RESEARCH

Net Costs of Modern Apprenticeship Training to Employers

Terence Hogarth and Chris Hasluck

Institute for Employment Research

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EXECUTIVE SUMMARY

Aim of the study

Since 1994, the Institute for Employment Research (IER) at the University of Warwick has conducted a series of studies to estimate the costs borne by employers in training young people to a recognised NVQ standard. The first two reports in the series were concerned with training to NVQ levels 3 and 2 (or their equivalents) respectively. Modern Apprenticeships had yet to come into being at the time of the first study and were in their formative stages by the time of the second. As such, these studies were concerned with all possible routes taken by employers to enable their staff to acquire an NVQ. This, the third study, is concerned only with employer provided training under the Modern Apprenticeship (MA) programme whether this leads to an NVQ level 2 (Foundation Modern Apprenticeship, FMA) or NVQ level 3 (Advanced Modern Apprenticeship, AMA).

The study provides a detailed assessment of the gross and net costs to employers of providing training to NVQ Levels 2 and 3 through FMAs and AMAs in selected occupations, frameworks, and industries.

The study looked at:

- the contribution of government funding through the Learning and Skills Council (LSC) to the cost of training Modern Apprenticeships;
- the effect that funding has on the volumes of young people being trained;
- the structure of training being offered.

Choice of frameworks

Overall, a detailed breakdown of costs is provided for MA frameworks in:

- engineering;
- construction;
- retailing;
- business administration; and
- hospitality.

The data presented are indicative, based on a small number of detailed case studies in each industry. The purpose of the study is to indicate the types of cost (and benefit) employers encounter in delivering MAs and the variation in such costs. The industries were selected because: (a) each has a history of significant engagement in training, and (b) each was covered in the previous net costs studies.

Method

The method replicates that employed by IER in the previous *Net Costs of Training to Employers'* studies. Around 40 establishments across five industries have participated in the current study. The study collected data from the employer relating to:

- average wage of apprentice
- productive contribution of apprentice
  (percentage of the tasks of the fully experienced worker that apprentice can undertake)
- supervisory costs
  (Amount of time spent supervising the apprentice, such as providing on-the-job training)
- training manager time spent with apprentices
  (Amount of time spent by Training Manager or equivalent either delivering training, organising off-the-job training, plus administrative activities related to AMA or MA)
- production line staff time spent with apprentices
  (Amount of time staff in departments spend assisting apprentices)
- other staff
  (Other staff costs reported by respondents)
- training costs
  (Expenditure on training whether on-the-job or off-the-job)
- MA funding
  (Funding provided for training of apprentices supplied by training providers or Local Learning and Skills
- drop-out and time-path costs
- economies of scale
- structure and quality of training

Using a cost-benefit framework, the gross and net costs to the employer of engaging in MA training was estimated.

Gross costs of training

Table A gives a summary of the gross costs that accrued to the employer in providing either FMAs or AMAs. With respect to AMAs, engineering and construction incurred the highest costs, primarily due to the longer duration of apprenticeship training in these industries. It should also be noted that training under these two frameworks tended to be much more structured than other AMAs. with substantial periods of time when apprentices would be engaged in off-the-job training.

Table A
Summary of gross costs
(*per* apprentice)

Industry	AMA		FMA	
	Duration of apprenticeship (years)	**Gross costs (£)**	**Duration of apprenticeship (years)**	**Gross costs (£)**
Engineering	3.5	46,150		
Construction	3	30,992		
Retail	2	24,240	1	8,172
Business Administration	2	23,712	1* 2**	8,542 17,688
Hospitality	2	22,976	1.5	16,155

Source: IER Net Costs studies
Notes: *assumes a one-year apprenticeship in business administration
** assumes a two-year apprenticeship in business administration

With respect to the FMA, employers in business administration, where the duration of training was around two years, and in hospitality incurred the highest costs. Again the higher costs were incurred because of the duration of training.

Net Costs to employers

Table B provides a summary of the financial costs and benefits of MA training as revealed by the case studies. It is apparent that there were differences in net costs both between industries and between AMAs and FMAs. In engineering and construction the gross costs of apprenticeship training are relatively high and only partially set off by MA funding. In contrast, in retail and business administration one interpretation of the data presented in *Table B* is that employers break even with respect to the costs and benefits. These differences are explicable with respect to:

- the amount of off-the-job training provided;
- the wage levels of apprentices;
- the employment status of apprentices; and
- the extent to which jobs are meant to be learnt by doing.

The evidence from the study indicates not only a wide variation in net costs across the various industries and frameworks, but also suggests that there were large differences between employers providing training under the same or comparable framework (as the examples from the engineering and construction industries demonstrate).

Table B
Summary of training costs
(*per* apprentice)

£s

Industry	AMA		FMA	
	Excluding MA funding	Including MA funding	Excluding MA funding	Including MA funding
Engineering	16,265	14,715	-	-
Construction	10,253	3,185	-	-
Retail	-	-	(318)	(231)
Business Administration	2,729	2,729	3,562	(285)
Hospitality			2,560	2,560

Source: IER Net Costs studies
Figures in parentheses are net benefits

Differences between apprenticeships

The nature of AMAs and FMAs was substantially different in the cases selected. The FMAs reported in engineering were essentially the first 18 months to two years of the AMA and training over this period was highly structured with a large off-the-job, off-the-site component. In this sense the FMA was a preparation for continuance to the AMA standard; apprentices were recruited with the expectation that they would complete an AMA. In the other industries, the degree of structure and off-the-job training given under a FMA framework bore no reasonable comparison with that of the AMAs in either construction and engineering. This is the explanation for the relatively low costs borne by employers. Typically the FMAs were characterised by low wage employment, high productive contribution of the apprentice from the commencement of employment reflecting the low skill nature of the work to be undertaken, and short duration training.

Training or employment creation

There is no reason why training and job creation should be mutually exclusive. Several examples were recorded in the study of apprentices being recruited under training contracts with no guarantee of employment after the training has ceased. Wages, usually paid at the minimum wage by the employer were typically reimbursed by the training provider and sometimes paid directly by the training provider. This was much more common in relation to FMAs than AMAs. Employers were essentially being provided with free labour in return for giving the apprentices training and work experience. The cost evidence points to employers breaking even on this activity or even accruing a surplus because the productive contribution of the trainee was relatively high. In business administration a manager was cited who commented on the need to ensure that apprentices recruited in this manner did not displace vacancies that would otherwise arise. In other words, the apprentices have to be recognised as apprentices with a responsibility on the employer to provide training. There is clearly a

tension here to which the manager alluded. Given that apprentices learn their jobs quickly on FMAs – as the cost evidence demonstrates – it is important that training continues beyond providing the ability to do merely the current job.

The value of apprenticeship

AMAs in engineering and construction were highly valued by employers. They provided a rigorous training in recognised trades. Employers recognised that the level of investment they made in apprentices was high. Many of the employers that participated in the study reported that once apprentices had qualified they had a good record of keeping them for a long time afterwards.

The level of investment made in business administration and retailing was much lower and hence the risks attached to drop-out or apprentices being enticed away by other employers at the end of the apprenticeship was much less. Even though the investment was lower employers nevertheless recognised the value of apprenticeship training. Employers providing FMAs pointed to examples of additionality, such as improved customer care standards. But there was also a sense, reflected in the high productive contributions from the commencement of employment, that FMAs in retailing and to a lesser extent business administration were essentially certifying skills the apprentice already possessed.

1. Introduction

1.1 Modern Apprenticeships

Modern Apprenticeships (MAs) were introduced in 1995 as a means of addressing skill deficiencies at intermediate level. The MA programme aimed to encourage employers to reinvigorate their apprenticeship programmes and to promote apprentice-style training in industrial sectors and occupations where previously there was no tradition of such training. The MA programme was designed to provide a flexible system of training in both work-based skills and key skills). Since its introduction the programme has evolved into its present form in which MA training is offered at Foundation level (aimed at school leavers aged 16 and above, leading to NVQ Level 2 qualifications) and Advanced level (aimed at those who progressed from Foundation level and entrants with experience or higher qualifications and leading to NVQ level 3 qualifications).

The benefits of training accrue to the employer, the apprentice, and the economy as a whole. This begs the question about the balance to be struck when it comes to meeting the costs of training: how much of the costs of training should be met by the employer, the apprentice, and the government respectively? Previous studies have demonstrated that funding provided through MAs increases the supply of training places[1]. But deadweight is always a concern. Some employers may well train regardless of the level of funding received whereas for others the extent to which their training costs are covered is a primary determinant of their decision to train at all. Clearly the extent to which employers are able to increasingly meet the costs of their training without a significant fall in the supply of training places is an important policy question.

NVQ level 2 represents an important milestone for apprentices. Training provided through FMAs is designed to assist apprentices obtain NVQ level 2 and assist employers take-on apprentices (either with or without employee status). In addition, NVQ level 2 often provides an important stepping stone to apprentices going on to achieve NVQ level 3 through AMAs. Given the role of MA in ensuring that young people obtain Level 2 and possibly Level 3, it is important that assess the contribution of MA funding to the employer's training programme.[2]

1.2 The net costs studies

Since 1994, the Institute for Employment Research (IER) at the University of Warwick has conducted a series of studies to estimate the costs borne by employers in training

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1 C. Hasluck, T. Hogarth, M. Maguire, and J. Pitcher, *Modern Apprenticeships: A Survey of Employers*, Department for Education and Employment Research Series, 1997

2 T. Hogarth, G. Siora, G. Briscoe and C. Hasluck *The Net Cost of Training to Employers,* Sheffield, Department for Education and Employment, Research Series No.3; 1996; H. Keller, T. Hogarth, G. Siora, and C. Hasluck 'The Net Costs of Training to Employers: Initial Training to Young People in Intermediate Skills'. *Labour Market Trends,* March 121-125, 1996.

young people to a recognised NVQ standard[3]. The first two reports in the series were concerned with training to NVQ levels 3 and 2 (or their equivalents) respectively. Modern Apprenticeships had yet to come into being at the time of the first study and were in their formative stages by the time of the second. As such these studies were concerned with all possible routes taken by employers to their staff successfully acquiring an NVQ. This, the third study, is concerned only with employer provided training under the Modern Apprenticeship (MA) framework whether this leads to an NVQ level 2 (Foundation Modern Apprenticeship, FMA) or NVQ level 3 (Advanced Modern Apprenticeship, AMA). Accordingly, the costs provided relate to a narrower range of training than in the previous studies.

Throughout the report comparisons are made with the earlier net costs study to give some indication of changes in the real costs of training. Because the current study is about MA training only – and the funding available related to the MA standard – some care is required in making comparisons across time. The earlier studies dealt with NVQs and their equivalents and, in those studies, it was not uncommon for employers to have chosen, for a variety of reasons, the equivalent standard rather than the NVQ. One of the main reasons for this was purely historical. In the early to mid 1990s NVQs had not achieved the degree of coverage they have today. Many of the employers who trained outside the NVQ rubric then are likely to have adopted them now given the current centrality of NVQs to the vocational training system. Nevertheless caution and a degree of scepticism is required when making comparisons across time, especially so since there appear to have been marked changes in the costs of training borne by employers.

1.3 Other research relating to MAs

In addition to the net cost studies described above, there have been a number of other studies of the MA programme. These include research on take-up of MAs by employers, training delivery, and outcomes in terms of skill acquisition and post-apprenticeship employment[4].

A comprehensive evaluation of MAs was recently undertaken by NIESR[5]. This research looked at the scope for expanding MAs, the extent of any additional training attributable to MAs and issues of completion and attainment. The research was based on a survey of 1,500 Modern Apprenticeship employers covering all MA frameworks. This study is particularly relevant to the present net-cost study for two reasons. First, it provides valuable, up to date background information about the MA programme. Second,

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3 T. Hogarth, G. Siora, G. Briscoe and C. Hasluck, *The Net Costs of Training to Employers*, Department for Employment Research Series, 1996; T. Hogarth, C. Hasluck, J. Pitcher, and G. Briscoe, *The Net Costs to Employers of Training to NVQ Level 2*, Department for Education and Skills, 1998

4 See for example, Economic Research Services Ltd, *Evaluation of Modern Apprenticeships: 1998 Survey of Employers*, DfEE Research Report, 2000 and Kodz J., Tackey N., Pollard E., Dench S., Tyers C., and S. Dewson, *Modern Apprenticeships and National Traineeships: Skills Utilisation and Progression*, DfEE Research Brief 204, 2000.

5 Anderson T. and H. Metcalf, *Modern Apprentice Employers: Evaluation Study*, National Institute of Economic and Social Research, 2003

employers in the NIESR sample who had agreed to participate in further research formed the sampling frame from which the case studies for the current study were drawn.

1.4 Aims and objectives of study

The current study provides a detailed assessment of the gross and net costs to employers of providing training to NVQ level 2/3 in selected occupations and sectors through FMAs and AMAs.

The study looked at:

- the contribution of government funding through the Learning and Skills Council (LSC) to the cost of training Modern Apprenticeships;
- the effect that funding has on the volumes of young people being trained;
- the structure of training being offered.

Overall, a detailed breakdown of costs is provided for MA frameworks in:

- engineering;
- construction;
- retailing;
- business administration; and
- hospitality.

The data presented are indicative, based on a small number of detailed case studies in each industry. The purpose of the study is to indicate the types of cost (and benefit) employers encounter in delivering MAs and the variation in costs

1.5 Structure of report

The report is structured as follows. Chapter 2 provides a brief description of how the financial cost and benefits have been calculated. The same methodology has been adopted as in the previous net costs studies with necessary changes made to reflect changes in the structure and funding of MAs. Chapters 3 to 7 provide commentaries on each of the industries covered by the study. Finally Chapter 8 provides a summary and conclusion based on a comparison of findings across the five industries covered.

2. METHOD

2.1. Introduction

The financial components included in the analysis of the costs and benefits of employers' training were:

- wages/funding paid to the apprentice;
- supervision costs of providing on-the-job training;
- the apprentice's productive contribution while with the employer and later following qualification;
- fees for off-the-job training;
- any tool and travel funding;
- funding received by the employer from the LSC, training provider, or any other body;
- administration costs related to provision of training.

2.2 Cost-benefit components

Wages and funding paid to the apprentice

The study is concerned with the apprentices who are attached to a particular employer. In all cases wages were paid through employer even though, in several instances, the training provider or LSC reimbursed the wages paid.

The wage or funding paid to the apprentice has been broken down where possible to include:

- apprentices' wages;
- employer national insurance contributions;
- MA funding;
- other funding (*e.g.* tool allowances as found in the construction industry travel funding, or provision of equipment in industries such as hospitality).

Apprentice productive contribution

Central to the analysis of the costs and benefits of training is the estimation of an apprentice's output relative to that of a fully experienced worker. It is at once apparent that estimating the output from the department or section in which the apprentice is located is not always possible, and attributing output to an individual's contribution is likely to be unachievable. An alternative method is to compare the fully experienced worker's task repertoire to that of the apprentice and compare the difference with respect to salary costs. The fully experienced worker, defined as an employee working

in an occupation into which the apprentice is being trained to enter, becomes the standard against which the productive capacity of the apprentice is estimated. So, for example, if a fully experienced worker earns £20,000 a year, and those apprenticed to that trade can undertake only 10 per cent of the tasks of the fully trained work in the first year of their apprenticeship, the productive contribution of the apprentice is estimated at £2,000. Identification of the apprentice's productive contribution has been determined by discussing task repertoires with training and line managers.

Supervision costs

Supervision costs are difficult to estimate and there is little research evidence to suggest that the marginal cost of supervision is at or close to zero. The more apprentices in place the greater will be the amount of administration and supervision required. Estimation of supervisory costs requires close monitoring of the supervisor's role with special reference to how much time is spent on training activities - such as conducting on-the-job training - and how much spare capacity there is in the supervisor's role. Frameworks related to hospitality, retailing, and business administration result in a substantial volume of on-the-job training with the result that the apprentice needs to be supervised through the process of acquiring that training. In engineering and construction where there is a greater emphasis on off-the-job training, supervision can relate to ensuring that apprentices attend college whilst on day or block release and make satisfactory progress with their studies.

Fees for off-the-job training

Wherever possible a comprehensive list has been obtained from the employer of the training courses undertaken by apprentices and the costs of these courses. In the case of training related to AMAs off-the-job training is often comprised of periods of block release and day release to college (where the apprentice's productivity is zero). Where training is concerned with developing an individual to fill a job which requires training to the FMA standard, but no higher, then off-the- job training is more fragmentary and has been more difficult to document.

Identification and measurement of training costs has been exceedingly difficult to determine; more so than in previous studies. Some employers reported paying for the costs of training themselves, whereas others reported that the training provider met all training costs. Because the study is concerned with the costs that the employer bears, rather than the cost of an individual completing their FMA or AMA, widely differing training cost data have been reported. In many cases employers reported no training costs.

MA funding

The study has identified, as far as possible, all funding received by the employer from external sources. This relates to training and wage costs that have been reimbursed as well as payments made to the company when the apprentice achieves NVQ level 2 or 3.

Many employers reported that their training provider met all training costs whereas others reported receiving funding from their Local Learning and Skills Council (LLSC).

Administration costs

Some measure of the costs attached typically to a personnel or training department associated with organising MA training. This will be calculated by reference to the proportion of time spent by staff organising MA training multiplied by their wage.

2.3 Other Issues

Skill levels

In looking at skill levels it is important to compare task repertoires of fully experienced workers with that of the apprentice at the end of the formal training period. Training in an organisation may well continue well past the formal training period with those achieving fully experienced worker status for the first time still falling short of competence in the average task repertoire range.

Drop-out and time-path costs

Not all apprentices complete their training; only some proportion of entrants survive to become fully experienced employees. The net costs of training therefore needs to take account of possible 'drop-out' rates for training. This will be accounted for by weighting the costs *per* apprentice by a factor equal to the ratio of total training costs to the cost of successful training (the value of which will be greater than one).

Where drop-out was an issue for the employer this was pursued with respondents. For instance, the extent to which drop-out was associated with taking on apprentices with qualifications lower than those desired by the employer. Apprentice drop-out rates, defined as those leaving the company for whatever reason, were readily available from the personnel or training departments in each of the cases. Depending on the stage where apprentices drop-out, an estimate has been be made of the net cost or benefit to the employer in line with the measure of a apprentice's productive contribution outlined above. It is also necessary to address drop-out with respect to those who fail to meet the required standard or competence during their apprenticeship.

How the costs and benefits of the apprenticeship vary over its total duration has been addressed. In some cases, especially in relation to AMAs, training costs are front-loaded resulting in high costs at the commencement of the apprenticeship with greater benefits materialising at later stages as the apprentice approaches the standard of a fully trained worker. Additionally, high drop-out rates at the beginning of the apprenticeship can further front-load training costs.

Economies of scale

The study addresses the economies of scale that accrue to establishments with a substantial number of apprentices. Examples of employers taking on a large number of apprentices appear to be consigned to history. Even large employers take on only a few apprentices. Nevertheless, a small number of participating employers reported employing between 50 and 150 apprentices.

Structure and quality of training

Questions about the quality of training provided under FMA/AMA frameworks can be most readily understood with reference to why employers engaged in this form of training in the first instance. Issues relevant here include the level of subsidy, the quality of the training framework, *etc.* Of interest also was the relevance of the FMA/AMA to their business.

2.4. Method

The method replicates that employed by IER in the previous *Net Costs of Training to Employers'* studies. This is a tried and tested method and is based on case study analysis of establishments. Around 40 establishments across five industries have participated in the current study.

The study collected data on training costs and benefits separately for each year of the apprenticeship. This is especially important because the apprentice's contribution to output should increase over the duration of their training period. For example, if an apprenticeship lasts two years, the study has analysed the net costs of training for each of the two cohorts in a single year. In this way the total cost of successfully completing the apprenticeship can be imputed from cross-sectional data at current prices.

Within the case study establishments there were three sources of data:

- an establishment's internal accounts data;
- personnel/human resource management information;
- information/observation from the work area where apprentices were located.

2.5. Accounting framework

The accounting framework used to calculate the cost-benefit to the employer is presented below *(see Table 2.1).* Some companies trained under the FMA/NVQ level 2 framework initially before transferring more able apprentices to an AMA/NVQ level 3 framework. Where this has occurred costs have been provided to show that employers' costs of training to both FMA/NVQ level 2 and AMA/NVQ level 3 respectively. Examples based on the accounting framework provided throughout the report may not sum due to rounding.

Table 2.1
Outline of accounting framework of the costs and benefits of training (*per* apprentice)

£

	Year 1	Year 2	Year 3	Total
Average wage of apprentice (wage paid either by employee or training provider in each year of the apprenticeship)				
Productive contribution of apprentice (percentage of the tasks of the fully experienced worker that apprentice can undertake)				
Fully experienced workers wage				
Employer costs				
Wage costs (total wage costs of apprentice)				
National insurance contributions (Employer NI contributions)				
Supervisory costs (Amount of time spent supervising the apprentice, such as providing on-the-job training)				
Training manager (Amount of time spent by Training Manager or equivalent either delivering training, organising off-the-job training, plus administrative activities related to AMA or MA)				
Production line staff (Amount of time staff in departments spend assisting apprentices)				
Other staff (Other staff costs reported by respondents)				
Training costs (Expenditure on training whether on the job or off-the-job)				
Other costs (Other costs reported by respondents e.g. tools, books, etc)				
Total				
Employer benefits				
Productive contribution (percentage of tasks of the fully experienced worker the apprentice can complete multiplied by the fully experienced worker's wage)				
Other income (Funding provided for training of apprentices supplied by training providers or Local Learning and Skills Council)				
Total				
Cost-benefit (Total costs minus all benefits)				
Total (excluding MA funding)				
Total (including MA funding)				

3. ENGINEERING

3.1 Introduction

Apprenticeship training in engineering has a long history. In many instances the development of the MA frameworks applicable to the industry have been shoehorned into existing systems of training such that the transition to the MA standard has been more readily achieved compared to industries with no tradition of apprenticeship training. Participating companies in the study were training mainly under AMA frameworks which involved apprentices achieving within a period of 18 months to two years an NVQ level 2 and the going on to achieve an NVQ level 3 typically within three to four years. In some organisations apprentices were thought to lack the ability to achieve the AMA standard and were transferred to the shopfloor upon achieving their FMA to a less skilled occupation than they would have otherwise entered. It was thought that they might achieve 'skilled craft status' given sufficient time but this would be obtained outwith the formal apprenticeship programme. But this was not the norm. Apprentices were expected to obtain the AMA standard.

The system of apprenticeship training in some organisations revealed a duality. There was the MA system with its requirement for apprentices to demonstrate their competence in the range of activities specified in the relevant framework. Concurrent, and indeed intertwined with this, was the traditional engineering apprenticeship that required block or day release to the local further education college and led to ONC and HNC qualifications. The traditional apprenticeship also tended to last longer than the time required to achieve the AMA standard. Whereas the AMA might be achieved by the end of the third year of the apprenticeship the organisation considered the apprentice an apprentice for a while longer until such time as they obtained their HNC. This has implications for the cost of the apprenticeship since some employers reported that not all of their training costs relating to ONC and HNC education were funded through MA, although practice appeared to differ across organisations.

A further divide in the system of apprenticeship training was between craft and technician level training. Both followed the AMA route but those apprentices with greater ability were earmarked to fill higher paid and higher skilled technician jobs by being selected to work in certain departments and given special projects to work on. Generally respondents had difficulty separating out the costs of technician and craft related training since apprentices tended to be trained externally as a single group. It was the technician group of apprentices that were most likely to be offered the possibility of training to HND or degree standard.

For purposes of this study the formal costed training period was that which led to the achievement of an FMA or, in the case of AMA, the end of the period which the organisation considered to be the formal apprenticeship. This is not to say that the fully experienced worker standard was achieved at the end of the apprenticeship. Several organisations retained 'improvers' rates' where the apprentice earned slightly less than the fully trained worker for a period of one to two years. And there was consensus amongst employers that 'learning one's trade' took around five to six years to accomplish including the formal apprenticeship period.

3.2 The organisation of training

Recruitment of apprentices

Many organisations reported that following downturn in the manufacturing sector following events on 11 September 2001 in the USA, the engineering industry reduced its number of apprentices in anticipation of a slump in orders. Because the economic downturn had not been as severe as originally feared many organisations were reported - by respondents to the study - to have increased their intake of apprentices in 2002 to compensate for under recruitment in the previous year. This resulted in increased competition for the school and college leavers thought to possess the qualities required to succeed in engineering. Nearly all employers reported that it was exceedingly difficult to find sufficient numbers of school leavers with the academic skills and vocational aptitude to complete an engineering apprenticeship. The one exception to this was a national car dealership offering technician level training related to car repair and servicing, where the male population's love of automobiles, it was said, created a ready supply of applicants waiting to become car mechanics.

The minimum qualification in all of the cases was at least three GCSEs at grade A-C in English, mathematics, and a science. In fact, many organisations recruited apprentices aged between 17 and 24 years who had spent a period of time at FE college and had obtained a higher level of qualification than the minimum specified. Some organisations were unwilling to recruit people aged over 24 years because no funding was available to cover their training costs even though they perceived a plentiful supply of potential modern apprentices amongst the over-24s in the local labour market. Only one organisation, which was unusual in that it had over 50 apprentices on its payroll, took on apprentices aged over 24 years through a special training programme it had developed for older workers. But the norm was to recruit those aged under 24 years because of the cost advantages of doing so.

Structure of training

There was a commonality to the structure of training across all organisations:

- first year spent on bloc or day release at a local FE college;
- NVQ assessment in the mid to latter part of the second year;
- obtaining ONC or equivalent qualification in second year;
- day release at college through to the end of third year;
- achievement of NVQ level 3 at end of third year;
- completion of traditional apprenticeship and achievement of HNC in early to mid part of fourth year.

Earlier studies had indicated that bloc release to FE college was typical during the first year, but day release was more commonly reported in this study. Apprentices tended to be grouped according to whether they were:

- foundation modern apprentices;
- advanced modern apprentices leading to a craft skilled job;
- advanced modern apprentices leading to a technician level job.

There was a tendency for some organisations not to differentiate between the three groups at the commencement of the apprenticeship and to assign apprentices to each stream once their potential had been assessed over the first year. In one company - providing mechanics for the bus and coach industry – the apprenticeship was an AMA but where the apprentice demonstrated that they were struggling to meet the demands of the traditional apprenticeship, there formal training period ended on achieving NVQ level 2. They were then transferred to the shopfloor to fill less skilled jobs and train more slowly to a craft level. The company allowed this because of the absolute shortage of mechanics in the local labour market; a semi-skilled mechanic was better than no mechanic at all! In nearly all cases employers took on apprentices in anticipation of them successfully completing their AMA. What was more in doubt was whether they were streamed to become skilled craft workers or technicians. Again, as noted earlier, being assigned to the technician or craft stream did not lead to separation at the FE college, but resulted in the technician grades being given more challenging tasks to undertake while on site.

3.3 Availability of funding

Employers reported three different types of funding arrangement:

- where they were approached by a training provider who then covered all the costs and received all the funding. The only costs which accrued to the employer were the apprentices' wages and the costs attached to supervising and training them in-house;
- an intermediate position where costs of training courses were borne by the training provider but the employer paid for NVQ assessment and received funding where the NVQ was achieved;
- where the employer paid for all the training course costs and NVQ assessment and received money from the training provider or Local Learning and Skills Council to cover some of these costs. In one example the employer reported that the costs of training courses leading eventually an HNC in electrical engineering were borne wholly by the company.

The different approaches to funding have profound implications for the costs of training as they accrue to the employer. FE college course fees, for example, were reported as high as £4,500 in one case where these were not reimbursed. Added up across three apprentices in the first year this represents an additional total cost to this employer of £13,500. It is debatable whether this is an MA cost. On the one hand the Level 3

qualification (*i.e.* the end of the AMA) was obtained before the HNC, but on the other acquiring the HNC was the required standard to secure continued employment with the company and complete the industry recognised apprenticeship.

3.4 The costs and benefits of training

The costs and benefits of training are provided below based on a three and a half year apprenticeship *(see Table 3.1)*. Overall, the estimated net cost of achieving the FMA standard was around £10,000 excluding any MA funding. This tended to be high since FMA apprentices tended to be following the same training programme as their AMA contemporaries, but their training was limited to the period when they made little or no productive contribution. This estimate is not comparable to the one in provided for the electronics industry in one of the earlier reports - £1,010 (1997 prices) - since that study was concerned in large part with assembly plants[6]. The total cost of providing training to the AMA standard was £16,265 excluding any MA funding. This is comparable to the £12,769 (1995 prices) reported in the 1994/95 study[7].

Apprentice productive contribution

Employers recognised that the productive contribution of apprentices was low in the first year and this was reflected in the wage paid to apprentices. Most employers thought that the productive contribution of apprentices was around 14 per cent on average over the first year, but where employers sent their apprentices on block release for most of the initial training period they were minded to report that the contribution was effectively nil. Only one company reported relatively high productive contribution from apprentices in the first year, but it had recruited slightly older apprentices who had spent around two years at FE college.

The productive contribution picks up appreciably in the second year because apprentices spend more time in the workplace as well as having acquired a useful set of skills over the first year. Increasingly over years two and three apprentices approach the productive capacity of a fully experienced worker. By the end of the apprenticeship apprentices were reported as being between 69 - 85 per cent as productive as the fully experienced worker with the remaining difference made up over the next one to two years.

By the final years of the apprenticeship apprentices' productive contributions are in excess of their wages as they are nearly capable of undertaking all the tasks of the fully experienced worker but are paid a lower rate.

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6 T. Hogarth, G. Siora, G. Briscoe and C. Hasluck, *The Net Costs of Training to Employers*, Department for Education and Employment Research Series, 1996

7 T. Hogarth, C. Hasluck, J. Pitcher, and G. Briscoe, *The Net Costs to Employers of Training to NVQ Level 2*, Department for Education and Skills, 1998

Table 3.1
Estimated total costs of training in engineering
(*per* apprentice)

£

	Year 1	Year 2	Year 3	Year 4	Total
Average wage of apprentice	6,738	8,728	11,524	12,113	
Productive contribution of apprentice (%)	14	40	69	85	
Fully experienced workers wage 1	17,960	17,960	17,960	18,347	
Employer costs					
Wage costs	6,738	8,728	11,524	6,056	**33,046**
National insurance contributions	250	485	815	442	**2,721**
Supervisory costs	834	764	704	419	**1,333**
Training manager	972	933	838	524	**3,267**
Production line staff	475	475	475	317	**1,742**
Other staff	0	0	0	0	**0**
Training costs	1,184	579	675	258	**2,695**
Other costs	290	71	123	202	**686**
Total	10,743	12,035	15,153	8,219	46,150
Employer benefits					
Productive contribution	2,505	7,201	12,383	7,797	**29,885**
Other income	390	219	101	840	**1,550**
Total	2,895	7,420	12,484	8,637	31,435
Cost-benefit					
Total (excluding MA funding)	**8,239**	**4,834**	**2,770**	**422**	**16,265**
Total (including MA funding)	**7,848**	**4,615**	**2,669**	**(418)**	**14,715**

Source: IER Net Costs studies
Note: costs in parentheses represent a net benefit.
See *Table 2.1* for explanations of cost-benefit categories

Apprentices' wages

Companies varied in what they were willing to pay apprentices. At one extreme a company paid the minimum wage to its one apprentice in the first year of apprenticeship whereas the highest paid was £7,200. Wages increased slowly over the period of the apprenticeship until at the end of their training apprentices were paid either the basic adult rate or the improvers' rate. The average rate by the end of the apprenticeship was just over £12,000 but this masked considerable variation between £11,000 a year and £15,000 a year.

Supervision

Supervision costs have a number of components:

- the cost of the training manager's time in overseeing the apprenticeship programme;

- the time spent by line managers on the shopfloor checking on the behaviour and progress of apprentices;
- the time spent by fully experienced workers on the shopfloor acting as the apprentice's immediate supervisor.

Whilst most training managers were able to state what percentage of their time was spent on a range of administrative, educational, and pastoral activities in relation to their apprentices, more uncertainty attached to estimating the amount of time spent by line managers and fully experienced workers. Some employers were able to give costs – typically around five per cent and two and half per cent of fully experienced workers' time – but most reported that training others on-the-job was part of doing your job. No output was lost because fully experienced employees knew that they had to meet their output targets[8].

Course costs

All companies reported that their apprentices attended courses at a local FE college. At its highest course costs amounted to £4,500 a year in the first year for a course where apprentices spent four days a week at college and one day at the factory. Other employers using day release reported that course costs were funded by the training provider who then claimed these costs back from the Local Learning and Skill Council. Accordingly there are widely differing estimates of course costs from at a maximum £4,500 to a minimum of free to the employer.

Employers reported that they also funded on an *ad hoc* basis other training courses depending upon a particular apprentice's need. Where apprentices were being pushed down the technician path additional courses were sometimes provided; these cost around £1,000 and £2,000 for each course *per* apprentice. These have not been included in the cost estimates because they are not provided to all apprentices and appear to fall outside the formal apprenticeship training programme.

Other costs

Only one organisation had its own training centre. This was paid for out of the organisation's overall training budget of £750,000 (excluding any nominal rent for premises) and so it has not been possible to provide a cost of this relating to apprenticeship training.

3.5 Drop-out and time-path costs

All cases reported that recruitment and retention was an area of current difficulty. Overall, drop-out rates were around 12 per cent with most of this occurring over the first two years of the apprenticeship. Three explanations were offered:

[8] The costs can be quickly re-calculated to include a typical value from those employers that provided costs estimates since, whatever managers report, output is likely to be foregone whilst apprentices are being informally instructed.

- apprentices recognised that they were struggling to meet the standard required and so dropped out; a
- despite keeping a close watch on their young apprentices, employers reported that there were occasional examples where apprentices possessed the ability required but failed to adapt to the world of work (*e.g.* high absenteeism, poor time-keeping, failure to attend college); and
- relatively low wages paid over the initial period of training meant that apprentices were drawn to higher paid jobs elsewhere.

The latter problem was an acute problem relating to automotive mechanics who could acquire a basic set of skills over the first two years of their apprenticeship and then transfer to 'back street garages' where they could earn more over the short-term. In one case, an apprentice left near the end of his third year to take a higher paid job in local garage where his apprenticeship would not be formally completed.

Employers said that drop-out was not a problem stemming from recruitment of young people not suited to the jobs on offer. Generally recruitment procedures in all but one organisation were rigorous involving two interviews and aptitude tests. Employers felt that the costs they accrued over the early part of the apprenticeship were sufficiently high to ward off recruitment of those not suited to the engineering industry. Drop-out, it was reported, was more a problem of higher wages being on offer elsewhere.

Drop-out has implications for the overall costs of training *(see Table 3.2)*. It has been assumed that drop-out is split evenly over the first two years thereby increasing even further the already high costs accrued by the employer in the early stages of the apprenticeship.

Table 3.2
Estimated total costs of training in engineering including drop-out
(*per* apprentice)

£

	Year 1	Year 2	Year 3	Year 4	Total
Total (excluding MA funding)	8,319	4,892	2,669	(418)	**15463**
Total (including MA funding)	7,906	4,660	2,568	(1258)	**13877**

Source: IER Net Costs studies
Note: costs in parentheses represent a net benefit.

3.6 Cost variation

To provide an indication of how costs vary across the engineering industry, examples are provided of the minimum and maximum cost cases. *Table 3.3* provides information from the case where the highest costs were encountered and *Table 3.4* provides data for the case with the lowest employer costs.

As in the previous studies the productive contribution of the apprentice is measured as the proportion of the fully experienced worker's job that the apprentice can complete

multiplied by the salary of the fully experienced worker. In the first example a complication arises because apprentices could be working towards one of two fully experienced worker standards – that of a technician or that of a craft worker. A decision on the job that the apprentice would ultimately fill – technician or craft worker - was taken near the end of the apprenticeship. For purposes of the productive contribution calculation a mid-point has been taken between the salary of the technician and that of the craft worker.

An initial estimate of the costs of training *per* apprentice in the high cost establishment was around £27,000 over four years. In part, the estimate is high because during the first year the modern apprentice was on block release at college, and during years two and three was on day release to college, thereby reducing their productive contribution.

Estimates of training costs over the duration of the apprenticeship indicate that they fall away quite sharply, such that by the fourth year the employer records a net benefit. It should be noted that the company thought fully trained apprentices were still not 100 per cent productive at the end of the company apprenticeship. A rough estimate suggests that they were 90-95 per cent fully productive.

Table 3.3
Maximum cost example of employers' costs

£

	Year 1	Year 2	Year 3	Year 4	Total
Average wage of apprentice	6,500	8,632	10,956	11,957	
Productive contribution of apprentice (%)	0	20	66	73	
Fully experienced worker's wage	19500	19500	19500	19500	
Employer costs					
Wage costs	6,500	8,632	10,956	5,979	**32,067**
National insurance contributions	222	474	748	866	**2,311**
Supervisory costs	2,575	2,575	2,575	1,288	**9,013**
Training manager	675	675	675	338	**2,363**
Production line staff	1,900	1,900	1,900	950	**6,650**
Other staff	0	0	0	0	**0**
Training costs	4,500	1,150	1,150	0	**6,800**
Other costs	300				**300**
Total	16,672	15,406	18,004	9,421	**59,504**
Employer benefits					
Productive contribution	0	3,900	12,870	14,235	**31,005**
Other income	750	0	0	1000	**1,750**
Total	750	3,900	12,870	15,235	**32,755**
Cost-benefit (technician)					
Total (excluding MA funding)	**15,922**	**11,506**	**5,134**	**(4814)**	**28,499**
Total (including MA funding)	**15,172**	**11,506**	**5,134**	**(5814)**	**26,749**

Source: IER Net Costs studies
Note: costs in parentheses represent a net benefit.
See *Table 2.1* for explanations of cost-benefit categories

The example provided in *Table 3.4* is of an establishment with seven employees making engineering models and moulds for the automotive industry. It had had limited involvement in apprenticeship training in the past other than providing the occasional apprenticeship for family members. The owner reported that the company had become situated in a low value-added, low-wage section of the engineering industry and that there was little interest from school leavers to join the industry. The current apprentice was currently in the second year of an AMA – the costs for the third year relate to the estimates provided by the owner. The owner felt that the apprentice could cover his wages by undertaking a variety of menial tasks on the shopfloor thus freeing the experienced workers to undertake skilled work. The company had decided to take on an apprentice after being contacted by a local training provider.

Table 3.4
Minimum cost example of employers' costs

£

	Year 1	Year 2	Year 3	Total
Average wage of apprentice	2,860	4,420	10,956	
Productive contribution of apprentice (%)	10	40	75	
Fully experienced workers wage	18,200	18,200	18,200	
Employer costs				
Wage costs	2,860	4,420	10,956	**18,236**
National insurance contributions	0	0	748	**748**
Supervisory costs	910	910	455	**2,275**
Training manager	1,500	750	750	**3,000**
Production line staff	0	0	0	**0**
Other staff	0	0	0	**0**
Training costs	0	0	0	**0**
Other costs	0	0	0	**0**
Total	5,270	6,080	12,909	**24,259**
Employer benefits				
Productive contribution	1,820	7,280	13,650	**22,750**
Other income	0	0	0	**0**
Total	1,820	7,280	13,650	**22,750**
Cost-benefit				
Total (excluding MA funding)	**3,450**	**(1,200)**	**(741)**	**1,509**
Total (including MA funding)	**3,450**	**(1,200)**	**(741)**	**1,509**

Source: IER Net Costs studies
Note: costs in parentheses represent a net benefit.
See *Table 2.1* for explanations of cost-benefit categories

Even after taking account of the differing time periods involved in each apprenticeship the differences between the two cases are substantial. Part of this is accounted for by the different types of engineering activity in which each case was involved but even taking this into consideration - both were, after all, involved in providing apprenticeship training in an engineering discipline - the difference in cost are great. Admittedly, the two examples are at the extremes of the cases studied but the former may well be an

indication of the costs borne by a medium sized employer meeting most of the costs attached to its apprenticeship training provision, while the latter is indicative of the costs met by smaller organisations who are encouraged to engage in MA by training providers.

3.7 Conclusion: the value of apprenticeships

Thus far the discussion has concentrated on the price attached to various elements of FMA and AMA training, but this provides little information about the real value of apprenticeships. It was only in the third and fourth years of the apprenticeship that individual apprentices' productive contribution exceeded their wages and it was likely to be several years before the employers' investment in training was repaid should the employer successfully retain the services of the fully trained worker.

This level of investment reflects employers' appreciation of the reality that without apprenticeship training the supply of skills will dry up, and the value companies placed in developing their own skilled employees. Several companies pointed to long-service record of many former apprentices and similarly pointed to members of the senior management team who had once been apprentices with the company. Nevertheless, employers recognised that they were making an investment that had risks attached to it. Whilst drop-out was recognised as a problem in many cases this was thought manageable insofar as would be drop-outs could be identified and action taken to avoid them leaving the employment of the company. The major risk identified was in keeping employees once they were trained. Employers tended to point to a fairly sharp economic cycle in the engineering industry such that there was insufficient work to keep apprenticed staff on during periods of economic downturn, and problems of labour retention during boom times. This is a perennial problem that the engineering industry has yet to solve.

4. CONSTRUCTION

4.1 Introduction

The MA framework for the construction industry is designed to meet the needs of the industry. It provides career pathways for individuals to progress in their chosen occupation or to transfer into technical, supervisory, management, and professional careers within the industry. The framework covers occupations that range from crafts such as bricklayer, carpenter, and painter to technical support areas such as quantity surveyor, estimator, and site engineer to site supervision. The construction industry covers a diverse range of activities and type and size of organisation. The scope of the industry's work includes the building, civil engineering, and specialist building sectors that undertake new work, maintenance, refurbishment, and restoration. This diversity is reflected in the number of occupations included in the framework.

The construction industry is unique in the UK in that it has retained an industrial training board, the Construction Industry Training Board (CITB). The Board collects a levy from employers in the sector and uses the money to support training, including MAs, in the industry. One consequence of this highly formal structure is that CITB undertakes on behalf of the industry many of the tasks associated with training that would otherwise have to be undertaken by employers themselves. The CITB promotes MA training on behalf of the industry and undertakes much of the recruitment and selection of potential apprentices (although employers have the ultimate say on these matters). During the period of apprenticeship training, assessment of apprentices is undertaken by CITB. This high level of CITB involvement in the training process has the effect of reducing the apparent cost of MA training for employers, although employers are, ultimately, paying for it through the CITB levy.

4.2 The organisation of training

Recruitment of apprentices

Most of the employers interviewed relied heavily on the CITB for the recruitment of apprentices. The CITB sought potential apprentices, screened them (using a number of tests) and submitted suitable candidates to potential employers. Submission to an employer was no guarantee of a training place and most employers selected apprentices from those submitted and most employers indicated that more potential candidates were submitted to them by the CITB than they had training places. Some concern was expressed that the CITB screening was set at too low a level. Nonetheless, the main concern expressed by employers was with the lack of candidate with the right attitudes and aptitude for skilled construction work. Employers placed great store on characteristics such as commitment and motivation and often indicated that formal qualifications were of secondary importance compared to these qualities.

Although the CITB was the main means of recruiting apprentices, many employers had recruited *via* informal means, such as word of mouth or family contacts. In other

instances employers took school pupils on work experience placements in the hope that such placements, if successful, would lead to the future recruitment of apprentices. In a number of cases, employers participated in schools careers events or had arrangements with local schools to consider students for training places.

In the main, those people recruited to apprenticeships tended to be aged between 16 and 21. In some instances this was reported to be the result of an inability to recruit older apprentices because apprentice wage rates were low relative to wage rates in other jobs or the likely level of financial commitment of older recruits. In other cases, employers argued that it was too costly to train adult apprentices as they had to pay adult wage rates to employees who were not fully proficient.

Structure of training

There is a fairly common structure of training across the construction industry (where training is carried out). The key features of this structure were:

- apprentices were recruited at the outset for the Advanced Modern Apprenticeship;
- training lasted for around three years;
- training took the form of day-release at a local FE college or other training provider (usually around 40 days a year) and supervised on-the-job training and work experience.

Normally AMA recruits had to possess appropriate GCSE or similar qualifications and pass CITB tests. The AMA in construction begins with a mandatory induction programme to cover the requirements of employment responsibilities and rights. Normally apprentices work towards NVQ Level 1 in the first year (sometimes less) of training and progress to NVQ Level 2 in their second year. Some older apprentices are recruited after studying for a relevant NVQ Level 1 at FE college and in these instances they entered the AMA directly at NVQ Level 2.

Once the course has been completed the apprentice will have a Level 3 NVQ in a construction occupation. The apprentice will gain key skills in both communication and application of number at Level 2. They will receive either the Advanced Construction Award or a BTEC National Certificate in Construction or Civil Engineering. The requirements for on-the-job training are stipulated for each separate course and are mandatory.

4.3 The availability of funding

The construction industry is the last remaining sector to retain the grant-levy system for funding training. As a consequence, the funding arrangements were fairly uniform across employing organisations. Employers pay a levy to CITB of around 1 per cent of turnover and claim back funding for training undertaken. There are a number of different elements of training for which funding can be claimed. Leaving aside the details of these payments, almost all employers estimated that they received a grant in the region of £7,500 *per* apprentice over the three-year training period.

In addition to the grants received, employers benefited from the fact that the CITB paid for all course fees as well as the costs of much of the initial recruitment and selection of apprentices and the assessment of training activity during the training period. Since such support from CITB was for all employers 'a free good', employers were generally unaware of the cost of such CITB support.

The nature of funding arrangements in the construction sector means that the direct costs of training (course fees, assessment *etc*.) are not borne by the employer. Grants received contribute towards the indirect costs of training, such as supervision and training overheads as well as offsetting the low productivity of apprentices. These funding arrangements have a significant effect on the net cost of providing training in the sector.

4.4 The net costs and benefits of training

Typical costs and benefits of apprenticeship training in construction are set out in *Table 4.1*. The figures in this table are the mean values of costs and benefits across the case study employers. *Table 4.1* indicates the estimated net cost of an Advanced Modern Apprenticeship in construction was just over £10,250 excluding any grant income to employers from CITB. When the grant income is taken into account, the net cost to a typical employer was around £3,185 over the three years of apprentice training.

Table 4.1
Estimated costs of training in construction
(*per* apprentice)

£s

	Year 1	Year 2	Year 3	Total
Average wage of apprentice	6,761	10,509	11,871	
Productive contribution of apprentices (%)	5	46	80	
Fully experienced workers wage	19,463	19,463	19,463	
Employer costs				
Wage costs	6,761	10,509	11,871	**29,141**
National Insurance contributions	270	697	856	**1,824**
Supervisory costs (total)	2,006	2,006	2,106	**6,118**
Training manager	680	680	780	**2,140**
Production line staff	1,226	1,226	1,226	**3,678**
Other staff	100	100	100	**300**
Training costs	35	35	35	**105**
Other costs	0	0	0	**0**
Total	**9,072**	**13,248**	**8673**	**30,992**
Employer benefits				
Productive contribution	2,425	6,720	11,594	**20,739**
Other income (MA Funding, etc)	2,387	2,341	2,341	**7,069**
Total	**4,811**	**9,061**	**13935**	**27,808**
Costs-benefits				
Total (excluding MA Funding)	**6,647**	**6,528**	**(2,921)**	**10,253**
Total (including MA Funding)	**4,260**	**4,187**	**(5,262)**	**3,185**

Source: IER Net Costs studies
Figures in parentheses represent a net benefit
See *Table 2.1* for explanations of cost-benefit categories

Apprentice productive contribution

Although much of the training period was spent on site, employers recognised that apprentices were relatively unproductive during their first year of training. Estimates from employers were that the value of work obtained during that period amounted to around 10 per cent of a fully experienced craftsperson. The exception to this was when older apprentices were recruited from FE college and entered the apprenticeship at NVQ Level 2. Here the level of productivity could be between 30-40 per cent of a skilled worker.

The productive contribution of apprentices was reported as increasing steadily during the training, averaging around 60 per cent in the second year of training and becoming around 85-90 per cent by the end of the apprenticeship. Most employers did not regard apprentices as fully competent even at the end of the apprenticeship and after NVQ Level 3 had been obtained. Some employers explicitly recognised this by employing qualified workers on an intermediate grade – sometimes called 'improver status' – for 6-

12 months with a wage that reflected this status. This practice was less common there the organisation employed craft workers on a piecework basis. In this case, the lower productivity of the newly qualified employee (often manifest as slower working) was automatically reflected in their pay.

Apprentices wages

In all cases MA apprentices had employee status. The wages received by apprentices varied considerably. There were two principal drivers of such variation.

First, wages in all organisations were related to the apprentices' age. This manifest itself in a year on year increase in pay as the apprentice advanced through the training period. It was also the case that there was a marked difference in pay between 'young apprentices' and 'adult apprentices'. The definition of an adult varied from employer to employer. Sometimes adults were classed as those aged 19 or above while in others an adult was defined as an employee aged 22 or above (the latter definition relating to matters such as the National Minimum Wage). In part this difference was a reflection of the fact that some employers did not distinguish in terms of pay between employees who were in training and others so the age variation in pay simply reflected the age-related pay structure of the business. Nonetheless, even where employers gave apprentices a different status from other employees they tended to pay higher rates of pay to adult apprentices. This was largely justified on the grounds that adults would not enter training at the lower rates of pay given to young apprentices (on account of the greater range of competing and better paying opportunities and because of the higher minimum income required by adults with substantial financial responsibilities).

A second factor leading to pay differences, as mentioned above, was that some businesses clearly regarded their apprentices as having a different status to other employees while others accorded all employees a similar status. Where apprentices were viewed as 'apprentice status' they tended to be paid on a low apprentice wage rate. Where employers regarded apprentices as employees who happened to be in training, they tended to be paid according to the same company pay structure as other employees of the same grade. The latter group of apprentices was typically receiving higher pay than 'apprentice status' apprentices and was often receiving a wage close to qualified craft employees (who tended to be older and higher paid) by the end of their training.

The lowest wage for an apprentice was reported by a company that only employed apprentices (apart from the trainers that were employed to carry out the training). In this case a 'bursary' of £55 a week plus travelling expenses was paid during the first 18 weeks of training, rising to £75 a week during the remained of year one and two of the apprenticeship. Pay of £90 a week was received during the final year of training. A typical annual wage for an apprentice in their first year of training was in the region of £4,000-£7,000. The highest wage cost in the first year of training was just over £13,200 per annum but this was for apprentices aged 22 or above in an organisation that paid apprentices on the same scale as other employees of the same grade. Typically by the end of the three-year apprenticeship, apprentices were paid between £8,500 and £10,400 a year, but adult apprentices earned more.

Supervision

Supervision costs arose from:

- managers time in overseeing the AMA programme and liasing with CITB; and
- time spent by site managers and supervisors in checking the work of apprentices.

Larger organisations tended to have specialist human resource or training managers taking responsibility for the AMA programme. Even where the training function was managed separately, in none of the cases was the training manager's time was devoted exclusively to the AMA and such managers pointed out that many other training activities were undertaken by the organisation. One manager in a large organisation indicated that he spent around 10 per cent of his time on the AMA programme but how typical this was is difficult to say.

In smaller organisations the management of the AMA programme fell either to a general manager or to the proprietor. In these cases the identification of the amount of time spent on overseeing the AMA programme was reportedly difficult to establish. In at least one instance, overall management of the three apprentices was delegated to the company secretary.

A typical pattern of working in the construction sector is for apprentices to work on one of a number of sites. Such sites tend to involve relatively small numbers of employees. As a result, an immediate supervisor, often a skilled craftsperson, often undertakes supervision of apprentices. Only one very large organisation reported employing specialist supervisors who travelled from site to site to monitor apprentice work and progress.

A significant element in a competence based apprenticeship such as are found in construction is the monitoring of work and its assessment. Staff employed by the CITB covered all costs of this nature.

All of the above means that supervision costs, as reported by construction sector employers, were low.

Course costs

The CITB paid all course-related costs and no employer reported any costs of this nature.

Other costs

Employers reported few, if any, additional costs to their apprentice training.

4.5 Drop out and time-path costs

Some construction sector employers were able to quantify fairly precisely what the costs and benefits of AMA training were on a year by year basis. Others were not able to provide such detail. Nevertheless, all appeared agreed on a general pattern over time.

It was the perception of employers that the first year of training imposed a substantial net cost on employers. This arose from the very low productivity of apprentices in this period (even though they were spending four out of every five days on site) and despite generally low apprentice wages. Such costs were not offset by CITB grants. Employers believed that, by the second year of the apprenticeship, the productive contribution of apprentices had increased sufficiently that, taken together with CITB grants, the training programme tended to 'break even'. Finally, there was a consensus that by the third and final year of training, the employer was more than covering their costs (especially when grant income was taken into account.

This general impression of net costs gradually giving way to a net benefit over the duration of the training period tends to be borne out by the detailed net-cost estimates based on data provided by employers *(see Table 4.2)*. In all cases, the estimated net cost of the AMA was negative (*i.e.* was a net benefit) in the third year. Many employers did report something approaching 'break-even' in the second year, although on average there were still substantial costs to employers at this stage of MA training. Without exception, employers reported a large net cost in the first year. On average, the net cost of an AMA was around £6,647 in the first year (£4,260 after grant income), around £6,528 in the second year (£4,187 after grant income) and a net benefit of £2,921 (or -£5,262 after grant income).

Table 4.2
Estimated net costs of training by year (per apprentice)

£s

	Year 1	Year 2	Year 3	Total
Total (including MA Funding)	4,260	4,187	(5,262)	**3,185**
Total (excluding MA Funding)	6,647	6,528	(2,921)	**10,253**

Source: IER Net Costs studies
Figures in parentheses represent a net benefit

Employers reported high rates of completion amongst their AMAs. Successful completion appeared more likely amongst younger apprentices (estimated by one employer at 90-95 per cent of those aged 16-19). Successful completion appeared less likely amongst adult apprentices (those aged 20 or above). The same employer estimated that only 50 per cent of adult apprentices completed the AMA. The effect of the higher adult drop out rate on the overall completion rate was small since they represent a minority of apprentices. In many cases employers appear to have avoided the perceived problem by not recruiting adult apprentices, who were not especially attractive in any event because of their high cost.

4.6 Cost variation

A considerable variation was observed in the net cost to employers of training an apprentice to the end of an AMA. Disregarding any CITB grant income, the highest cost per apprentice was £33,906, although this was where the apprentices were 21 years of

age or above. Most organisations were reporting net costs of between £5,000 and £10,000 while one reported that it would have broken even without the receipt of CITB grants.

Table 4.3 provides an example of a 'high cost' organisation and *Table 4.4* provides similar information for a 'low cost' organisation.

Table 4.3
A high cost example of employer net costs

£s

	Year 1	Year 2	Year 3	Total
Average wage of apprentice	4,160	6,240	8,320	
Productive contribution of apprentice (%)	0	70		
Fully experienced workers wage	23,400	23,400	23,400	
Employer costs				
Wage costs	4160	6,240	8,320	**18,720**
National Insurance contributions	0	192	437	**629**
Supervisory costs (total)	3438	3,439	3,438	**10,315**
Training manager	938	939	938	**2,815**
Production line staff	2500	2,500	2,500	**7,500**
Other staff	0	0	0	**0**
Training costs	0	0	0	**0**
Other costs	0	0	0	**0**
Total	7598	9,871	6,098	**23,567**
Employer benefits				
Productive contribution	0	4,388	8,775	**13,163**
Other income (MA Funding, etc)	2500	2,500	2,500	**7,500**
Total	2500	6,888	11275	**20663**
Costs-benefits				
Total (excluding MA Funding)	**7,598**	**5,484**	**(2,678)**	**10,404**
Total (including MA Funding)	**5,098**	**2,984**	**(5,178)**	**2,904**

Source: IER Net Costs Studies
Figures in parentheses represent a net benefit
See *Table 2.1* for explanations of cost-benefit categories

Given the funding arrangements for AMA training in the construction sector, the main factors leading to differences in net costs were differences in apprentice wage costs and differences in the productive contribution of apprentices. As already seen, wage costs varied greatly across organisations and were particularly high where apprentices were paid adult pay rates. Employer estimates of the productive contribution of apprentices were more consistent, with the main difference being, again, between young apprentices and adult apprentices. It is clear from the case studies that where employers employ young people on apprentice status (*i.e.* relatively low wages) the net cost of the training is also low despite the low to modest level of productivity amongst

such apprentices. Conversely, where older apprentices are employed on adult pay rates, the higher productive contribution of older apprentices is not sufficiently great as to compensate for the higher wage costs of such apprentices.

Table 4.4
A low cost example of employer net costs

£s

	Year 1	Year 2	Year 3	Total
Average wage of apprentice	5,720	7,280	9,880	
Productive contribution of apprentice (%)	7.5	45	75	
Fully experienced workers wage	19,760	19,760	19,760	
Employer costs				
Wage costs	5,720	7,280	9,880	**22,880**
National Insurance contributions	130	314	621	**1,065**
Supervisory costs (total)	1,402	1,402	2,104	**4,908**
Training manager	0	0	702	**702**
Production line staff	702	702	702	**2,106**
Other staff	700	700	700	**2,100**
Training costs	0	0	0	**0**
Other costs				**0**
Total	7,252	8,996	6,303	**22,551**
Employer benefits				
Productive contribution	1,112	6,669	11,115	**18,896**
Other income (MA Funding, etc)	1,040	720	720	**2,480**
Total	2,152	7,389	11,835	**21,376**
Costs-benefits				
Total (excluding MA Funding)	**6141**	**2,327**	**(4,813)**	**3,655**
Total (including MA Funding)	**5101**	**1,607**	**(5,533)**	**1,175**

Source: IER Net Costs Studies
Figures in parentheses represent a net benefit
See *Table 2.1* for explanations of cost-benefit categories

The impact of CITB grant income was to significantly reduce the net costs to employers of undertaking AMA training. After taking these grants into account around half of the employers interviewed were either close to breaking even or even had a net financial benefit from their training activity.

It needs to be borne in mind that the CITB grant received by employers understates the value of the total amount of financial assistance received from CITB since employers did not pay for initial recruitment and selection, course fees or assessment. Had employers been required to bear the latter costs, the net costs of an apprenticeship to employers would be considerably higher.

4.7 Conclusion: the value of apprenticeships

All of the construction sector employers interviewed were enthusiastic about the AMA programme. This is not surprising since the sample consists of employers who, by their actions, have already demonstrated a commitment to training their workforce. A number of employers reported that they were either Investors in People accredited or close to achieving that standard and this reinforced the view that this was a group of employers committed to training and workforce development. Generally, those employers interviewed were very positive about the role of the CITB and the grant-levy system of funding training. Of course, this was a group of employers that were receiving back much of their CITB levy and several commented that such a commitment to training or the CITB was not shared by all other employers in the construction sector. Those employers that did not share a commitment to workforce were commonly portrayed as short-sighted and the source of industry problems such as skill shortages in skilled craft occupations.

Employers identified few problems with the present AMA programme. Some expressed reservations about the quality of applicants supplied by CITB. Some employers mentioned lack of flexibility in the CITB grant regulations. This mainly related to situations where additional time was required by an apprentice to complete the NVQ and funding was not currently available for this purpose. Some employers also expressed frustration that day release training courses were so rigidly tied to the academic year. They would like FE colleges to provide more of a 'roll-on, roll-off' type of service round the year.

There was universal concern about any suggestion that apprentice training in the construction industry be offered at less than NVQ Level 3 or take place over less than three years. All regarded such a development as undermining the level of training the industry required.

Employers identified several benefits flowing from the AMA programme. The principal one was to secure a supply of employees with the appropriate level of skill and competence for traditional manual craft occupations such as bricklaying, joinery and plumbing. This benefit was closely followed by a belief that the AMA programme reduced labour turnover and helped create a supply of future supervisors and managers. Other benefits mentioned included the enhancement of the reputation of the organisation as a 'good employer' and the promotion of links with training providers and schools.

5. RETAILING

5.1 Introduction

The retail sector employs around 2.7 million people. The industry has revealed steady growth over recent years with employment projected to grow to nearly 3 million by 2005. A large portion of employment in the industry is female, part-time employment (46 per cent). Around 25 per cent of employment in the industry is in micro-enterprises and just under 75 per cent of employment is in establishments with less than 200 employees. The Sector Skills Dialogue for the retail industry estimates that around 14,250 people were registered on an FMA course, and 2,500 on an AMA. That report commented that the MA is one, possibly the only source retail establishments have for funding training. Concern has been expressed that New Deal clients go straight onto MA programmes for which they are unsuited and this contributes to high drop-out.

This study is concerned primarily with FMAs, but information is also supplied about AMAs as well. FMA provided the skills at the level employers required: to operate as general retail assistants in a range of high street retailing activities. As the commentary will go to illustrate this was typically completed within a 12 month period – although there was variation around this median - with the apprentice achieving a high degree of productive contribution within one month of commencing employment. This contributes to the low level of cost borne by employers. As in the other sectors, some employers failed to report costs for specific elements of training because these were met directly by a training provider.

Some employers also required retail assistants to fulfil more demanding tasks within their organisation and this was where AMAs were considered of value. For example, a travel agent required a small number of its staff to handle business travel and high-value customised holidays. AMA was the employers favoured route to acquiring these skills; in addition it also provided a skills base within the firm from which to appoint future branch management. In another case, the employer used the AMA in retailing to 'shadow' its retail management development programme because funding was available and it provided the types of skill the company required. It 'shadowed' the in-house designed training programme because the company also wanted to provide its staff with other company specific skills through its Management Apprentice Programme.

The analysis below considers FMAs in retailing in some detail before going on to provide further information about AMAs.

5.2 The organisation of FMA training

Recruitment of apprentices

Nearly all employers depended upon a flow of young people to staff their shops. Generally employers were willing to recruit staff from any age group and there is a wealth of evidence relating to the industry's targeted recruitment of older workers. But this should not distract from the cases reported here where there was an emphasis on

trying to recruit young people through MA. Employers were willing to recruit across the 16-24 age range, although since the minimum wage acted to determine apprentices' wage levels in several instances, those aged over 18 years were more costly apprentices. Employers reported difficulty both attracting young people to the industry and then retaining them. The Employers Skill Survey estimates that staff wastage in the retail industry, that is the number of people leaving as a percentage of total employment, stood at around 33 per cent[9]. Employers reported turnover rates similar to the national one. Where young apprentices left the training programme they tended to do so in the first month or so, otherwise employers felt confident about keeping them for the medium-term.

Structure of training

The precise content of training was determined by the specific industry in which the apprentice was located but typically the content of training was along the following lines:

- induction training;
- introduction to store (in multi-shop chains);
- health and safety, hygiene;
- customer service training;
- security;
- using cash registers/cashing-up.

Much of this training was delivered over the early part of the apprenticeship with a view to getting the apprentice as near to fully productive as possible over the first three to six months of the training period.

5.3 Availability of funding

Generally funding was not mentioned by respondents because training was often delivered by an external training provider. In a few cases employers reported that they received output funding when the apprentice achieved NVQ level 2.

5.4 The costs and benefits of training

Overall the cases revealed that FMAs were self-funding insofar as the costs borne by the employer were negligible: a net benefit of £318 *(see Table 5.1)*. Given that the data are indicative this is probably best interpreted as employers breaking even – which is exactly what several employers reported they were trying to achieve. Breaking even was achieved due to the relatively high productive capacity of apprentices from the commencement of their employment and the relatively small amount of training expenditure paid directly by the employer.

[9] T.Hogarth and R.A. Wilson *Further Analysis of ESS: The Retail Sector*, Report to Department for Education and Skills, 2002

Table 5.1
Estimated total costs of FMA training in retailing
(*per* apprentice)

£s

	Total (12 month training period)
Average wage of apprentice	**6,969**
Productive contribution of apprentice (%)	**79**
Fully experienced workers wage	**10,704**
Employer costs	
Wage costs	**6,969**
National insurance contributions	**278**
Supervisory costs	**258**
Training manager	**505**
Production line staff	**0**
Other staff	**0**
Training costs	**163**
Other costs	**0**
Total	**8,172**
Employer benefits	
Productive contribution	**8,402**
Other income	**88**
Total	**8,490**
Cost-benefit	
Total (excluding MA funding)	**(231)**
Total (including MA funding)	**(318)**

Source: IER Net Costs studies
Notes: figures in parentheses represent a net benefit
See *Table 2.1* for explanations of cost-benefit categories

Apprentice productive contribution

Generally employers reported that over the first month apprentices had only a modest amount of ability to undertake productive work, although there were a range of tasks they could complete such as shelf-stacking. Between one and six months they approached the fully experienced worker standard except that they may still lack a little confidence in how they deal with a variety of problems and their customer care skills remained to be honed. Confidence and customer care skills would be achieved over the next six months.

Apprentices' wages

The minimum wage determined wage levels in several cases. This related not just to those aged under 18 but retail assistants at all levels. Several employers reported that they paid those under 18 at the minimum wage and older workers at a little above it.

The result of this is that the differences between the wages paid to apprentices were little different to those of fully experienced workers. In some cases where apprentices were aged over 18 years they were paid the same as fully experienced workers. In one case where the employer had traditionally recruited one or two school leavers each year – essentially to cover for staff turnover – the owner was approached by a training provider to place these new recruits on an FMA without significant cost to the employer. The employee was expected to undertake any course work in their own time so there was little lost productive time spent training. The employer thought that the FMA provided the apprentice with transferable skills and assisted the business through closer attention to detail and greater confidence in undertaking a range of tasks.

Supervision

Larger organisations were better able to provide an estimate of costs of supervision provided by either Training Managers or other shop assistants since they had established training infrastructures and were aware of the training activities taking place. Other smaller establishments tended to record a small amount of the owner or manager's time spent on administration and keeping check of the employee's progress but no other supervisory costs. It was doubtful whether the MA added to supervisory costs since, it was said, the establishment manager would need to check on any new employee's progress regardless of the training programme on which they were placed.

Course costs

Course costs were either met by the training provider or represented only a small charge to the employer. For example, an independent chemist's shop sent all of its new recruits on a retail pharmacy course at a local FE college at a cost of £150 *per* apprentice. Another company spent £150 *per* apprentice on a food hygiene course. There were no comparable large scale costs related to day-release as identified in the engineering and construction sector studies.

5.5 Drop-out and time-path costs

Drop-out was a major problem reported in all cases. Employers reported that there was, in their opinion, a high incidence of apprentices leaving their employment in the early stages of the FMA. Some of the larger employers reported drop-out rates of 20 to 30 per cent (across 100 – 150 apprentices) with much of this taking place in first month or so of the apprenticeship. What was less clear was whether staff turnover was any higher amongst new recruits than older more established workers. There was some indication that it was not. Even if one were to apply a drop out rate of 25 per cent to the cost estimates this suggests that the average cost would rise little.

On average, FMAs took 12 months to complete – although there was variation between 8 months and 15 months to complete - although in the employer's view the apprentice was fully productive within six months. This is essentially because the occupations studied were semi-skilled in nature. It was also apparent that there was limited scope

for career progression for many apprentices. Some of those who showed promise might be attached to a management training programme once they had achieved their NVQ level 2. But for many the prospects within the organisation were promotion to fully experienced workers' rates – not much above those paid to apprentices aged 18 years or older - and the possibility of becoming a supervisor. Career opportunities were even more restricted in the smaller establishments.

5.6 Cost variation

Compared to other sectors there was limited variation between cases with most providing cost estimates that suggested that all costs were covered by the apprentice's productive contribution allied to the negligible direct training expenditure by the organisation.

5.7 Advanced Modern Apprenticeships

Most of the case studies were concerned with FMAs but information was also collected in relation to AMAs in four cases. Two organisations were providing training in relation to management apprentice programmes, one was in the process of certificating the skills of its existing workforce involved in customer service activities, and one provided on-going training to staff considered to have potential for further development. *Table 5.2* provides an indication of the costs borne by the employers in relation to these activities.

Again the data indicate that the costs borne by the employer are relatively small compared to, say, AMAs in engineering and construction. There are two reasons for this: (i) the fact that training providers often met the costs of training rather than the employers; and (ii) the relatively high productivity of apprentices. In one example, the aim was to obtain NVQ level 3 for all employees aged under 24 years; because they were existing employees there productive contribution was thought to be 100 per cent. The AMA was designed to raise the performance standard of the organisation, but all employees were considered to be fully experienced at the commencement of the training programme.

Table 5.2
Typical costs of AMA in retailing

£s

	Year 1	Year 2	Total
Average wage of apprentice	9,429	11,000	
Productive contribution of apprentice (%)	68	73	
Fully experienced workers wage 1	15,774	18,333	
Employer costs			
Wage costs	9,429	11,000	**20,429**
National insurance contributions	600	753	**1,353**
Supervisory costs	361	414	**775**
Training manager	371	607	**978**
Production line staff	0	0	**0**
Other staff	0	0	**0**
Training costs	301	373	**674**
Other costs	30	0	**30**
Total	11,092	13,148	**24,240**
Employer benefits			
Productive contribution	10,648	13,444	**24,092**
Other income	0	783	**783**
Total	10,648	14,228	**24,875**
Cost-benefit			
Total (excluding MA funding)	**444**	**(297)**	**(148)**
Total (including MA funding)	**444**	**(1,080)**	**(636)**

Source: IER Net Costs studies
Notes: figures in parentheses represent a net benefit
See *Table 2.1* for explanations of cost-benefit categories

An illustration of the costs that accrue to the employers in relation to management training is outlined in *Table 5.3,* based on a single case study of a large national employer. It took, on average, 18 months for apprentices to complete the AMA. Costs were quite high in the first year but after about six months the apprentices were able to make a substantial contribution to the business. The company developed its apprentice managers by intensive off-the-job training over the first few months of their apprenticeship after which they spent time in a range of stores on the basis of job rotation moving between departments. After a while the skills of the apprentice were sufficiently developed such that they could occupy a supervisory position in departments where they had been placed to learn. Hence the apprentices' relatively high productive contribution after a relatively short spell of training. It should also be noted that apprentices were typically recruited with two 'A'-levels and subject to a rigorous competence based recruitment process including two interviews, an assessment, and a presentation.

Table 5.3
Employers costs for AMA in retail management

£s

	Year 1	Year 2	Total
Average wage of apprentice	10,000	12,000	
Productive contribution of apprentice (%)	45	70	
Fully experienced workers wage 1	22,000	22,000	
Employer costs			
Wage costs	10,000	6,000	**16,000**
National insurance contributions	635	436	**1,071**
Supervisory costs	643	343	**986**
Training manager	421	211	**632**
Production line staff	0	0	**0**
Other staff	0	0	**0**
Training costs	425	340	**765**
Other costs	150	0	**150**
Total	12,275	7,329	**19,604**
Employer benefits			
Productive contribution	9,900	7,700	**17,600**
Other income	0	1600	**1,600**
Total	9,900	9,300	**19,200**
Cost-benefit			
Total (excluding MA funding)	**2,375**	**(371)**	**2004**
Total (including MA funding)	**2,375**	**(1971)**	**404**

Source: IER Net Costs studies
Notes: figures in parentheses represent a net benefit
See *Table 2.1* for explanations of cost-benefit categories

5.8 Conclusion: the value of apprenticeships

The Sector Skills Dialogue for retailing draws attention to the burden key skills acquisition places on employers, but there was little sense of this from the cases studied. FMAs provided a structure to the training required to fulfil the job of a retail assistance in the industry and there was little criticism of the structure that had been imposed. As mentioned earlier, some employers reported that the apprenticeship provided the individual employee with transferable skills. But overall there was a sense that the FMA was certificating a fairly modest level of skill reflected in the high level of productive contribution the apprentice could achieve in a short space of time.

With respect to AMAs employers recognised that these had the potential to develop people into future managers at a branch level. There was also a recognition that employees who had been taken directly from school or college and trained internally were much more likely to stay with the organisation. This was critically important in an industry where their is a perception of relatively high labour turnover. Three of the four organisations providing AMAs could point to a relatively high percentage of employees in management who joined the company on leaving school.

6. BUSINESS ADMINISTRATION

6.1 Introduction

Business administration provides training in a range of activities associated with the functioning of an office: filing, book-keeping, receptionist, *etc*. It is a relatively popular MA and, unlike some of the other frameworks addressed in this report, is spread across a range of industries rather than being sector specific. As such employers' reports of the costs and benefits of MAs were provided in different business contexts: hospitals, private services, engineering, *etc*. Given the nature of the activity undertaken the general pattern to emerge is one of an apprenticeship of short duration where the employee is considered to be quite productive from the beginning of the apprenticeship. As a result of this employers were able to comment on the quality of their work with a high degree of confidence relative to that of the fully experienced worker, but it also meant that the apprentice was more fully embedded in the production (office) process than was the case in either engineering or construction reported in earlier chapters, such that it was difficult to estimate how much assistance other employees were providing in the form of informal on-the-job training. Employers recognised that this was occurring but found it difficult to estimate the true volume or cost of this activity.

6.2 The organisation of training

Recruitment of apprentices

Generally, the organisations with modern apprentices had a history of recruitment under the MA framework and had found the activity favourable. Recruitment to the MA programme took three forms:

- young employees who commenced their employment with the organisation as a modern apprentice;
- existing young employees who had been placed on an FMA as part of their continuing development;
- apprentices taken on without employee status.

Cases included both AMA and FMA training. Generally where an FMA was offered it was expected that the apprentice would achieve that level and progress no further since the cases had no requirement for employees trained beyond Level 2.

With reference to those apprentices that did not have employee status there was no guarantee that employment would be offered on completion of the apprenticeship by the organisation. In this sense these organisations were 'training providers' rather than employers, but as will be seen in the following discussion, employers still thought that these apprentices had a substantive productive contribution to offer.

Employers reported few difficulties finding recruits to the apprenticeships they offered. Typically they required people who revealed a degree of enthusiasm for the job or training on offer rather than academic qualifications as such.

Structure of training

There was an emphasis on on-the-job training in all cases but there was also a degree of structure in place. For example a large, public sector organisation provided the following programme of training to its apprentices:

- two days of induction training;
- followed by two weeks on a skills foundation training course that provided basic keyboard training, telephone skills, post-handling, and filing;
- then for the remainder of the training contract two half days a week was spent in the training room undertaking tasks specific to the business administration framework;
- two weeks were spent studying the key tasks of the specific job to which they had been allocated.

A learning plan was also developed for each apprentice. This was the most formalised training structure provided to business administration apprentices. In some other cases there was more of an element of learning by doing.

6.3 Availability of funding

The role of MA funding was exceedingly important under the business administration framework. This was largely due to the number non-employed status employees whose wages and training costs were covered by either the training provider or Local Learning and Skills Council (LLSC). Even where employers had employee status apprentices the general trend was to report relatively few direct costs associated with training and instead report that these were paid for either by the training provider or LLSC.

One medium sized organisation reported having a training budget in the past but, given a downturn in their main market, this had been abolished. As a result, a cost justification needed to be given relating to recruitment of apprentices. The availability of MA funding, largely covering the direct costs of the apprentice, maintained the organisation's involvement in MA and sustained its recruitment of young people.

6.4 The costs and benefits of training: FMAs

The estimated costs of completing an FMA are provided below *(see Table 6.1).* The data presented are best treated as indicative since the duration of the apprenticeship varied. In one case an FMA was completed in one year in another it was completed in a little over two years, so the costs illustrated are given for the most common periods of training: one year and two years respectively.

Table 6.1
Estimated total costs of FMA in business administration
(*per* apprentice)

£s

	Total for one year course	Costs accruing in second year where 24-month training programme	Total for 24 month training programme
Average wage of apprentice	**5,758**	5,252	
Productive contribution of apprentice (%)	**57**	69	
Fully experienced workers wage 1	**11,271**	11,200	
Employer costs			
Wage costs	**5,758**	5,252	**11,010**
National insurance contributions	**135**	75	**210**
Supervisory costs	**706**	1,377	**1,333**
Training manager	**469**	465	**934**
Production line staff	**236**	825	**1,061**
Other staff	**0**	0	**0**
Training costs	**904**	1,091	**1,995**
Other costs	**333**	63	**396**
Total	**8542**	9,147	**17,688**
Employer benefits			
Productive contribution	**6,434**	7,672	**14,106**
Other income	**1,774**	2,093	**3,867**
Total	**8,208**	9,765	**17,973**
Cost-benefit			
Total (excluding MA funding)	**2,108**	1,475	**3,582**
Total (including MA funding)	**333**	(618)	**(285)**

Source: IER Net Costs studies
Note: Figures in parentheses represent a net benefit.
See *Table 2.1* for explanations of cost-benefit categories

Overall, employers tended to break even when providing an FMA: over one year the total cost to the employer was around £300, whereas over two years a net benefit of around £285 accrued. Given that the data are indicative they are probably best interpreted as showing the employer breaking even over either the one-year or two-year long training periods. In large part this was because the apprentices were: (a) able to make a strong productive contribution from the commencement of their apprenticeship, and; (b) due to the fact that most of the employers direct expenses (wages, training costs) were met by the training provider or the Local Leaning and Skills Council. So,

the costs that accrued to the employer were largely those of supervision whilst training on-the-job and the administration associated with employing apprentices.

Apprentice productive contribution

Under the FMA employers reported that the productive contribution of the apprentice was quite high from the beginning. In one case it was reported that the apprentice was somewhere between 30 and 75 per cent proficient depending upon the particular activity in which they were engaged: 75 per cent on basic filing, opening of mail and staffing the reception area, for more complex tasks such as book-keeping the apprentice was reported as being nearer to 30 per cent proficient. Generally, employers reported that employees were able to make a significant contribution from the start of their apprenticeship and this is reflected in the high productive contribution in *Table 6.2*.

Apprentices' wages

Where employers provided training under FMA the wages of the apprentice were low: around £40-£50 a week. This was because many apprentices were not formally employees of the organisation but were employed under a training contract with a local training provider. In all these cases, all or nearly all of the apprentices' wages were reimbursed by the training provider or Local Leaning and Skills Council. Sometimes mixed funding of wages was in place. In one organisation the apprentice's wages were paid for the first six months by the training provider and for the remainder of the year (the duration of the training contract) by the company. Where apprentices had employed status their wages might be as high as £200 a week.

Supervision

Much of the training provided under the FMA was on-the-job and thus required the involvement of other employees and the training or personnel department to ensure that it was being delivered. Nevertheless, employers had problems estimating the cost of supervision because the apprentices were well integrated into the business process. In other words, apprentices had a job to do rather than being singled out as apprentices and provided with non-productive tasks.

Course costs

Where employers under the FMA reported training costs these tended to be reimbursed; other employers reported no direct training costs because all training costs were met by other agencies. Under the FMA off-the-job training was less commonly reported and where it was provided it tended to of short duration.

Cost variation

An important distinction is that between employed status and non-employed status apprentices. In the case of the former wages tended to be paid typically as some percentage of the fully experienced employee's wage, whereas in the latter they tended to be paid an allowance by, typically, the training provider. The differences in the levels of remuneration paid to each group were substantial and have an impact on overall training costs borne by the employer.

Table 6.2 shows the cost of completing an FMA over one year where all apprentices have employed status, and *Table 6.3* shows the costs that accrue to an employer where the apprentices have a non-employed status. The differences in total cost are striking. Both examples contain substantial expenditure in relation to supervision and/or the amount of time the Training Manager takes in administering the FMA, but the low wage costs of the non-employed apprentices coupled to their substantial productive contribution results in employers showing a net benefit from their training activity. This is consistent with a view that employers operating as 'training providers' enter into the arrangement as a business venture with a related rate of return. In contrast, the costs associated with apprentices who had employed status suggests that their costs are much greater with a cost of nearly £2,000 associated with each apprentice – much of this related to supervision time provided by other members of the workforce. It is also in these cases where the organisation is making an investment in its future workforce.

Table 6.2
Estimated total cost of FMA in business administration: employed status apprentices
(*per* apprentice)

£s

Average wage of apprentice	**7,008**
Productive contribution of apprentice (%)	**60**
Fully experienced workers wage	**11,412**
Employer costs	
Wage costs	**7,008**
National insurance contributions	**282**
Supervisory costs	**525**
Training manager	**492**
Production line staff	**330**
Other staff	**0**
Training costs	**895**
Other costs	**430**
Total	**9,963**
Employer benefits	
Productive contribution	**6,838**
Other income	**1,144**
Total	**7,982**
Cost-benefit	
Total (excluding MA funding)	**3,125**
Total (including MA funding)	**1,981**

Source: IER Net Costs studies
Note: (1) Figures in parentheses represent a net benefit
(2) Based on an average of all organisations with employed status apprentices.
See *Table 2.1* for explanations of cost-benefit categories

Table 6.3
Estimated total cost of FMA in business administration: non-employed status apprentices (*per* apprentice)

£s

	NVQ level 2 achieved in one year
Average wage of apprentice	**2,964**
Productive contribution of apprentice (%)	**50**
Fully experienced workers wage	**11,440**
Employer costs	
Wage costs	**2,964**
National insurance contributions	**0**
Supervisory costs	**1,320**
Training manager	**0**
Production line staff	**0**
Other staff	**0**
Training costs	**200**
Other costs	**54**
Total	**4,538**
Employer benefits	
Productive contribution	**5,720**
Other income	**2,964**
Total	**8,684**
Cost-benefit	
Total (excluding MA funding)	**(1,182)**
Total (including MA funding)	**(4,146)**

Source: IER Net Costs studies
Note: (1) Figures in parentheses represent a net benefit
(2) Based on an example of single organisation
See *Table 2.1* for explanations of cost-benefit categories

Advanced Modern Apprenticeships

The estimated costs of completing an AMA are provided below *(see Tables 6.4)*. The data presented are best treated as indicative since the duration of the apprenticeship varied. Overall, employers tended to break even when providing an AMA. In large part this was because the employees were able to make a strong productive contribution from the commencement of their apprenticeship.

Apprentice productive contribution

Under the AMA, as in the examples of the FMA described above, employers reported that the productive contribution of the apprentice was quite from the beginning.

Table 6.4
Estimated total costs of AMA in business administration
(*per* apprentice)

£s

	Year 1	Year 2	Total
Average wage of apprentice	9,143	9,781	
Productive contribution of apprentice (%)	48	87	
Fully experienced workers wage	15,970	15,970	
Employer costs			
Wage costs	9,143	9,781	**18,924**
National insurance contributions	534	610	**1,144**
Supervisory costs	1,048	873	**1,333**
Training manager	414	275	**689**
Production line staff	0	0	**0**
Other staff	0	0	**0**
Training costs	467	483	**950**
Other costs	42	42	**83**
Total	11,648	12,064	**23,712**
Employer benefits			
Productive contribution	7,464	13,519	**20,984**
Other income	0	0	**0**
Total	7,464	13,519	**20,984**
Cost-benefit			
Total (excluding MA funding)	**4,183**	**(1,455)**	**2,729**
Total (including MA funding)	**4,183**	**(1,455)**	**2,729**

Source: IER Net Costs studies
Note: Figures in parentheses represent a net benefit
See *Table 2.1* for explanations of cost-benefit categories

Apprentices' wages

Under AMA apprentices' wages were more substantial starting at around £6,000 and rising to around £10,500 a year by the end of the apprenticeship.

Supervision

Much of the training provided under the AMA was on-the-job and thus required the involvement of other employees and the training or personnel department to ensure that it was being delivered.

Course costs

Under AMAs, employers were more likely to report direct training costs which were not always recovered. As noted earlier, off-the-job training was more prevalent under the AMA where it could sometimes involve day release to a local college over a period of six to twelve months.

6.5 Drop-out and time-path costs

In some cases FMAs lasted for around one year. Generally where the apprenticeship lasted for longer than a year the net costs over the latter part of the apprenticeship increased because MA funding was not available.

Drop-out was a concern to employers, although most reported that they had put in place practices to stop this occurring by, for example by carefully monitoring the progress of apprentices on its FMA programme. A large public sector organisation – which had a total of 69 apprentices spread over several frameworks – reported that its drop-out rate over the first six months was 7 per cent compared to the average of 26 per cent reported by the Local Learning and Skills Council for the area, and its completion rate was 74 per cent compared to 23 for the area. This organisation, which had a budget of £248,000 for its FMA programme, had developed a strategy for the effective development of the apprentices in its charge. For example, the Training Manager commented on their apprentices: "We have to be careful and watch to see that they [the apprentices] are not used to save money by department managers who put them into vacancies which arise rather than recruit for the post, or who use them to fill temporary vacancies caused by ill-health rather than have a permanent member of staff cover the duties".

In other cases the number of apprentices was low. In one small organisation there was only one apprentice and she had left four months into FMA which caused the organisation problems because she was developing into a valued member of staff and fulfilling a productive role in the department in which she was situated.

6.6 Cost variation

The above discussion has tried to give an indication of the variation in FMA costs. The main difference identified was that between employed status and non-employed status staff *(see Tables 6.2 and 6.3).*

6.7 Conclusion: the value of apprenticeships

Overall, employers in all the cases were pleased with MAs (both FMAs and AMAs) with respect to what they provided the apprentice and what they provided the organisation. One employer reported the benefits as follows:

- providing value new young people to the organisation;

- providing an employment trial before the organisation decided whether or not to recruit them;
- providing detailed information about the individual so that the organisation knows the person before they are offered a permanent contract;
- providing the individual apprentice with a track record which can help them develop their own career
- helps provide a mix of young and old people in an organisation;
- helps develop an organisation's skill bank;
- gives late developers a second chance.

Although employers felt that the benefits outweighed the costs, smaller employers with few apprentices reported that the investment was not without its risks. As one Training Manager commented: "...just beginning to wonder if it is all worth it. It's so hit and miss, depending on the individuals involved. The company has benefited from having [the apprentice]; he's a fully functional member of staff, and we'll benefit more from him in the future. But others have not been so successful".

7. HOSPITALITY

7.1 Introduction

The hospitality industry has experienced employment growth over recent years. Overall, it is in an industry that requires its staff to have a range of technical skills related to activities such as cooking and looking after wine/beer cellars, and generic ones related to, most importantly, customer service. This study was concerned mainly with FMAs related to undertaking general duties in hotels, bars, and restaurants incorporating bar work, waiting on tables, and reception duties. A range of small independently owned establishments and large hotels that were part of world-wide chains were included in the study. In addition, a single example of an AMA related to a trainee management scheme is reported. Across both large and small employers, and FMAs and AMAs, a similar pattern emerges: a strong emphasis on on-the-job training, a reliance upon external training providers to provide a framework for training, and a high productive contribution from apprentices from the commencement of their apprenticeship.

7.2 The organisation of training

Recruitment of apprentices

Generally, recruits were taken on aged over 18 years (because of the limits placed on under 18s in undertaking some tasks). Training providers sometimes took on the role of recruitment for the organisation even where apprentices had employee status and were expected to continue their employment with the organisation at the end of the formal training period. Generally employers were looking for recruits who possessed an aptitude for working in hospitality: a cheerful demeanour, and good communication skills, willingness to work as part of a team.

Structure of training

Training was primarily on-the-job with experienced staff acting, often tacitly, as trainers. Typically the cases were set in pub/restaurants and hotels with FMA directed at young people engaged in bar work, serving, and reception work. Training was reported as important in all of the cases especially relating to good customer service and legislation relating to food hygiene and bar work. A large luxury hotel, part of a world-wide chain, provided the most structured FMA training, as follows:

- over the first month apprentices received training in health and safety regulations, how to meet and greet guests, and obtain a feel for what is ‘acceptable and unacceptable behaviour’ in the hospitality industry;
- by the end of the second month training had been given in a particular task (*e.g.* tending a bar) and the apprentice by the end of the second month would be expected to be fully conversant with all the relevant procedures in that task;

- by the end of the third or fourth month the apprentices would be expected to be working independently without constant supervision;
- over the rest of the year the apprentices would be experience job rotation as they worked in different departments of the hotel.

Many of the cases mentioned social and communication skills as being most important to career development in hospitality. A pub landlord commented: "We have to be able to communicate with our customers, and to know how to be welcoming and chat with people, especially with the locals; its really important to be on good terms with the locals, and with the people who come frequently. That's how you build up and keep your business, and it's easier that way too, than always having to chase new customers".

7.3 Availability of funding

Funding was often found outside the company's control insofar as training providers met various costs associated with, for example, assessment. Training budgets where they existed were held at head office; at the establishment level there was limited knowledge of training costs accruing either to apprentices or any other employee.

7.4 The costs and benefits of training

The estimated costs of completing an FMA are provided below *(see Tables 7.1)*. The data presented are best treated as indicative and are based on a current estimate of a 12-month apprenticeship, although the actual duration varied around the mean by 25 per cent. An FMA could be completed, it was reported, in eight to nine months.

Table 7.1
Provisional estimated total costs of FMA in hospitality
(*per* apprentice)

	Year 1	Year 2 (6 months only)	Total
Average wage of apprentice	8,779	9300	
Productive contribution of apprentice (%)	82	100	
Fully experienced workers wage	10,299	10299	
Employer costs			
Wage costs	8,779	4650	**13,429**
National insurance contributions	491	276	**768**
Supervisory costs	132	0	**132**
Training manager	1,227	558	**1,786**
Production line staff	0	0	**0**
Other staff	0	0	**0**
Training costs	0	0	**0**
Other costs	40	0	**40**
Total	10,671	5485	**16,155**
Employer benefits			
Productive contribution	8,445	5,150	**13,595**
Other income	0	0	**0**
Total	8,445	5,150	**13,595**
Cost-benefit			
Total (excluding MA funding)	**2,225**	**335**	**2,560**
Total (including MA funding)	**2,225**	**335**	**2,560**

Source: IER Net Costs studies
Note: Figures in parentheses represent a net benefit
See *Table 2.1* for explanations of cost-benefit categories

Apprentice productive contribution

Apprentices were undertaking a variety of hospitality tasks around hotels and restaurants (*e.g.* reception, waiting on tables, bar work, *etc.*). Full productive capacity could be achieved quite quickly – at around six months. Apprentices, in fact, could make a significant contribution from the start of their apprenticeship as indicated in the section above on the structure of training.

In relation to FMA training in a bar, where the training was possibly less structured than in the other cases, the productive contribution of the apprentice on the FMA was described as follows:

- the first month was spent undertaking a Level 1 brewery training course coupled to shadowing an experienced member of staff;
- the initial workload was menial - “We give them fairly menial tasks at first. [The apprentice, a young man aged 18 years] would have been asked to clear tables and

just observe working going on around him. We would get him comfortable with his environment before we expected anything much of him. It's is a gradual process" – with the apprentices achieving a 20 per cent productive capacity over the first few days;

- by the second week the apprentice should be able to achieve around 75 per cent productivity in the specific task he has been allocated – "They should be able to do the basics by this time. [The apprentice] would have had the tools to do the job; he would have been given the basics, then comes the polishing after that.";
- after one month in the job the apprentice should be able to 'meet and greet' and be around 85 per cent productive;
- the remainder of the apprenticeship was spent on task rotation until the apprentice had a well-rounded knowledge of the bar industry.

Apprentices' wages

Wages for those over 18 years of age on the FMA were around £4.75 an hour for a 37 to 40-hour week, including any shift work *premia*. This was quite close to the wage of the fully experienced worker quoted at around £5.75 an hour. The relatively small difference in the wage of the apprentice and fully experienced worker reflected the speed with which apprentices achieved full competence. In one case the apprentice's wages were paid directly by the training provider with the result that the overall costs of the FMA were relatively low *(see below)*.

Supervision

Supervisory costs were sometimes implicit in that experienced workers treated the supervision of apprentices (or any staff for that matter) as a routine part of their job. This stems in part from the relatively small difference in the abilities of apprentices and fully experienced workers at the FMA level. Training managers and proprietors reported a substantial period of time spent on the supervision and training of apprentices. One organisation reported that the proprietor spent around five hours a week over the duration of the FMA providing training to the apprentice. Others reported regular sessions with apprentices on a weekly or fortnightly basis to ensure that the apprentices' skills were progressing. This accounts for the relatively high costs attributed to the Training Manager in *Table 7.1* (above*)*.

Course costs

No course costs were reported. Where off-the-job training was provided, and it was rare amongst the cases reported, this was funded directly by the training provider.

7.5 Drop-out and time-path costs

An apprenticeship lasted for around one year – this was the average duration used in the calculation of the estimates contained in *Table 7.1*. As noted above, after induction and health and safety training typically provided over the first few weeks of the training period, training was often learning by doing until full competency was achieved.

Drop-out was quite high in part because several of the cases had a small number of apprentices and because the industry is characterised by staff moving on quite quickly. One employer reported that labour turnover (wastage) amongst the workforce was around 110 per cent. Although the situation was reported to better amongst apprentices, drop-out was still significant amongst apprentices.

One respondent, in a large hotel, commented that the FMA was demanding of apprentices and may contribute to drop-out, especially as you do not have to possess an FMA to work in hospitality. But completion of the MA was a sign of commitment which the company sought from all of its employees: "They have to be committed to finish the course; it does involve them in about four hours' work a week – in their own time. If they aren't committed enough to finish the course, we would keep them on. They don't have to do the Modern Apprenticeship to work for the hotel."

Drop-out has proved difficult to incorporate into *Table 7.1*, due to the small number of apprentices working in bar/restaurants[10], and as such the estimates should be regarded as underestimates of the costs borne by the employer.

7.6 Cost variation

The costs presented above for the typical case were more or less representative for most of the cases preparing candidates for the FMA. In one instance, the company had taken on an apprentice under a non-employee, training contract in return for which they paid the training provider around £45 a week whilst the apprentice was with the company – represented as a training cost of £2,025 for the first year of the apprenticeship and £1,013 for the remaining sixth months it took to complete the apprenticeship *(see Table 7.2)*. The other main cost the company reported was supervision where the Training Manager, actually the owner of the pub/restaurant, put aside time each week to review the apprentice's progress. Yet despite the supervision given to the apprentice the employer reported that the apprentice was highly productive from quite soon into the training programme. Accordingly, the employer revealed a net benefit over the training period.

The low cost example was exceptional, primarily because its apprentice was not an employee of the company and this reduced the overall costs of apprenticeship training.

[10] For example, in one bar/restaurant there was a single apprentice and he failed to complete the apprenticeship resulting in a drop-out rate of 100 per cent. But this level of drop-out was not typical of the organisation and building in a drop-out rate of 100 per cent produces an artificial estimate of total costs.

In contrast, the other organisations reporting FMA training costs were clustered about the average or typical costs provided in *Table 7.1*.

Table 7.2
Low cost example of FMA training in hospitality

)	Year1	Year 2 (6 months only)	Total
Average wage of apprentice	0	0	
Productive contribution of apprentice (%)	77	84	
Fully experienced workers wage	8,190	8,190	
Employer costs			
Wage costs	0	0	**0**
National insurance contributions	0	0	**0**
Supervisory costs	0	0	**0**
Training manager	2,813	1,406	**4,219**
Production line staff	0	0	**0**
Other staff	0	0	**0**
Training costs	2025	1,013	**3,038**
Other costs	0	0	**0**
Total	4,838	2,419	**7,256**
Employer benefits			
Productive contribution	6,279	3,440	**9,719**
Other income	0	0	**0**
Total	6,279	3,440	**9,719**
Cost-benefit			
Total (excluding MA funding)	(1,442)	(1,021)	**(2,463)**
Total (including MA funding)	(1,442)	(1,021)	**(2,463)**

Source: IER Net Costs studies
Note: Figures in parentheses represent a net benefit
See *Table 2.1* for explanations of cost-benefit categories

7.7 Costs and benefits of AMAs

A single example of AMA training was covered by the cases and these are presented below based on an 18-month apprenticeship *(see Table 7.3).* The AMA was observed in an establishment belonging to a chain of restaurants. Here the AMA formed the framework for the management trainee programme.

Table 7.3
Estimated costs of AMA
(*per* apprentice and based on a single case study)

	Year 1	Year 2 (6 months only)	Total
Average wage of apprentice	11,500	12,500	
Productive contribution of apprentice (%)	40	85	
Fully experienced workers wage 1	22,000	22,000	
Employer costs			
Wage costs	11,500	6,250	**17,750**
National insurance contributions	812	465	**1,278**
Supervisory costs	2,499	1,249	**3,748**
Training manager	0	0	**0**
Production line staff	0	0	**0**
Other staff	0	0	**0**
Training costs	0	0	**0**
Other costs	200	0	**200**
Total	15,011	7,965	**22,976**
Employer benefits			
Productive contribution	8,800	9,350	**18,150**
Other income	0	0	**0**
Total	8,800	9,350	**18,150**
Cost-benefit			
Total (excluding MA funding)	**6,211**	**(1,385)**	**4,826**
Total (including MA funding)	**6,211**	**(1,385)**	**4,826**

Source: IER Net Costs studies
Note: Figures in parentheses represent a net benefit
See *Table 2.1* for explanations of cost-benefit categories

All of the training was on-the-job with the apprentice occupying the position of trainee assistant manager with responsibility for running of all the bars in the restaurant. The specification of on-the-job training was the responsibility of the training provider who visited the restaurant every month to assess the apprentice's development.

The wage paid by the organisation reflected the fact that the apprentice was expected to occupy a responsible position and be able to carry out many of the tasks associated with an assistant manager by the end of the first year of training. The development of the apprentice was described as follows:

- the first month would be spent assessing the character of the apprentice (punctuality, reliability, a keenness to work, and looking for signs of being a good team player);
- on-the-job training would then commence based on the apprentice learning by doing a range of tasks in the restaurant – at the time of the research the apprentice was running the bar;

- by third month the employer would be looking for a greater speed in performance and the ability to carry out a wide range of tasks without supervision;
- over the next year the apprentice would be expected to gradually acquire the skills required to be a restaurant manager;
- by 12 to 18 months the apprentice would be nearly fully productive.

7.8 Conclusion: the value of apprenticeships

The benefit of apprenticeship training were listed as follows:

- apprentices when qualified were thought be more likely to stay with the employer;
- apprentices were thought to have more drive and commitment than other employees (*"Others do the bare minimum at work, and that's it. The apprentices show much more enthusiasm."*);
- related to the above apprentices were thought to have better knowledge and deeper understanding of what is involved in their work;
- because apprentices were committed and happy with their work this tended to rub-off on others (*"If people are happy in their work, then others are too."*).

The cost of an FMA was around £2,500 *per* trainee, excluding any allowance for drop-out, which employers reported as substantial, with a large share of this cost attributable to the amount of time the 'Training Manager' (often the proprietor) spent supervising the activities of the apprentice. As in other FMAs the productive contribution of apprentices was relatively high from the commencement of their employment and sufficient to cover a large part, if not all, of their salary. It seems that the emphasis on learning by doing results in substantial supervisory costs related to monitoring the apprentice's development and, in several cases, the Training Manager being the main provider of on-the-job training. What is less clear is whether this task was anymore onerous than that in relation to a new recruit not classified as an apprentice. In an industry with high labour turnover there will be at anyone point in time a number of new recruits who will need to be inducted into the business with their performance closely monitored. In some respects the high cost of supervision is more a feature of high labour turnover than a need to provide FMA training. As in other FMAs, the capacity of the apprentice to undertake productive work and possess a task repertoire similar to that of the experienced worker, is striking.

8. CONCLUSION

8.1 Total costs

All of the employers interviewed had some conception of the costs and benefits of their MA training, although not all had undertaken any formal appraisal of costs. The recent NIESR survey of MA employers found that an appraisal of costs had taken place in only 20 per cent of MAs with formal appraisal of costs being more likely in larger establishments (28 per cent of establishments employing 100 or more compared to just 16 per cent in establishments employing 10 of fewer employees)[11].

The NIESR study (*op cit*) reported an average cost of an MA to be in the region of £8,400. This estimate was not accorded much weight since it was based on a small sub-sample of respondents and estimates ranged from zero to £90,000. In any case, the costs cited were gross costs and took no account of potential benefits as defined in the present study.

Table 8.1 provides a summary of the financial costs and benefits of MA training as revealed by the case studies. It is apparent that there were differences in net costs both between industries and between AMAs and FMAs. In engineering and construction the gross costs of apprenticeship training are relatively high and only partially set off by MA funding. In contrast, in retail and business administration one interpretation of the data presented in *Table 8.1* is that employers break even with respect to the costs and benefits. These differences are explicable with respect to:

- the amount of off-the-job training provided;
- the wage levels of apprentices;
- the employment status of apprentices; and
- the extent to which jobs are meant to be learnt by doing.

The evidence presented in the foregoing chapters indicates not only a wide variation in net costs across the various industries and frameworks, but also suggests that there were large differences between employers providing training under the same or comparable framework (as the examples from the engineering and construction industries demonstrate).

[11] Anderson T. and H. Metcalf, *Modern Apprentice Employers: Evaluation Study*, National Institute of Economic and Social Research, 2003

Table 8.1
Summary of training costs
(*per* apprentice)

£s

Industry	AMA		FMA	
	Excluding MA funding	Including MA funding	Excluding MA funding	Including MA funding
Engineering	16,265	14,175	-	-
Construction	10,253	3,185	-	-
Retail	-	-	(318)	(231)
Business Administration	2,729	2,729	3,562	(285)
Hospitality			2560	2560

Figures in parentheses are net benefits
Source: IER Net Costs studies

8.2 Time-path costs and drop-out

Generally, although there were exceptions were evident, the costs of apprenticeship training declined over time and it was typical for employers providing AMAs to record a net benefit by the third and fourth years of training. This arose because apprentices' productive contributions rose quicker than their wages at the same time as the costs of providing sometimes expensive external training courses stopped accruing.

Much more an issue was recruitment and retention. Many cases reported that it was difficult to recruit school and college leavers of the calibre required, especially so in relation to AMAs. Retention was also a problem especially in the early stages of the apprenticeship, but there were also problems reported in engineering of being able to keep recruits once they had completed their apprenticeship. In retailing in particular, but also in business administration and hospitality to some extent, a more sanguine approach was taken to completion. Indeed, high non completion was regarded as the norm. In part this was simply a reflection of the nature of employment relations in those sectors where labour turnover is generally high. The NIESR study (*op cit*) also found that completion of the apprenticeship was most often seen as important in construction and engineering and was less important in retailing and business administration. What was less clear was whether turnover was less in sectors such as retailing was less than it would otherwise have been as the result of the MA programme. Certainly, several employers cited improved retention and lower turnover as benefits of the programme.

8.3 AMA *versus* FMAs

The nature of AMAs and FMAs was substantially different in the cases selected. The FMAs reported in engineering were essentially the first 18 months to two years of the AMA. In this sense the FMA was a preparation for continuance to the AMA standard.

In the other industries, the degree of structure and off-the-job training given under a FMA framework bore no reasonable comparison with that of the AMAs in construction and engineering. This is the explanation for the relatively low costs borne by the employer in retailing and business administration. Typically the FMAs were characterised by low wage employment, high productive contribution of the apprentice from the commencement of employment reflecting the low skill nature of the work to be undertaken, and short duration training.

8.4 Training or employment creation

There is no reason why training and job creation should be mutually exclusive. Several examples were recorded in the study of apprentices being recruited under training contracts with no guarantee of employment after the training has ceased. Wages, usually paid at the minimum wage by the employer were typically reimbursed by the training provider. Employers were essentially being provided with free labour in return for giving the apprentices training and work experience. The cost evidence points to employers breaking even on this activity. In the chapter on business administration a manager was cited who commented on the need to ensure that apprentices recruited in this manner did not displace vacancies that would otherwise arise. In other words, the apprentices have to be recognised as apprentices with a responsibility on the employer to provide training. There is clearly a tension here to which the manager alluded. Given that apprentices learn their jobs quickly on FMAs – as the cost evidence demonstrates – it is important that training continues beyond providing the ability to do merely the current job.

8.5 The value of apprenticeship

The earlier NIESR study (*op cit*) found that 89 per cent of MA participating employers were satisfied, and 37 per cent very satisfied, with the programme. The findings of the current study were consistent with this result. AMAs in engineering and construction were highly valued by employers. Employers in these industries believed that MAs provided a rigorous training in recognised trades. Employers recognised that the level of investment they made in apprentices was high and, given shortages of skilled craft workers, one with high risks attached to it given the potential for other employers to recruit them at the end of the apprenticeship. Many of the employers that participated in the study reported that once apprentices had qualified they had a good record of keeping them for a long time afterwards.

The level of investment made in business administration and retailing was much lower and hence the risks attached to drop-out or apprentices being enticed away by other employers at the end of the apprenticeship was much less. These employers, who essentially self-selected themselves to participate in the study, recognised the value attached to structured training and were keen to maintain drop-out within reasonable bounds. Employers providing FMAs pointed to examples of additionality, such as improved customer care standards. Evidence from the NIESR study also pointed to evidence of additionality in both quantitative (new training) and qualitative (broader or

higher level training) terms. Nonetheless, there was also a sense, reflected in the high productive contributions from the commencement of employment, that FMAs in retailing and to a lesser extent business administration were essentially certifying skills the apprentice already possessed. There are clear benefits to the individual employees from such certification of skills. One MA trainee in retailing saw the benefit of his FMA mainly in terms of career advancement through future employment in a large retail organisation. It is possible that employers too benefit from the certification of existing skills as such qualifications provide a basis for recruitment and selection. It is less evident that such certification activity actually increases or enhances the skills base of the workforces in those industries into which FMA have been extended.

APPENDIX A: CASE STUDY ORGANISATIONS

Company	Type of apprenticeship	Number of employees	Details
ENGINEERING			
Engineering A	AMA Craft AMA Technician	B	Machine tool manufacturer
Engineering B	AMA	A	Pattern makers
Engineering C	AMA	A	Machine tool manufacturer
Engineering D	AMA	C	Manufacture and design of seating for automotive industry
Engineering E	AMA	B	Car mechanics
Engineering F	AMA	C	Bus and coach mechanics
Engineering G	AMA	B	Lift manufacturer
Engineering H	AMA Craft AMA Technician	C	Aerospace
Engineering I	AMA	C	Manufacturer of heating devices
Engineering J	AMA	B	Car mechanics
Engineering K	AMA	A	Car mechanics/repairs
Engineering L	AMA	A	Commercial contract engineers
CONSTRUCTION			
Construction A	AMA	B	Sub-contracting joinery business.
Construction B	AMA	C	Building and civil engineering group
Construction C	AMA	B	Residential housing builders.
Construction D	AMA	C	Business trained MAs for other local building and construction businesses as well as the parent company.
Construction E	AMA	B	Painting and decorating sub-contractor
Construction F	AMA	B	Building contractor
RETAIL			
Retail A	FMA	A	Chemist Shop
Retail B	AMA and FMA	B	Travel agents
Retail C	AMA	C	National retailer
Retail D	FMA	C	National retailer
Retail E	AMA	C	Public sector (providing customer service training)
Retail F	AMA	C	National retailer
Retail G	AMA	C	National retailer
Retail H	FMA	C	National retailer

BUSINESS ADMINISTRATION			
Business Administration A	FMA	B	Security products distributor
Business Administration B	FMA	B	Builders merchants
Business Administration C	AMA	C	Public sector
Business Administration D	AMA/FMA Case study 1: employed status apprentices Case study 2: non-employee status apprentices	C	Engineering company
Business Administration E	AMA/FMA Case study 1: employed status apprentices Case study 2: non-employee status apprentices	C	Health service
Business Administration F	FMA	A	Accident Repair Centre
Business Administration G	FMA	B	Manufacturer
Business Administration H	FMA/AMA	C	Food manufacturer
HOSPITALITY			
Hospitality A	FMA	A	Pub/restaurant
Hospitality B	FMA	A	Golf Club
Hospitality C	AMA	C	Restaurant chain
Hospitality D	FMA	C	International hotel chain
Hospitality E	FMA	A	Pub
Hospitality F	FMA	B	Conference centre

Employee size bands

A Less than 50 employees
B 50-250 employees
C More than 250 employees

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