The Future of Work: *What Does Work Mean 2025 and Beyond?*

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1. Introduction

The meaning of work

The "Future of Work" has been the subject of an enormous amount of research, both by academics and other commentators. Large numbers of books, reports and journal articles have been devoted entirely or in substantial part to this topic. Globalization and technology in combination are resulting in dramatic changes in how work is done and where it is undertaken. Work can now easily be broken into smaller tasks and redistributed around the world. Dramatic improvements in real time communications, including the development of "virtual worlds", are transforming the concept of what it means to be "at work", although there is sometimes a tendency to exaggerate and sensationalise in order to sell books and newspapers.[1]

There is no generally agreed definition of work. The boundaries between work, play and leisure, and between formal paid work and informal work, have shifted over the past half century and can be expected to change again over the next 50 years. Society often has an ambivalent attitude. On the one hand, following a traditional economics approach, work is something to be avoided and reduced. On the other hand, taking a more sociological perspective, work is often regarded as a key element in how individuals are perceived, both by themselves and others, crucial to feelings of self-worth and personal esteem.

Paid work in the formal economy is the normal means of generating income for the majority of households, but most also engage in informal and domestic work. In some cases this veers into the black economy (tax avoidance) and, at its most extreme, criminal activity. On a more positive note, voluntary work is also an important part of many people's lives.

Of course what some people regard as play or leisure activities others do for a living. For some the distinction between work and leisure is therefore less clear cut. Sportspeople, artists, entertainers and others can make a living from doing what others would regard as play. For others work is seen as a vocation that defines their lives (e.g. many people taking up jobs in the health service or in teaching). By picking the right job it can cease to be work and becomes play or an activity from which positive utility can be obtained. But once an activity becomes something that has to be done (often with externally imposed deadlines and targets) there is a danger that it becomes a chore, and then the classic economic distinction between work and leisure comes back into play. Self motivation rather than external control and target setting are probably the crucial distinction. But even then people can stress themselves by self imposed targets that are not easily achievable. Success at the highest levels in such activities requires considerable effort, perseverance and dedication, all of which are attributes of work rather than play.

The positive aspects of work (income, self esteem) are a key element in well being. While well being is not precisely defined it is generally agreed that it encompasses more than material living standards. Various studies have confirmed that while there is no simple answer to what determines well being and happiness, having meaningful work certainly helps, while being unemployed has very negative effects.

[1] More in-depth and evidence based research such as the ESRC programme on the *Future of Work* often suggests rather more inertia and the existence of many trends which are more evolutionary than revolutionary. There is frequently a large gap between the rhetoric and myths perpetrated by some commentators and the reality of life in the workplace.

Education and work
Modern economies have tended to place increasing emphasis on the importance of the economic benefits of education although, of course it has many other functions. It helps to provide:

- Skills investment in human capital;
- Understanding of the world and society;
- The ability to take part in civil society (social capital);
- A consumption activity (learning for its own sake).

Education is therefore seen as a key element in preparation for work. It involves developing competences, skills and attitudes. Previous generations of schools in Europe and the US can be seen as aimed at producing workers suitable for their factories and offices (instilling discipline, attitudes and basic skills). Educational systems were designed to deal with the relatively standardised requirements, a homogeneous population and the relatively well established social order of the post war industrial society. They now face the challenge of much more demanding requirements from employers, heterogeneous populations (with ethnic and language diversities and very high expectations), and a much less well established social order in the face of rapid technological demographic and economic change. The new knowledge economy and a "flatter world" may require a very different set of attributes.

Aims and objectives of this paper
The remainder of this paper considers how the nature of work is likely to change over the next few decades, in the context of developments in technology and other key drivers of change. Section 2 sketches these out. Section 3 summarises their implications in terms of changing employment patterns and other aspects of work, including likely future developments. The overall aim is to establish a long-term vision for education in the 21st century. Some tentative conclusions about the possible implications for education are set out in Section 4. The aim of the paper however is not so much to provide answers but to elaborate on the questions and to identify a rationale and strategy for how they could be addressed in a programme of desk based research, events and other information gathering processes. This is set out in Section 5.

2. Work at the start of the 21st Century

Work at the start of the new millennium
Paid work in the formal economy is the major activity occupying most people's waking hours.[2] A significant proportion of the remaining time is taken up by work in the informal economy (housework, caring for family members, care of the home and its environs). The "black economy" also accounts for a significant amount of activity for some (10% or more in some economies). This includes activities ranging from conventional work outside the auspices of the tax authorities to downright criminal activities.

In the late 19th and 20th centuries people got used to the idea of fixed places of work, leading to a clear distinction between formal work and informal work (often divided along sexist lines). Technological change (especially, but not exclusively, information technology[3]) have facilitated new ways of organizing the allocation of time to different activities including work and leisure/play. Many social norms have changed as a consequence. The demographic mix within the formal labour market has shifted dramatically in favour of women's involvement. Expectations of the importance of work and how it fits into people's lives has also changed.

Information and communications technology (ICT) allows people to work in very different ways ("distributed work") but there are often significant human and other barriers and constraints preventing some people from taking full advantage of the opportunities this

[2] Economic activity rates of participation in the formal economy are currently around 85% for males and 75% for females of working age.
[3] For example, advances in equipment to aid domestic work.

opens up.[4] These developments have significant implications for employers, employees and education and training providers. The way that work is structured and organized requires careful consideration if the opportunities opened up are to be fully exploited to everyone's best advantage.

Why work is important

Productive work is one of the keys to well being. Work provides income as well as socio-economic status. A job is one of the main means of ensuring social inclusion. Life satisfaction is not quite the same thing as happiness but the evidence suggests that Europeans generally are quite happy compared with the rest of the world. Evidence from the Atlas of European Values suggests that having a job makes a crucial difference to life satisfaction. Conversely concerns about unemployment are an important negative influence. Paid work is also of crucial importance to the State since it increases GDP and tax revenues.

Most people appear to be satisfied with the jobs they have. Even when they are short of money, 84% of Europeans declare themselves very satisfied or fairly satisfied with their working conditions.[5] However there is also evidence of concerns about stress and work intensity despite reductions in average annual hours worked in most countries and improvements in accident rates, etc. Many workers report that work has become less meaningful and more stressful and that their working hours are incompatible with family and social life. The structural economic changes highlighted below are raising the demand for skills and forcing ever more rapid changes in work organisation, content and pace. Another factor is job insecurity, with increases in various forms of less secure employment (such as self employment, part-time employment and short term contracts).[6] For many the idea of a single job for life has disappeared. As trends towards a knowledge economy gather pace, with increasing proportions of the workforce employed in higher level occupations, many jobs should become more satisfying and less routine. Better educated workers generally are more vocationally orientated in their jobs, as well as earning better incomes, which should increase job satisfaction. However the trends suggest that there will also be growth in the number of less intrinsically interesting jobs. Not all jobs can be made intrinsically rewarding.[7]

Key Drivers

There is a general consensus that there are three main drivers of change in the labour market and the world of work. These are technological change, globalisation and demographics.[8] The first two drivers in particular are strongly linked.

Technological change:[9] is having a dramatic impact. ICT has revolutionised the way business is done, created new markets and offered the possibilities for people to exert much more control over their working lives. Real time speech recognition and translation, artificial intelligence and robotics, enabling shorter more customised production runs and automation of many functions, including more service elements, are resulting in many new products and services as well as new ways of producing them. Mobile technology enables an increasing amount of work to be done at any time and place (one aspect of so called "distributed work"). The development of improved communications as well as transport and logistic services has revolutionised the relationship between customer and supplier in many markets, enabling many tasks and operations to be subcontracted to the other side of the world. One important consequence is a requirement for a core of very highly qualified experts who understand the technology in depth, plus a more general cadre of high skilled workers to operate it. However not all jobs will be high level ones related to the information

[4] Sen's capabilities approach highlights these issues, see Sen (1999).
[5] See survey evidence reported by Liddle and Lerais (2007).
[6] Of course part-time working or self employment is not necessarily indicative of job insecurity or low job quality. They are often the result of choice by individuals to secure work-life balance.
[7] As Liddle and Lerais (2007) note, "there is an issue of 'respect' in our societies for those in poor quality jobs (and) if education is increasingly the gateway to a decent job, this message can come across as extremely threatening to those groups in society who have traditionally failed in the education system".
[8] See Wilson et al. (2007), Karoly and Panis (2004) and BCH (2007).
[9] Especially IT but also biotechnology and the extensive use of nano-technologies.

/knowledge economy. There are also problems in managing distributed work and flexible working patterns, which requires new forms of education and training.

Globalization: For a number of fundamental reasons, including the technological changes outlined above, the economic playing field upon which the UK competes with the rest of the world, including developing countries, is being flattened with dramatic implications for the world of work.[10] This is not just about outsourcing to take advantage of significantly lower costs but also global communications, distribution of work geographically, global labour markets and more. The crucial message is that all previous assumptions about how things get done have become questionable - there is now much less certainty about where work will be done in the future and by whom. Increasingly there is a single global market for everything, including people. Capital, people and jobs are becoming increasingly mobile and less constrained by national boundaries. There will be greater emphasis on retraining and lifelong-learning to keep workers up to date given the pace of change. Technology mediated learning will help to achieve this, both in public and private sectors.

Demographics: is the final main driver of change. The UK, along with many other developed economies, faces a three fold challenge: an ageing population and workforce as the 'baby boom' generation approaches retirement; increased life expectancy; and a falling birth rate. In combination these open up a gap in the dependency ratio between the economically active and the retired population. The projected change in dependency ratios raises major concerns about the sustainability of the pensions system, and rising costs of health care, especially for the elderly. This is likely to result in the need for later retirement and life long learning. These developments also pose problems for employers. They will need to change their recruitment and retention policies to attract and retain the staff they will need. This will reinforce trends towards more flexible working practices, such as less abrupt retirement, and require targeting of groups such as older workers. Another important aspect which can be included under this heading relates to the increasing role of women in the formal economy.

Many older people can look forward to a long and relatively comfortable retirement, but others face poverty, loneliness and a growing need for care. This will put pressure on the State and the extended family, forcing many to stay in jobs longer to improve their pensions and to pay for such care both for themselves and their parents. However, the "commodification" of care does not necessarily meet the emotional needs of either the cared for or the carer.[11]

3. Changing patterns of work, key issues and questions

Underlying trends in sectors and occupations

Two centuries ago Europe was a predominantly agricultural economy. The industrial revolution resulted in the growing importance of manufacturing and industry. However even fifty years ago, soon after the establishment of the European Community, much of Europe was still pre-industrial, and heavily dependent on agriculture. But the trend to the knowledge and service economy has gathered pace over the last 10 years.[12] Amongst the EU15 employment in knowledge based sectors rose by almost a quarter compared with an average of 6 % for the economy as a whole.[13] In the UK the overall share of knowledge based employment was estimated at 50%, one of the highest amongst the EU15.

These changes in sectoral structure are changing the pattern of demand for occupations and qualifications. In general there is a rising demand for higher level occupations, typically requiring higher level qualifications. However, at the same time, there is a growing number of lower level service jobs in hotels and catering, distribution and other areas. This

[10] As argued by Thomas Friedman (2007), in his popular book "*The World Is Flat*".
[11] As argued by Giullari and Lewis (2005),
[12] According to the Work Foundation (2006).
[13] Based on Eurostat estimates.

polarisation of employment opportunities has a gender bias and significant implications for equality and social inclusion.[14]

These changes largely reflect a continuation of previous trends, driven by technological change and shifts in patterns of consumer demand as incomes have risen. Some fear that the changing features of modern capitalism, described under the heading of globalisation above, mean that future patterns may be less benign, with businesses and capital being much less tied to particular locations and less prepared to accept long term responsibilities to their workforces in a new "flat world".

Other aspects of work are also changing

There are many other social and related changes underlying and accompanying these structural changes.[15] These include increased individualisation, household restructuring, the changing role of women, indications of some movement away from consumerism and concerns to meet the new challenges related to the environment and security, plus complex links with the Welfare system and concerns of how to deal with problems of inequality and social exclusion. Demography, social economic factors, governance, culture and environment are also key drivers of the changing face of work.

Most analysis suggests a significant increase in various forms of flexible working. The term has been widely used and encompasses a vast range of different practices.[16] This includes various aspects of time and location, patterns of working and contractual status. Traditional discussions of flexible working cover aspects such as part-time working, self employment and sub-contracting. More recently new technologies have facilitated the development of remote forms of working (including home working).[17]

While home working and telecommuting have been heralded for some time as the coming thing, take-up has been much slower than many pundits predicted, due to resistance from both employers and employees for a variety of reasons (including the need for social contact and fears of loss of control). The majority of today's workers still work in offices every day despite the fact that ICT increasingly allows them to work anywhere. Most offices are designed to minimize operating costs and preserve hierarchy and status, rather than inspire creativity and fuel collaboration among workers. The level of job satisfaction for most workers in this situation appears to be in decline.

There is still a strong culture in many organizations of long hours in the formal workplace, which is seen to be an indication of dedication. However such a practice can be argued to favour labour input as opposed output. Increasingly the emphasis is likely to be placed on productivity (output divided by input), with much less emphasis on input and/or "presenteeism" (being seen to be in the office or work environment for long hours).

The division between work and life assumed in the concept of a work-life "balance" is of course debatable. For most people life and work overlap and interact. It is still the case that many people gain meaning to their lives through their work (whether paid or not). This does not mean that there are no conflicting tensions between demands from the workplace and the home.

The paid work ethic lies at the core of the present Government's social and economic policies. Welfare to Work, the New Deal and employment opportunities for all have been central to its strategy to assist a whole range of disadvantaged groups, including the long-term jobless, lone mothers and the disabled. All have been encouraged to join the formal economy and take up paid work. The Government has seen active participation in paid work as a crucial test of social citizenship. A small minority of the population have resisted or avoided such engagement, raising concerns about how to achieve a set of shared values and ensure adherence to established rules and laws.

There has been public policy concern (especially at a European level) about extended hours and over-work. This is seen as a prime cause of both physical and mental illness. The pace

[14] See Wilson et al. (2008) and Wilson (2007).
[15] For more details see Liddle and Lerais (2007).
[16] For a review see Bosworth and Wilson (2007).
[17] Although the latter has a much longer history, quite separate from the effects of ICT.

and intensity of work is increasing in the modern workplace. Britain has long working hours in comparison with many European neighbours although not as extreme as in the USA. A US study showed that one in three US workers feel overworked, with half claiming to be "overwhelmed".[18] Attitudes are changing. While many people still define themselves by their work, others increasingly define themselves by hobbies and other things (such as where they go and what they do on vacation). Work for an increasing number of younger people is just a means to an end. A recent survey for Business Week in the USA suggests that whereas for the older generation (55+) 28% live to work, for those aged 25-34 this falls to 16%.[19] The vast majority of the younger generation work to live and do not appear to regard the vocational aspect of working as so important.

Possible future scenarios -
While projections are always hedged with caveats the most likely outcome over the medium to long term seems to be that globalisation will continue these patterns.[20] However, there other possibilities including much less optimistic scenarios associated with global economic meltdown or other catastrophes.[21] There is agreement on the main drivers of change but not much else. On the one hand the pessimists see a spectre of mass unemployment, growing insecurity and widening social divisions. Optimists on the other hand point to the potential for liberating many employees from dreary, dull, repetitive and degrading work. Little of this thinking is based on a systematic theory and much of the discourse lacks any kind of historical perspective or sound empirical foundation. Undoubtedly significant changes are afoot and these will have profound implications for many individuals and groups in society, but final outcomes will almost certainly be less dramatic than either of these more extreme views suggests.

Pessimists argue that those lacking the capabilities to acquire the skills needed in the knowledge economy will struggle to find employment because of the falling number of unskilled jobs. This ignores the fact that current evidence suggest the number of low skilled jobs is actually rising in some areas. It is also based on the "lump of work" fallacy. There is not just a fixed lump of work to be done that automation will take over. Markets will adjust to find useful things for people to do whatever their skills (just as the initial predictions by the prophets of gloom about the IT revolution (of mass unemployment in the 1980s) turned out to be misguided). The question is what can be done to equip people best for this brave new world. To some degree societies can also make choices about the mix of jobs available by setting and raising standards. Some countries such as Finland have been able to raise the proportion of higher quality jobs and raise basic standards of literacy throughout their population.

Not all jobs can be done by a machine or outsourced to India or China. Many services which involve personal contact fall into this category. Health care and teaching/ mentoring involve a high level of emotional intelligence. Other jobs involve the application of creativity and imagination. While such jobs are not exclusive to the developed world there are factors which favour their location in particular places. Preferred locations score highly on the three Ts -- Technology, Talent, and Tolerance.[22]

Some commentators argue that the third revolution is now imminent.[23] The first industrial revolution swapped fields for factories while in the second, the information revolution replaced brawn with brains. The third revolution will be the shift from left to right-brain economic production. Developments in ICT such as speech recognition, GPS systems, the internet, etc are making it possible to accumulate, analyse and apply information automatically (essentially using logical/left-brain activity). This means that such systems can replace people for dealing with routine enquiries, making bookings, and providing standardised professional advice. However access to the internet is no substitute for an in-depth education and years of experience. Contrary to the views of an immigration official

[18] Families and Work Institute, (2005).
[19] Business Week August 20th 2007.
[20] Wilson et al. (2008).
[21] As highlighted in the BCH paper (BCH (2007)).
[22] See Richard Florida (2005).
[23] Pink (2005).

that "skill shortages of Indian chefs was not a problem since anyone can read a recipe",[24] execution of many complex professional, technical and craft jobs requires real knowledge and understanding that cannot be obtained by simply tapping in to "Google" or "asking Jeeves".

Jobs for life are no longer the norm according to many commentators but there is still a remarkable stability in most working lives in the UK.[25] Undoubtedly things are changing and 50 years from now things will look as different as today's labour market does from that of 1957, which was dominated by industrial forms of working (primary industries and manufacturing rather than services).

Key questions

As a society the issues outlined above raise the general question for policy makers of what can be done to ensure the kind of future of work we *want*, not just what we expect.

Other key questions include:

- Will future jobs continue to evolve in line with recent trends?
- Will there be sufficient good job opportunities to meet the aspirations of the population?
- What will be the role of the state in ensuring we can take advantage of the opportunities offered?
- What kinds of structural investment (wifi, broadband, networks etc will be necessary to achieve these gains and who will be responsible for making these investments)?
- Will the nature of the division between formal paid work and informal unpaid work remain the same?
- The welfare to work agenda, plus moves towards flexibility, have dramatically changed "standard" working patterns, especially for women. What are the costs to society and individuals of this?
- What are the implications for caring and nurturing?
- What role will voluntary work play in meeting some of these needs?
- Unemployment is a key cause of poverty and social exclusion but does the encouragement of many women into the formal labour market (in part-time, temporary and other low status jobs rather than looking after their own children) make things better?
- Sectoral restructuring in favour of the service sector has coincided with a shift in household labour supply towards greater involvement by women in the formal economy. What are the benefits and costs to individuals, the household and society?
- Deregulation has undoubtedly encouraged employment growth in the USA and the UK, but what is the quality of the jobs created and does the lack of regulation put workers at risk?
- How does this all affect economic performance?
- Do those adopting more flexible practices benefit in terms of productivity?
- What is the impact on the well being of the workforce?
- What is the right balance of security and flexibility in the labour market?
- Is work becoming more stressful?
- If so, what is causing it and what can be done to address the problem?
- What is needed to help ensure a balance between work and life (family and leisure) for both men and women?
- What are the social implications of changing values attached to different forms of work?

4. Implications for education and further questions

Education makes a huge difference to employment prospects. Better educated and qualified individuals are much more likely to find and retain jobs. While in the fairly recent past early school leavers could find employment, those who leave early without good qualifications will

[24] Article by Ronald Yeats, Sunday Express, 13/01/08, p55.
[25] See Taylor's (2004a) review of the ESRC programme of research in this area.

find themselves marginalised. These problems are more serious for boys as they are more likely to leave school early and without formal qualifications. Although the current generation of school leavers is much better qualified than its predecessors, a significant proportion have not reached upper secondary (NQF level 3) standard.

Although education has many different purposes, it has always been seen as having a crucial role as preparation for work. This has various aspects, including social conditioning and instilling of attitudes, as well as imparting knowledge and work related technical skills.

This is not just a one way process. Education, through its role in the "knowledge triangle" (education, innovation and research & development) plays a crucial role in determining the path that scientific developments and the economy take. The competitive pressures from globalisation place an increasing premium on ensuring that we have the right skills to be able to innovate and compete at the leading edge of scientific, technological and economic developments.

But there is evidence that not enough young people are doing science and engineering, both in the UK and in Europe more generally.[26] Most shy away from difficult technical subjects such as mathematics, physics and engineering. The "knowledge triangle" requires a sound science, technology and engineering foundation if the EU is to compete successfully, and this requires high level skills in this area. In the UK there has also been a general move away from emphasis on vocational education and training.

Of course it is not just about science and technology, other aspects such as innovation and design in the more creative and cultural industries and services will also be very important, as will a large range of jobs associated with the care of the environment and care of people.

The trends outlined in Sections 2 and 3 have strong implications for education:

- changing patterns of jobs will require different types of skills and knowledge;
- there will be a requirement for some very high level technical skills;
- a need for general management and other professional skills;
- vocational education for more young people at entry level;
- also there will be a continued need for many lower skilled jobs;
- education will need to empower individuals helping them to learn to learn;
- education will be needed not just for work but for life;
- it will need to be available at all ages (life long learning);
- it will need to be flexible (to help ensure work life balance).

New technology will also have significant implications for the educational process and delivery (ways of learning; plagiarism (a growing problem for assessment), etc). There will be a continuing need for innovation and to find ways of making education relevant to young people and the changing face of work and society.[27]

This raises a whole host of questions for those involved in providing and delivering education and training:

- How best to ensure educational opportunity for everyone throughout their lives?
- How to help those who fail to benefit from the present system (especially the socially disadvantaged)?
- How to ensure that everyone has the skills they need to find and retain a decent job?
- How to identify and remove any other barriers to success for disadvantaged groups?
- What are the skills people will need?
- How should people be advised and guided to make the right choices?
- How can education be used to empower individuals?
- What needs to be done to ensure that education and related activities will help to shape the future in a way that benefits society as a whole?

[26] Wilson (2007).
[27] See for example the innovative practices of the Walker College.

5. Moving forward: implications for DCSF

The overall aim of the Beyond Current Horizons programme is to establish a long-term *vision* for education in the context of socio-economic change by understanding the interplay between society, technology and education in the 21st century. There is a huge amount of ongoing research work and evidence on this topic. DCSF does not need to reinvent the wheel but to distil this into meaningful intelligence, and to find the best means of communicating this intelligence to those who need to know. There are various ways this might be achieved:

i. *Desk-top review*: an extended, in-depth and customised review by one or more experts, aimed at producing documents and materials that could be used to guide all interested parties.
ii. Customised *scenario development*, based on a substantial position paper.
iii. A *delphi* type exercise, surveying a larger range of experts and interested parties based on materials prepared by one or more experts in advance.
iv. A *workshop series* designed to focus on selected issues, based around a set of invited papers

Key issues in deciding which of these is best are to identify the target audience and to decide how much it is intended to engage the various interested parties in developing as opposed to receiving the *vision*. Options ii-iv are participative, with iv being potentially the most inclusive (assuming the events are public and well publicised). Option ii offers greatest engagement but cost considerations would limit numbers involved. Option iii offers the possibility of the most focussed and in-depth involvement of a large range of interested parties. All require an element of option i. While option ii is designed to emphasise the importance of risks and uncertainties each of the other options could have consideration of this built in from the start.

Numerous "think tanks", research programmes, and other *fora* have been set up to explore these issues. These include (see references for further details):

- ESRC *Future of Work* Programme
- The *Tomorrow project*
- Henley Management Centre's *Future Work Forum*
- US *Future of Work* community

Numerous organisations within the UK are regularly engaged in research in this area, including:

- IER (University of Warwick)
- IES (Sussex University)
- PREST (Manchester)
- SPRU (Sussex University)

There are also European organisations conducting research in this area:

- EuroFound (Dublin)
- CEDEFOP (Thessaloniki)

Some of this research includes projections including *Working Futures* for the UK and CEDEFOP's pan-European projections. While these do not normally extend as far as 2025 such extensions could easily be commissioned to provide a quantitative benchmark for such an exercise.

A very large number of bodies, including representatives of the social partners, government departments, education and training bodies and others have strong interests, experience and knowledge about these issues.[28] Which to involve in any extended review would depend upon the aims and objectives of the process and the focus of any new work.

Given the timescale and budget, options ii or iv are probably the most cost effective at reaching and involving a large and representative audience. Elements of each could be combined, but such a compromise risks losing the key benefits of each approach. Precise costings would depend on the scale and intensity of the various activities. Variations of all

[28] Other interested parties might include QCA, SSDA/SfB/CES/SSCs, LSC, careers guidance organisations, etc).

four options (or some combination thereof) could be conducted within the indicative timescales and budgets.

References

BCH (2007) *Previous Global Futures, Technology Futures and Questions for Education: A provocation paper*. Beyond Current Horizons programme for DCSF.

Birchall, D., S. Borrett, J. Gill, N. Silburn and P. Thomson (2005) Managing Tomorrow's Worker: Final Report. Henley Management College.

Bonvin, J-M. and Farvaque, N. (2006) 'Promoting Capability for Work: The Role of Local Actors' in Deneulin S., Nebel M. and Sagovsky N. (eds.) *The Capability Approach: Transforming unjust structures* Dordrecht: Springer.

Bosworth, D and F. Wilson (2007) Trends in Flexibility paper prepared for Blairgowrie

Dean, H., Bonvin, J.-M., Vielle, P. and Farvaque, N. (2005) 'Developing Capabilities and Rights in Welfare-to-Work Policies' *European Societies* 7(1): 3-26.

ESRC Future of work Programme (2004) http://www.leeds.ac.uk/esrcfutureofwork/output/publications.html

Families and Work Institute (2005) study by the *Families and Work Institute* in New York

Future of Work Program (2007) see the *Future of Work* website http://www.thefutureofwork.net/community_levels.html

Florida, R (2005) *The Flight of the Creative Class: The New Global Competition for Talent*. HarperBusiness, Harper Collins Publishers

Friedman, T. (2007). *The World Is Flat*: *A Brief History of the Twenty-first Century.*

Giullari, G and J. Lewis (2005) 'The Adult Worker Model, Gender Equality and Care'. Social Policy and Development Programme Paper Number 19, United Nations Research Institute for Social Development (April 2005).

Henley Management Research Centres *Future Work Forum*: http://www.henleymc.ac.uk/henleyres03.nsf/pages/fwf

Karoly, L. A. and C. W. A. Panis (2004). "The 21st Century at Work: Forces Shaping the Future Workforce and Workplace in the United States. Study for the US Department of Labor. RAND Corporation, MG- 164-DOL, ISBN: 08330-3492-8.

Liddle, R.. and F. Lerais (2007) *A Consultation Paper from the Bureau of European Policy, Advisers, Europe's Social Reality*.

Moynagh, M and R. Worsley (2008) *Going Global: Key Questions for the Twenty-First Century*, A & C Black with Guardian Books.

Pink, D (2005. *A Whole New Mind: Moving from the Information Age to the Conceptual Age.*

Sen, A. (1999) *Development as Freedom* New York: Knopf.

Taylor, R. (2004a) *Britain's World of Work – Myths and Realities.* An ESRC Future of Work Programme Seminar Series. Future of Work Commentary Series: Publication Three.

Taylor, R. (2004b). *The Future of Work-Life Balance*. An ESRC Future of Work Programme Seminar Series. Future of Work Commentary Series: Publication Two.

Thomson, P. (2007) Tomorrow's Leaders: Final Report. Henley Management College, Future Work Forum.

Tomorrow project (2007) see website: http://www.tomorrowproject.net/pub/2__Website/The_Tomorrow_Project/-24.html

Walker College (2008) *What roles should schools play to assist maximum quality of transition from school to work? How should schools best work both with employers*

and pupils, including the most disadvantaged? presentation by Steve Gater, Headteacher, Walker Technology College, at Skills In England Seminar on Transition from School to Work, January 2008. See also the website http://www.walker.newcastle.sch.uk/

Wilson, R.A. (2007), *Trends in Employment Creation in Europe. p*aper prepared for the Portuguese Presidency Conference on Employment In Europe - Prospects And Priorities, Lisbon, 8-9 October 2007

Wilson, R.A., K. Homenidou and A. Dickerson (2006), *Working Futures 2004-2014*: National Report, Sector Skills Development Agency: Wath on Dearne. (see also the Sectoral, Regional Qualifications and Technical volumes at: http://www.ssda.org.uk/ssda/default.aspx?page=28).

Wilson et al (2007), Skills in England 2007 Key Messages Learning and Skills Council. Coventry. (see also other volumes at: http://research.lsc.gov.uk/LSC+Research/published/skills-in-england/

Wilson, R. A., et al. (2008, forthcoming) *Medium-term forecasts of occupational skill needs in Europe: Synthesis Report*, paper to be presented at the CEDEFOP AGORA conference February 22-23. Thessalonoiki.

Work Foundation (2006) *The Knowledge Economy in Europe*, The London. (October 2006). The London??

Zimmermann, B. (2006) 'Pragmatism and the Capability Approach: Challenges in Social Theory and Empirical Research' *European Journal of Social Theory* 9 (4): 467 - 484.