



Working Futures 2004-2014
Summary Report

Working Futures 2004-2014:

NATIONAL REPORT

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Preface and acknowledgements

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The projections are presented at a variety of different sectoral levels using two main types of definition:

- **broad sectoral definitions** based on groups of 6, 14 or 27 sectors, and defined by Standard Industrial Classification (SIC) codes. These preserve the traditional manufacturing, services and public sector groupings of the economy. They are hierarchically related, with the 6 broadest sectors being a more aggregated grouping of the 14 industries, and so on. The 14 and 27 groups have been adopted by the SSDA in their Sector Skills Matrix database and hence are referred to as the Sector Matrix Industries (SMI). These are not coterminous with the SSCs' footprints; and
- **Sector Skills Councils definitions** which employ SIC code groupings that most closely match the SSC footprints. These definitions are a 'best fit' of each SSC's core business sectors. These specify the *core* SIC codes that are undisputed and do not overlap with any other SSC. The extent to which this is an exact fit varies between SSCs. In some cases, the use of the core SIC codes excludes elements of the SSC footprint because they are included in other areas. SSCs can provide further depth analysis of skills and future employment within their sector (see their individual websites for details).

The results should be regarded as indicative of likely trends given a continuation of past patterns of behaviour and performance, rather than precise forecasts of what will inevitably happen. They should be regarded as a robust benchmark for debate and used in conjunction with a variety of other sources of LMI. The opinions expressed in this report are those of the authors and do not necessarily reflect the views of the SSDA, the LSC, DfES, RDAs nor individual SSCs.

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Summary

BACKGROUND

This document is the first of three volumes that present *Working Futures 2004-2014*. Together they represent the most detailed and comprehensive set of employment projections ever published for the UK. It focuses upon the future patterns of demand for skills as measured by occupation. This first volume focuses on the *National* (UK) picture. Other volumes deal with sectoral and spatial dimensions in greater detail. A separate technical report provides details of sources and methods.

The results are intended to provide a sound statistical foundation for the deliberations of all those with an interest in the supply of and demand for skills, including individuals, employers, education and training providers as well as the various agencies and departments of government. The latter include the Treasury, the Department for Education and Skills (DfES), the Sector Skills Councils (SSCs), Regional Development Agencies (RDAs) and Local Learning and Skills Councils (LLSCs), as well as the report's main sponsors the SSDA and LSC.

The projections are the latest in a long series, previously funded by DfES as well as the SSDA (*Working Futures 2002-2012*). The results are based on the use of a *multi-sectoral, regional macroeconomic model*, combined with *occupational, replacement demand* and *qualification* modules. The main projection period covered is *2004 to 2014*.

Because of the interest of the SSDA and the Sector Skills Councils (SSCs) in detailed sectoral prospects and the concern of the local arms of the LSC (LLSCs) with developments at a local level, a very detailed analysis is required. The present set of projections are the most detailed and extensive ever produced for the UK. Well over half a million time series have been consistently estimated and projected for employment alone.

The results take account of new data from the Census of Population 2001 and other sources including the Annual Business Inquiry 2003 and the Labour Force Survey (2004). Together these suggest a number of new features in the changing pattern of occupational employment in the British economy.

The present document provides an overview and summary for the UK. It also presents results for the SSDA Sector Matrix Industries (SMIs). This is complemented by a separate *Sectoral Report* which presents results specifically focused on the newly formed SSCs. This analysis provides for the first time a consistent set of results for these categories. These results can be used in conjunction with employment forecasts developed by the SSCs (details of how to find SSC forecasts are available in Annex C).

Finally there is a separate *Technical Report* that describes in some detail the data sources and methods used to generate all the results. As well as the innovations already mentioned this also covers the treatment of labour supply which is an addition to what was included in *Working Futures 2002-2012*.

MACROECONOMIC CONTEXT

Economic activity

Despite continuing uncertainties in the world economy and growing competitive pressures especially from the Far East, the prospects for the UK economy at a macro level are expected to remain sound. Although a slight downturn is expected in the short to medium term the scenario underlying the employment projections is expected to settle down to a pattern of modest growth, with only moderate rates of inflation. Measures of economic output such as *Gross Domestic Product (GDP)* and *Gross Value Added (GVA)* are projected to display long-term growth rates of just below 2½ per cent per annum.

Inflation, the sterling exchange rate and public expenditure

Continued low inflation among the major OECD countries is expected. A small depreciation for sterling against the euro and the US dollar is assumed. The outlook for domestic inflation is one of modest rates of increase in prices and wages. The projections are based on an assumption of slight slow down in the rate of growth of public current expenditure. Capital spending is projected to see a more rapid deceleration. The government is expected to be able to achieve this without any major increases in public borrowing.

General labour market prospects

A generally optimistic picture emerges for the labour market:

- employment is expected to continue to rise. The long-term rate of employment growth (jobs) is expected to be just under ½ a per cent per annum, resulting in over 1.3 million additional jobs over the decade;
- the majority of the additional jobs are expected to be taken by *women*; although males are now expected to take up an increasing share of employment in many parts of the economy previously dominated by female employment;
- the *working age population* and the *workforce* are expected to undergo significant growth. Labour market participation rates are defined as those economically active (i.e. those in employment or actively searching for work) expressed as a percentage of the population aged 16+. Overall labour market participation rates are projected to fall slightly. This reflects declining trends for males offset by some increases amongst females.
- the level of *claimant unemployment* is expected to remain stable, rising slightly and then falling back. The new results also present estimates of unemployment on an ILO basis (i.e. those actively searching for work). On this basis the unemployment rate is

around twice as high as the claimant measure but flowing a similar profile overtime to reach around 5 per cent by 2014. For most people unemployment will be a transitory experience, although a minority will continue to suffer long duration unemployment.

SECTORAL PROSPECTS

Projections of output by sector

The prospects for broad sectors to 2014 are as follows:

- *PRIMARY & UTILITIES* is projected to see only modest output growth. This obscures sharp declines expected for *mining & quarrying* offset by better prospects for *electricity, gas & water*, and in *Agriculture, etc.*;
- *MANUFACTURING* output growth is forecast to average just below 2 per cent per annum. There is faster growth in some technology and R&D-related industries such as parts of chemicals and engineering, but other sectors such as textiles, clothing and metals & metal goods, etc are expected to perform much less strongly, reflecting continuing intense international competition.
- *CONSTRUCTION* is also expected to show only modest growth, with average rates around 1 ½ per cent per annum.
- *DISTRIBUTION, TRANSPORT, ETC.* includes a diverse range of industries. *Transport & communications* output is forecast to grow by around 3½ per cent per annum, with communications displaying the strongest growth of any services apart from *computing services*. Output in *distribution, retailing*, and *hotels & restaurants* is forecast to grow by around 2 per cent per annum.
- *BUSINESS & OTHER SERVICES: Business services* (which includes *computing services*) are expected to grow by around 4 per cent per annum over the longer term but *financial services* are projected to grow at less than half this rate. *Other services* are also expected to see similar, slower, rates of growth in output.

- *NON-MARKETED SERVICES* comprise public administration and defence, as well as health and education services. Output in *Public admin & defence* is projected to increase by about 2 per cent per annum. *Education* services and *Health & social work* are also expected to see quite rapid growth at around 2 and 3 per cent per annum respectively.

Sectoral employment prospects

Employment prospects to 2014 depend upon the demand for the goods and services produced in the different sectors. It also depends on how rapidly productivity rises in each broad sector.

- In the *primary & utilities* sector (which includes *agriculture, etc* and *mining & quarrying; electricity, gas & water*) is expected to continue to experience significant job losses in the next decade of around 1 ½ - 2 per cent per annum (just under 100 thousand jobs in total);
- Long-term decline in employment in *manufacturing* is expected to continue, with a loss of just under 400 thousand jobs between 2004 and 2014 (around 1 per cent per annum). *Textiles & clothing* displays the largest job losses, losing around 75 thousand jobs but there are significant declines in many other sectors as well;
- *Construction* is projected to experience a slight fall in the total level of employment of just under 100 thousand between 2004 and 2014 (just under ½ a per cent per annum);
- Employment in *distribution, transport* etc, is expected to increase by around 500 thousand jobs between 2004 and 2014 (½ a per cent per annum) - with most of the growth accounted for by jobs in *distribution* and *retailing*;
- Employment in *business & other services* is forecast to increase by just under a million by 2014 (1.2 per cent per annum), with *other business services* (which includes *computing services*) showing the fastest growth;
- Employment in *non-marketed services*, is expected to increase by around 400 thousand between 2004 and 2014

(around a ½ per cent per annum). Within this broad grouping most of the projected employment growth is accounted for by *education* and *health & social work*; while *public administration & defence* are forecast to see a slight fall in employment.

CHANGES IN OCCUPATIONAL STRUCTURE

New Occupational Projections to 2014

The results take full account of information on changing patterns of occupational employment structure from the Census of Population 2001 as well as the latest LFS data.

The results suggest some significant changes in likely prospects for the next ten years. The main differences compared to the previous projections are as follows.

Compared with *Working Futures 2002-2012*, faster growth is now indicated for:

- managers, some professional and many associate professional occupations;
- protective service occupations and culture /media/ sports occupations;
- caring personal service and customer service occupations.

More rapid declines than previously measured in *Working Futures 2002-2012* have been observed for:

- administrative, clerical & secretarial occupations;
- skilled manual & electrical trades;
- other skilled trades.

It is also worth noting that a much slower pace of change in occupational employment structure is expected overall than has been the case over the previous decade.

The groups that are expected to show significant increases in employment over the next decade (2004-2014) are higher level occupations such as:

- managers & senior officials (+617 thousand, 1.3 per cent per annum);
- professional occupations (+697 thousand, 1.8 per cent per annum);
- associate professional & technical occupations (+238 thousand, 1 per cent per annum);

Sales & customer service occupations and personal service occupations are the other main beneficiaries of employment growth, (with projected increases of 424 (1.7 per cent per annum) and 375 thousand (1.5 per cent per annum) respectively) .

Administrative, clerical & secretarial occupations are expected to see further job losses of around 164 thousand jobs (-0.9 per cent per annum), although this category will continue to employ over 3½ million people.

Declining employment levels are projected for:

- skilled trades occupations (-150 thousand, -0.4 per cent per annum);
- machine & transport operatives (some -118 thousand, -0.5 per cent per annum); and especially
- elementary occupations (-675 thousand, -2.2 per cent per annum).

Amongst these declining groups, it is the elementary occupations which are expected to see by far the largest absolute reduction in numbers.

In general these patterns are similar to those in *Working Futures 2002-2012*.

Replacement Demand

These projections focus on the net growth (or decline) in occupational employment. Such estimates provide a useful indication of likely 'gainers' and 'losers' from employment change. This has traditionally been referred to as *expansion demand*, although for some occupations it can be negative.

However, employers will often need to replace those workers who leave - due to mortality, retirement, career moves, or related reasons. Such *replacement demand* can easily outweigh any losses resulting from structural changes.

For all occupations together, replacement demand is about 8 times larger than the net changes projected between 2004 and 2014. Over the decade there is expected to be a net requirement of about 12 million job openings. Retirements are the principal component in this estimate. This excludes job openings created by people transferring from one occupation to another (some of which will be filled by similar means) or other outflows.

Two broad groups of occupations with different patterns of expansion and replacement demand are identifiable. For some groups, positive replacement demand outweighs negative expansion demand. This applies, for example, to managers & proprietors in agriculture & service industries; administrative, clerical, secretarial & related occupations; skilled metal & electrical trades; process, plant and machine operatives; and elementary clerical occupations.

For many others, expected retirements will add to positive expansion demand to create even higher net requirements for new entrants. This applies, for example, to corporate managers; teaching & research professionals; health & social welfare associate professionals; business & public service associate professionals; caring personal services; and sales occupations.

REFERENCES

- Barker, T. and W. Peterson, (1987). (editors) *The Cambridge Multisectoral Dynamic Model of the British Economy*, Cambridge University Press, Cambridge, Great Britain.
- Barker, T *et al.*, (2001). 'The Regional Cambridge Multisectoral Dynamic Model of the UK Economy', pp. 79-96 in G Clarke and M Madden (editors) *Regional Science in Business*, Springer-Verlag, Heidelberg.
- Briscoe, G. and R. A. Wilson, (1991). 'Explanations of the Demand for Labour in the United Kingdom Engineering Sector'. *Applied Economics* 23, 913-26.
- Briscoe, G. and R. A. Wilson, (2003). 'Modelling UK Occupational Employment'. *International Journal of Manpower*. No 5. Vol 24
- Cambridge Econometrics, (1996). *Regional Economic Prospects* May 1996. Cambridge Econometrics, Cambridge
- Cambridge Econometrics, (1997). *Regional Economic Prospects* Feb 1997. Cambridge Econometrics, Cambridge
- Cambridge Econometrics (2003) *Industrial Report, February*. Cambridge Econometric: Cambridge.
- Dickerson, A., K. Homenidou and R. Wilson, (2006). *Working Futures 2004-2014: Sectoral Report*. Sector Skills Development Agency: Wath on Dearne.
- Green, A.G.,K. Homenidou and R. Wilson, (2004). *Working Futures 2002-2012: Regional Report*. Sector Skills Development Agency: Wath on Dearne.
- Green, A.G. K. Homenidou R. White and R. Wilson, (2006). *Working Futures 2004-2014: Spatial Report*. Sector Skills Development Agency: Wath on Dearne.
- Institute for Employment Research/ CMM (2001) DfES Skillsbase website: <http://skillsbase.dfes.gov.uk/>
- Lindley, R.M. (1994). 'A Perspective on IER Forecasting Activities and Future Developments'. *Labour Market Forecasts by Occupation and Education: The Forecasting Activities of Three European Labour Market Research Institutes*. ed. H. Heijke. Massachusetts: Kluwer Academic, 167-79.
- Lindley, R.M. (2003). 'Projections and institutions: the state of play in Britain'. *Forecasting Labour Markets in OECD Countries*. Ed. M. Neugart. Cheltenham: Edward Elgar.
- National Skills Task Force (2000) *Skills for All*. DfES Nottingham.
- Polenske, K, (1980). *The US Multiregional Input-Output Accounts and Model*, Lexington Books, Lexington, Mass. US.
- Wanless, D. (2002). *Securing our Future Health: Taking a Long-term View*. Public Enquiry Unit, HM Treasury: London.
- Wilson, R, A. (1994). 'Modelling and Forecasting the Structure of Employment in the United Kingdom'. *Labour Market Forecasts by Occupation and Education*. Ed H. Heijke. Massachusetts: Kluwer Academic, 9-35.
- Wilson, R.A. and G. Briscoe, (2002) *The impact of human capital on economic growth: A review*. CEDEFOP: Thessaloniki.
- Wilson R. A. (ed.) (2000). *Projections of Occupations and Qualifications, 1999/2000*. Department for Education and Employment/University of Warwick, Institute for Employment Research, Coventry.

- Wilson, R, A. (1999). 'EMTA Quantitative Forecasting Model: Detailed specification.' Institute for Employment Research, University of Warwick: Coventry
- Wilson, R. A. (2001c) *Forecasting Skill requirements at National and company Levels*, in P. Descy and M. Tessaring (eds.) (2001), *Training in Europe (2nd report on Vocational Training Research in Europe 2000: Background Report, Volume 2)* CEDEFOP Reference Series, Luxembourg, Office for Official Publications of the European Communities, pp561-609.
- Wilson, R.A. (ed.) (2001a). *Projections of Occupations and Qualifications: 2000/2001*, Department for Education and Employment/Institute for Employment Research: Coventry.
- Wilson, R.A. (ed.) (2001b). *Projections of Occupations and Qualifications: 2000/2001:Regional Results*. Department for Education and Employment/Institute for Employment Research: Coventry.
- Wilson, R, and D. Bosworth, (2006). *Working Futures 2004-2014: Qualifications Report*. Sector Skills Development Agency: Wath on Dearne.
- Wilson, R, K. Homenidou, and A. Dickerson, (2004a). *Working Futures 2002-2012: National Report*. Sector Skills Development Agency: Wath on Dearne.
- Wilson, R, K. Homenidou, and A. Dickerson, (2004b). *Working Futures 2002-2012: Technical Report*. Sector Skills Development Agency: Wath on Dearne.
- Wilson, R, K. Homenidou, and A. Dickerson, (2006a). *Working Futures 2004-2014: National Report Report*. Sector Skills Development Agency: Wath on Dearne.
- Wilson, R, K. Homenidou, and A. Dickerson, (2006b). *Working Futures 2004-2014: Technical Report*. Sector Skills Development Agency: Wath on Dearne.
- Wilson, R., I. Woolard and D. Lee, (2004c). *Developing a National Skills Forecasting Tool for South Africa*. South African Department of Labour/ Human Science Research Council/Warwick Institute for Employment Research: Pretoria.



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