data are weak in some areas, especially on detailed trends in skill demand within sectors;
- **Model building and technical development:** - we need to improve our technical capacity and models; the Cedefop project, based around E3ME, is a start, but there is a long way to go compared to best practice elsewhere in the world (including some individual member states in Europe, whose expertise needs to be harnessed);
- **Strengthening existing networks:** - Cedefop's *Skillsnet* network (and others such as the *Restructuring Forum* and events organised by the *European Network of Regional Labour Market Monitoring*) can provide a good starting point, but they are under-resourced and need more support and investment;
- **Scenario development and sectoral studies:** we need to do more (including holding regular and systematic strategic dialogues and conversations amongst key stakeholders, contributing to qualitative scenario building exercises already in train and linking these with quantitative modelling and assessment work), which requires both time and resources;
- **Developing capacity across countries,** bringing work in all member states up to a common minimum standard.

What needs to be done:

The key elements (main work packages) that are needed to build a world class infrastructure at a European level are as follows

- Better, purpose built **databases**;
- Improved **methodology and tools** (both quantitative models & qualitative approaches);
- Greater **network capacity**: to exploit the linkages and synergies between the quantitative and qualitative approaches, to improve dissemination and **learning**, and to build up to best practice across all levels (countries, regions, sectors).

Databases: There is major gap compared with countries such as the USA, which can only be filled by long-term investment in primary data collection. This needs to establish detailed information on changes in occupational and qualifications structure within sectors. Existing data sources, such as the European LFS, are not adequate for this purpose.

In order to match the US, a regular Pan-European survey of **enterprises** is needed, in order to get detailed information on occupational structure and wages (not just skill shortages, as currently being mooted). Only by this means can a more reliable picture of occupational structure within sectors be obtained. The LFS household survey can never hope to match this approach without becoming exceptionally large. Similarly there are other data gaps that the LFS cannot fill, including: detailed occupational breakdowns; qualifications; and other aspects of skills, such as key, core and generic skills not covered by occupation or qualification. We also need more and better information on labour market flows and elements of replacement needs, as well as indicators of career progression and lifelong learning.

Methodology/ Tools: This can be discussed under two main headings: Quantitative and Qualitative. The focus here is primarily upon the former, but there is also a need for investment in the more qualitative approaches and the links between the two.

Most existing European level quantitative models place little emphasis on skills. Quest, NEMESIS and other General Equilibrium approaches also fail to deal in any depth with labour market policy. The E3ME model being used in the current project for Cedefop offers the potential for dealing with these issues directly. The ongoing Cedefop project will effectively add an occupation and qualifications dimension to E3ME. However there is still considerable scope for further refinement. This might include:

- *Further refinement of the Demand side*, building in more sophisticated links with other economic variables;
- *Refinement of the treatment of Qualifications*, including dealing with conceptual problems such as qualifications inflation, as well as data improvements;
- Adding in a treatment of *Key / Generic skills* drawing, upon the work of Green *et al*;
- Addition of a *Supply side treatment of qualifications* (possibly to be funded by a new initiative from Cedefop);
- Better analysis of *Migration* and related flows of labour and people across national borders;
- Improved *Policy Analysis*, both of labour market and related types and more general macroeconomic policies which impact the labour market;
- Scenario development;
- Moves towards *Best Practice* and filling individual country gaps by developing customised results for countries that do not at present have independent forecasting capacity and by moving other countries towards a more consistent best practice approach;
- Extensions along geographic dimensions, including expanding the number of countries and regions covered.

On the more qualitative side, there is a need for such approaches where quantitative data are weak and where past trends may not provide a useful guide to future prospects. Too often such approaches are seen as substitutes rather than complements to the quantitative methods. There is a need for more joined up thinking about future prospects and collaboration, but this requires resources if it is to be effective, since those adopting different approaches need to exchange ideas through detailed dialogue not chance exchanges. The series of Sectoral studies & scenario developments being initiated by DG Empl provide a good example of where collaboration could benefit both those undertaking this work and those conducting independent quantitative projections, but this will not happen by chance.

Joined up thinking also needs to ensure that the potential synergies between the Cedefop project and work being funded by the Euro-Foundation on Quality jobs, as well as regional work, such as that being undertaken under the *Restructuring Forum* and the *European Network of Regional Labour Market Monitoring* umbrellas, are all realised.

Network Capacity: Cedefop and others have worked hard to establish networks such as *Skillsnet*. While a useful starting point they are currently being run on a largely voluntary basis and a “shoe-string” budget, which only covers travel costs, and not the time needed to engage in this process, especially outside the immediate events organised by the network.

We need to build up networks and related dissemination infrastructure, investing in ICT (developing state of the art telematic platforms), and also providing resources to enable more physical networking. This can enable those working on both quantitative and qualitative projects to exchange information and insights formally, rather than relying upon serendipity and the goodwill of the researchers and analysts as at present.

Resources required

Although much work is in progress there is a huge gap in our efforts compared to best practice elsewhere in the world. A substantial investment is needed if these problems are to be seriously addressed. It is difficult to be precise about the amounts involved, but an indication of the orders of magnitude to begin to make a difference at a Pan-European level is as follows:

- Primary data investment (depends on details, but a minimum of 500,000 euros per annum);
- Technical development of models and methods - 500,000 euros per annum;
- Network development - 500,000 euros per annum;
- Contribution to sectoral scenario development - 30,000 euros per sector per annum;
- Raising standards across member states, to be supported by individual members.

This may appear costly but the costs of not providing the right LMII will be much more expensive in the long-run.

R.A.Wilson, University of Warwick, Institute for Employment Research, 31/07/07