

Assessing the Benefits of Career Guidance

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Assessing, and optimising, the benefits of career guidance has become increasingly important for a number of reasons. One is that the top-level process of Comprehensive Spending Reviews, and Public Service Agreements, through which HM Treasury funds public services increasingly requires that the benefits which specific public services provide can be quantified, in order to justify their funding. Another is that ensuring best value in the management of public funds, and in the development of evidence-based practice, requires evidence to exist on the extent to which different forms of service provision do provide benefits to their recipients. A third is that the setting of optimal quality standards for the provision of career guidance by individual providers requires judgements to be made on the levels of service quality which maximise its benefits net of costs. A fourth is that the process of performance review, and monitoring the extent to which individual service providers do achieve best value, requires suitable quantitative performance indicators to be available that can reflect the benefits which recipients derive from the service provided. This paper examines the development of an analytical framework for assessing the benefits of career guidance, including quality of life improvements and wider social benefits, and associated information requirements.

Acknowledgements

The author is very grateful to Deirdre Hughes, Director of CeGS, for her helpful comments on an earlier draft of this paper. Support from the Guidance Accreditation Board Ltd for the production of this paper is gratefully acknowledged.

The Centre for Guidance Studies was created in 1988 by the University of Derby and five careers service companies (the Careers Consortium (East Midlands) Ltd.). The centre aims to bridge the gap between guidance theory and practice. It supports and connects guidance practitioners, policy-makers and researchers through research activities and learning opportunities; and by providing access to resources related to guidance and lifelong learning.

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ISBN 0-901437-84-0

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Introduction

Education and training for post-16 year olds represent a major item of public expenditure. The budget of the new Learning and Skills Council (LSC), that is responsible for all post-16 education and training, excluding higher education, itself totals £7.315 billion for 2002-2003, including £1.355 billion for Sixth Form funding. Career guidance to assist individuals in making improved career choices can play a significant role in helping to ensure that good use is made of the expenditure on education and training, and of the nation's skills base.

There are several reasons why it is becoming increasingly desirable to be able to assess and optimise the benefits of expenditure on career guidance:

- a. career guidance competes with many other forms of public expenditure, such as that on the National Health Service, for the finite total funds which the Chancellor of the Exchequer decides periodically to make available in each *Comprehensive Spending Review*. An inability to demonstrate quantifiable levels of benefits from the substantial current levels of expenditure on it will leave careers guidance in a weaker competitive position for continuing to secure this level of public funding. A failure to organise well the case for adequate funding for career guidance is likely to result in inadequate levels of service provision, and a failure to reap the potential benefits which well-funded career guidance could achieve. If higher levels of public expenditure on career guidance are to be justified, an ability to demonstrate and, as far as possible, quantify the additional benefits which such additional expenditure can achieve becomes of even greater importance in the competition for public funding.
- b. Each *Comprehensive Spending Review* is now accompanied by *Public Service Agreements*, and more detailed *Service Delivery Agreements*, between individual Government Departments, such as the Department for Education and Skills (DfES), and HM Treasury. These specify quantitative targets for service achievements which each main area of public expenditure is expected to deliver in return for the public funding provided. Being able to clearly identify service achievements in quantitative terms becomes a key part of this process. There is a strong case for seeking to ensure that the agreed targets for service achievements align well with the underlying objectives that career guidance can help achieve. If these are to be realistic targets, they should also reflect the ability of career guidance providers to deliver the intended levels of achievement for the proposed level of public funding. Being able to assess the magnitude, and relative importance, of the different quantitative deliverables which career guidance might achieve in return for different levels of public funding is a key task in the development of *evidence-based policy*. The 2002 *Comprehensive Spending Review* is itself placing increased emphasis on the development of the evidence base for policy-making (HM Treasury, 2002), in line with the earlier *Modernising Government* White Paper (Cabinet Office, 1999). This task would be assisted by greater knowledge of the quantitative benefits that career guidance can achieve in each relevant direction in return for different levels of public funding.
- c. There is a need to ensure *efficiency and effectiveness in resource allocation*, from any given total level of public funding for career guidance services through a national agency, such as the Learning and Skills Council, down to local devolved agencies, such as local LSCs. Each local agency will typically face varying local socio-economic circumstances for its intended career guidance recipients. These varying circumstances are likely to impact upon the costs and the benefits associated with different levels of career guidance provision in the localities concerned. Being able to assess these respective costs and benefits can assist in ensuring that efficiency and effectiveness are achieved in how the available national funds are distributed across different localities.
- d. Each individual local LSC, in conjunction with its local career guidance providers, will need to decide on how best to allocate its devolved budget across different possible forms of service provision. The need for *evidence-based practice* in career guidance is emphasised in *Connexions* (2001), where evidence-based practice forms one of the key principles for *Connexions Service Delivery Planning*. Being able to assess both the costs and the benefits of different levels of career guidance for different target groups can assist in the development of *resource management* policies that can ensure that the total available local funds are deployed in the most efficient and effective ways.

- e. Issues of the appropriate levels of *service quality* which individual career guidance providers should achieve are relevant to the process of *accreditation* of these providers by the Guidance Accreditation Board (GAB). Knowledge of the benefits which different levels of service quality can achieve compared to their cost could assist in the setting of *target levels of service quality* which individual service providers should achieve.
- f. Achieving *best value* in the use of public funds is a statutory requirement for local authorities in England under the Local Government Act 1999 (see DETR, 1998). Being able to demonstrate that best value is being achieved is the key task of Best Value reviews that are now a requirement for Connexions partnerships every three years (see Connexions, 2001, Section 0; CSNU, 2002). Best value can itself be interpreted as the achievement of the highest possible level of benefits for service recipients from the available funds. Being able to assess and quantify these benefits at the local level is likely to become an increasingly requirement within the best value regime. Similarly the process of *performance review* (see Connexions, 2001, Section A) requires the development of appropriate quantitative performance indicators of local service achievements. If the quantitative indicators are poorly designed, they may not align well with the underlying objectives of career guidance and the potential benefits which guidance can achieve. There is then a risk that the indicators will create *perverse incentives* for local managers simply to manage the indicators, rather than maximise the benefits of their guidance provision. Well-designed quantitative performance indicators therefore need to be closely aligned to the benefits which good career guidance can achieve for its recipients (see Mayston, 1985, 2000a).

There are thus many ways in which an assessment of the benefits of career guidance can play an important role in policy making and in the management of effective career guidance. There is a strong case for ensuring that the response to each of the above pressures for the development of performance and outcome measures is a *well co-ordinated system* that helps to *maximises the benefits* that are achieved from the resources deployed in career guidance. Information and performance measures need to be part of a carefully designed integrated management system for career guidance, information and advice, aimed at achieving optimal overall outcomes.

The challenge which faces the career guidance sector from the above developments is in large part a financial and economic one. A greater recognition of the economic role of career guidance can help to meet this challenge, whilst complementing other perspectives on the role of career guidance, such as those from cognitive psychologists. The need for this recognition is underlined by the economic policy importance of a well-functioning labour market and a reduction in the extent of social exclusion, to which high quality career guidance can make positive contributions. As we emphasise below, there is a need to incorporate explicit consideration of the role of risk, uncertainty and imperfect information into the economic assessment of the benefits of career guidance, alongside quality of life issues and wider social benefits. In doing so, we extend the earlier discussion of the economic value of career guidance of Killeen, White and Watts (1992).

The role of career guidance in our present context we take to be threefold. The first is to *provide information* to the individual career advisee on the monetary and non-monetary *payoffs* that are likely to result from successfully completing different possible career moves. The second is to elicit information from the *individual advisee* on their *preferences* over different possible characteristics of the payoffs, including those relating to quality of life, that are associated with different possible career choices. The third is to assist in assessing the *suitability* of the individual career advisee for *successfully completing* the additional training and/or further education or other investment that is required for different possible career moves, based upon information on the individual's skills, talents and aptitudes.

Investment in Human Capital

A central concept in the economic evaluation of the benefits of career guidance is that of *human capital*. The value of an individual's human capital is that resulting from the individual's current and future life-time earnings. To reduce this whole stream of income to a single value, the flow of annual income is discounted by the relevant rate of interest to yield a *present value*. The future *earning-power* which this present value reflects itself results from the skills and abilities of the individual. Investments in human capital by the individual may take the form of further education or training which boost the future life-time income of the individual through

enhancing their skills and abilities. The process of further education and training may involve an initial reduction in the income of the individual, because of *foregone earnings* which the individual does not receive if they are not working full-time during the period of further education and training, together with any other tuition fees or study costs which are incurred. If the additional future income which the additional training and education produces yields a rate of return higher than the relevant rate of interest, then the present value of the negative initial change in income resulting from these foregone earnings and the later positive boosts to future income will be positive overall, thereby raising the value of the individual's human capital.

A career move to a new job may similarly involve some initial costs in moving, followed by increased future earnings. Where career moves involve geographical relocation, account needs to be taken of possible differences in the *cost of living* between different geographical areas. The direct cost of housing and accommodation varies substantially across different parts of the UK. Similarly the cost of commuting to work may vary geographically, once the economic ability to live close to the workplace differs across the country. Such differences in the cost of living underline the need to achieve comparability in the income figures before and after a geographical relocation associated with a career move. This may be achieved by deflating the income figures by a relevant price index that reflects local variations in the cost of living to produce a measure of *real income*, rather than simply of money income.

The benefits of careers guidance to the individual advisee are given by the *value added* to the value of individual's human capital that is achieved by the career guidance. The value added is computed from the net present value of *changes in the time stream of future net income* the individual will experience as a result of a career move that they make *as a result of the career guidance*. In a world of *perfect information and complete certainty*, individuals would be able to make their own decisions on investing in their own human capital, knowing all the opportunities available to them, knowing their own preferences and capabilities, and knowing what payoffs they would receive from different possible career choices. In such a world, *career guidance would be unnecessary and of no value to them*. The value of career guidance in this context arises from the *imperfect information* which individuals initially possess concerning their own preferences, capabilities and opportunities for beneficial career

moves. Career guidance can play a valuable economic role in providing individuals with better information than they already have on the career opportunities available to them and their suitability to successfully pursue them in conjunction with possible further education and training, given their existing skills and abilities. In doing so, it can help to *add value* of the individual's human capital beyond what it would have been in the absence of career guidance.

Being able to assess such value added requires that career guidance service providers should *record and monitor* as far as possible the levels of income that the individual advisee is likely to receive over their future years if no career guidance is given, and the levels of income they are likely to receive if they follow the career guidance. These income figures should ideally be adjusted for any additional *job-related expenditures* they are likely to incur, and any variations in the cost of living which may result from geographical re-locations. Predictions of the levels of future income that the individual might achieve as a result of their careers advice might draw upon existing *statistical databases*, such as that provided by the New Earnings Survey (DfEE, 2001). The need for substantial improvements in the organisation and coverage of existing statistical databases on earnings and likely future employment prospects in different occupations to better serve the needs of individuals and their careers advisers has been stressed by the Skills Task Force (1999). It noted that "too many young people make career choices without a good understanding of where job opportunities will be, and the likely returns to those opportunities."

The concept of *value added* is an important *indicator of performance* and *organisational success* in education (see Jesson, 2001) and elsewhere (see Kay, 1993). It enables an allowance to be made for *differences in the initial characteristics* of the client groups which different career guidance providers may face, by examining the extent of the *improvement* in the value of their human capital which results from the different providers, after netting off the *prior attainments* achieved in their existing careers, as reflected in their initial net income streams in their existing careers. Career guidance may then succeed in achieving a *higher value added* to individuals who are initially *under-informed* about the career opportunities that are available to them, and who have a *low initial income*, than it does to individuals who are already well-informed and have a high initial income. Moreover, if policy-makers are concerned about

social exclusion and making less unequal the distribution of income, there is a case in computing the overall *social value added by career guidance* for placing a *higher social weight* upon the same absolute increase in income achieved by a poorer individual compared to that placed upon its receipt by a richer individual.

Risk and Uncertainty

An important further dimension of investment in human capital is that of *risk and uncertainty*. Investment in human capital, in the form of additional training or further education or other significant changes in career direction, may involve a large element of *sunk cost* that cannot easily be recovered if wrong career choices are made. Before a career choice is made, the individual may face a wide range of options for further education and training or other career moves, which, before they are undertaken, can easily be changed, with a high degree of malleability. However, after a career choice has been made, the flexibility of the individual to costlessly reverse their initial choice is lost, to an extent that typically reduces with the passage of time. Career choices, like other forms of investment, often therefore have the features of 'putty-clay', that before the choice is made they are highly malleable into different forms, but after they have been made they cannot so easily be reversed.

Such investment typically takes place in the presence of some significant degree of uncertainty at the time the initial investment decision is made about the *future outcomes and future degree of success* of the investment decision. Whilst the costs of the additional training or further education may be ascertained with reasonable certainty, the *probability* of any given individual advisee *achieving any given target level of success* in completing the training or education, given the individual advisee's initial skills, education, training and aptitudes, needs to be carefully assessed by the career guidance provider in formulating their careers advice. We would expect in general higher quality career guidance to be characterised by *more accurate assessments* of the chances of success of individual advisees in achieving different possible levels of performance in additional training and education, and in helping to equip individual advisees with the *motivation and preparation* to have a high probability of success in the goals they choose following the career guidance. Similarly, we would expect high quality career guidance to be characterised by more accurate assessments of the

likely *economic prospects* for career moves in different possible directions.

As a *benchmark* for assessing the quality of the career guidance offered in practice, we can analyse first the case of *perfect career guidance*. This is defined in terms of the career guidance interview, and any related tests, being able to *fully assess* the abilities, skills and attributes of the individual, so that as a result of this assessment the individual can be accurately advised as to whether or not they will succeed in the career move. We will also assume that perfect career guidance can accurately assess the future state of the economy, so as to be able to *perfectly predict* the future net income the individual advisee will receive if they do make a successful career move.

Against the benchmark of perfect career guidance, we can analyse the concept of *Type I and Type II errors* which individuals will make in their career choices in the absence of such perfect career guidance. In the case of a single possible career move, a *Type I error* occurs if the individual *rejects a career move even though it would have been beneficial for the individual*. In the case of multiple possible career moves for an individual advisee, perfect career guidance would by definition be able to guide the individual advisee to their *optimal career move*, that maximises the value of their human capital from amongst all the possible career moves for which the individual has the capability to succeed. In the case of imperfect career guidance, there is a risk that the career guidance may imperfectly assess the suitability of any given individual advisee for a particular career move. In addition, there is a risk that the information given by imperfect career guidance on the changes in net income that result from a given career move will be inaccurate. As a result, there is a risk that the individual will choose a career move which is not the optimal career move for them. A Type I error in the case of multiple possible career moves is one where *the individual rejects the career move which would be optimal for them*, and instead chooses another career option in which they have the capability to succeed, albeit at a lower level of overall payoff to them than the optimal career move for them would yield.

A *Type II error* occurs if an individual decides to make a career move for which they do not have the capability to succeed. They then incur the investment costs involved in the career move, but do not receive a positive return on this investment. The costs which the individual incurs through making

Type I and Type II errors are discussed in more detail in the full version of the report (see Mayston, 2002a), to which this Occasional Paper relates. The value of the benefits generated by any given level of quality of career guidance is measured by the *reduction in the frequency and costs of Type I and Type II errors* which individuals make in their career choices as a result of the career guidance they receive, compared to those which they would make in the absence of career guidance. If many individuals are making significant Type I and Type II errors in the career choices which they make in the absence of career guidance, there is *greater scope for beneficial career guidance to be provided to them*. In contrast, if all clients of a career guidance provider would have made no Type I and Type II errors in the absence of any career guidance, the *value added* to their human capital by the provider would be zero. Providing high quality career guidance to those who would otherwise make poor career decisions on their own can again then have substantial benefits.

Perfect career guidance, as the benchmark for the highest possible quality of career guidance, involves *reducing the Type I and Type II errors down to zero*. An *index of the quality of career guidance* which a given career guidance provider offers is given by the proportion which the provider actually achieves of the *total potential benefit* which would be obtained by perfect career guidance. When we take into account the *costs of providing different levels of quality of career guidance*, we can derive an *optimal quality of guidance*, against which different providers can also be judged.

Quality of Life

We can extend our development of a framework for evaluating the benefits of career guidance to include considerations of changes in the *quality of life* for the individual which result from career moves and associated guidance, other than those which result simply from changes in net income. One important existing approach to incorporating quality of life assessments into the measurement of overall net benefits is that provided by the concept of the *Quality Adjusted Life Year (QALY)* in health economics (Williams, 1985). There exist a number of different approaches to deriving quantitative assessments of the QALY improvements which health care may achieve. The most suitable approach for our present context is that which *takes account of the individual's own preferences* by examining the

trade-offs which the individual is prepared to make between changes in quality of life variables away from a standard level and changes in net income. Thus, if an individual has a strong preference against spending long hours in commuting to work, they will be prepared to give up a significant amount of monetary income to reduce their commuting level down to a more basic level. This enables a *monetary value* to be given to the benefits of quality of life changes alongside changes in net income resulting from different career moves and qualities of career guidance. The monetary value can be further adjusted for considerations of *distributional equity* and differences in the initial income level of different career advisees through the concept of *social aversion to inequality* (see Mayston, 2002a).

Wider Social Benefits

There are a number of important wider social benefits which are likely to be generated by high quality career guidance, and which could be included in a cost-benefit analysis of such career guidance. These wider social benefits are likely to include firstly:

Increased Tax Yields to the Exchequer

It is likely that in making their own career decisions, individuals will pay attention to their own resultant *net income after tax*, rather than to their resultant income before tax. This itself will mean that the *social benefit* from individuals improving their lifetime career earnings as a result of high quality career guidance *exceeds the private benefit* to the individual career advisee, whenever they will pay increased income tax and National Insurance contributions as a result of a career move. The Exchequer here is essentially a *stakeholder in the human capital* of the individual career advisee, who will benefit from its enhanced value. Such an enhanced value *extends the tax base* on which the Exchequer can draw to boost public finances.

If individual career advisees themselves have to *bear the full cost* of the career guidance given, the level of investment which they undertake in improving their own human capital will tend to be *sub-optimal* from a social viewpoint. The cost-benefit analysis can then be linked to a case for an *optimal level of subsidy* to the career guidance service and to the providers of additional training and further education to facilitate higher quality career guidance, and to

encourage a more socially optimal level of investment in human capital.

Unless policy-makers are indifferent to distributional considerations, the relevant net income variables should be computed net of both job-related expenditures and *net of income tax*. However, an additional term is required to be added in the computation of net social benefits from the careers guidance, equal to the total additional tax revenue generated as a result of the career moves made by careers advisees, weighted by the relative social weight upon income in the hands of the Exchequer rather than in the hands of individual taxpayers.

The wider social benefits resulting from beneficial career moves by individual career advisees will similarly include:

Reductions in Unemployment and Other Social Security Costs to the Exchequer

These benefit payments will act like *negative tax payments*, boosting the net income after tax and benefit payments received by individuals who are unemployed or in low paid jobs. Securing a job, rather than being unemployed, or securing a better paid job, rather than a low paid job, through high quality career guidance will reduce these costs to the Exchequer. The calculation of the benefits of increased tax yield plus saving in unemployment and other social security payments must take into account the potential *long-term nature* of the unemployment which the individual may otherwise experience in the absence of high quality career guidance. In the presence of high rates of *technological change, cyclical down-turns, and demand and supply shocks* to the economy, such as from oil price increases, individuals may suffer a high risk of unemployment in their original occupation or location. In the absence of high quality career guidance, there is a danger that *initial unemployment* will develop into *more permanent long-term unemployment*. The *value of their human capital* will then be substantially damaged by the loss of the *present value of the future earnings* they would otherwise have obtained if they had not become unemployed.

The result will be a form of *hysteresis*, in which a temporary shock to the economy results in permanent *long-term damage to human capital*. High quality career guidance, combined with other measures, such as well-designed re-training

programmes, can seek to avoid such long-term damage by increasing the *flexibility* with which individuals, and the labour market as a whole, can respond to technological change, to cyclical down-turns and to supply and demand shocks. The calculation of the benefits of high quality career guidance therefore needs to include the long-term present value of the increase in future net income which the individuals receive if the career guidance enables them to avoid the risk of long-term unemployment. In addition, the assessment of the benefits of high quality career guidance must include the long-term present value of the increased tax yield plus saving in unemployment and other social security payments which results from avoiding long-term unemployment. High quality careers guidance can then be an important complement to Government programmes, such as Welfare to Work and the New Deal for young unemployed people in the 18-24 age group (DfEE, 1999a).

A further interesting direction in which there may be a wider social benefit from beneficial career moves from high quality career guidance arises from:

Reductions in Health Care Costs on the National Health Service

That there is a *socio-economic gradient of individual health status* across different geographical areas and occupations is well-documented (see e.g. Marmot and Mustard, 1994; Mayston 2000b). Encouraging individual career advisees to make career moves which boost their net income and quality of life may well result in an *improved health status* for the individual. This in turn may reduce their need for health care during their working life and early years of retirement. Moreover, quantitative estimates are available (e.g. Carr-Hill et al, 1994) of the extent to which particular variables, such as unemployment, impact upon the need for additional health care expenditure. Reductions in local unemployment levels through the provision of high quality career guidance would then have a quantifiable impact on the need for additional expenditure by the National Health Service (NHS). If the associated health care costs would have fallen on the NHS, they would have been a source of additional pressure upon public expenditure that is financed out of general taxation. The saving of this additional health care cost needs to be added to the additional tax revenue and benefits savings generated by the career moves which the career guidance encourages.

We have discussed above the evaluation of the benefits to the individual themselves from improvements in the quality and length of life which result from a career move. If the career move *extends the length of life* of the individual, this may also, in the long run, increase the health care costs which fall upon the National Health Service. How far this is true depends upon the extent to which the individual is more likely to experience long periods of health deterioration that are expensive to treat close to the end of their life, as a result of the career move. A move from an occupation in which individuals tend to die early from incurable diseases to an occupation in which they live for many years, but then suffer several years of dementia, will yield changes in the quality and length of life for the individual themselves. As noted above, these may be evaluated using the concepts of Quality Adjusted Life Years. Such a move may in addition increase the health care costs that are in the long run imposed upon the NHS, although this increase may be more than offset by the additional tax payments which the individual makes over their extended life-time as a result of the career move.

Reductions in private health care costs from improved career choice may be a further private benefit from career guidance. However, they do not represent a change in public expenditure that must be offset against enhanced tax yields in the cost-benefit analysis.

Reductions in the Frequency and Costs of Crime

One important role for high quality careers guidance is to enable individuals who would otherwise be unemployed to find new career opportunities. The statistical association between *unemployment and crime*, and the possible causal links between variables such as unemployment, substance abuse, and crime rates, suggests that a reduction in unemployment may assist in reducing crime rates. In a survey of empirical studies on unemployment and crime, Freeman (1999) found that there was much stronger support for the hypothesis that crime is linked closely to unemployment from studies of individuals than from time-series analysis of trends over time, or from cross-section studies across different localities. The studies based upon data on individuals found that individuals who are prone to unemployment “are more likely to commit crimes and that people who commit crimes are more likely to do so during spells of unemployment”.

A longitudinal study of 411 young men by Farrington et al (1986) found that the link between unemployment and crime was much greater amongst those with a history of *low status jobs*. Freeman (1999) also concludes that “the magnitude of the *worsened job market opportunities for less skilled young men* and rise in inequality” from 1973 onwards was “sufficiently large to suggest that they could have played a major role in the increase in criminal activity” (emphasis added). This is consistent with an economic model of participation in crime in which the expected payoff to crime, after taking account of the risks of detection and conviction and the likely penalties, is compared by potential participants with the other economic activities which they could engage in. If the available employment opportunities are of low value, the tendency to crime will be greater for those individuals who are at the margin of such participation in crime. Career guidance may then have a benefit in reducing the costs of crime if it reaches those individuals who might otherwise commit crime in the future, and who are at a stage in their life when greater prospects of employment and increased job-related skills may discourage them from embarking on criminal activity, or from continuing with it as much as otherwise.

Coopers and Lybrand (1994) estimated the marginal cost of an additional youth crime to be at least £2,300, of which *nearly half would be recoverable from the public purse* by less expenditure needed on the Criminal Justice System, and by local government and fire brigades responding to vandalism, criminal damage, fire damage and arson. Their cost estimate does not include any psychological benefits from reduced crime avoiding distress to victims or lessening the fear of crime amongst the elderly or others. Liddle (1998) carried out a more extensive analysis of the social costs imposed by a sample of offenders in the 15 - 17 population over their history of crime to date, in a study for the National Association for the Care and Rehabilitation of Offenders (NACRO), and found that the total cost per respondent of their crime history to date to average £75,365 per respondent. When extrapolated to the national population of approximately 2,500 offending individuals in this age group, the total cost of their crime to date totalled over £188 million.

Risk factors identified in these respondent case studies (Liddle, 1998) as contributing to the likelihood of a *history of crime* included *lack of skills and training*, drug and/or alcohol abuse, and

unstable family living conditions. High quality career guidance to individuals who might otherwise be unemployed or lack skills and training may then potentially reduce these risk factors, both for young initial offenders and for older adults, and their children. The high rate of *re-offending* of many of those who become caught up in the Criminal Justice System suggests that there are likely to be *long-term future costs of crime*, unless other more positive opportunities are available to the individual. High quality career guidance may then yield large potential long-term cost savings, equal to the *present value of the savings in the costs of crime* which a *reduction in the risk factors* that are associated with participation in crime is likely to produce. However, this requires high quality career guidance to be available to those at risk at points in their lives when they can make progress in escaping from the cumulative forces which may otherwise lead to a persistent history of crime. The extent to which career guidance does succeed in these directions therefore needs to be carefully monitored, and combined with costings of the reduction in crime rates which this may generate.

Macro-economic Benefits

High quality career guidance, particularly to those who might otherwise be unemployed, is also likely to have substantial *macro-economic* benefits. These relate firstly to the concept of *mismatch between the demand for labour in different occupations and geographical areas and the available supply*. The level of mismatch within the British economy is considered by Layard, Nickell and Jackman (1991, p. 331) to explain at least a third of all unemployment in Britain. Mismatch is reflected in substantial variations in the ratio between local unemployment rates and local vacancy rates across different locations within the UK and across different occupational and industrial job classifications. High quality career guidance, in conjunction with training and further education opportunities, can help to reduce this mismatch by making individuals who are unemployed in one particular geographic location, industry and/or occupation more aware of the increased employment opportunities which are available to them through geographical relocation and/or retraining.

High levels of mismatch will imply that in some local labour markets unemployment is high, whereas in others it is low. The *Phillips curve relationship* between unemployment and inflation means that low

rates of unemployment will result in higher rates of inflation than do high rates of unemployment. This relationship is likely to be *non-linear*, with an increasing slope, so that the additional inflation associated with subsequent equal reductions in the unemployment rate increases as the unemployment rate approaches zero. In such a case, a high unemployment rate in one local labour market when combined with a low unemployment rate in another local labour market will result in a *higher overall level of inflation* than if the unemployment rate been equalised between the two labour markets.

If an individual who is unemployed in one location or occupation relocates or retrains, they can now compete in another labour market where the unemployment rate is low. As a result, they will exert *competitive downward pressure* upon the rate of wage inflation in the second labour market, even if they do not obtain a job in it for some time. If they do obtain a job, the level of vacancies in the second labour market will decline and the level of *excess demand* in this second labour market, due to demand exceeding supply, will be reduced, again easing inflationary wage pressures.

The effect of such a reduction in the level of mismatch between the demand for labour in different locations and jobs, and the available supply, is to *reduce the level of wage inflation* which is associated with any given average level of unemployment across the economy as a whole. If the Chancellor of the Exchequer, or the Monetary Policy Committee of the Bank of England, has a *target rate of inflation* for the economy as a whole, the economy can now be run at a *higher level of aggregate demand*, and a lower average rate of employment, than otherwise without raising interest rates or taxation to curb aggregate demand. The benefit of the reduction in mismatch which improved career guidance and retraining opportunities achieve is the *increase in aggregate demand*, as measured by the GDP increase, which such a reduction makes possible.

The increase in GDP will include the additional net income which the previously unemployed individuals receive as a result of their new employment, as well as that accruing to other individuals who find themselves with new job opportunities as the level of aggregate demand is expanded to a new higher level. The initial mismatch may, for instance, relate to a shortage of skilled labour. This shortage may be partially relieved by a previously unskilled worker undertaking training following career guidance to become a skilled

worker. The availability of another skilled worker may in turn set up a need for another unskilled worker to service the skilled worker in the production process, so that there is some degree of *complementarity* in the demand for the two types of labour. The expansion of demand to relieve mismatch and increase production can then extend to the employment of both types of worker without inflationary consequences (see Johnson and Layard, 1986).

As we have noted above, high quality careers guidance may help individuals who are initially unemployed from becoming long-term unemployed. If the number of months and years in which an individual is unemployed increases, both skills and motivation may decline, so that permanent damage to their human capital results. The *hysteresis* which is associated with the *long-term damage resulting from initial increases in unemployment* will not only *impair the value of the individual's human capital*. It will also result in an increased pool of long-term unemployed who offer little effective *competition in the labour market* to constrain inflationary pressure at any given level of aggregate demand. In effect, they will have withdrawn from the mainstream labour market as a source of labour supply. The benefit from high quality career guidance which reduces the number of individuals who become long-term unemployed will then itself be a long-term one, requiring calculation of the *present value of the future stream of increases in aggregate demand* and GDP which are feasible at any given target rate of inflation if the long-term unemployment rate is thereby reduced.

High quality career guidance can assist not only in informing individuals of job and training opportunities outside their present location and industry. It can also help individuals to *form more realistic expectations* of their likely income if they pursue different courses of action. The use of *search theory* in labour economics (see Pissarides, 1985; Mortensen, 1986) has stressed the importance of an individual's *reservation wage*. This is defined as the wage at which they are just willing to take a job in any given period of job search. If the individual has an excessively high expectation of the wage they can ultimately command if they keep searching for a longer period of time, their reservation wage in any given shorter period of time will tend to be excessively high. As a result, they will refuse jobs offering a lower wage than this excessively high reservation wage, and therefore be unemployed for longer than if they had formed more realistic wage expectations. The level of *transitional unemployment*

will therefore be increased, if individuals, because of inadequate career guidance, take longer in their search for new employment. However, there may not only be a loss of net income, and higher social security cost, in the period for which they have the initial high reservation wage. As the duration of their unemployment increases, their skills and motivation may decline, thereby reducing also their longer term prospects and earnings. The level of *more permanent long-term unemployment* may also increase, if the wage expectations which individuals form in the absence of high quality careers guidance do not adapt sufficiently to the prevailing labour market conditions.

Informational Requirements and Management Strategy

If the economic benefits of career guidance and associated educational and training expenditure are to be maximised, there is a strong case for making the most efficient use of available information to ensure that this objective is achieved. Information is itself costly to collect and analyse, with a value that depends upon its timely and effective use. As we have stressed above, there is a need to recognise that the future is to a significant extent inherently uncertain. Differences are then likely to prevail between what can currently be expected *ex ante* about the future, on the basis of the best use of the information currently available, and what may actually prevail *ex post* in the future regarding future earnings levels and other payoffs from different current career choices. Adding value to current career decisions therefore means making better use now of the information that could be currently made available, than would otherwise occur in the absence of high quality career guidance. This better use of information will be associated with expected reductions in the cost of Type I and Type II errors.

As with the regulatory requirements upon Independent Financial Advisers for financial products, it is reasonable to expect high standards of *ex ante* information provision, even when information on future *ex post* outturns is not yet available. The value of human capital at stake in many individual career decisions is indeed likely to be at least as great as that for many other decisions with financial consequences that the individual may face. For career guidance, this *ex ante* information relates to the relative merits of different career options, and their different characteristics, and exploration of the risk and other preferences of the individual advisee

Information has many characteristics of a *public good* (Mayston, 1992), with the *user information needs* of many different potential users often *overlapping* (Mayston and Jesson, 1999). If it is to be used efficiently and effectively, there is a need to ensure good design and coordination in the overall system for producing and utilising the type of information that can help to maximise the benefits of careers guidance and associated education and training expenditure. There are a number of *interacting levels* at which this can occur:

- i. the first is the strategic level, at which a national assessment of skills shortages, needs and current mismatches can be made, supported by detailed sectoral and geographical analyses (see Skills Task Force, 1999; Learning and Skills Council, 2001). This assessment should be linked to an evaluation of the extent of micro- and macro-economic benefits that can be achieved from reducing the sectoral and geographical skill shortages and labour market mismatches. This evaluation may in turn be related to the development of national and local targets for learning, skills acquisition and employment outcomes.
- ii. the second is at the level of different individual potential client groups for career guidance, whose characteristics, attitudes, behavioural patterns, likely preferences and scope for income and quality of life improvements from enhanced skill acquisition and greater employment opportunities, can be assessed on the basis of national and local analyses of these target groups (see e.g. White and McRae, 1989). Such analyses may help to clarify which potential client groups are likely to gain most from careers guidance provision from a reduction in their associated Type I and Type II errors, and the most appropriate form of guidance provision for each group. This in turn may help to inform the development of *strategy frameworks* (c.f. DfEE, 1999b, 1999c) and *local profiling* for identifying individuals most in need of different forms of help, based upon considerations of expected benefits as well as cognitive psychology (see Sampson, Palmer and Watts, 1999).
- iii. the third is at the level of the provision of a detailed and comprehensive (on-line) information base for individuals and their advisers on career opportunities and future employment prospects in different occupations and geographical areas, earnings potential, costs of living, job characteristics and quality of life variables, associated education and training needs, and success rates of those entering different courses and career routes. The strong need for a comprehensive, and well-organised, information base containing many of these data items has again been stressed by the Skills Task Force (1999; 2001), which has noted that "in the absence of such information currently, it is hardly surprising that skills shortages and gaps in the UK have often reached levels that generate significant concern". The development of the newly extended Local Labour Force Survey (Bell and Hussain, 2000) will assist in the development of such a strengthened database. A detailed survey and analysis of the rates of return on a wide range of basic literacy and numeracy skills, and vocational and academic qualifications is also now available in Dearden *et al* (2001).
- iv. the fourth is at the level of individual career guidance service providers. Target standards may be set and monitored for the quality of their provision of information on the above data items and their interpretation for individual advisees. In addition, quality standards may relate to their assessments of individual needs, and to the training and qualifications for the local advisors involved in this process. This process may be reinforced by the completion of *pro formas* for individual advisees on their relevant characteristics, preferences and expected outcomes from the different career choices they currently face.
- v. the fifth is through keeping track of the progress of individual advisees from career service providers to the next stage of their employment career path or of the education and training process. Productive links may then be developed with Individual Learning Records, the Local Labour Force Survey and monitoring the extent to which each individual careers service provider contributes to the overall strategic targets which the local Learning and Skills Council has set, on the basis of a detailed assessment and analysis of sectoral and geographical skills needs and labour market mismatches. The sharing of data between different agencies would be an example of 'joined up' government in operation, though requires the development of adequate protocols to be consistent with individual data protection.
- vi. the sixth is through linking the immediate outcomes of the careers service providers to a wider analysis of their relative performance, using analytical techniques such as Data Envelopment Analysis (Mayston and Jesson, 1988), that can

help to identify current *best practice* providers of career guidance, after taking into account the nature of the client groups which they serve and of the local economic environment. In addition, they can be used to assess the *relative effectiveness* and *value for money* of other existing providers and the *quantitative scope* that exists for securing benefits from improving the quality of their provision. The identification of best practice can itself be used to define *standards of delivery* and *targets* for service delivery and the quantitative benefits associated with these targets.

- vii. the seventh is through longer-term longitudinal studies of the education, training and employment progress of individuals receiving careers guidance, and their associated *ex post* payoffs in terms of enhanced income and non-pecuniary quality of life improvements, such as job satisfaction. These require careful design to adjust for the level of careers guidance received, such as through the use of comparison control groups or multi-variate statistical modelling, and for any selection or endogeneity bias (Mayston, 2002b) which introduces an inter-relationship between the level of guidance received and the individual characteristics of each advisee. Detailed longitudinal studies of the differential impact of career guidance include those by Witherspoon (1995) and Killeen and White (2000).

Conclusion

The search for evidence-based policymaking and resourcing decisions, and for value for money in public services, increases the pressures for career guidance to be able to demonstrate its economic and social benefits. Reaping these benefits involves reducing the frequency and magnitude of Type I and Type II errors by individuals in their own career choices, and the social costs of poor career outcomes. In doing so, career guidance can contribute directly to the Government's own central policy aim in the field of education and skills, namely "to help build a competitive economy and inclusive society by .. enabling all young people to develop and to equip themselves with the skills, knowledge and personal qualities needed for life and work; and encourage and enable adults to learn, improve their skills and enrich their lives" (DfES, 2002), as well as to the proposed National Skills Agenda (Skills Task Force, 2001). However, monitoring the extent to which these benefits are achieved, and maximising the value of the careers guidance provided, both depend critically upon the effective deployment of detailed information at national and local level by Learning and Skill Councils and individual guidance providers.

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