

**New Deal for Communities Evaluation:**

**Estimating the  
Impact of NDC using  
Labour Force Data**

*Martin Evans and Susan Harkness*

July 2005



UNIVERSITY OF  
**BATH**



# Contents

<b>CONTENTS</b> .....	<b>3</b>
<b>FIGURES</b> .....	<b>4</b>
<b>TABLES</b> .....	<b>5</b>
<b>EXECUTIVE SUMMARY</b> .....	<b>7</b>
THE ANALYSIS.....	7
SUMMARY OF TRENDS 1993-2003 .....	7
EVALUATION ANALYSIS OF NDC .....	8
FINDINGS AND THEIR RELATIONSHIP TO CURRENT AND FUTURE NDC EVALUATION.....	8
<b>INTRODUCTION</b> .....	<b>10</b>
<b>PART 1</b> .....	<b>12</b>
<b>DATA, TRENDS AND APPROACH</b> .....	<b>12</b>
1.1 THE DATA.....	12
1.1.1 Survey Data.....	12
1.1.2 Area Level Data .....	13
1.1.3 Other Programme Incidence Data.....	15
1.1.4 Definitions.....	16
1.2 ECONOMIC AND DEMOGRAPHIC TRENDS 1993-2003 .....	16
1.2.1 Area Change.....	16
1.2.2 Demographic characteristics .....	20
1.2.3 Employability Change.....	24
1.2.4 Health.....	24
1.2.5 Employment and Unemployment.....	25
1.3 THEORY AND MEASUREMENT OF AREA EFFECTS AND NDC IMPACTS.....	34
1.3.1 Theoretical and Measurement Issues for Location and Deprivation .....	34
1.3.2 Programme Effects: Data Constraints.....	37
1.4 OVERVIEW .....	38
<b>PART 2</b> .....	<b>39</b>
<b>ANALYSIS OF NDC EFFECTS</b> .....	<b>39</b>
2.1 THE EMPLOYMENT PENALTY OF LIVING IN A DEPRIVED AREA?.....	39
2.1.1 Men.....	40
2.1.2 Women.....	42
2.1.3 Low skilled Men .....	44
2.1.4 Lone Parents (Mothers) .....	45
2.2 POOLED CROSS-SECTIONAL ESTIMATES OF IMPACT OF LIVING IN AN NDC AREA .....	46
2.3 JOB ENTRY AND EXITS IN DEPRIVED AND NDC AREAS .....	50
2.3.1 Changes to Job Entry probabilities over time.....	52
2.3.2 Changes to Job Exit probabilities over time .....	54
2.3.4 Modelling Job Entry and Job Exits .....	55
2.4 IMPACTS OF NDC USING MATCHING .....	58
<b>PART 3</b> .....	<b>61</b>
<b>SUMMARY AND CONCLUSIONS</b> .....	<b>61</b>
3.1 FINDINGS AND INTERPRETATION.....	61
3.1.1 Summary of Trends 1993-2003 .....	61
3.1.2 Evaluation Analysis of NDC .....	62
3.2 RESULTS ALONGSIDE BENEFIT EXIT RESULTS .....	64
3.3 NDC EVALUATION .....	65
<b>BIBLIOGRAPHY</b> .....	<b>67</b>
<b>APPENDIX 1: FULL VERSIONS OF MODELS FROM PART 2</b> .....	<b>69</b>
<b>APPENDIX 2</b> .....	<b>77</b>

# Figures

FIGURE 1 - MALE EMPLOYMENT 1993-2003 ENGLAND AND DEPRIVED AREAS .....	29
FIGURE 2 - FEMALE EMPLOYMENT 1993-2003 ENGLAND AND DEPRIVED AREAS .....	29
FIGURE 3 - LONE PARENT EMPLOYMENT (WOMEN ONLY) .....	30
FIGURE 4 - LOW-SKILLED MEN WITH NO QUALIFICATIONS: EMPLOYMENT IN DEPRIVED AREAS 1993-2003.....	31
FIGURE 5 - LOW-SKILLED WOMEN WITH NO QUALIFICATIONS: EMPLOYMENT IN DEPRIVED AREAS 1993-2003 .....	31
FIGURE 6 - LOW-SKILLED MEN WITH NO QUALIFICATIONS RENTING: EMPLOYMENT 1993-2003 .....	33
FIGURE 7 - LOW-SKILLED WOMEN WITH NO QUALIFICATIONS RENTING: EMPLOYMENT 1993-2003 .....	33
FIGURE 8 - MALE JOB ENTRY PROBABILITIES BY AREA DEPRIVATION 1993-2003 .....	53
FIGURE 9 - FEMALE JOB ENTRY PROBABILITIES BY AREA DEPRIVATION 1993-2003 .....	53
FIGURE 10 - DIFFERENCES IN JOB ENTRY PROBABILITIES FOR MOST DEPRIVED QUINTILE AND DECILE OF AREAS COMPARED TO ENGLAND: 1993-2003 .....	54
FIGURE 11 - MALE JOB EXIT PROBABILITIES BY AREA DEPRIVATION 1993-2003 .....	54
FIGURE 12 - FEMALE JOB EXIT PROBABILITIES BY AREA DEPRIVATION 1993-2003 .....	55

# Tables

TABLE 1 - ARE DEPRIVATION AND NEW DEAL FOR COMMUNITIES AREAS .....	14
TABLE 2 - JOBCENTRE PLUS DISTRICT LABOUR MARKET CLUSTERS .....	15
TABLE 3 - WARD LEVEL AREA CHARACTERISTICS 1993-2003.....	22
TABLE 4 - WORKING AGE POPULATION DEMOGRAPHIC AND HOUSEHOLD CHARACTERISTICS .....	23
TABLE 5 - QUALIFICATIONS OF WORKING AGE POPULATION ENGLAND AND DEPRIVED AREAS 1993 TO 2003 .....	24
TABLE 6 - HEALTH LIMITS ACTIVITY OF WORKING AGE POPULATION ENGLAND AND DEPRIVED AREAS 1993 TO 2003..	24
TABLE 7 - MEN – EMPLOYMENT AND UNEMPLOYMENT 1993-2003 BY WARD LEVEL AREA CHARACTERISTICS.....	26
TABLE 8 - WOMEN – EMPLOYMENT AND UNEMPLOYMENT 1993-2003 BY WARD LEVEL AREA CHARACTERISTICS .....	27
TABLE 9 - MALE EMPLOYMENT PENALTY FROM LIVING IN A DEPRIVED AREA.....	40
TABLE 10 - NDC IMPACT ON THE MALE EMPLOYMENT PENALTY FROM LIVING IN A DEPRIVED AREA .....	41
TABLE 11 - FEMALE EMPLOYMENT PENALTY FROM LIVING IN A DEPRIVED AREA .....	43
TABLE 12 - NDC IMPACT ON THE FEMALE EMPLOYMENT PENALTY FROM LIVING IN A DEPRIVED AREA .....	43
TABLE 13 - LOW-SKILLED MALE EMPLOYMENT PENALTY FROM LIVING IN A DEPRIVED AREA.....	44
TABLE 14 - NDC IMPACT ON LOW-SKILLED MALE EMPLOYMENT PENALTY FROM LIVING IN A DEPRIVED AREA .....	44
TABLE 15 - LONE MOTHERS’ EMPLOYMENT PENALTY FROM LIVING IN A DEPRIVED AREA .....	45
TABLE 16 - NDC IMPACT ON LONE MOTHERS’ EMPLOYMENT PENALTY FROM LIVING IN A DEPRIVED AREA .....	45
TABLE 17 - EMPLOYMENT PROBABILITIES OF MEN LIVING IN NDC AREAS PRE AND POST PROGRAMME .....	47
TABLE 18 - EMPLOYMENT PROBABILITIES OF WOMEN LIVING IN NDC AREAS PRE AND POST PROGRAMME.....	47
TABLE 19 - EMPLOYMENT PROBABILITIES OF LOW-SKILLED MEN LIVING IN NDC AREAS PRE AND POST PROGRAMME...	48
TABLE 20 - EMPLOYMENT PROBABILITIES OF LONE MOTHERS LIVING IN NDC AREAS PRE AND POST PROGRAMME .....	49
TABLE 21 - DYNAMIC EMPLOYMENT STATES OVER A PERIOD OF ONE YEAR:.....	50
TABLE 22 - JOB ENTRY PROBABILITIES OF MEN LIVING IN DEPRIVED AND NDC AREAS 1996-2003.....	56
TABLE 23 - JOB ENTRY PROBABILITIES OF WOMEN LIVING IN DEPRIVED AND NDC AREAS 1996-2003 .....	56
TABLE 24 - JOB EXIT PROBABILITIES OF MEN LIVING IN DEPRIVED AND NDC AREAS 1996-2003 .....	57
TABLE 25 - JOB EXIT PROBABILITIES OF WOMEN LIVING IN DEPRIVED AND NDC AREAS 1996-2003.....	57
TABLE 26 - IMPACT OF LIVING IN AN NDC AREA ON BEING EMPLOYED: ESTIMATES MADE ON LABOUR FORCE CROSS- SECTIONAL SAMPLES 1993, 1999, 2003.....	59
TABLE 27 - IMPACT OF LIVING IN AN NDC AREA ON BEING EMPLOYED: ESTIMATES MADE ON LABOUR FORCE CROSS- SECTIONAL SAMPLES 1993, 1999, 2003 FOR DEFINED MULTI-CULTURAL AREAS (ONS WARD LEVEL AREA CHARACTERISTICS).....	60
TABLE A1 - FULL VERSION OF TABLE 11 - MEN .....	69
TABLE A2 - FULL VERSION OF TABLE 12 - MEN: PROVISIONAL IMPACT OF NDC .....	70
TABLE A3 – FULL VERSION OF TABLE 13 – WOMEN .....	71
TABLE A4 - FULL VERSION OF TABLE 14 - WOMEN: PROVISIONAL IMPACT OF NDC .....	72
TABLE A 5 – FULL VERSION OF TABLE 15 - LOW SKILLED MEN.....	73
TABLE A 6 – FULL VERSION OF TABLE 16 - LOW SKILLED MEN: PROVISIONAL IMPACT OF NDC .....	74
TABLE A7 – FULL VERSION OF TABLE 17 - LONE PARENTS .....	75
TABLE A 8 – FULL VERSION OF TABLE 18 - LONE PARENTS: PROVISIONAL IMPACT OF NDC .....	76
TABLE B 1 - NDC AND OTHER AREA-BASED INTERVENTIONS AND THEIR INTERACTIONS: .....	77



# Executive Summary

## The Analysis

This report uses Labour Force Survey data to evaluate the New Deal for Communities programme by examining employment trends and probabilities in NDC areas before and after implementation of the programme. It has two main sets of results: 1) an analysis of trends in employment-related characteristics over time and the evolving differences between deprived and non-deprived areas and NDC areas and 2) Evaluation evidence comparing NDC areas to other deprived areas in a variety of ways in order to estimate how far NDC has been associated with any changes since its introduction.

## Summary of Trends 1993-2003

Over the decade of 1993 to 2003 there had been a rise in the proportion of people in the most deprived areas who also lived in areas classified as multi-cultural areas and as out of town housing. These were the most significant changes in geo-economic characteristics and ran counter the overall changes for all of England. Additionally, the population in the most deprived areas increasingly became comprised of lone parent and single person households and younger people, with growing populations aged 16-25, again counter to the national trend. The most deprived areas were also more likely to have higher proportions of recent movers. Ethnicity was also changing with large growth in the proportion of Asian and Black people living in the most deprived areas and NDC areas.

Trends in male employment showed that overall there had been an increase in employment rates, a decrease in unemployment and an increase in inactivity and that these trends were common across deprived and non-deprived areas but to different extents. The most deprived areas still had far above average unemployment and inactivity and below average employment rates, but this to some extent is tautologous because the definition of deprivation used includes direct and indirect measures of employment in the index. Trends in female employment showed increasing employment rates and decreasing unemployment across deprived and non-deprived areas. However, inactivity rates had fallen at the national level but had remained flat in the most deprived areas. Lone parents had greatly increased employment rates at national level but there was a less pronounced increase in the most deprived areas where the majority of lone parents reside.

On the other hand low-skilled employment rates were falling nationally, and for men had been flat but for women had fallen most in the most deprived areas. There had been large increases in low-skilled inactivity in deprived areas for both men and women. A further indication of a growing divide in employment was shown when low-skilled renters were shown to have falling employment rates across all areas, but with larger falls in deprived areas, where the vast majority of low-skilled renting population reside.

Employment dynamics also showed apparent differences in persistent employment, and persistent worklessness between deprived and non-deprived areas, with much lower employment and much higher workless persistence in the most deprived areas. Analysis of job entry and job exit probabilities for men and women showed that gross probabilities (i.e. those that did not control for individual characteristics) in men's job entry probability were narrowing across the deprived and non-deprived areas but that for women the difference was widening. Regression analysis later supported the finding for women.

## **Evaluation Analysis of NDC**

The results of this analysis are provisional and, while our methods allow us to estimate outcomes and impacts of NDC, there are data and methodological constraints that mean that all such estimations of impact and outcomes are provisional. Overall, the evidence from these provisional findings does not show a strong relationship between NDC and reduced levels of worklessness but overall interpretation does not support a finding of a negative impact. In short, our findings on impact are provisional because it is both too soon to accurately measure outcomes and because of the difficulty in attributing potential effects that are in themselves likely to be smaller than those associated with direct DWP-type interventions operating in the same locations at the individual level.

In cross-sectional annual data models there was nothing found. Men were found to have a reduced employment penalty when living in areas where both Action Teams and NDC were operating together. But there was no discernable effect for men in any other NDC area. On the other hand, male employment penalties were seen to fall over the NDC period where the DWP Area Based Initiatives (ABIs) were in operation separately from NDC. This finding of significant difference for the DWP ABIs suggests that the underlying methodology can at least identify area-specific effects associated with area-specific programmes. Women were also found to have a reduced employment penalty when living in NDC areas that operated alongside Action Teams (ATs), but at the boundaries of being significantly different from the pre-programme period. Low-skilled men were also found to have a reduced employment penalty when living in NDC areas that operated alongside AT alone and alongside both AT and Employment Zones.

In pooled time series of data found small significant but stable men's employment penalties in areas where DWP programmes operated alongside NDC areas and significant reductions in penalties when operating on their own. This larger pooled period approach also found no significant result for women in areas where NDC operated on its own but also found significant worsening in employment penalties where NDC operated alongside DWP ABIs and for DWP ABIs operating alone. This pooled year approach also found no significant effects for NDC only areas on low-skilled men's employment penalties. However, low-skilled employment penalties in NDC areas operating alongside DWP ABI areas significantly worsened, while improved significantly in areas where DWP ABIs operated solely. Findings for lone mothers were most concerning, but also least consistent. In NDC-only areas there was an associated 12 point increase in employment penalties after the programme was introduced. No other results were significant.

Estimations of effects on job entry showed no significant differences for men, for whom differences in job entry probability associated with deprivation also became non-significant. Women however, were seen to have improved job entry probabilities in areas where NDC areas operate alongside other DWP ABIs, but to have no other effects from NDC or other ABIs. We found no significant effects for men or women on their probabilities of job exit.

These results are hindered by small numbers and made worse by cutting impacts to control for the presence of the other ABIs. A longer series of data post NDC may improve the ability to estimate any programme effects.

## **Findings and their relationship to current and future NDC evaluation**

There are very good reasons for our findings not matching those found by Noble et al in their parallel analysis of worklessness and NDC impacts (2005). The outcome measures are different – employment and job entry/exit compared to benefit exit. Nobel et al use a longer longitudinal sample as opposed to largely cross-sectional analysis and use administrative data not survey data.

This analysis additionally controls for the presence of other employment-based ABIs but is also more constrained by sample sizes.

There is an apparent need to align of results between the LFS and administrative data analyses to ensure that interpretation is clarified. Additionally, there are a range of technical and methodological questions that require discussion in the next phase of NDC evaluation. Overall, this analysis shows the value of using existing survey data and points towards greater benefits being available from the larger Local Area Labour Force Survey for future evaluation.

# Introduction

New Deal for Communities is an Area Based Initiative operating in 39 locally defined deprived areas of England as part of the larger National Strategy for Neighbourhood Renewal overseen by the Office of the Deputy Prime Minister (ODPM). The aim of such interventions is to tackle multiple deprivation in the most deprived neighbourhoods in England.

This report presents the findings of additional analysis of NDC undertaken to complement the main evaluation of worklessness by the Social Disadvantage Research Centre (SDRC) for Phase I on the New Deal for Communities National Evaluation (Noble et al 2005). The analysis has been undertaken by the Centre for Analysis of Social Policy at the University of Bath.

## **How does this analysis complement the main SDRC evaluation?**

First, this analysis uses a different source of data on worklessness and employment, the Labour Force Survey. This complements the SDRC analysis by having the potential to both know more about the characteristics of those who live in NDC areas and their employment and non-employment, and in the ability to generalise and compare such characteristics to an accepted representative sample for all of England. The original evaluation strategy relied solely on two major sources of data: on *administrative data* from the Department for Work and Pensions that can capture *all* those who receive benefits, both within NDC areas, in comparator areas and across England; and, second, on survey data commissioned for the evaluation of NDC that samples from NDC and comparator areas. The potential advantage of using national survey data alongside these main data sources is that it can assist in interpretation of their findings by a) taking into account a richer set of data on individual and household circumstances, which is unobserved in administrative data and b) allowing the specific findings from surveys of NDC and comparator areas to be compared to a national picture, including other deprived and non-deprived areas and other individuals living in all types of neighbourhoods. A second advantage is that the data is “cheap”; it has already been collected and cleaned by the Office of National Statistics. The main problem for describing NDC areas is the one of small numbers; at the small area level, national surveys are not robust. We partly solve this by joining quarterly datasets together to form large repeated cross-sections and panels.

The second way of complementing the SDRC report is through widening the type and scope of evaluation analyses by using LFS data (subject to the small-number problem). The relatively long time series of data allows us to look at employment trends in deprived and non-deprived areas and thus to set NDC in context. The depth of data coverage of LFS allows us to look specifically at employment outcomes and, using the panel data from LFS we can assess not only job entry but also job exit in NDC areas and other deprived areas. This approach allows us to have a more precise specification of employment outcomes; for instance, to measure job entry rather than merely benefit exits that are identified in administrative data. Put simply, we are better placed to estimate direct rather than proxy measures of employment outcomes. As there is a large sample across England we can also employ a variety of econometric analyses on both cross-sectional and dynamic data, allowing us, for instance, to “match” those that live in NDC areas to a quasi-control group of those that do not.

Neither of these two main advantages means that the analysis in this report is “better” than that reported in the main SDRC evaluation report. Far from it, as readers will see, even such richness of data over long periods of time still leads us to make tentative and very qualified conclusions about the effect of NDC on employment at this point in time. However, we are approaching the same fundamental research question posed by SDRC in the sister report: “*What effect did NDC have when all other potential influences are taken into account?*” Our aim is to try and capture an

“employment effect”, the difference in probability of being in paid employment that arises from NDC.

It is also important to note at this point that using national surveys to estimate impacts of Area Based Initiatives (ABIs) is an original and ground-breaking approach and this report is a pioneer in this regard. We have had special permission to access and use postcodes attached to respondents’ data in the survey in order both to identify who lives in NDC areas and also to merge in other geographic data to assist in the analysis. The Office of National Statistics’ co-operation and assistance in this analysis cannot be under-stated.

Of course, employment is not the only goal of NDC. While reducing worklessness is a fundamental aim it is accompanied by targets of reducing crime, improving health, improving skills and improving the housing and physical environment. However, it is highly probable that the effects of NDC areas on crime, health, skills and the physical infrastructure of the area will have secondary outcomes of improving employment. But those NDC areas that focus more directly on reducing worklessness may give rise to higher short-term employment impacts, whereas those that are more focused on investment in the capabilities of residents and in the environment may lag behind in work outcomes measured purely by job entry and employment rates in the short term. It is therefore important to realise that in 2005 we will be looking at data that ends in 2003, and thus on three years or so of actual NDC activity. Much of the employment effect may be longer term, a point we return to on a number of occasions throughout this report.

This report is in three parts. Part 1 describes the data used and then gives a range of profiles over the period of 1993 to 2003. NDC areas are a smaller sub-set of deprived areas and we show how their characteristics have changed as part of the overall changing economic and demographic environment both before and after implementation of NDC. For instance, how has the composition of deprived areas changed; are they becoming increasingly home to those with greater employment disadvantage? We then look to see whether we can identify any effect of area on employment outcomes, above and beyond the individual employment characteristics of the population in these areas. This then allows us to specify the econometric analysis that lets us estimate an impact of the programme taking into account any other relevant factors (for instance, the potential for other ABIs that overlap with NDC to have an independent or interactive effect).

Part 2 describes the results from analysis that attempts to assess the effect of NDCs on employment. First, we look across all the cross-sectional evidence and use regression models to estimate its impact. Second, we repeat this analysis using dynamic employment profiles, looking at job entry and exit. Last, we employ a data matching methodology to construct pseudo-control populations that look identical to those who live in NDC areas in both their individual and area characteristics, to try to capture a before and after impact of NDC.

Our conclusions follow in Part 3 and it is important at this introductory stage to highlight one essential limitation in our analysis that will underpin such conclusions: we have no way of identifying those that have actually received a programme intervention (or “treatment” in evaluation language); we can only identify those who live in the areas where NDC operated and made such interventions available. This means we are potentially comparing a mixture of actual participants and their neighbours and peers who did not actually participate.

# Part 1

## Data, Trends and Approach

In this first part of the report we describe the data, outline trends in deprived and non-deprived areas and then, in the light of such trends, frame our later analysis by examining the potential underlying causes of differences and how these may be estimated in the measurement and identification of NDC impact.

### 1.1 The Data

Our main source of data is the Labour Force Survey. In order to evaluate and isolate the impact of NDCs on employment we merged in other area based indicators of employment, deprivation and indicators of whether other area based initiatives were in operation. This Section of the report describes these data.

#### *1.1.1 Survey Data*

We use individual level Labour Force Survey (LFS) files over the period from 1993 to 2003, the last available files at the outset of our research. LFS is a nationally representative survey of households living in private addresses used to provide information on the UK labour market for a variety of Government uses, including the development, management and evaluation of labour market policies. It is thus the survey of choice for measuring employment and “worklessness”. Since 1992, LFS has been a quarterly survey of around 60,000 respondents per quarter. The survey follows individuals over five quarters, and this allows a short (five-quarter) panel of data to be constructed. The LFS is based on an unclustered postal address file sampling frame that includes both private households and communal establishments and is estimated to have coverage of 97 per cent of possible addresses (ONS 2003). Since 2000, the LFS sample has been increased by an enhancement in order to create the Local Labour Force Survey, in order to improve labour market information at the local level. We have not used this data in our current analysis as we required a consistent set of surveys over time to estimate before and after profiles for NDC. We also exploit the panel element of the data, which is not available in the LLFS. However, these larger samples are potentially of great benefit for any up-dating or repeat of our analysis in the next stage of NDC evaluation.

LFS’ un-clustered address-based sampling frame is important for our approach as this means that we can, in theory, expect NDC areas to be equally represented. Each NDC area is small, but together the populations in all 39 NDC areas add up to between 700 and 1,000 observations in each cross-sectional quarterly panel. In order to boost sample sizes further we have also merged several of the LFS quarterly samples together. This gives us sufficiently large sample sizes to test whether the introduction of the NDC has had a statistically significant effect on employment for the population who live in all 39 NDC areas, and for some sub-groups of the NDC population. We identify residence within an NDC area using postcodes and we are deeply indebted to the Office for National Statistics for agreeing to release postcoded LFS data to enable us to match the postcodes of NDC areas and other area characteristics to the underlying survey data for this evaluation research<sup>1</sup>.

---

<sup>1</sup> Our special thanks and appreciation go to Mark Rowland, Alison Whitmarsh, Baljit Gill and the members of the Micro-data Release Panel for all their efforts on our behalf.

Postcode data are thus the crucial variables that underpin our ability to identify those living in NDC areas and to attach other geographic data that can assist in our analysis. At the heart of our analysis is a simple addition to LFS data that gives us a flag to show whether the respondent lived in the NDC area or not. There will be some measurement error over time using postcode rather than geographical boundaries, as postcodes are not be entirely consistent over time because of residential redevelopment. This means, in effect, that recently built houses with new postcodes will not exist in previous survey data and vice versa, old postcodes of property renovated or demolished will no longer appear in more recent surveys.

We use existing weights for all data. There is the potential for differential non-response in deprived areas and existing weights may not adequately account for this. There is also potential for such differential non-response to have grown over time, indeed the general picture of declining sample sizes in the NDC areas over the period 1993 to 2003 may reflect this. We have made no attempt to re-weight or to otherwise compensate for any such biases that result. As later discussion shows, we faced a number of theoretical and practical data measurement and estimation problems that took prominence in our methodology. Additionally, future extension of our approach is most likely to use the larger samples of the Local Labour Force Survey, which will address some of the specific problems of statistical reliability in smaller geographical areas.

### *1.1.2 Area Level Data*

We merged several types of area data at different aggregate geographic levels to allow us to construct variables that capture a range of area characteristics. Each of these variables are based on the 2001 census or contemporary data. We follow the SDRC and other elements of NDC National Evaluation by assuming that outcomes from NDC can be observed from 2001 onwards. However we also make use of earlier data and look at the 1999-2000 period, during the early establishment of NDC areas, and at a longer pre-NDC, 1993.

At the smallest geography, the Super Output Area level, we used the 2004 Index of Multiple Deprivation (IMD2004). This relatively new index of small area multiple deprivation contains seven domains: income deprivation, employment deprivation, health deprivation and disability, education, skills and training deprivation, barriers to housing and services, living environment deprivation and crime (ODPM 2004). We use the overall IMD score rather than individual domain scores in our analysis. NDC areas are larger than SOAs and we have made no attempt to use a composite or aggregate IMD score at NDC level. The main reason for this is that we will match individual respondents in and outside NDC areas using IMD2004 and thus we need a consistent score at the same level for both NDC and non-NDC populations. However, there is also a good theoretical reason for remaining at the SOA level, in that most evidence points to neighbourhood effects operating at the smaller local level (see the discussion below in the final section of Part 1).

Table 1 uses 2003 LFS data to show the share of the population in NDC areas, and for England as a whole, living in each of the IMD2004 deciles. Overall 62 per cent of the working age population living in NDC areas live in SOAs in the most deprived decile and a further 25 per cent live in the second most deprived decile. Overall, 87 per cent of the population living in NDC areas live in the most deprived quintile (the combination of the two most deprived deciles).

**Table 1 - Are Deprivation and New Deal for Communities Areas**

<b>% population</b>		
<b>IMD decile</b>	<b>England</b>	<b>NDC areas</b>
<b>Most deprived</b>	<b>9.0</b>	<b>62.3</b>
<b>2</b>	<b>9.6</b>	<b>24.9</b>
<b>3</b>	<b>10.2</b>	<b>6.8</b>
<b>4</b>	<b>9.9</b>	<b>4.7</b>
<b>5</b>	<b>10.2</b>	<b>1.3</b>
<b>6</b>	<b>10.0</b>	<b>0</b>
<b>7</b>	<b>10.4</b>	<b>0</b>
<b>8</b>	<b>10.3</b>	<b>0</b>
<b>9</b>	<b>10.1</b>	<b>0</b>
<b>Least Deprived</b>	<b>10.3</b>	<b>0</b>

At the next largest area we use ward level<sup>2</sup> 2001 Area Classification developed by the Office of National Statistics. This classification groups wards into clusters with characteristics. The largest cluster is the ‘supergroup’, of which there are nine: Industrial Hinterlands; Traditional Manufacturing; Built-up Areas; Prospering Metropolitan; Student Communities; Multicultural Metropolitan; Suburbs and Small Towns; Coastal and Countryside and Accessible Countryside. Each supergroup is further split into ‘groups’ (17 in total) and further into ‘subgroups’ (26 in total). We have used the group level for profiling. Readers who want greater detail on this Area Classification and its methodology are referred to ONS 2004<sup>3</sup>. These ward level area characteristics allow us to understand how deprived and non-deprived areas have changed over time in their basic economic, social and demographic makeup, and allow us to contextualise NDC areas within such overall changes.

Both ward and local authority areas are administratively created boundaries and may not reflect one crucial area level causal factor in employment or labour demand. Labour markets have little if any regard for administrative boundaries and there is no “off the shelf” small area labour demand variable that is available to use for our analysis. We therefore use two pre-existing profiles. The first has been developed by the Department for Work and Pensions and is based at the Jobcentre Plus District level. Typically, such a level can be thought of as between county and region but is not coterminous with LA or county boundaries; instead it represents the sub-regional organisation of Jobcentre Plus across Great Britain. The labour market variable has been created by DWP in order to understand variation in active labour market outcomes at their Jobcentre Plus District level. It consists of a cluster analysis that gives each district a characteristic based on high, medium or low measures of job density and unemployment. There are nine clusters from A1, low density-low unemployment through to C3, high density-high unemployment as shown in Table 2.

<sup>2</sup> Statistical Ward level.

<sup>3</sup>[http://www.statistics.gov.uk/about/methodology\\_by\\_theme/area\\_classification/default.asp](http://www.statistics.gov.uk/about/methodology_by_theme/area_classification/default.asp)

**Table 2 - Jobcentre Plus District Labour Market Clusters**

<b>Cluster</b>	<b>DEFINITION</b>
A1	Low density, low unemployment
A2	Low density, medium unemployment
A3	Low density, high unemployment
B1	Medium density, low unemployment
B2	Medium density, medium unemployment
B3	Medium density, high unemployment
C1	High density, low unemployment
C2	High density, medium unemployment
C3	High density, high unemployment

*Source: DWP 2004*

The major drawback of these clusters is that they explain unemployment and job entry best and work less well for inactive groups such as lone parents and long-term sick and disabled people who make up the “workless” profiles of many deprived communities. The other drawback is that they operate at too large an area for many of those seeking work, especially in low-paid and part-time work. Job search in deprived communities is often limited to small geographical areas and constrained by public transport and other travel constraints<sup>4</sup>.

This second drawback of the Jobcentre Plus District Clusters is shared by our alternative geographical labour market indicator: characteristics at the Travel to Work Area (TTWA) level. TTWAs are derived from actual job travel data and thus the boundaries of TTWAs reflect long-distance travel to work by more affluent commuters. TTWAs can be huge, London for instance, or much smaller, in rural areas in particular. They are thus not consistently greater or smaller than the Jobcentre Plus District Clusters. We use TTWAs where appropriate and assess how far they can accurately capture and explain employment profiles as compared to the Jobcentre Plus District cluster variable. We do not use them together as they are highly collinear. The characteristics of TTWAs in 2001 that we use are job density and employment rates. In the majority of our models the TTWA level variables predicted better than the Jobcentre Plus variable and was preferred.

### ***1.1.3 Other Programme Incidence Data***

There has been a major investment in Area Based Initiatives across Government since 1997 and NDC is only one part of such an investment. A problem for evaluation is that more than one ABI may be happening simultaneously in the same area or in close proximity. In order to assess the effect of NDC on employment we would ideally like to control for the presence of these other programmes. There are however severe measurement problems. We have sought a comprehensive list of ABIs with their postcodes or other geo-coded data but at the time of writing, this has not become available. However, we have been able to obtain data from the Department for Work and Pensions that allows us to geo-code the operation of their main ABIs operating between 2000 and 2003: Employment Zones and Action Teams. While this is an incomplete list of ABIs it does perhaps capture those most likely to influence employment, and job entry specifically, as both initiatives are aimed at deprived areas with poor aggregate employment characteristics, and they work primarily to increase movements off benefit into work.

---

<sup>4</sup> See IER Bulletin no 76, 2004, ‘Breaking Down Spatial Barriers’ for an overview of physical and attitudinal constraints on geographic employment mobility, Warwick Institute for Employment Research, University of Warwick.

### **1.1.4 Definitions**

The essential and common definitions to all our analysis are:

*Working Age* is defined as being 16 to 64 for men and 16 to 59 for women

*Most Deprived Quintile of SOAs* is based on the ranking of IMD scores for all SOAs in England and represents the 20 per cent most deprived SOAs. This is not the same as an individual or household population-based distribution of people who live in England, and the proportion of the population living in these areas may therefore differ.

*Most Deprived Decile of SOAs* is based on the ranking of IMD scores for all SOAs in England and represents the 10 per cent most deprived SOAs. It is thus a subset of the most deprived quintile.

## **1.2 Economic and Demographic Trends 1993-2003**

This section looks at overall trends in deprived and non-deprived areas of England between 1993 and 2003, and at NDC areas as a sub-set of deprived areas.

### **1.2.1 Area Change**

Areas are not static, either in their physical characteristics or their resident populations. There is also great area heterogeneity, and a journey across England provides a range of differences, from rich gated private estates to more run-down deprived communities in inner cities and elsewhere. Such differences lead us to try and answer a preliminary descriptive question about deprived areas in England and about the 39 NDC areas themselves. What do these areas look like and how different are they from other areas in England? To answer this question and to set the remainder of the following more analytical analysis of labour market characteristics in context, Table 3 shows the ward-level ONS Area Characteristics for England, the most deprived quintile of SOAs in England, and for NDC areas. The general description of England and ONS' 16 clusters of Area Characteristics are described in Text Box 1.

How do deprived and NDC areas differ from the rest of England? In 1993, the 20 per cent most deprived areas had far higher proportions of areas defined as 'Out of Town Housing', 'Transitional Economies' and 'Built-Up Manufacturing'. Additionally, they have higher proportions of 'Multicultural' and 'Inner-City Multicultural' areas. As one would expect, the most deprived areas had virtually no suburban or accessible countryside areas. By 2003 the divergence between the most deprived areas and England had grown in several ways. First, there was a decline in the proportion of 'Transitional Economies', from 17 to 15 per cent, that made up the most deprived areas, however they remained over-represented in the most deprived areas. Second, the proportion of 'Built-up Manufacturing', 'Multicultural' and 'Out of Town Housing' areas remained constant and continued to remain over-represented in the most deprived areas. Third, there was a growth in 'Inner-City Multicultural' areas, from 14 to 16 per cent of the most deprived areas, whereas in 2003 such areas represented only around 5 per cent of English areas as a whole.

NDC areas resemble the most deprived quintile, but there are also some distinct differences. First the decline in 'Transitional Economies' has been greater. Second, NDC areas are far more likely to be 'Inner-City Multicultural Areas': 22 per cent in 2003. Third, there has been a growth in the proportion of 'Multicultural Areas', so that in 1993 they broadly reflected the most deprived quintile, at 11 per cent but then grew to 16 per cent by 2003, while the proportion in the most deprived quintile remained at 10 per cent. Fourth, 'Built-up Manufacturing' areas across the NDC areas declined from 22 to 17 per cent while remaining constant as 15 per cent in the most deprived quintile.

---

## Text Box 1

### Ward Level Area Characteristics in England (ONS cluster analysis at “group” level)

#### *Industrial Hinterlands (supergroup 1)*

**Industrial Areas** are a group of wards containing 10.9 per cent of the UK population in the 2001 Census. They contained just under 10 per cent of respondents to the English LFS in both 1993 (9.8 per cent) and 2003 (9.7 per cent). These wards are concentrated in the North of England; Hope Carr in Wigan, Thurcroft and Whiston in Rotherham and Horwich in Bolton are most typical of this group of wards.

The **Out of Town Housing** group contained 8.6 per cent of UK population in the 2001 Census and 9.7 per-cent of the LFS population in England in 1993 and 9.6 per cent in 2003. This group of wards is spread throughout England. They have below average levels of detached housing and households with two or more cars. They have a higher than average proportion of people who work in wholesale or retail, in routine occupations and who rent from the public sector. Eastfield in Northampton, Chorley South and Matson and Robinswood in Gloucester are the most typical of this group of wards.

#### *Traditional Manufacturing (supergroup 2)*

**Built-up Manufacturing** wards had four per cent of the UK population in the 2001 Census, and 3.8 per cent in 1993 LFS in England, falling to 3.5 per cent in 2003. These wards are found in the north of England, and Bulwell in Nottingham, Halton Lea in Halton and South Bank in Redcar and Cleveland are typical wards in this group. The proportions of households with two or more cars, living in detached houses, in households with two adults and no children, and with a higher education qualification are lower than the national average. These wards have a greater proportion than the national average of people who are unemployed or long term unemployed, of lone parent households, of people who are separated or divorced, of household spaces which are terraced, of people who work in routine occupations and of households renting from the public sector.

**Transitional Economies** have 4.3 per cent of the UK population in the 2001 Census. Higher proportions are seen in LFS in England, with 6.7 per cent in 1993 falling to 5.8 per cent by 2003. These areas have higher than average unemployment, separated and divorced people, and higher than average proportions of the population living in terraced housing and housing with no central heating. They have fewer than average households with two cars or more and living in detached housing. Typical wards are Efford and Lipson in Plymouth, Chorley East in Chorley and Mersey in Halton

#### *Built-up Areas (supergroup 3)*

**Built-up Areas** are found throughout England and contain 3.3 per cent of the UK population in the 2001 Census. Table 4 shows that the English LFS in 1993 had 1.7 per cent of the population living in such wards, and 1.6 per cent in 2003. Most typical wards in this group are in Scotland but Alcombe East in West Somerset is a less typical ward in England. These wards have far below the national average proportions of households with two or more cars, of detached houses and have fewer average number of rooms per household. They have higher than average non-pensioner

households with one person, unemployment, public sector rental, people of a working age suffering from limiting long-term illness, people who are separated or divorced and flats.

#### *Prospering Metropolitan (supergroup 4)*

**Prospering Metropolitan** wards contained 3.7 per cent of the UK population in the 2001 Census, and the LFS shows that in 1993 they had 4.1 per cent of English population rising to 4.3 per cent in 2003. These wards are concentrated in London, but are also found in other cities like Manchester. St Mary's Park in Wandsworth, Turnham Green in Hounslow and Fairfield in Croydon are the most typical wards in this group. These wards have far below the national average proportion of women who work part time, detached homes, households with two or more cars, households with non-dependent children, people who provide unpaid care, people who work in manufacturing wholesale and retail and in routine occupations, of people who are aged 45 to 64 and of people who are aged 5–14 and of average number of rooms per household.

#### *Student Communities (supergroup 5)*

**Student Communities** contained five per cent of the UK population in the 2001 Census. Table 4 shows that the LFS in England had around five per cent of the population living there in 1993 and that this had risen to five and a half per cent by 2003. They are linked to University and Colleges and are located in small pockets throughout England. They have higher than average numbers of students and single person households, people with higher education qualifications, flats and private rental. They have lower than average characteristics on a number of indicators: part-time women workers, women looking after the home, people aged 25 to 64, people working in routine occupations, children aged up to 14 and people providing unpaid care.

#### *Multicultural Metropolitan (supergroup 6)*

**Multicultural Areas** contained 3.1 per cent of the UK population in the 2001 Census and the LFS shows (Table 4) that 3.8 per cent of the English population lived in such areas in 1993, falling to 3.6 per cent in 2003. They are concentrated on the periphery of Greater London and Roxbourne in Harrow, St. Paul's in Sandwell and Queen's Park in Bedford are typical wards in this group. They have proportions far below the national average of detached homes, of households with two adults and no children, of women who are working part time, of households with two or more cars and of people who are aged 45 to 64. These wards have far higher than average population density and far higher than average number of rooms per household but also higher than average number of people per room. They have higher than average concentrations of people who are aged 0 to 4, women who look after the home, people who are unemployed, people who travel to work using public transport, terraced housing, people not born in the UK and people identifying as Indian, Pakistani or Bangladeshi.

**Inner City Multicultural** wards have 3.1 per cent of UK population living in them according to the 2001 Census, and Table 4 shows that 4.5 per cent of English LFS population lived in such wards in 1993 rising to 4.7 per cent in 2003. They are mainly concentrated in north east and south east London and have lower than average concentrations of households with two cars, detached houses, part-time women workers, people working in manufacturing, unpaid carers and people aged 45 to 64. These areas have higher than average population density, crowded housing, unemployment, separated and divorced people, single person households, flats, black people, people born outside the UK, people with higher education and public transport users. Typical wards are De Beauvoir and Victoria in Hackney and Gipsy Hill in Lambeth.

#### *Suburbs and Small Towns (supergroup 7)*

**Suburbs** had 14.2 per cent of the UK population in 2001 Census and 15 per cent of the LFS English population in 1993, rising to over 16 per cent in 2003. These areas are concentrated in the north and east of England and the most typical of these wards are Wootton in Bedford, Earls Barton in Wellingborough and Totton South in New Forest.

**Prospering Suburbs** contained 3.5 per cent of the UK population in the 2001 Census. In the LFS, 2.2 per cent of the English population lived in these areas in 1993, rising to 3.8 per cent by 2003. This group of wards are spread throughout England, and Park Gate in Fareham, Marchwood in New Forest and Cove and Southwood in Rushmoor are the most typical wards in this group. They contain a proportion far below the national average of single pensioner households and of people who provide unpaid care. They contain a proportion far above the national average of detached homes, households with two adults and no children and households with two or more cars.

**Commuter Suburbs** contained 9.9 per cent of the UK population in the 2001 Census, and LFS data shows that 11.3 per cent of English population lived there in 1993 and that this had fallen to 10.5 per cent by 2003. They are concentrated in the South East of England. Silhill in Solihull, Mersey St. Mary's in Trafford and Uxbridge North in Hillingdon are the most typical wards in this group.

#### *Coastal and Countryside (supergroup 8)*

**Countryside** wards had seven per cent of the UK population in the 2001 Census and the English LFS shows around six per cent of the population living in these areas in 1993 with a slight fall by 2003. They are located mainly in Northern England and coastal areas of Southern England. Thanet Villages in Thanet, Sidlesham in Chichester and East Wolds and Coastal wards in the East Riding of Yorkshire are most typical. These wards have higher than average people working from home but otherwise have average characteristics.

**Senior Communities** contained 2.7 per cent of the UK population in the 2001 Census and the LFS shows that they contained 2.6 per cent of population in 1993, falling to 2.4 per cent in 2003. They are located in pockets throughout Northern England and coastal areas of Southern England. Middleton-on-Sea in Arun, Chestfield and Swalecliffe in Canterbury and Charing in Ashford are the most typical wards in this group. They have higher than average pensioners (aged over 65) and far higher proportions of single pensioner households and detached homes.

**The out of town manufacturing group** contained around 8.6 per cent of 2001 UK Census population and around 8 per cent of English LFS in 1993 falling slightly by 2003. These wards are mainly located in pockets throughout Northern England and have average characteristics, apart from having higher than average people working in manufacturing. Hartshill in North Warwickshire, Darton in Barnsley and Earl Shilton in Hinkley and Bosworth are typical of these wards.

#### *Accessible Countryside (supergroup 9)*

**Accessible Countryside** wards contain 5.1 per cent of the UK population in the 2001 Census and have around five per cent of the LFS English population with a slight rise between 1993 and 2003. They are more scattered throughout England. They have lower than average percentages of people working in routine occupations and higher than average people aged 45 to 64, households with two adults and no children, households with two cars and higher than average proportions living in detached houses.

### *1.2.2 Demographic characteristics*

Table 4 shows a range of demographic characteristics for the working age populations only in England, for the bottom quintile of most deprived SOAs according to IMD 2004 and for NDC areas.

There has been remarkable change in the family composition of working age people in England between 1993 and 2003. Single childless people have risen from 23.5 per cent to 31.8 per cent, while couple families with no children have fallen from 33.1 per cent to 24.9 per cent. In families with children, lone parent families have risen from 7.9 per cent to 14.7 per cent while couples with children have fallen from 35.4 per cent to 28.4 per cent. These changes are more pronounced in the most deprived quintile of England. Most noticeably, lone parents, who were always over-represented in deprived areas, have become more so, rising from 13.1 per cent of families to 24.1 per cent, an eleven percentage point rise. The proportion of couple families with children has fallen faster than in England as a whole, from 32.3 per cent to 22.5 per cent. Changes in childless families are less pronounced. Childless couples were less likely to live in deprived areas in 1993, only 26 per cent as opposed to 33 per cent for all of England, and these have fallen by 8.8 percentage points, slightly widening the divergence from the national situation. On the other hand, single childless families, over-represented in 1993 compared to England as a whole, have risen from 28.5 per cent to 35.7 per cent in the most deprived quintile of areas.

How do NDC areas compare and how have they changed? Lone parents, originally a larger proportion of the population in NDC areas than in the wider quintile of deprived areas, have not increased proportionally faster than the bottom quintile. This means that, by 2003, 23.4 per cent of working age families living in NDC areas were headed by lone parents, much higher than the national average, of 14.7 per cent, but very similar to the most deprived quintile. The proportion of couples with children however have fallen faster in NDC areas than in the most deprived quintile and thus faster still when compared to England. In 1993 they were 35.1 per cent of all working age families and by 2003 they had almost proportionally halved to 18.3 per cent. NDC areas however have seen much greater growth in single person families; in 1993 they had proportions similar to the national average, at 31 per cent, but increased to 42.4 per cent by 2003. Childless couples have decreased proportionally at a faster rate than both the most deprived quintile and the English average falling from 19.4 per cent in 1993 to 15.6 per cent in 2003.

Part of the rise of single person families is due to the changing age structure, and Table 6 shows that adults aged under-25 have consistently made up a higher proportion of deprived area populations – in both the most deprived quintile and in NDC areas. Indeed, the proportion in this age group is falling at the England level, from 16.4 to 14.5 per cent, and falling in the most deprived quintile from 20.3 per cent to 19.2 per cent. NDC areas appear different, having higher proportion of under-25 year olds in 1993, 20.7 per cent of the working age population, and growth in this proportion to 23.1 per cent by 2003.

The reverse is true for the older working age population, aged 50 and above, who make up a growing share of the population in general in England, increasing from 22.1 per cent in 1993 to 25.7 per cent in 2003 and who have risen a little in the most deprived quintile, from 19.9 to 20.5 per cent of the working age population. In NDC areas the proportion aged 50 plus has fallen, from 18.1 to 16.4 per cent.

The populations in deprived areas are more likely to be geographically mobile when measured by the length of time at their current address. In England as a whole around 12 per cent lived in their current residence for less than a year in both 1993 and 2003. In the most deprived quintile, this

proportion was higher at 13.9 per cent in 2003. NDC areas have higher rates of moving, with over 15 per cent of their population in a different place of residence from 12 months previously and this proportion appears to be rising over time.

Part of the explanation for these demographic profiles may lie in differences in the ethnic composition of populations in deprived areas. Deprived areas and NDC areas have much higher proportions on non-white ethnic groups than England as a whole. The white population has fallen over all from 93.6 per cent in 1993 to 90.5 per cent across England in 2003. In the most deprived quintile it has fallen further from a lower starting point, from 86.6 to 79.9 per cent. In the NDC areas there is both a lower 1993 level, 83.1 per cent and a faster fall, with 67.9 per cent of residents being white in 2003. The majority of these changes come from increasing shares of black and Asian ethnic minorities. Asian people comprised twice the proportion in the most deprived quintile in 1993, 6.6 per cent, when compared to England as a whole, 3.1 per cent. However by 2003 this difference had increased and 9.8 per cent of population in the most deprived quintile were Asian compared to 4.8 per cent in England. In NDC areas the growth was greater, even though it started from a similar level to the most deprived quintile. By 2003, 14 per cent of the working age population were Asian in NDC areas. Black ethnic groups have proportionally risen more slowly across the board but still show considerable over-representation in deprived areas and differential growth in deprived areas. In England overall, black ethnic groups have risen from 1.9 to 2.3 per cent of the working age population. In the most deprived quintile they have risen from a higher proportion, 4.8 per cent, to 5.9 percent. In NDC areas they were a higher proportion than in the most deprived quintile in 1993, 6.9 per cent and they have grown to be 10.6 per cent by 2003.

**Table 3 - Ward Level Area Characteristics 1993-2003**  
*% Population Resident*

	England			Most Deprived Quintile of SOAs 2001			NDC Areas		
	1993	2003	Difference	1993	2003	Difference	1993	2003	Difference
Suburbs	15.3	16.2	0.9	0.7	0.8	0.1	--	--	--
Commuter Suburbs	11.3	10.5	-0.8	2.0	1.6	-0.4	1.1	1.8	0.7
Industrial Areas	9.8	9.7	-0.1	10.8	10.0	-0.8	2.8	2.2	-0.6
Out of Town Housing	9.7	9.6	-0.1	16.6	16.6	0	12.2	16.1	3.9
Out of Town Manufacturing	7.9	7.6	-0.3	3.4	3.6	0.2	0.3	0.1	-0.2
Transitional Economies	6.7	5.8	-0.9	17.3	15.0	-2.3	18.6	13.5	-5.1
Countryside	6.1	5.9	-0.2	1.2	1.3	0.1	--	--	--
Accessible Countryside	5.3	5.5	0.2	--	--	--	--	--	--
Student Communities	5.1	5.5	0.4	3.1	3.9	-0.8	2.3	2.8	0.5
Inner City Multicultural	4.5	4.7	0.2	13.9	16.1	2.2	20.9	21.8	0.9
Prospering Metropolitan	4.1	4.3	0.2	2.6	3.1	-0.5	3.5	2.9	-0.6
Multicultural Areas	3.8	3.6	-0.2	9.6	9.5	-0.1	10.9	15.9	5.0
Built-up Manufacturing	3.8	3.5	-0.3	14.9	14.9	0	21.8	17.2	-4.6
Senior Communities	2.6	2.4	-0.2	0.1	0.1	0	--	--	--
Prospering Suburbs	2.2	3.8	1.6	--	--	--	--	--	--
Built-up Areas	1.7	1.6	-0.1	3.8	3.5	-0.3	5.6	5.7	0.1
<i>Total</i>	100	100	0	100	100	0	100	100	0

**Table 4 - Working Age Population Demographic and Household Characteristics**

% <i>Family Type</i>	England		Bottom Quintile		NDC		
	1993	2003	1993	2003	1993	2003	Difference
							<i>Difference</i>
Lone Parents	7.9	14.7	13.1	24.1	14.5	23.4	+8.9
Married no kids	33.1	24.9	26.1	17.3	19.5	15.6	-9.9
Single no kids	23.5	31.8	28.5	35.7	31.0	42.4	11.4
Married kids	35.4	28.4	32.3	22.5	35.1	18.3	-16.8
<i>Age</i>							
Under 25	16.4	14.5	20.3	19.2	20.7	23.1	+2.4
Over 50	22.1	25.7	19.9	20.5	18.1	16.4	-1.7
<i>Housing</i>							
Owner Occupier	73.2	73.4	47.3	47.3	35.6	38.5	+2.9
<i>Length of Residence* (1996 replaces 1993 as first year)</i>							
< 1 year	11.7	11.7	13.7	13.9	15.3	15.7	+0.4
<i>Ethnicity</i>							
White	93.6	90.5	86.6	79.9	83.1	67.9	-15.2
Mixed	1.4	2.4	2.0	4.4	3.6	7.5	+3.9
Asian	3.1	4.8	6.6	9.8	6.4	14.0	+7.6
Black	1.9	2.3	4.8	5.9	6.9	10.6	+3.7

### 1.2.3 Employability Change

The changes in area and demographic characteristics will obviously have an impact on employment profiles. However, the changing demography and economic and social geography does not necessarily lead to direct changes in employment. There are other important factors that effect employment beyond area, age, presence of children and ethnicity and these relate to the underlying employability and skills of the populations concerned.

Table 5 shows the educational qualifications of the working age population by looking at higher education, having a degree, and the opposing position of having no qualifications. There has been a rising proportion of the population who hold degrees and this rise has occurred across all of England, including the most deprived quintile and the NDC areas. But the rise in England is faster and from a higher starting level in 1993, from 12.3 per cent of the population to 17.7 per cent of the population by 2003. In the most deprived quintile the rate in 1993 was under half, 5.4 per cent but has risen to 9.2 per cent in 2003. Proportions of people with degrees in NDC areas are slightly higher than this at both points in time, 6.2 per cent in 1993 and 9.6 per cent in 2003.

**Table 5 - Qualifications of Working Age Population England and Deprived Areas 1993 to 2003**

%	England			Most Deprived Quintile of SOAs 2001			NDC Areas		
	1993	2003	Difference	1993	2003	Difference	1993	2003	Difference
Degree	12.3	17.7	+5.4	5.4	9.2	+3.8	6.2	9.6	+3.4
No Qualifications	27.3	13.9	-13.4	43.3	25.9	-17.4	47.4	26.9	-20.5

On the other hand, the proportions of people with no qualifications follow a similar trend, a mirror image of the trend in degrees. In England in 1993 27.3 per cent had no qualification and this has fallen to 13.9 per cent in 2003. The most deprived quintile had 43.3 per cent with no qualifications in 1993 and this has fallen to 25.9 per cent in 2003. NDC areas had higher proportion of people with no qualification in 1993: 47.4, and this has fallen to 26.9 in 2003.

### 1.2.4 Health

The health profiles of the working age population living in deprived areas also looks different to that for England as a whole. Table 6 shows the health profiles of the working age population in 1993 and 2003. Respondents were asked whether their health restricts their working ability. In 1993 and 2003 around 12 percent of the population reported that their health restricted the work that they could do. In the most deprived quintile, this proportion rose to around 20 percent and was very similar to that in NDC areas.

**Table 6 - Health Limits Activity of Working Age Population England and Deprived Areas 1993 to 2003**

%	England			Most Deprived Quintile of SOAs 2001			NDC Areas		
	1993	2003	Difference	1993	2003	Difference	1993	2003	Difference
Health Limits Activity	12.2	12.0	-0.2	19.0	19.8	+0.8	21.2	19.8	-1.4

### ***1.2.5 Employment and Unemployment***

What are the associated rates of employment and unemployment that arise from these area and population characteristics?

Table 7 shows male employment and unemployment according to the ward level Area Characteristics discussed in Table 4 and Text Box 1 above. The areas have been ranked by their 1993 employment rate. The first point is that economic growth and job growth have occurred across the board, from the Prospering Suburbs to the Inner City Multicultural areas and old Manufacturing areas. However, in 1993 there was a almost a 30 percentage point gap in employment rates between the highest and lowest area rates, a huge difference from around 90 to around 60 per cent employment in working age men. By 2003 this gap had narrowed, with the lowest rates of around 68 per cent and the highest of 91 – a percentage point gap of around 23 points. The differential growth rates in employment rates (calculated by dividing the difference by the starting point) show clearly that the areas with the lowest rates of employment in 1993 have grown fastest. Male unemployment shows the same overall story, with declines across the board and the highest percentage point differences in the areas with highest unemployment. The highest rates of decline, of 60 to 70 per cent, have occurred in Built-up Areas, Out of Town Manufacturing, Out of Town Housing, Senior Communities and Prospering Metropolitan areas. Built-up Manufacturing, Multicultural and Inner City Multicultural Areas, among the highest unemployment areas in 1993, have fallen more slowly at the 50 to 55 per cent rate.

Table 8 shows the same profile at Table 7 but for women of working age. There is a substantial difference in profile in employment growth across areas than the one seen for men. First, strongest growth is more based in the areas with original high levels of female employment. All the suburban areas have seen strong growth but already had rates of around 70 per cent or over in 1993. There is much slower growth in the Multicultural and Inner City Multicultural and Prospering Metropolitan areas, partly reflecting non-white ethnic population composition in those areas. The same more mixed story than for men is seen in the decline in unemployment, with only Built-up Areas showing large absolute and relative falls in unemployment from a high base point in 1993. Once more we see lower overall decline rates in Multicultural and Inner-city Multicultural Areas (together with Student and Senior Communities).

**Table 7 - Men – Employment and Unemployment 1993-2003 by Ward level Area Characteristics**

% ranked in descending order of 1993 Employment rates	Employment				Unemployment			
	1993	2003	Difference	Growth	1993	2003	Difference	Growth
Prospering Suburbs	89.0	90.6	1.6	1.8	5.0	2.1	-2.9	-58.0
Accessible Countryside	85.6	87.4	1.8	2.1	5.3	2.6	-2.7	-50.9
Suburbs	84.5	86.8	2.3	2.7	7.2	2.9	-4.3	-59.7
Commuter Suburbs	81.5	85.2	3.7	4.5	8.4	3.4	-5.0	-59.5
Countryside	80.6	83.4	2.8	3.5	7.9	3.4	-4.5	-57.0
Out of Town Manufacturing	80.0	85.0	5.0	6.2	9.2	3.2	-6.0	-65.2
Senior Communities	79.1	84.0	4.9	6.2	8.8	3.1	-5.7	-64.8
Industrial Areas	76.9	80.0	3.1	4.0	9.8	4.1	-5.7	-58.2
Prospering Metropolitan	74.8	82.6	7.8	10.4	12.5	4.6	-7.9	-63.2
Out of Town Housing	73.8	81.1	7.3	9.9	13.2	4.9	-8.3	-62.9
Student Communities	72.1	75.8	3.7	5.1	10.7	4.7	-6.0	-56.1
Transitional Economies	69.6	76.6	7.0	10.1	14.5	6.1	-8.4	-57.9
Built-up Areas	65.7	74.8	9.1	13.9	17.0	4.7	-12.3	-72.4
Multicultural Areas	62.3	68.7	6.4	10.3	18.6	8.4	-10.2	-54.8
Inner City Multicultural	61.6	68.0	6.4	10.4	20.6	10.4	-10.2	-49.5
Built-up Manufacturing	60.8	68.3	7.5	12.3	19.6	8.8	-10.8	-55.1

**Table 8 - Women – Employment and Unemployment 1993-2003 by Ward level Area Characteristics**

% ranked in descending order of 1993 Employment rates	Employment			Unemployment				
	1993	2003	Difference	Growth	1993	2003	Difference	Growth
Prospering Suburbs	74.3	80.6	6.3	8.5	4.1	2.1	-2.0	-48.8
Suburbs	73.4	78.7	5.3	7.2	4.3	2.0	-2.3	-53.5
Senior Communities	71.9	73.7	1.8	2.5	4.4	2.9	-1.5	-34.1
Accessible Countryside	71.7	75.9	4.2	5.9	3.5	2.0	-1.5	-42.9
Out of Town Manufacturing	70.6	74.8	4.2	5.9	5.1	2.5	-2.6	-51.0
Countryside	70.0	74.0	4.0	5.7	4.4	2.4	-2.0	-45.5
Commuter Suburbs	69.8	74.2	4.4	6.3	5.0	2.7	-2.3	-46.0
Prospering Metropolitan	68.7	69.7	1.0	1.5	6.3	3.9	-2.4	-38.1
Industrial Areas	68.6	72.3	3.7	5.4	4.7	2.6	-2.1	-44.7
Student Communities	66.3	70.9	4.6	6.9	5.2	3.6	-1.6	-30.8
Out of Town Housing	62.7	67.7	5.0	8.0	6.6	3.6	-3.0	-45.5
Transitional Economies	62.6	67.1	4.5	7.2	7.2	3.8	-3.4	-47.2
Built-up Areas	62.3	64.7	2.4	3.9	9.2	3.1	-6.1	-66.3
Inner City Multicultural	54.4	55.5	1.1	2.0	10.0	6.2	-3.8	-38.0
Built-up Manufacturing	50.9	55.4	4.5	8.8	8.9	4.8	-4.1	-46.1
Multicultural Areas	49.5	50.7	1.2	2.4	9.2	6.1	-3.1	-33.7

Figure 1 more clearly shows the underlying relationship between male employment, unemployment and inactivity and deprivation. However, it is necessary to warn of some circularity underlying the analysis at this point as deprivation using IMD 2004 includes measures of employment and thus high scoring (deprived) areas are by definition low employment areas in most instances.

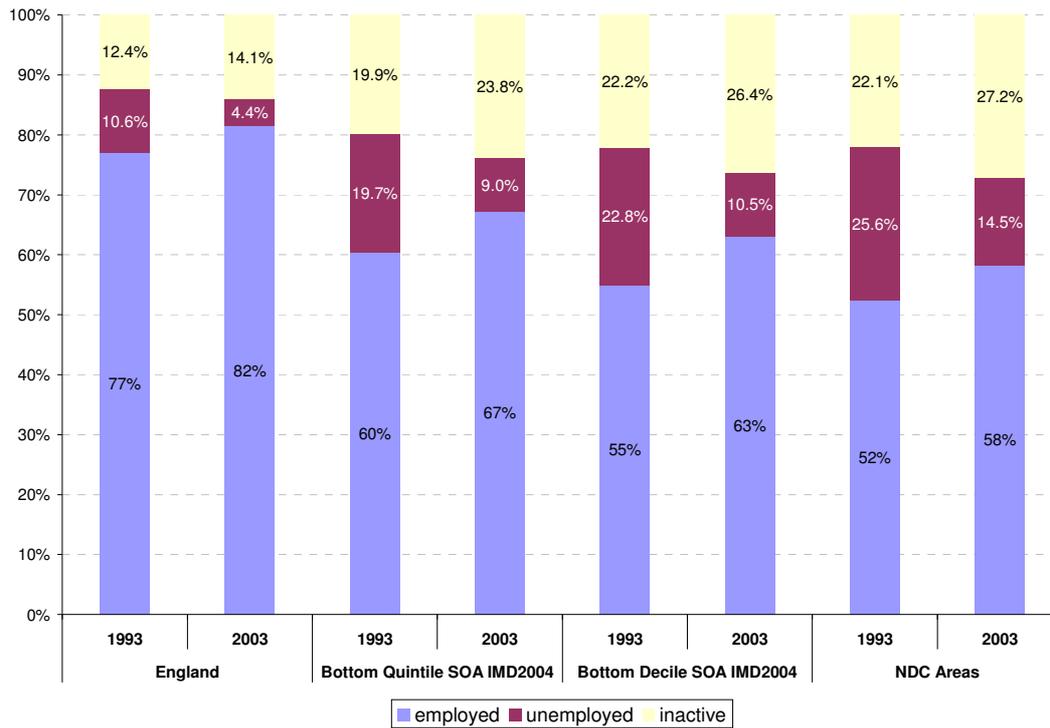
Figure 1 clearly shows that the general national growth in employment has been echoed across all areas, including the most deprived quintile and NDC areas; no area was immune to the impact of economic growth. For England as a whole there is a rise in male employment from 77 to 82 per cent and a fall in unemployment from 10.6 to 4.4 per cent. However, inactivity in the working age population has risen from 12.4 to 14.1 per cent overall. In the most deprived areas (and in this and subsequent figures we give data on both the most deprived quintile and the most deprived decile of areas alongside NDC areas) changes in inactivity, in employment and declines in unemployment appear to be larger. In the most deprived quintile, inactivity has risen from 20 to 24 per cent. In the most deprived decile, inactivity has risen from 22 to 26 per cent. In NDC areas inactivity has risen from 22 to 27 per cent – looking very much like the most deprived decile.

Figure 2 repeats Figure 1's breakdown of employment trends but for working age women. The overall story told from Figure 1's description of declines in unemployment and gains in employment from men across the area deprivation profile are repeated for women. For England as a whole, women's employment rate has risen from 67 to 71 per cent and unemployment has fallen from 6 to 3 per cent. In the most deprived quintile, women's employment has grown from 52 to 55 per cent and unemployment fallen from 9 to 5 per cent. In the most deprived decile women's employment has risen from 47 per cent to 50 per cent and unemployment has declined from 10 to 7 per cent. NDC areas similarly have seen growth in women's employment from 44 to 52 per cent and unemployment fall from 12 to 6 per cent. So women have not had similar trends in inactivity to men as overall, inactivity rates have fallen slightly or are flat across deprived neighbourhoods.

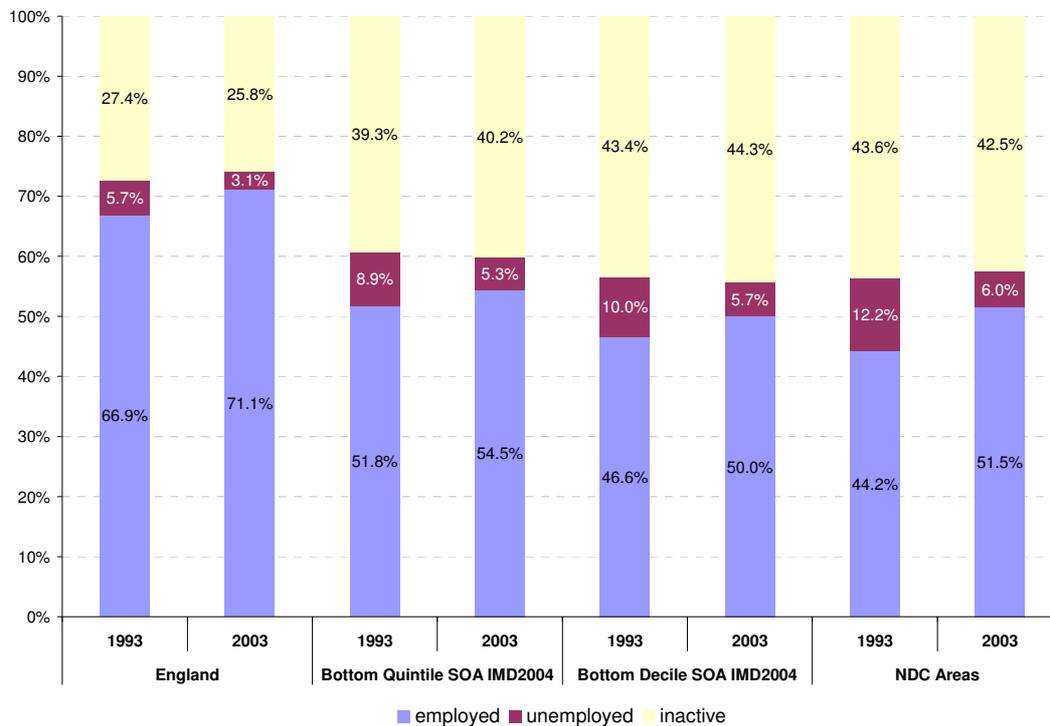
Figure 3 shows the same analysis for a sub-group of women: lone parents. This group are particularly important for deprived areas because they comprise such a large proportion of families (see previous discussion of Table 5). Figure 3 shows strong growth in lone parent employment, rising from 47 to 57 per cent in England with falling unemployment, from 10 to 6 per cent. This strong growth in employment is also present in the bottom quintile and bottom decile, with employment rates rising from 35 to 42 per cent and from 31 to 38 per cent respectively. NDC areas seem to have slower growth in employment with a smaller rise from 32 to 34 per cent.

Interpreting these differences for men, women and lone parents purely on the basis of levels of deprivation is difficult because we know from earlier tables that there are large compositional differences in population characteristics between deprived and non-deprived areas. One particularly important difference is skill and education levels, with much higher concentrations of low and no-qualified people living in the poorest quintile. Figures 4 and 5 therefore repeat the description of employment profiles for men and women but look only at those with no-qualifications, the very low skilled.

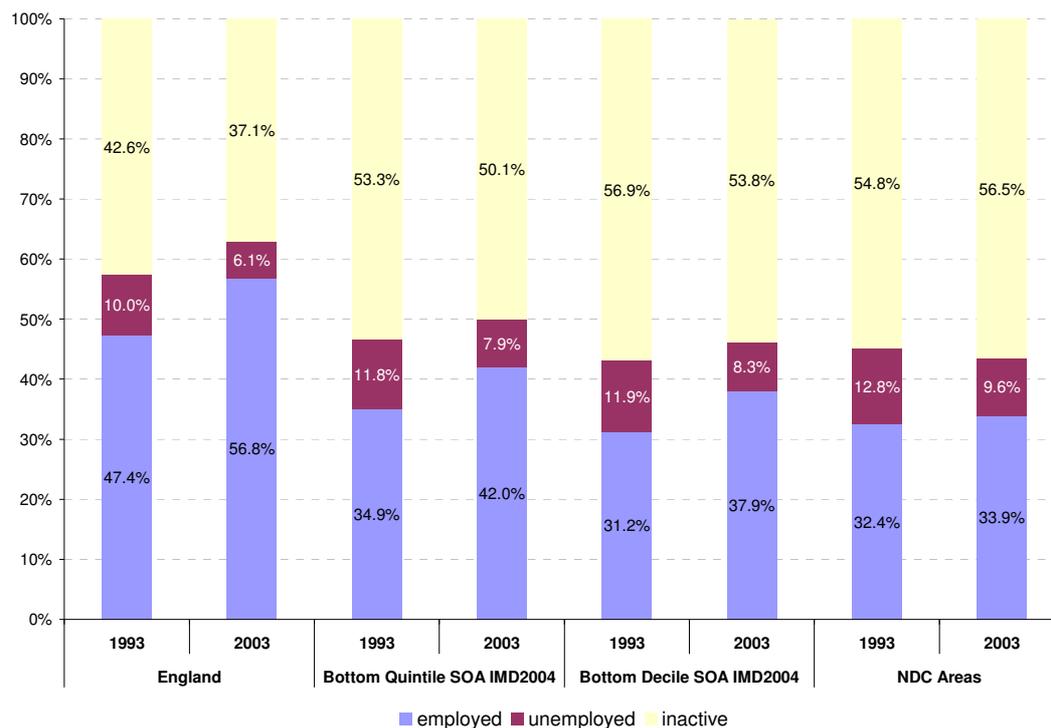
**Figure 1 - Male Employment 1993-2003 England and Deprived Areas**



**Figure 2 - Female Employment 1993-2003 England and Deprived Areas**



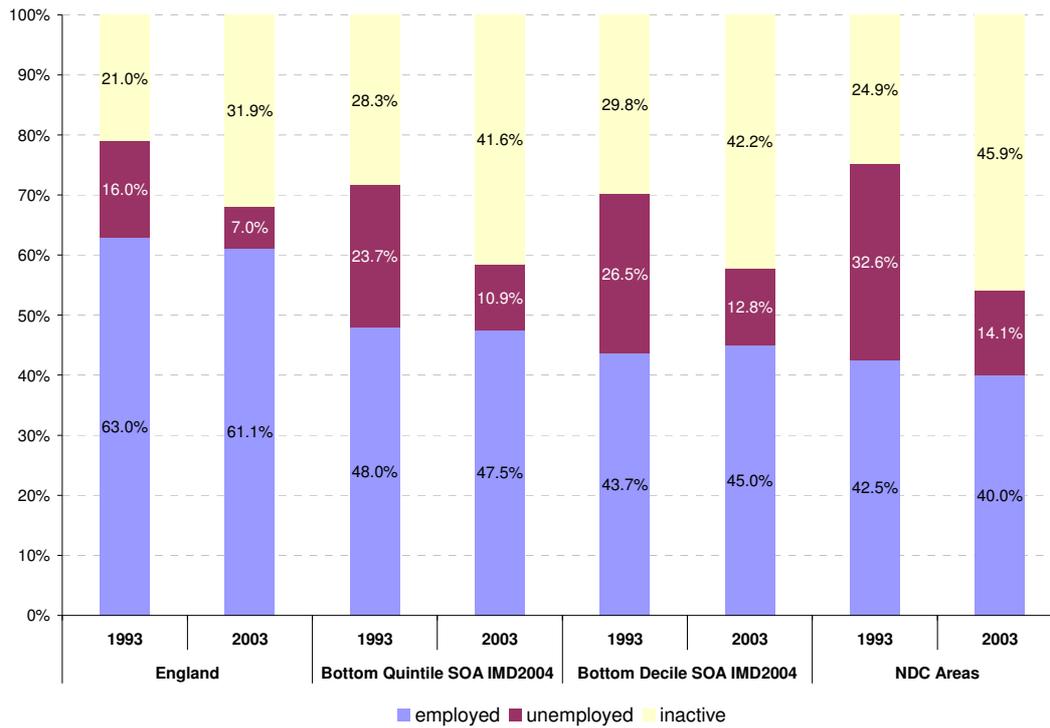
**Figure 3 - Lone Parent Employment (women only)**



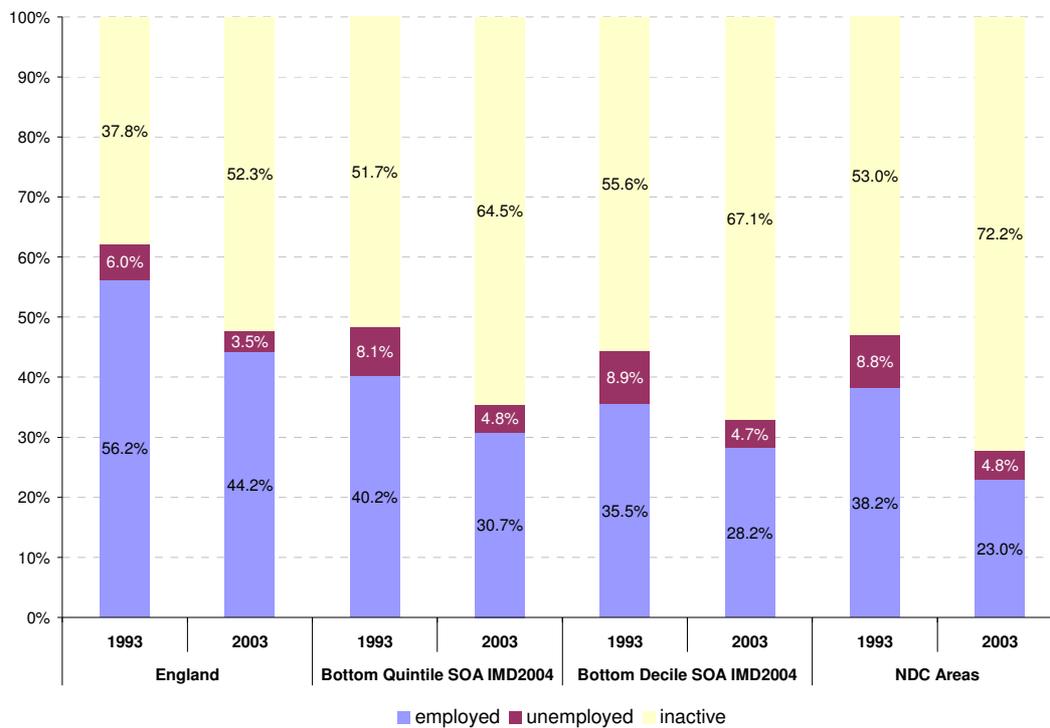
This more specific analysis gives us a clearer indication of employment trends and differences between deprived and non-deprived areas. First, for men, where Figure 4 shows that low skilled employment growth is actually flat or slightly in decline across England and across deprivation categories, contrary to the strong growth for all employment seen in Figure 1 previously. Employment rates for the low-skilled (those with no qualifications) were 63 per cent in England in 1993 and fell slightly to 61 per cent in 2003. In the most deprived quintile, rates remained at around 48 per cent over the period and in the most deprived decile rates stayed at the 44 to 45 percentage mark. In NDC areas there appears to have been a slight decline in employment, from 43 to 40 per cent. However, unemployment, as previously described for all men, has fallen considerably across the board, even for low-skilled men: from 16 per cent to 7 per cent in England; from 24 to 11 per cent in the most deprived quintile; from 27 to 13 per cent in the most deprived decile; from 33 per cent to 14 per cent in NDC areas. However, static employment rates and lower unemployment rates necessarily mean that there is growth in inactivity and this growth is far more marked among the low-skilled than previously shown in Figure 1. Overall, for England inactivity rates grew from 21 to 32 per cent but in the most deprived quintile the already high 1993 inactivity rate of 28 per cent has climbed even further to 42 per cent, while in the most deprived decile the 1993 rate has risen from 30 per cent to 42 per cent. NDC areas appeared to have had a lower 1993 inactivity rate than the most deprived decile and quartile but by 2003 the inactivity rate was higher at 46 per cent.

Figure 5 shows the same profile for low-skilled (no-qualification) women. For this group, employment rates have fallen and unemployment rates have fallen consistently across England and across deprived and non-deprived areas, *but* inactivity rates have risen consistently across the spectrum. Employment rates in England as a whole were 56 per cent in 1993 and fell to 44 per cent by 2003 while in the most deprived quintile they fell from 40 to 31 per cent. In the most deprived decile, employment rates fell from 36 to 28 per cent while in NDC areas they fell from 38 per cent to 23 per cent. Inactivity rates have grown across England as a whole from 38 per cent to 52 per cent, while in the most deprived quintile they rose from 52 per cent to 65 per cent. The most deprived decile had 56 per cent inactivity rates in 1993 and these grew to 67 per cent by 2003, while the rate in NDC areas grew from 53 to 72 per cent respectively.

**Figure 4 - Low-skilled Men with no qualifications: Employment in Deprived Areas 1993-2003**



**Figure 5 - Low-skilled Women with no qualifications: Employment in Deprived Areas 1993-2003**



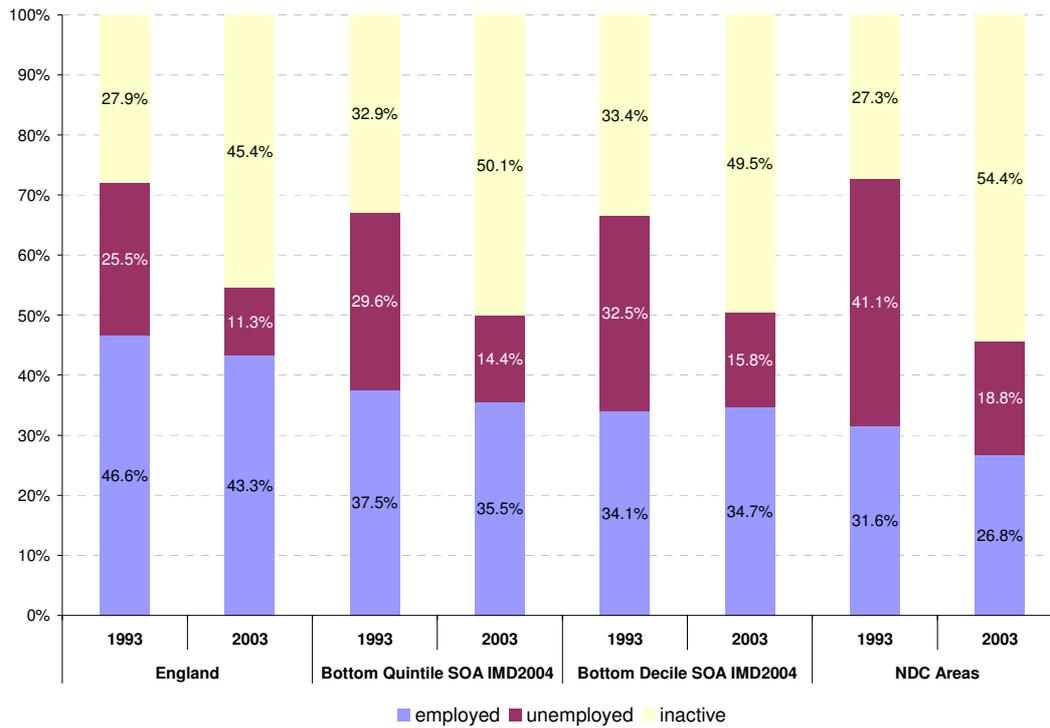
Obviously, there are underlying demographic differences, both in terms of ethnicity and in terms of family composition that explain, in part, such differential growth in inactivity among low-skilled men and women in deprived areas, and this will be explored further in Part 2 of the analysis. However, given the high proportions of public and private sector rental in deprived areas it is also worthwhile profiling trends in low-skilled employment for those who rent as this takes into account some of the differences between deprived and non-deprived areas in this description of trends.

Figures 6 and 7 repeat the profile shown in Figures 5 and 6 but only for low-skilled men and women, respectively, who live in households that rent. This distinction shows, as would be expected, higher rates of inactivity and lower employment rates, and even higher levels of concentration of inactivity among low-skilled men and women in deprived and NDC areas.

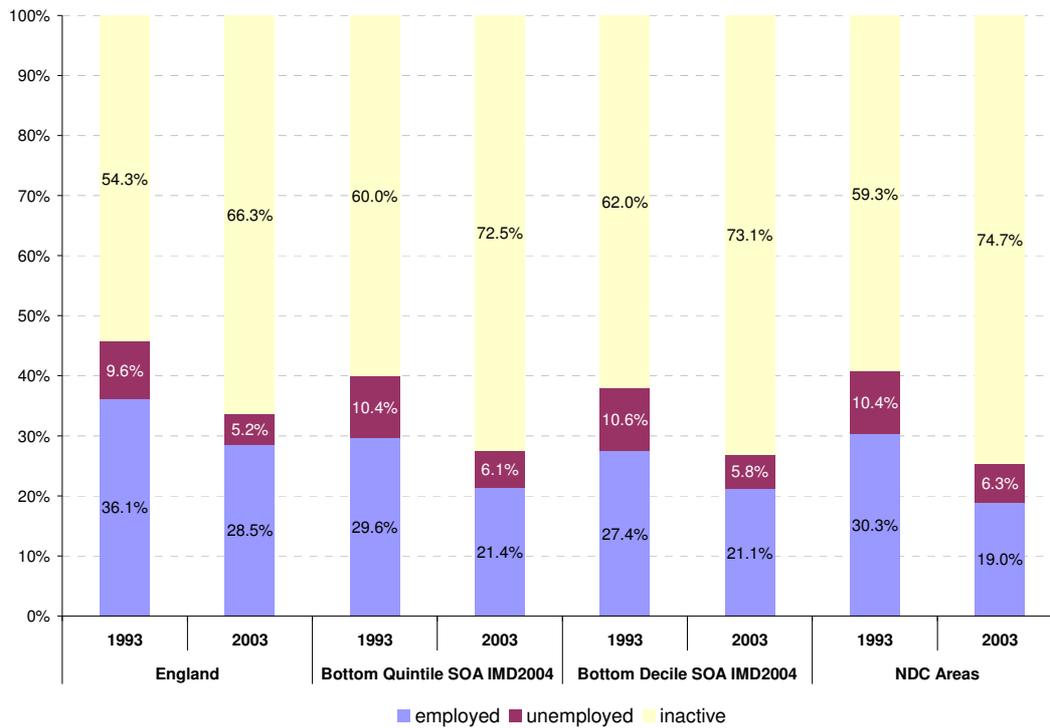
Low skilled men (those with no qualifications) who live in rented accommodation had an employment rate of only 47 per cent in 1993 – far lower than all low skilled men previously shown in Figure 4 (63 per cent). By 2003 this rate had fallen to 43 per cent. In the most deprived quintile of areas the employment rate for renting low-skilled men was only 38 per cent in 1993 and this fell slightly to 36 per cent, while in the most deprived decile it fell from 36 to 34 per cent respectively. In NDC areas employment rates are even lower than those in the most deprived decile: 32 per cent in 1993 and 27 per cent in 2003. Unemployment rates fell across England and across the deprivation profile for unskilled renting men over the decade, but inactivity rates grew. Inactivity in England was 28 per cent in 1993 and grew to 45 per cent by 2003. In the most deprived quintile inactivity rates in 1993 were 33 per cent in 1993 and grew to 50 per cent in 2003, while in the most deprived decile they were at similar levels in both years. NDC areas in 1993 had 27 per cent inactivity, in line with the English average but by 2003 this had risen to 54 per cent – higher than the rest of the most deprived quintile and decile.

Low skilled women (those with no qualifications) who rent are even less likely to be employed than their male counterparts and employment rates have fallen across England and across the deprivation profile. Employment rates in England were 36 per cent in 1993 and fell to 29 per cent in 2003. In the most deprived quintile employment rates were 30 per cent in 1993 and fell to 21 per cent in 2003 while in the most deprived decile they fell to a similar 2003 level from 27 per cent in 1993. NDC areas saw a larger fall in employment from 30 to 19 per cent. Inactivity rates for this group rose from 54 to 66 per cent overall in England but are far higher in the most deprived areas. In the most deprived quintile inactivity rates rose from 60 to 73 per cent and from 62 to 73 per cent in the most deprived decile. In NDC areas inactivity rates rose from 59 to 75 per cent. Such rises in inactivity went hand in hand with lower unemployment across the board.

**Figure 6 - Low-Skilled Men with no qualifications Renting: Employment 1993-2003**



**Figure 7 - Low-Skilled Women with no qualifications Renting: Employment 1993-2003**



These employment profiles give an indication of the rise in inequality of employment opportunities, across groups and between deprived and non-deprived areas, that has occurred alongside strong economic and job growth. The differences in employment between deprived and other areas are in part due to differences in the populations of these areas: deprived areas have a less well skilled population who are less likely to be employed. But over and above this there may also be an employment penalty to living in a deprived area; in other words area characteristics may affect the probability of an individual finding work, holding constant observed personal characteristics. Such area effects are difficult to pin down because of problems of endogeneity (i.e. those who, all else equal, are less employable may also “choose” to live in more deprived areas). The next section will discuss whether area penalties can be identified and assess how far policy interventions, in this case, the New Deal for Communities programme, have had an effect on reducing such penalties.

## **1.3 Theory and Measurement of Area Effects and NDC Impacts**

### ***1.3.1 Theoretical and Measurement Issues for Location and Deprivation***

The previous section has shown that there is an apparent growing concentration of people with poor labour market potential in deprived areas of England. This confirms the findings and arguments put forward by Gregg and Wadsworth (2003) about the labour market performance of less skilled workers during the economic recovery; *“the employment gap between less-skilled and others narrowed much more in the high employment areas than in the depressed areas as job market conditions improved after 1993. Despite overall employment growing faster in the more depressed regions, employment among less skilled men in these areas actually fell”* (p 91).

We have seen how reductions in unemployment have occurred across deprivation profiles, but how does this differ both by the characteristics of residents and in area characteristics? Of course, we have to be careful at this point because the “area characteristics” we have used to profile employment differences are themselves aggregate measures of population characteristics and are thus directly linked to employment and skills and education through IMD 2004.

What is the relationship between geography and individual characteristics and how does this relationship affect our ability to measure specific outcomes in NDC areas? The short answer is not immediately encouraging. First, there are number of competing theoretical explanations for the relationship between area characteristics and individual well-being and second, the ability to capture and estimate the independent effects of areas is severely limited because of identification issues. We take these two issues in turn.

There are a number of explanations that stress how far structural factors determine that populations with different levels of financial and other resources are spatially segregated. Cheshire, Monastiriotis and Sheppard (2003 p 84) stress the combined effects of housing and labour markets in sorting populations, *“The mechanism which produces this association between inequality and spatial segregation is the interactive sorting role of housing and labour markets”*. They continue, *“Houses are located precisely in space and the occupation of a particular house confers the ability to ‘consume’ a wide range of amenities, neighbourhood characteristics and local public goods. Localised urban amenities and public goods are ‘positional’ goods, moreover in more ways than one. They are ‘positional’ in the sense that their supply varies systematically over urban space and is also inelastic in supply. As a result, access to these goods is conditioned not only on the occupation of a particular site but by the position a household occupies within the distribution of income.”* (ibid) Employment is linked because, *“Labour markets are equally spatial in that jobs have precise locations and workers have to live within commuting distance of them. But labour markets sort not just (perhaps not mainly) within a spatial dimension but also by skill, education, experience, ethnicity, motivation and other characteristics of workers. This sorting process*

*determines both whether an individual has a job and how much they are paid. In turn this income level determines what bundle of local amenities, neighbourhood characteristics and local goods a given household can afford.*" (ibid)

This has two important implications; first that location and personal characteristics are endogenous. Second, that spatial sorting exists through a mixture of choice and administrative allocation. Entry and relocation within public sector housing has a high likelihood of administrative selection and the majority of entrants into public sector rented accommodation will have particular characteristics that render them eligible for housing allocation. The constraints on choice for those who are not subject to administrative allocation, i.e. private renters and owner-occupiers, will largely be determined by the accommodation that can be afforded, and thus primarily by income. *"The spatial distribution of local public goods and the institutional characteristics of the (local) labour market are not, in the main, determined by some immutable natural law but are largely moulded by public policy, local conditions and institutions. The poor are poor, isolated and excluded for the reason which makes them poor. They are not poor because of where they live; rather they live where they do because they are poor. And, indeed, the evidence shows that if they get less poor by improving their position within the labour market, they tend to move away from the most deprived areas to be replaced by households as deprived as they were recently themselves."* (ibid p 85)

Other structural explanations stress the importance of demand side failings. Local demand side failure as argued by Webster (2000) tends to ignore the fact that unemployment falls across the spectrum and that job growth reaches down to the local heartlands of unemployment, as we have shown in the previous section. Given these trends, what would one expect to happen for a programme with the NDC's characteristics? Gordon puts forward a strong argument that demand failures at a regional and national level, rather than localised failures, matter. *"These local concentrations exist because they have become structural in character, and can only be removed by some combination of supply-side (equal opportunity) measures targeted at all the links in local processes which reproduce them and sustained full employment."* (emphasis original) (Gordon 2003 p 78).

A second area of literature seeks to establish local social processes as causes of area deprivation and of individual well-being of those living in the area. These are not necessarily in contradiction to the meta-structural arguments put forward above and can indeed be thought of as second order effects that follow on from having concentrations of deprived individuals living in the same location. Here the literature is large and there is far less agreement. A recent comprehensive overview of the economic evidence found mixed results when trying to separate and identify specific area effects in spite of the high quality of the data and evidence available, which was derived from experimental and quasi-experimental studies (Durlauf 2004). This same review found that other quantitative studies had tended to find attributable area effects, but that interpretation of these findings was hindered overall by the inability of these studies to statistically and conceptually isolate independent causation for such effects. A four-fold typology for area effects, as outline by Buck (2001) puts forward four models:

*Epidemic model*, in which behaviour is altered through peer influence and the development of local social norms

*Competition model*, in which areas compete for scarce neighbourhood resources and thus concentrations of disadvantaged populations will disproportionately fail to capture public and other goods

*Network model*, in which social networks in deprived areas are not linked into the main advantage bearing networks that operate across the rest of the economy and society.

*Expectations model*, in which the gains from opportunity are not seen as equal across locations either due to external discrimination by employers, state bureaucrats and others or through peer experience (thus linking back to the epidemic model).

We outline these theoretical positions because they are all plausible explanations of potential area effects and Buck (2001) and McCulloch (2001) both find associations with area effects in the UK, on poverty and employment for instance, that support such approaches. However, Bolster et al (2004) measure income growth using the same data as Buck and McCulloch but use a different specification of both area size definitions and income effects, and find only very small area effects. “*We estimate that the highest value this could take is about one percentage point on a one-year income change and two-percentage points on a five year change*” (p 24) but also point out that interpretation of such a finding must base this on an upper bound and take into account that unobserved selection and the absence of estimation of a structural model, which would reduce this very small effect further. Similarly, looking specifically at small area employment effects, Gibbons et al (2005) looking at the UK evidence suggest, “*the low employment problems of those in the most deprived wards would broadly be the same if they lived in somewhat better wards in the same city area.*” (p 13)

These findings are crucial to the interpretation of any estimated effect of living in NDC areas on employment, both before and after the NDC was put in place. LFS data is very good quality survey data and has a mass of individual level characteristics that can be used to measure probabilities of employment; but the data does not allow us to fully parameterise area effects and thus to specifically estimate which of the NDC area characteristics influence employment, above and beyond observable individual characteristics that matter crucially to employment: skills, education, experience, work orientation and others. However, even if we did have data on area effects in LFS, or that could be attached to LFS, considerable identification issues would remain because of the difficulties involved in specifying a model that can correctly account for individuals’ selection of their neighbourhoods.

These estimation problems and data constraints mean that our ability to accurately identify and measure independent area effects is limited. These problems mean that, all else being equal, even if significant differences in employment probabilities are found between areas according to their level of deprivation, interpretation of this difference is not straightforward. In particular any negative area effects found will tend to overstate the effect of area on employment if those who are the least employable (given any measured set of employment characteristics) also tend to live in the most deprived areas. In addition, the population may be becoming increasingly negatively selected into deprived areas over time. Indeed our analysis of employment trends earlier in this part of the report showed that there is growing asymmetry in employment across areas – that deprived and non-deprived are pulling apart. This will partly be because increasingly those with poor employment characteristics are living in deprived areas and this means that underlying sorting effects are likely to have changed over time.

Our approach therefore is to place a clear and consistent analytical grid over the time series of data. This analytical approach will keep individual level characteristics, area level characteristics, and deprived area characteristics constant and then try to identify differences in NDC areas having controlled for these other influences. This approach side-steps some of these estimation issues and allows us to interpret differences between deprived and non-deprived areas as descriptive differences with no underlying assumptions about causation.

### 1.3.2 Programme Effects: Data Constraints

Having considered the theoretical problems of measurement of area and NDC area effects we are also faced with a number of more practical measurement difficulties that arise from the data and from the nature of NDC.

New Deal for Communities is a programme that operates over a medium to long-term. We, in common with the other evaluators, take the beginning of programme effects to be the year 2000. This begs the question of whether the available time window of 2000-2003 is sufficiently long to pick up any of the longer term investment-based changes in the NDC areas. For those areas that concentrate their efforts on increasing job-search and other direct supply side interventions so as to improve employment rates we will be better able to capture direct employment effects over three years. But other investments, such as investments in human capital, in the physical environment, in reducing crime and in improving health, are not likely to have immediate employment outcomes and any employment effects are only likely to be identified over a longer time period.

Another problem with measuring the potential impact of NDC on employment is that the LFS can only identify those that currently live in NDC areas; but as successful job entrants may move out of these areas it may not capture all of the employment effects. Quarterly sampling helps in this respect and we use place of residence as identified in the first quarter of sampling in our analysis of employment dynamics to capture moves over 12 months. In cross-sectional analysis we are only able to show the net employment rate, and not any increases that may have occurred as result of moves into and out of NDC areas.

There are other reasons for expecting difficulty in measuring potential impacts of NDC. First, the changes in employment profiles between 1993 and 2003 discussed above suggest an increasing divergence between deprived and affluent areas. Falling relative employment rates for the less skilled may mean that the net impact of NDC is to temper the rate of relative decline rather than to give rise to any clear increase in employment.

Second, we can only at this stage measure potential impacts across the whole NDC programme in 39 areas. This means that impacts will be *averaged* across a spread of effectiveness of different NDC sites so that any aggregate results will overestimate the performance of the lowest performers and *vice versa*

Third, we also face the problem that other programmes are operating in these areas. There will be variation in national mainstream programmes that produce different outcomes. Mainstream programmes have wide variations in local effectiveness and it may be that outcomes are, in part, a reflection of the separate and/or interactive effects of NDC and other policy. It is also often the case that NDC is also happening concurrently with other area-based initiatives. We correct our estimates as far as possible for three DWP programmes (Action Teams for Jobs, Employment Zones and Step-Up pilots), but there are ranges of other smaller ABIs that could explain outcomes either alongside or interacting with NDC.

For all of these reasons, and for other methodological reasons that we discuss as we progress through the remainder of this report, our assessments of outcomes and impacts of NDC are provisional at this stage and should be interpreted as such.

## 1.4 Overview

This first part has described the data we use for evaluation, the Labour Force Survey, and has shown how this data for the period of 1993-2003 clearly shows a growth in employment and a decline in unemployment across all areas, both deprived and non-deprived. However, such trends also show a growing divergence in employment across deprived and non-deprived areas for individuals with the worst labour market characteristics, and a growth in concentration of such people in the most deprived areas. These employment differences between areas may however be at least in part due to choices that individuals make about where they live, or “sorting” effects. This makes identification of area effects difficult because we are not able to adequately control for selection into areas. We therefore adopt a “blind” approach to area effects that purely measures their effect on employment without specifying how much is due to “selection”. Lastly, in measuring the impact of NDC on employment and area effects we are also hampered by several types of potential measurement error including accurately capturing a “control group”, the presence of other area-based policy initiatives and by unobserved effects such as population change and migration.

## Part 2

### Analysis of NDC Effects

In this section we report the results from several sets of analysis of LFS data that attempt to estimate differences in employment-related outcomes for those who live in NDC areas. These analyses differ from the more simple cross-tabulations shown in Section 1 by controlling for observed differences in individual and area characteristics. This allows us to estimate the effect of living in an NDC area alone on employment probabilities, both before and after implementation of the programme.

#### 2.1 The Employment Penalty of Living in a Deprived Area?

We have seen from the trend evidence on employment in Part 1 that there is an apparent employment disadvantage to living in a deprived area. We have also seen from the literature that there are difficulties in accurately identifying the net area effect on employment. However, we are able to get a better measure of the net impact of NDC on employment by controlling for personal and area characteristics. To do so, we use the idea of a net *employment penalty*, an independent penalty to employment that arises from living in a deprived area that operates in addition to the other characteristics. This measure does not try to identify or separate any of the particular causes of employment penalties to living in a deprived area, but instead identifies the additional net difference in probability of being employed that is associated with living in a deprived area. We also look at how this difference changes over time, and then look separately at how it changes in NDC areas compared to other deprived areas. If the net employment penalty to living in an NDC area is smaller than that in other deprived areas, or if the penalty to living in an NDC area falls relative to that in other deprived areas after the programme is implemented, then this could represent a significant impact of the programme.

A problem with estimating such a deprivation related employment penalty is that the trend data in Part 1 shows us that any employment penalty is not constant over time but appears to have grown. This means that the potentially most accurate method of estimation is to specify the relative employment penalty annually and then look at the change in this difference over time, as well as relative differences between the most deprived areas and the reference areas. We use a probit model to measure annual employment penalties over the whole period of 1993 to 2003 using repeated cross-sections from the LFS. Our modelling is done in a stepped additive approach, first estimating the employment probabilities using only quintiles of IMD 2004 deprivation, then adding a full set of personal characteristics thought to affect employment (these controls are dummies for age group, ethnicity, highest educational qualification, marital status and the presence of children in the household), and then adding standard region dummies. We also included TTWA employment rates as a measure of demand within the wider region but this added little explanatory power and so the results for these regressions are not reported here. The first model therefore shows the raw employment deficit of those living in the poorest quintiles. Adding in personal characteristics strips out the effects of individual characteristics on employment (as opposed to area effects) and finally by adding standard region we are able to control for differences in aggregate demand across standard regions. A full set of these modelled results for the three years can be seen in Appendix A. Below we report summary tables from these probit models where the fullest set of control variables are included (i.e. personal characteristics and region). The coefficients reported are the marginal effects from the model; that is they tell us how much the probability of employment changes as a result of, for example, being in the bottom SOA quintile. Each set of results first estimates the employment penalties for a whole population divided into quintiles of area deprivation. Second, the

employment penalties for this sample are then re-estimated using controls for the presence of NDC and the other Area Based Initiatives (ABIs).

### 2.1.1 Men

Our first set of results is for men. Table 9 shows the estimated employment penalty for men according to the different levels of area deprivation. The penalty is defined relative to the middle quintile. The population of greatest policy concern for NDC, the most deprived and, to a lesser extent, the second most deprived quintiles of deprivation are compared to the middle quintile group, our comparison group. This means, in effect, that we are measuring employment penalties by reference to the median level of area deprivation. Looking first at the most deprived quintile, where 88 per cent of NDC populations live, we see that the probability of employment was 11 per cent lower for an individual living in the most deprived quintile than for an individual with comparable characteristics living in the median quintile in 1993, and that this had reduced to 7 per cent by 1999. However, in 2003 the penalty was still 8 per cent. The second most deprived quintile had a much lower penalty in 1993: five per cent, and this fell by 1999. In 2003 the employment penalty for the second most deprived quintile was around 1.5 per cent. Note that adding in controls for characteristics knocks out about half of the raw employment penalty to living in deprived areas.

**Table 9 - Male Employment Penalty from Living in a Deprived Area**

<i>Dependent variable:</i> <i>Employment</i>	<b>1993</b>	<b>1999</b>	<b>2003</b>
<b><i>Quintiles of SOA Deprivation</i></b> (omitted category, middle quintile)			
Most Deprived Quintile	-.108**	-.072**	-.077**
Second	-.046**	-.013**	-.015**
Fourth	.024**	.008**	.010**
Least Deprived Quintile	.038**	-.003**	-.001

Notes:

1. \* significant at 95%, \*\* significant at 99%
2. Reported coefficients are marginal effects from a probit model.
3. Controls for age, education, ethnicity, marital status, presence of children in household and standard region.
4. Estimated coefficients are relative to the middle quintile of SOA deprivation.
5. See Appendix Table A1 for a fuller set of results.

There is some gain to living in the least deprived quintiles: those in the quintile with the least deprivation were, all else equal, 4 percent more likely to be in employment in 1993. By 2003 however only living in the most deprived quintile had a substantial and significant impact on employment propensities.

Has NDC had any impact on these male employment penalties?

Policy makers have made any estimation of an independent effect for NDC alone very difficult by having more than one Area Based Initiative (ABI) operating simultaneously alongside NDC areas in many instances. This makes it difficult first to disentangle the effect of NDC alone on employment, and second to set up a counterfactual as most deprived areas have had some ABI targeted at them. As we have already explained in Part 1, we are only able to identify two DWP ABIs, Employment Zones (EZs) and Action Teams (ATs), but even with just these the data shows huge levels of overlap with two or three programmes simultaneously operating in the same area and with overlapping coverage. EZs are probably easier to distinguish as they operate over fairly large areas compared to NDCs, which are smaller nested areas within EZs. EZs also deal with a more strictly defined client group, the long term unemployed, rather than the wider focus on workless populations dealt with by NDCs and ATs. Appendix B shows the cell sizes of the respondent populations allowing for NDC and ABI interactions and shows how numbers identified as living in “NDC only” areas in cross-sectional data fall to small samples. Of the 1,758 respondents living in

NDC areas in 2003, 684 were in areas where NDC operated alone, 69 were also in EZ areas, 494 in AT areas and a further 503 experienced all three interventions.

This overlapping of ABIs on the ground presents a real measurement dilemma for econometric analysis that has the aim of estimating a separate and independent effect for NDC impact. The three programmes are highly collinear and we therefore specify a series of interactions in order to estimate independent effects.

**Table 10 - NDC impact on the Male Employment Penalty from Living in a Deprived Area**

	1993	1999	2003
<b>NDC Areas</b>			
NDC only	-.054*	-.053**	-.062**
NDC + EZ	-.154*	-.105	-.171*
NDC + AT	-.030	-.139**	-.089**
NDC + EZ +AT	-.119**	-.102**	-.071**
<b>Other ABI Areas</b>			
EZ only	-.044**	-.050**	-.026**
AT only	-.043*	-.042**	-.027**
EZ + AT	-.042**	-.052**	-.028**
<b>Quintiles of SOA Deprivation</b> (omitted category, middle quintile)			
Most Deprived Quintile	-.093**	-.058**	-.060**
Second	-.042**	-.020**	-.010**
Fourth	.022**	.014**	.007*
Least Deprived Quintile	.035**	.016**	-.005

Notes:

1. \* significant at 95%, \*\* significant at 99%
2. Reported coefficients are marginal effects from a probit model.
3. Controls for age, education, ethnicity, marital status, presence of children in household and standard region.
4. Estimated coefficients are relative to the middle quintile of SOA deprivation.
5. See Appendix Table A1 for a fuller set of results.

Table 10 shows the employment penalties broken down between ABI programme areas and quintiles of deprivation. This means that the total employment penalty for those living in the ABI programme area is the sum of the individually estimated penalty for the type of ABI are they reside in *and* the underlying quintile employment penalty. The majority of those who live in the NDC areas live in the most deprived quintile, but Employment Zones area of operation is different and covers a wider spectrum of deprived areas, while ATs are more likely to be smaller geographical areas of more consistently high deprivation.

Table 10 reports of an interactive profile of NDC with these other ABIs in the following way. There are four populations: those that lived in an area where only NDC was in place from 2000, those who lived in areas where NDC and EZ was in place from 2000, those who live in an area where NDC and AT were in place from 2000 and, finally, those that lived in an area where all three ABIs were operating.

Readers are advised to first read across the rows of results to see the changing employment penalty over time. In “pure” NDC areas there is a fairly constant and significant employment penalty of 5 to 6 per cent between 1993 and 2003. In areas where NDC and EZs operate there is an employment penalty of around 15 percent in 1993 and 17 percent in 2003. Where NDC and AT operate together there is a significant change from no employment penalty in 1993, a 14 percent penalty in 1999 and a 9 per cent penalty in 2003. For areas where all three ABIs operate then there is a fall in the penalty between 1993/1999 and 2003, from a penalty of around 10 percent to just 3 percent.

The results for the non-NDC programmes operating outside of NDC areas show that EZs, ATs and EZs and ATs operating together have all shown a small fall in employment penalties.

	1993	1999	2003
<b>NDC Areas</b>			
NDC only	-.054*	-.053**	-.062**
NDC + EZ	-.154*	-.105	-.171*
NDC + AT	-.030	-.139**	-.089**
NDC + EZ +AT	-.119**	-.102**	-.071**
<b>Other ABI Areas</b>			
EZ only	-.044**	-.050**	-.026**
AT only	-.043*	-.042**	-.027**
EZ + AT	-.042**	-.052**	-.028**
<i>Quintiles of SOA Deprivation</i> (omitted category, middle quintile)			
Most Deprived Quintile	-.093**	-.058**	-.060**
Second	-.042**	-.020**	-.010**
Fourth	.022**	.014**	.007*
Least Deprived Quintile	.035**	.016**	-.005

Notes:

1. \* significant at 95%, \*\* significant at 99%
2. Reported coefficients are marginal effects from a probit model.
3. Controls for age, education, ethnicity, marital status, presence of children in household and standard region.
4. Estimated coefficients are relative to the middle quintile of SOA deprivation.
5. See Appendix Table A2 for a fuller set of results.

Interpretation of these estimates in full requires additional reference to employment penalties for each quintile of deprivation. NDC results align with the most deprived quintile, where between 1999 and 2003 the employment penalty was constant at around 6 per cent. This means that for those who live in NDC *only* areas in the most deprived quintile the total employment penalty in 1993 was around 15 per cent and that it fell to around 11 per cent by 1999 and that, after three years of NDC programme, it remained little changed at 12 per cent in 2003. Similarly, when we look at the total penalty for those who live in the NDC areas that also had ATs, EZs and ATs, then the overall employment penalty fell by between 3 and 5 percentage points between 1999 and 2003. These initial estimates of changes in employment penalties in NDC areas that indicate a possible impact of NDC itself, either alone or in conjunction with other ABIs.

### 2.1.2 Women

Table 11 repeats the general analysis of employment penalties for women. In the most deprived quintile the employment penalty for women was 7.2 per cent in 1993. To recap, this means that a woman living in the worst twenty percent of deprived small areas (SOAs) was 7.2 per cent less likely to be employed than a woman living in the averagely deprived area, controlling for all other factors. By 1999 this penalty may have lessened slightly to 6.7 per cent and the employment penalty remained at this level in 2003. In the second most deprived quintile the female employment penalty was just over 2 per cent in 1993 and has remained at around 2 per cent in 2000 and 2003. Overall, there is no strong evidence that employment penalties for women have altered over time in the most deprived quintiles. However, it is clear that the penalty in the most deprived quintile is significantly worse than that of the second or other quintiles.

**Table 11 - Female Employment Penalty from Living in a Deprived Area**

	1999	2003	1993
<i>Quintiles of SOA Deprivation</i> (omitted category, middle quintile)			
Most Deprived Quintile	-.072**	-.067**	-.068**
Second	-.025**	-.020**	-.020**
Fourth	-.003	.002	-.002
Least Deprived Quintile	-.008	-.016**	-.020**

Notes:

1. \* significant at 95%, \*\* significant at 99%
2. Reported coefficients are marginal effects from a probit model.
3. Controls for age, education, ethnicity, marital status, presence of children in household and standard region.
4. Estimated coefficients are relative to the middle quintile of SOA deprivation.
5. See Appendix Table A3 for a fuller set of results.

**Table 12 - NDC impact on the Female Employment Penalty from Living in a Deprived Area**

	1993	1999	2003
<b>NDC Areas</b>			
<i>NDC only</i>	-.019	.031	.019
<i>NDC + AT</i>	-.049	-.111**	-.104**
<i>NDC + EZ</i>	-.181*	.136*	-.187*
<i>NDC + EZ +AT</i>	-.060	-.055	-.056
<b>Other ABI Areas</b>			
<i>EZ only</i>	-.044**	-.035**	-.040**
<i>AT only</i>	-.019*	-.033**	-.027**
<i>EZ + AT</i>	-.041**	-.009	-.055**
<i>Quintiles of SOA Deprivation</i> (omitted category, middle quintile)			
Most Deprived Quintile	-.062**	-.057**	-.061**
Second	-.022**	-.017**	-.010**
Fourth	-.005	.001	.006*
Least Deprived Quintile	-.011*	-.019**	-.005

Notes:

1. \* significant at 95%, \*\* significant at 99%
2. Reported coefficients are marginal effects from a probit model.
3. Controls for age, education, ethnicity, marital status, presence of children in household and standard region.
4. Estimated coefficients are relative to the middle quintile of SOA deprivation.
5. See Appendix Table A4 for a fuller set of results.

Table 12 shows the estimated impacts of NDC on the employment penalty of living in a deprived area for women. Only women living in areas where both NDC and AT or NDC and EZ were occurring simultaneously have significant results. Moreover these suggest that area employment penalties have been roughly held constant or have fallen a little between 1999 and 2003. When we add the underlying additional penalty of living in the most deprived quintile, this means that the employment penalty has remained fairly flat overall. Results for the other NDC areas (NDC only and NDC plus EZ plus AT) are not significant. Results for the other DWP ABI programmes all show significant employment penalties although there is no clear pattern of change over time.

The results for men and women reflect the whole working age population, but we know from the evidence of employment trends in Part 1 that there is an increasing divergence in both population characteristics and in employability characteristics between deprived areas and the non-deprived. This means that potential impacts on important sub-groups of the population may not be fully accounted for if the underlying populations differ. In order to account for these differences we

therefore restrict our analysis to disadvantaged groups, living within and outside NDC areas, to see what impact of ABIs have had on the disadvantaged.

### 2.1.3 Low skilled Men

Table 13 shows the results on evolving employment penalties for low-skilled men, whom we have observed to have falling employment rates in Part 1. Table 13 shows that the employment penalty for low-skilled men, holding all other individual and area characteristics constant appears to be fairly stable over time and that the penalty is large for the most deprived areas. All penalties are based on a comparison with living in the middle quintile of deprived areas. In the most deprived quintile of areas the employment penalty has been fairly consistent over time at around 10 per cent reduced probability of being in employment. Estimates for the second most deprived quintile bounce somewhat in the years observed but suggest that the employment penalty has fallen slightly from around 5 per cent to around 3 per cent.

**Table 13 - Low-skilled Male Employment Penalty from Living in a Deprived Area**

	1999	2003	1993
<i>Quintiles of SOA Deprivation</i> (omitted category, middle quintile)			
Most Deprived Quintile	-.125**	-.095**	-.100**
Second	-.051**	-.036*	-.025**
Fourth	.041**	.020**	.020**
Least Deprived Quintile	.042**	.021**	.002

Notes:

1. \* significant at 95%, \*\* significant at 99%
2. Reported coefficients are marginal effects from a probit model.
3. Controls for age, education, ethnicity, marital status, presence of children in household and standard region.
4. Estimated coefficients are relative to the middle quintile of SOA deprivation.
5. See Appendix Table A5 for a fuller set of results.

Table 14 shows the estimated impact of NDC on the area employment penalty of low-skilled men. There are significant results for NDC areas that operate alongside other ABIs. These estimates range from an employment penalty of 9 percent to 18 percent in 2003. The direction of change in this penalty largely suggests a fall in the employment penalty (with the exception of NDC plus EZ, although the results are only significant at 5 percent and have a relatively large margin of error). However this is offset to some extent by the rise in the penalty to living in the most deprived areas, which increased from 6 to 9 per cent between 1999 and 2003.

**Table 14 - NDC impact on Low-skilled Male Employment Penalty from Living in a Deprived Area**

	1993	1999	2003
<b>NDC Areas</b>			
<i>NDC only</i>	-.042	-.053**	-.030
<i>NDC + EZ</i>	-.202*	-.105	-.183*
<i>NDC + AT</i>	-.053	-.139**	-.088**
<i>NDC + EZ +AT</i>	-.118**	-.102**	-.083*
<b>Other ABI Areas</b>			
<i>EZ only</i>	-.056**	-.050**	-.010
<i>AT only</i>	-.053*	-.042**	-.034**
<i>EZ + AT</i>	-.051**	-.052**	-.040**
<i>Quintiles of SOA Deprivation</i> (omitted category, middle quintile)			
Most Deprived Quintile	-.108**	-.058**	-.086**
Second	-.047**	-.020**	-.022**
Fourth	.038**	.014**	.019
Least Deprived Quintile	.039**	.016**	-.001

Notes:

1. \* significant at 95%, \*\* significant at 99%
2. Reported coefficients are marginal effects from a probit model.
3. Controls for age, education, ethnicity, marital status, presence of children in household and standard region.
4. Estimated coefficients are relative to the middle quintile of SOA deprivation.
5. See Appendix Table A6 for a fuller set of results.

### 2.1.4 Lone Parents (Mothers)

Table 15 shows the employment penalties for lone mothers, and shows that such penalties appear to be growing in the most deprived and second most deprived quintile. These results suggest that the recent rise in lone parent employment has been concentrated in better off areas. In 1993 lone parents' employment propensities were low regardless of area of residence; but by 2003 rising lone parent employment appears to have led to a polarisation in the experience of lone mothers with area playing an increasingly important role in determining employment outcomes. By 2003, after accounting for other differences in personal and area characteristics, we find that lone parents living in the most deprived quintile were around 8 per cent less likely to work than those living in an "average" area. Table 16 shows no significant impacts for NDC or any of the other ABIs on such worsened employment penalties.

**Table 15 - Lone Mothers' Employment Penalty from Living in a Deprived Area**

	1993	1999	2003
<b>Quintile</b>			
Most Deprived Quintile	-.024	-.053**	-.088**
Second	-.016	.001	-.045**
Fourth	.047*	.019	.017
Least Deprived Quintile	.033	.064**	.020

Notes:

1. \* significant at 95%, \*\* significant at 99%
2. Reported coefficients are marginal effects from a probit model.
3. Controls for age, education, ethnicity, marital status, presence of children in household and standard region.
4. Estimated coefficients are relative to the middle quintile of SOA deprivation.
5. See Appendix Table A 7 for a fuller set of results.

**Table 16 - NDC impact on Lone Mothers' Employment Penalty from Living in a Deprived Area**

	1993	1999	2003
<b>NDC Areas</b>			
NDC only	.096	.039	-.101
NDC + EZ		.375*	-.077
NDC + AT	-.114	.013	-.159
NDC + EZ +AT	.044	-.092	.090
<b>Other ABI Areas</b>			
EZ only	-.061*	-.025	-.017
AT only	-.015	-.053**	-.010
EZ + AT	-.052*	-.007	.013
<b>Quintiles of SOA Deprivation</b> (omitted category, middle quintile)			
Most Deprived Quintile	-.013	-.045**	-.087**
Second	-.014	-.020**	-.045**
Fourth	.044*	.017	.017
Least Deprived Quintile	.029	.063**	.020

Notes:

1. \* significant at 95%, \*\* significant at 99%
2. Reported coefficients are marginal effects from a probit model.
3. Controls for age, education, ethnicity, marital status, presence of children in household and standard region.
4. Estimated coefficients are relative to the middle quintile of SOA deprivation.
5. See Appendix Table A8 for a fuller set of results.

## 2.2 Pooled Cross-Sectional Estimates of Impact of Living in an NDC Area

Pooling LFS survey data over periods of time allows us to make a simpler distinction between a pre-programme period containing all years prior to NDC and a post-programme period that contains all the years after the introduction of NDC. The main advantage of this approach is that it maximises our sample sizes and therefore increases the precision of our estimates (or reduces standard errors). We merge 40 quarters of cross-sectional data from the LFS. This helps considerably with the problem of small numbers of respondents and helps provide more robust estimates for the impact of living in NDC areas on employment, of the effect if living in an NDC area with overlapping ABI areas, and for analysis of sub-groups. By pooling the time-series data into pre and post NDC periods we lose the ability to set annual coefficients that reflect the employment penalty for each quintile group of the working age population.

Table 17 shows the results for men from the probit model of employment probability, measured as the marginal difference of living in an NDC area, for the pre (1993-1999) and post (2000-2003) programme periods. The coefficients can be read and interpreted as percentage changes in probability of employment and are thus similar to the employment penalty estimated in the previous run of models above. As we are not particularly interested in measuring the different impacts of DWP ABIs but want to prioritise significance in result for NDC areas, we have condensed the interactions with DWP ABIs into three larger groups of areas: NDC only areas, NDC plus other ABIs (EZ and AT) and then the other ABIs alone. The modelling proceeds in a cumulative additive manner. We first add only controls for quarter of observation and quintiles of area deprivation constant, then add individual level characteristics, and then standard region. All runs of the model the employment penalty to living in a particular quintile of deprivation constant, and make employment penalties relative to living in the middle quintile group of deprived areas.

Areas where NDC operates alone (of course, there may be other local initiatives operating in such areas but probably none with large potential significance in employment effects) show no reductions in employment penalties after the introduction of NDC. Some original differences disappear when individual level characteristics and labour market characteristics are taken into effect. On the full specification of the model, penalties prior to the programme of living in an NDC area were an additional 3 per cent reduction of probability of being in employment, which when added to the overall penalty of 7 per cent from living in the most deprived quintile produce a combined penalty of around 10 per cent. After the programme this penalty appears to change little.

The model suggests little post-programme effect in those areas where NDC has operated alongside other ABIs. Here, on the final version of the model, employment penalties have remained fairly constant at 5.8 or 5.9 per cent, and thus overall employment penalties remain for NDC areas in the most deprived quintile at around 13 per cent.

The other DWP ABIs show more of an impact, reducing penalties from 4.5 per cent prior to the year 2000 compared to 2.6 per cent for the period from 2000 to 2003. This doesn't in itself mean that such ABIs are more successful in themselves because they are aimed at very different populations, especially EZs, which operate across much larger areas and focus on long-term unemployed rather than the larger workless population.

**Table 17 - Employment Probabilities of Men living in NDC areas pre and post Programme**  
*Marginal Effect from Probit Model*

	Time and Quintile only	+ Personal Characteristics	+ Region
<b>NDC areas only</b>			
<i>Pre NDC</i>	-.043**	-.031**	-.032**
<i>Post NDC</i>	-.036**	-.034**	-.035**
<b>NDC areas operating alongside other ABIs (EZ and AT)</b>			
<i>Pre NDC</i>	-.080**	-.063**	-.059**
<i>Post NDC</i>	-.094**	-.063**	-.058**
<b>Other ABI (EZ and AT) areas only</b>			
<i>Pre NDC</i>	-.044**	-.050**	-.045**
<i>Post NDC</i>	-.026**	-.031**	-.026**
<b>Quintiles of SOA Deprivation (omitted category, middle quintile)</b>			
Most Deprived Quintile	-.168**	-.073**	-.070**
Second	-.050**	-.022**	-.021**
Fourth	.033**	.015**	.014**
Least Deprived Quintile	.056**	.015**	.014**
<i>Obs P</i>	.801	.802	.802
<i>Pred P</i>	.811	.855	.855
<i>Pseudo R2</i>	.045	.266	.267

Notes:

1. \* significant at 95%, \*\* significant at 99%
2. Reported coefficients are marginal effects from a probit model.
3. Controls for age, education, ethnicity, marital status, presence of children in household and standard region.

**Table 18 - Employment Probabilities of Women living in NDC areas pre and post Programme**  
*Marginal Effect from Probit Model*

Controls	Time and Quintile only	+ Personal Characteristics	+ Region
<b>NDC Only Areas</b>			
<i>Pre NDC</i>	-.037**	-.001	-.002
<i>Post NDC</i>	-.006**	+.009	+.008
<b>NDC areas operating alongside other ABIs (EZ and AT)</b>			
<i>Pre NDC</i>	-.074**	-.053**	-.042**
<i>Post NDC</i>	-.097**	-.077**	-.065**
<b>Other ABI (EZ and AT) areas only</b>			
<i>Pre NDC</i>	-.014**	-.031**	-.024**
<i>Post NDC</i>	-.019**	-.036**	-.029**
<b>Quintiles of SOA Deprivation (omitted category, middle quintile)</b>			
Most Deprived Quintile	-.199**	-.063**	-.062**
Second	-.058**	-.015**	-.015**
Fourth	.028**	-.002	-.002
Least Deprived Quintile	.039**	-.018**	-.018**
<i>Obs P</i>	.693	.694	.694
<i>Pred P</i>	.698	.722	.722
<i>Pseudo R<sup>2</sup></i>	.031	.176	.176

Notes:

1. \* significant at 95%, \*\* significant at 99%
2. Reported coefficients are marginal effects from a probit model.
3. Controls for age, education, ethnicity, marital status, presence of children in household and standard region.

Table 18 repeats the analysis for women. It shows that living in NDC areas has no significant effect once personal and labour market characteristics are taken into account alongside quintile of deprivation, and that there is no significant difference in employment probabilities after the introduction of NDC.

For women that live in the areas where NDC is operating alongside other ABIs, the model suggests that employment penalties have grown in the period since the introduction of NDC. The final fully iterated version of the model estimates that the employment penalty specific to those areas has risen from 4.2 to 6.5 per cent, which combined with the underlying penalty of living in the most deprived quintile means that women's employment penalty has risen from 10.4 to 10.7 per cent. This finding of stagnating employment penalties is echoed in the results for the other ABI areas when they operate outside of NDC areas.

Table 19 repeats the analysis for the sub-group of low-skilled men. There is no significant difference in employment penalties between pre and post NDC periods in the areas where NDC operates alone. However, where NDC operates alongside the other ABIs there appears to be an increase in employment penalty since the operation of NDC. The area-specific penalty for these areas has risen, according to the fully iterated version of the model, from 6.5 per cent to 7.8 per cent. This rise means that the combined penalty has risen from 15.5 to 16.8 per cent for those that additionally live in the most deprived decile. On the other hand, the DWP ABIs operating outside of NDC areas show flat or slightly reduced penalties, from 5.1 to 4.6 per cent in those particular areas, independent of the penalty from their position in the overall distribution of area deprivation

**Table 19 - Employment Probabilities of Low-Skilled Men living in NDC areas pre and post Programme**

*Marginal Effect from Probit Model*

Controls	Time and Quintile only	+ Personal Characteristics	+ Region
<b>NDC Only Areas</b>			
<i>Pre NDC</i>	-.045**	-.029*	-.030**
<i>Post NDC</i>	-.021**	-.022*	-.023
<b>NDC areas operating alongside other ABIs (EZ and AT)</b>			
<i>Pre NDC</i>	-.079**	-.074**	-.065**
<i>Post NDC</i>	-.119**	-.087**	-.078**
<b>Other ABI (EZ and AT) areas only</b>			
<i>Pre NDC</i>	-.056**	-.060**	-.051**
<i>Post NDC</i>	-.052**	-.055**	-.046**
<b>Quintiles of SOA Deprivation (omitted category, middle quintile)</b>			
Most Deprived Quintile	-.181**	-.093**	-.090**
Second	-.059**	-.032**	-.031**
Fourth	.045**	.026**	.025**
Least Deprived Quintile	.073**	.030**	.028**
<i>Obs P</i>	.750	.750	.750
<i>Pred P</i>	.761	.800	.800
<i>Pseudo R2</i>	.049	.273	.273

Notes:

1. \* significant at 95%, \*\* significant at 99%
2. Reported coefficients are marginal effects from a probit model.
3. Controls for age, education, ethnicity, marital status, presence of children in household and standard region.

Table 20 shows the results for lone mothers. The results suggest a large negative effect on employment probabilities for those who live in NDC areas after the introduction of the programme. Prior to the programme there was no employment penalty for lone parents living in these areas but

instead a positive 6.6 per cent increase in probability of employment. Since the programme this has changed and there is now a 6 per cent penalty; that is, lone parents are now 6 per cent less likely to enter employment. This result is best interpreted alongside the underlying penalty from living in the most deprived area and means that prior to the programme there was roughly an equal chance of being in employment when compared to the middle quintile of deprivation ( $+0.066 + - 0.071 = - 0.005$  or a 0.5 per cent difference). After the programme, lone parents living in NDC areas and in the least deprived quintile had 13.1 per cent employment penalty; that is, they were 13.1 per cent less likely to be employment compared to lone parents living in the middle deprivation quintile.

The results for the areas where NDC was operating alongside the other ABIs, however, show a significant improvement in employment probabilities in the period after the introduction of NDC for all versions of the model apart from the fully iterated version that includes TTWA employment rate. The consistent picture of a reduced employment penalty is a good indicator of a potential positive effect of NDCs, that is also shown in the lower value of coefficient for the post NDC period in the fully iterated model but that is not significant.

The other ABI programmes, operating outside of NDC areas, also show a worsening employment penalty for lone parents in those areas for the period after the introduction of NDC.

So far we have only looked at analysis based on cross-sectional rates of employment. Such rates may hide important dynamic differences between entry and exit rates into and from work and in underlying persistence in employed and non-employed stocks. Our next analysis therefore moves to look at the probabilities of entering or exiting work in NDC areas before and after the programme.

**Table 20 - Employment Probabilities of Lone Mothers living in NDC areas pre and post Programme**

*Marginal Effect from Probit Model*

Controls	Time and Quintile only	+ Personal Characteristics	+ Region
<b>NDC Only Areas</b>			
<i>Pre NDC</i>	+0.008	+0.064**	+0.066**
<i>Post NDC</i>	-0.066**	-0.061**	-0.060**
<b>NDC areas operating alongside other ABIs (EZ and AT)</b>			
<i>Pre NDC</i>	-0.066**	-0.071**	-0.058**
<i>Post NDC</i>	-0.057**	-0.059**	-0.042*
<b>Other ABI (EZ and AT) areas only</b>			
<i>Pre NDC</i>	-0.006	-0.030**	-0.019**
<i>Post NDC</i>	-0.010*	-0.035**	-0.025**
<b>Quintiles of SOA Deprivation (omitted category, middle quintile)</b>			
Most Deprived Quintile	-.181**	-.069**	-.071**
Second	-.059**	-.025**	-.025**
Fourth	.045**	.014**	.014**
Least Deprived Quintile	.073**	.019**	.021**
<i>Obs P</i>	.534	.538	.534
<i>Pred P</i>	.536	.543	.536
<i>Pseudo R2</i>	.048	.173	.174

Notes:

1. \* significant at 95%, \*\* significant at 99%
2. Reported coefficients are marginal effects from a probit model.
3. Controls for age, education, ethnicity, marital status, presence of children in household and standard region.

## 2.3 Job Entry and Exits in Deprived and NDC Areas

This section of the analysis answers two questions in turn: First, how do employment dynamics differ between deprived and non deprived areas and, second, what estimates can be made of the impact NDC has had on such dynamics? To answer these questions we move from the cross-sectional profiles of LFS data to look at the panel element of the LFS, collected quarterly with individuals followed over five quarters. By comparing the employment position in the first quarter to that of the fifth we can identify a range of employment dynamics.

**Table 21 - Dynamic Employment States over a Period of One Year:  
NDC and Deprivation Status 2001-2003**

*Men*

% of all		All	Most Deprived Quintile	Most Deprived Decile	NDC Areas**
Persistent States	employed-employed	79.2	63.0	57.7	61.7
	inactive-inactive	10.6	20.1	23.0	22.2
	unemployed-unemployed	1.6	4.0	5.2	4.8
Job Entries	unemployed-employed	2.2	3.7	4.3	2.6
	inactive-employed	1.3	1.6	1.6	1.2
Job Exits	employed-unemployed	1.7	2.3	2.4	0.6
	employed-inactive	1.9	2.0	1.9	--
Change in Workless Status	unemployed-inactive	0.8	1.7	2.0	4.6
	inactive-unemployed	0.7	1.6	1.9	2.2

*Women*

% of all		All	Most Deprived Quintile	Most Deprived Decile	NDC Areas**
Persistent States	employed-employed	66.4	48.3	44.3	48.5
	inactive-inactive	21.4	36.5	40.3	34.7
	unemployed-unemployed	0.8	1.7	2.0	3.0
Job Entries	unemployed-employed	1.4	1.8	1.6	2.2
	inactive-employed	3.1	3.0	2.7	1.0
Job Exits	employed-unemployed	1.1	1.1	1.4	0.4
	employed-inactive	3.8	3.6	3.2	4.1
Change in Workless Status	unemployed-inactive	1.0	1.7	1.9	2.3
	inactive-unemployed	1.1	2.4	2.7	3.9

*Note \*\* Figures for NDC areas are illustrative only and cannot be interpreted as significantly different from the most deprived quintile or decile*

Table 21 shows the whole dynamic profile for the panel samples for the period from 2001 to 2003 distinguished by deprivation and NDC status. The table shows profiles for both men and women broken down into four main dynamic profiles:

- *Persistent States* – where the status in the first quarter is the same in the fifth
- *Job Entries* – where there was a workless status in the first quarter and an employed status in the fifth

- *Job Exits* – where there was an employed status in the first quarter and a workless status in the fifth
- *Change in Workless Status* – where worklessness was observed in both the first and fifth quarters but the definition of workless state changed.

Employment persistence is an important indicator of continued employment in terms of both income stability and levels. For men, 79 per cent were persistently in work across England but in the most deprived quintile this falls to 63 per cent and in the most deprived decile it falls further to 58 per cent. NDC figures are also shown but samples are too small to say that they are significantly different from either the most deprived quintile or decile. Eleven per cent of men were persistently inactive in England, but the rates were roughly double in the most deprived quintile, 20 per cent, and in the most deprived decile, 23 per cent. Less than two per cent were unemployed over the whole five quarters in England, but this was roughly double in the most deprived quintile, four per cent, and most deprived decile, five per cent.

Job entry probabilities are lower than those for persistent states. This is important for our sample, because the numbers of job entries in the NDC areas are a very small sub-group of the panel samples and this has limits our later analysis below. It must also be remembered that overall workless rates are far higher in the more deprived area and thus volumes of job entries will be much higher even if job entry probabilities are similar to those in average English regions. For men, job entry from unemployment was around 2.2 per cent for England as a whole, and roughly doubles, at 3.7 and 4.3 for areas in the most deprived quintile and decile respectively. Job entry from inactivity gives, by definition, smaller probabilities than that of entering employment, at 1.3 per cent in England and 1.6 per cent in the most deprived quintile and decile. These higher job entry rates reflect the higher proportions of the population who are inactive or unemployed in more deprived areas.

Male job exit probabilities are lower than for persistent states and this has the same impact on sample sizes for subsequent analysis as discussed above for job entries. There is no great difference in job exit probabilities across deprivation deciles; 1.7 per cent of employed in England are seen to be unemployed 5 quarters later and there is a slightly higher probability of 2.3 to 2.4 per cent in the most deprived quintile and decile. Probabilities of leaving work for inactivity seem constant across deprivation deciles at around two per cent.

The probabilities of changing status while workless are fairly small but are roughly double in deprived areas. Moving from unemployment to inactivity had a probability of 0.8 for the English population as a whole compared to 1.7 for the most deprived quintile and 2.0 for the most deprived decile. Moving from inactivity to unemployment has a similar profile, 0.7 per cent probability for England and 1.6 and 1.9 per cent for the most deprived quintile and decile.

How do women's dynamic characteristics differ? The largest difference is in the persistent states. Women have lower probabilities of remaining in work but such probabilities are much higher for England as a whole, 66 per cent, than in the most deprived quintile and decile, 63 and 58 per cent respectively. Women also have much higher probabilities of persistent inactivity – linked to caring – 21 per cent in England and 37 and 40 per cent in the most deprived quintile and decile respectively. Much of this difference will be explained by higher proportions of families with young children and of disabled people in the most deprived areas. Persistent unemployment is half the male rate, 0.8 per cent in England but around double in the most deprived areas.

Because of the underlying higher rate of persistent inactivity there is a greater probability of women entering jobs from inactivity, but job entry probabilities do not differ greatly across deprivation

deciles at around three per cent. Job entry probabilities from unemployment are consequently lower, 1.4 per cent for England and higher, around 2.3 to 2.4 per cent in the most deprived areas.

Job exits for women are also more likely to be from employment to inactivity, a 3.8 per cent probability for England and 3.6 and 3.2 for the most deprived quintile and decile respectively. Job exits to unemployment have lower probabilities, around one per cent across deprivation profile.

Changes in workless status for women from inactivity to unemployment are around 1 per cent for England and more than double this rate 2.4 to 2.7 per cent in the most deprived areas. Changes from unemployment to inactivity are similar levels: 1 per cent in England and 1.7 and 1.9 per cent in the most deprived quintile and decile respectively.

### ***2.3.1 Changes to Job Entry probabilities over time***

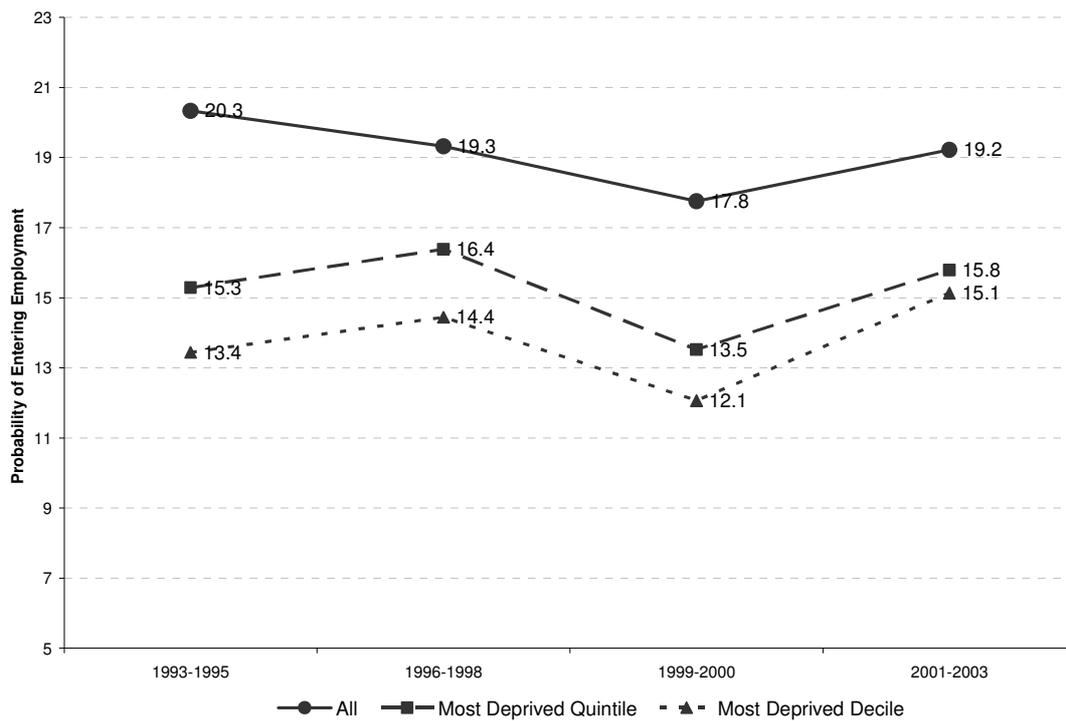
How have these probabilities changed over time and is there growing divergence between deprived and non deprived areas to match some of the divergence in the cross-sectional trends shown in Part 1? We concentrate solely on the probability of job entry and job exit from non employment and employment respectively, because there are the most important dynamic profiles for the underlying rates of employment. If more people enter work than leave, then employment rates rise and vice-versa.

Figures 8 and 9 show the aggregate job entry rates for four grouped periods of panel data from 1993 to 2003 for men and women respectively. For men, Figure 7 shows that the different probabilities of job entry between non deprived and deprived areas, although substantial, have narrowed over time. Job entry probabilities, expressed as a percentage of all workless men, have declined from 20 per cent in 1993-1995 to 17 per cent in 1998-2000, but have subsequently risen to 19 per cent in the most recent period, 2001-2003. Job entry probabilities for men in the most deprived quintile and decile have been consistently worse, but over time these differences have narrowed, both between themselves and with the average. On the other hand, job entry probabilities for women, already lower than men's overall, have fallen slightly over the whole period in England but the even lower entry probabilities for women living in the most deprived quintile and decile have fallen faster, leading to a widening gap between deprived and non-deprived areas and a widening gap between the bottom quintile and bottom decile.

There differing trends by gender and by deprivation are best summarised by looking at the evolving *differences* in job entry probabilities that arise when deprived areas are compared to the average. Figure 10 shows these by gender over the 1993-2003 period.

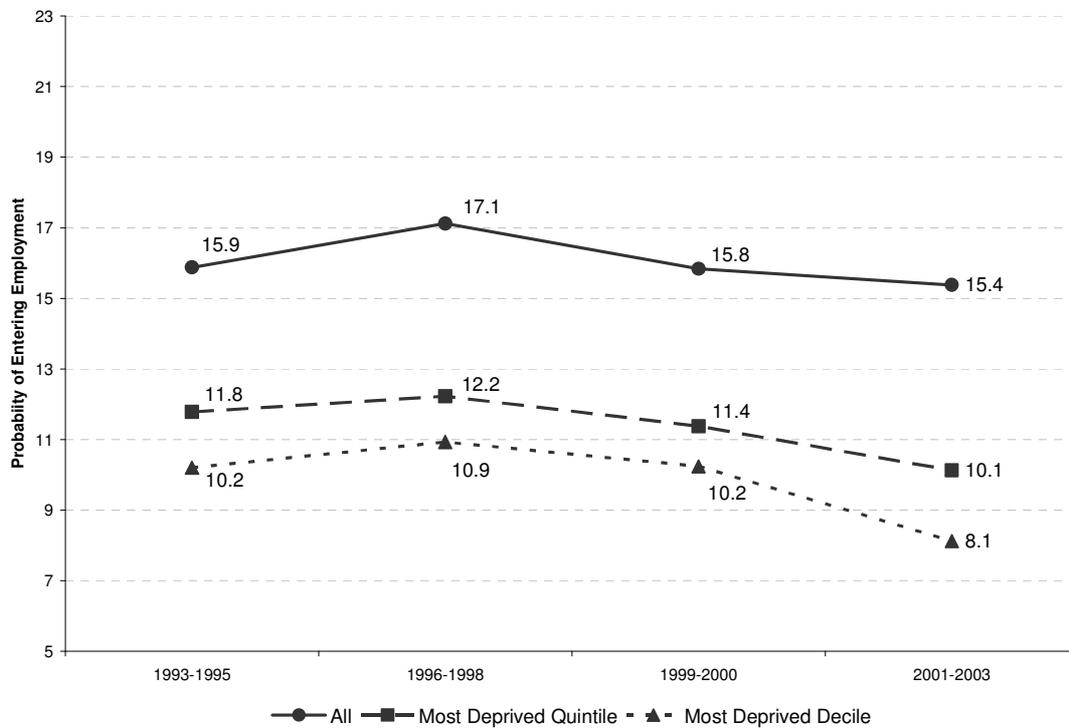
**Figure 8 - Male Job Entry Probabilities by Area Deprivation 1993-2003**

*For all workless men in 1<sup>st</sup> quarter of panel*



**Figure 9 - Female Job Entry Probabilities by Area Deprivation 1993-2003**

*For all workless women in 1<sup>st</sup> quarter of panel*



**Figure 10 - Differences in Job Entry Probabilities for Most Deprived Quintile and Decile of areas compared to England: 1993-2003**

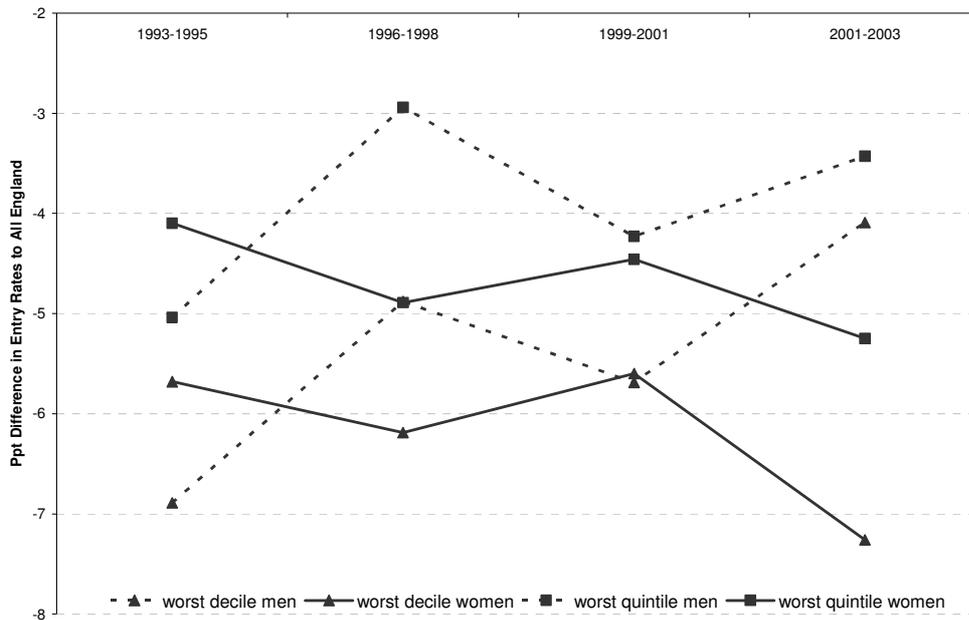
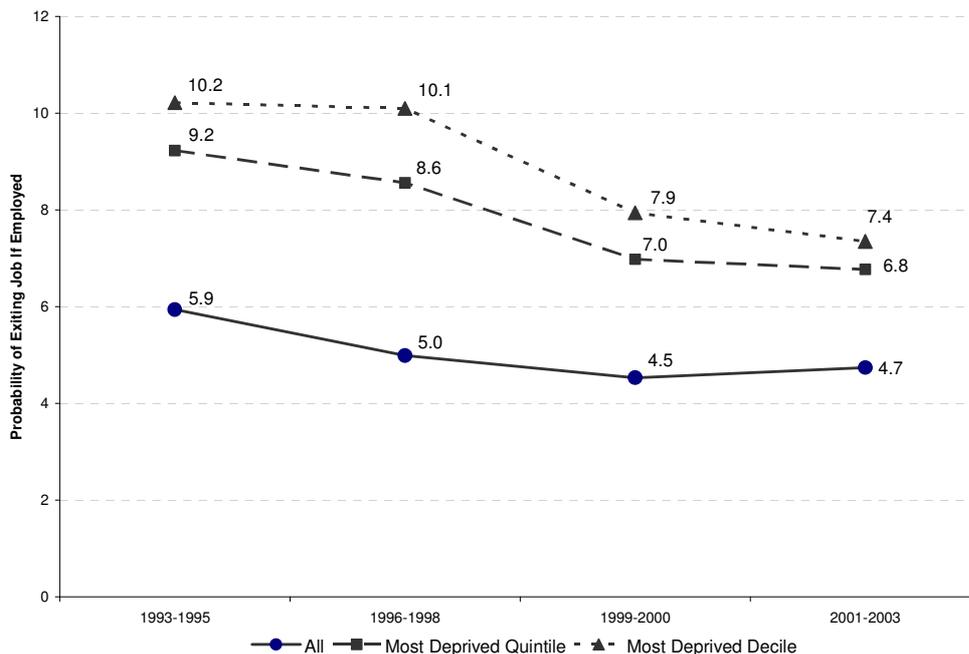


Figure 10 clearly shows narrowing differences for men (the dashed lines) when compared to the England average for men (score 0 on the left hand y axis), both for the worst quintile (square markers) and worst decile (triangular markers). The differences between the worst quintile and the worst decile are also observed to narrow. The opposite is true for women (continuous lines) with growing differences compared to the England average for women and widening differences between the worst decile and worst quintile.

### 2.3.2 Changes to Job Exit probabilities over time

**Figure 11 - Male Job Exit Probabilities by Area Deprivation 1993-2003**

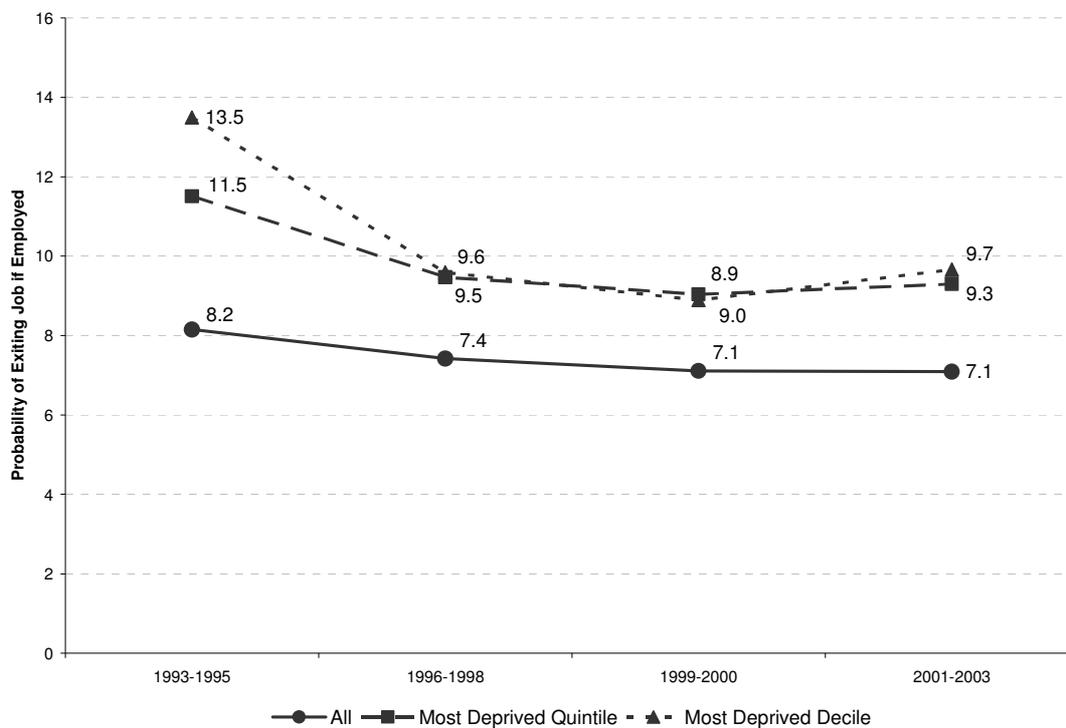
*For all employed men in 1<sup>st</sup> quarter of panel*



We now turn to consider the same trends for job exits over the same period. Figures 11 and 12 show the gross job exit probabilities for men and women and refer to the proportion of the panel employed in the first quarter and were subsequently observed to be workless in the fifth quarter. This proportion is expressed as the overall probability of job exit from employment. Job exit probabilities for men have fallen slightly overall between 1993 and 2003, from six to five per cent for England. Men living in the most deprived areas have higher probabilities of job exit, but these appear to have fallen, and to have fallen faster than for England overall, leading to a narrowing of differences between deprived and non-deprived areas over time. Figure 12 confirms that women have an overall higher probability of job exit but this also has fallen slightly, like men's, over the 1993 to 2003 period. Women living in deprived areas have higher probabilities of job exit but these probabilities have fallen over time and faster than the average decline leading to a narrowing of differences between probabilities of job exit in the deprived and non-deprived areas for women.

**Figure 12 - Female Job Exit Probabilities by Area Deprivation 1993-2003**

*For all employed women in 1<sup>st</sup> quarter of panel*



### 2.3.4 Modelling Job Entry and Job Exits

We now turn to the second of our main questions concerning employment dynamics: How have job entry and job exits changed in deprived areas when individual level and area level characteristics are controlled for, and how have NDC areas fared before and after the programme once such controls in place?

We run four probit models on the grouped panels split into three periods of time, two preceding NDC implementation and one following. In the light of the very large differences between men and women observed in our previous descriptive analysis we run separate models for each. Tables 24 and 25 shows the results for job entry probabilities and Tables 26 and 27 show the results for job exit probabilities.

**Table 22 - Job Entry Probabilities of Men living in Deprived and NDC areas 1996-2003**  
*Marginal Effect from Probit Model*

	1996-1998		1999-2000		2001-2003	
	Time only	Full controls	Time only	Full controls	Time only	Full controls
NDC only areas	0.014	0.039	0.074	0.0688	-0.054	-0.066
NDC and other ABIs	-0.043	-0.011	-0.050	-0.059	-0.074	-0.070*
Other	-0.026*	-0.021*	0.019	0.006	-0.028	-0.015
<i>Quintiles of SOA Deprivation</i> (omitted category, middle quintile)						
Most Deprived Quintile	-0.049**	-0.032**	-0.071**	-0.041*	-0.017	0.020
Second	-0.042**	-0.035**	-0.034*	-0.027	0.021	0.035
Fourth	-0.008	-0.008	0.014	-0.005	0.038	0.023
Least Deprived Quintile	-0.09	0.004	0.018	-0.009	0.034	0.015
Observations	9189	7164	4755	3604	4392	3420
Obs P	.193	.194	.177	.175	.185	.185
Pred P	.191	.104	.175	.097	.183	.095

Notes:

1. \* significant at 95%, \*\* significant at 99%
2. Controls for age, education, ethnicity, marital status, presence of children in household and standard region.

**Table 23 - Job Entry Probabilities of Women living in Deprived and NDC areas 1996-2003**  
*Marginal Effect from Probit Model*

	1996-1998		1999-2000		2001-2003	
	Time only	Full controls	Time only	Full controls	Time only	Full controls
NDC only areas	0.025	0.056	0.164*	0.0688	0.003	-0.017
NDC and other ABIs	-0.002	0.007	-0.047	-0.059	-0.162**	-0.116**
Other	-0.097	-	-.004	0.006	-0.021	-0.018
<i>Quintiles of SOA Deprivation</i> (omitted category, middle quintile)						
Most Deprived Quintile	-0.080**	-0.050**	-0.004	-0.041*	-0.068**	-0.034**
Second	-0.044**	-0.024**	0.019	-0.027	-0.031**	-0.035**
Fourth	-0.001	-0.018	0.017	-0.005	0.000	-0.004
Least Deprived Quintile	-0.007	-.023*	0.022	-0.009	-0.038	-0.032**
Observations	15088	11395	7633	5760	7005	5242
Obs P	.171	.194	.158	.157	.159	.154

Notes:

1. significant at 95%, \*\* significant at 99%
2. Controls for age, education, ethnicity, marital status, presence of children in household and standard region.

For men, the job entry penalty to living in the most deprived area (relative to the median) appears to be constant or to have risen very little, from three to four per cent, when the fully iterated model results are compared for the first two periods (1996-1998 and 1999-2000). There are no significant differences across the quintiles of deprivation for the final period, 2001 to 2003. Turning to look at potential additional probabilities of living in the ABI and NDC areas, we can find no significant effects that are interpretable over the period. Only those areas where NDC and other ABIs (EZ and / or AT) were in operation appear to have a significant difference in 2001-03 and this is an additional negative probability of entering employment of seven per cent.

For women, the penalty to living in the most deprived quintile (relative to the median) appears to have decreased over time consistently from five per cent to three per cent when the results from the fully iterated version of the model are compared across each period. This confirms our findings of gross-differences in the earlier analysis in Figures 8 and 9 previously. However, turning to the

changing probabilities in the programme areas, there are no significant results that can be interpreted over time. There is an apparent additional negative probability of entering into work for those living in the areas where NDC and other ABIs are operating together, of around 12 per cent in 2003. This is a larger penalty than in earlier periods, where we find a penalty to living in NDC / ABI areas, although it is not statistically significant.

**Table 24 - Job Exit Probabilities of Men living in Deprived and NDC areas 1996-2003**  
*Marginal Effect from Probit Model*

	1996-1998		1999-2000		2001-2003	
	Time only	Full controls	Time only	Full controls	Time only	Full controls
NDC only areas	0.019	-0.004	0.014	0.012	-	-0.002
NDC and other ABIs	0.032	0.023	-0.020	-0.018	-0.006	-0.010*
Other	0.012**	0.006	0.004	-0.003	0.003	0.004
<b>Quintiles of SOA Deprivation</b> (omitted category, middle quintile)						
Most Deprived Quintile	0.035**	0.013**	0.029**	0.009	0.019	-0.006
Second	0.012**	0.005	0.006	0.001	0.002	0.009
Fourth	-0.001	-0.001	-0.004	-0.003	-0.002	0.001
Least Deprived Quintile	-0.009**	-0.00	-.001	.006	0.001	0.000
Observations	42335	7164	22450	22450	20558	14274
Obs P	.050	.052	.046	.046	.046	.047
Pred P	.048	.035	.044	.029	.046	.034

Notes:

1. significant at 95%, \*\* significant at 99%
2. Controls for age, education, ethnicity, marital status, presence of children in household and standard region.

Table 24 suggests that male job exit probabilities only appear to be statistically different in the most deprived quintile for the 1996 to 1998 period and suggest that this difference is a small one per cent additional probability of job exit. No results for the other periods suggest any significant differences in job exit probabilities by deprivation. There are no significant series of results that enable any comparison over time in the programme areas. However, there is a significant reduction of job exit probabilities in those areas where NDC is operating alongside other ABIs in the final period, 2001-2003.

**Table 25 - Job Exit Probabilities of Women living in Deprived and NDC areas 1996-2003**  
*Marginal Effect from Probit Model*

	1996-1998		1999-2000		2001-2003	
	Time only	Full controls	Time only	Full controls	Time only	Full controls
NDC only areas	-0.055*	-0.049*	0.069	0.050	.050	0.047
NDC and other ABIs	-0.032	-0.028	-0.028	-0.034	-0.042	-0.027
Other	-0.012*	-0.013**	-0.010	-	-0.009	-0.001
<b>Quintiles of SOA Deprivation</b> (omitted category, middle quintile)						
Most Deprived Quintile	0.029**	0.004	0.022**	0.005	0.036**	0.015
Second	0.010*	0.002	0.002	-0.005	0.013*	0.006
Fourth	-0.009*	-0.004	-0.009	-0.007	-0.001	-0.002
Least Deprived Quintile	-0.003	0.005	-.010	0.001	-0.000	0.010
Observations	36025	26349	19749	14271	18476	13361
Obs P	.075	.075	.070	.070	.073	.073
Pred P	.074	.061	.069	.054	.072	.060

Notes:

1. significant at 95%, \*\* significant at 99%
2. Controls for age, education, ethnicity, marital status, presence of children in household and standard region.

Table 25 suggests there is no significant difference in job exit probabilities for women arising from deprivation once full controls are used. Additionally, there is no significant additional probability of job exit when living in areas where programmes are in place and no significant difference over time to indicate any change in such probabilities before or after the programmes were introduced.

These four models provide very little additional information for interpretation of NDC performance. However, they do support some worsening of women's job entry probabilities in the most deprived areas. Otherwise, the results of non-significance are difficult to interpret. For non-significant differences by quintile of deprivation then there is certainly sufficient sample size for us to be reasonably sure that the non-significance is a reflection of the fact that individual characteristics matter most and that area deprivation has little additional effect. However, we are more concerned about the sample sizes for the NDC and programme areas, especially as we have had to reduce already small samples, by interacting NDC with the other programme areas in order for us to estimate net effects. To overcome this we ran full period models so that the whole 1996-2003 period was used to estimate effects with time-dummies for post NDC implementation. However, these models provided no greater clarification.

## **2.4 Impacts of NDC using Matching**

So far, our analysis has used linear probability models to estimate associations between area deprivation and employment and then to further estimate any associations in the programme areas for any change in employment since the introduction of the NDC programme. These sets of results give us a clearer understanding about underlying relationships between individual characteristics, area deprivation and potential programme impacts but their interpretation is difficult because of underlying problems in identifying and observing characteristics that are not endogenous (ie characteristics that cause individuals to live in deprived areas, all else equal, may be the same as those that effect employment probabilities, and we are unable to observe these characteristics) may tend to overstate the impact of area effects.

We now turn to an alternative method to an attempt to identify an estimate of programme impact. The technique is matching, which in simple terms looks at the characteristics of those associated with the programme and then finds a matched sample of individuals who have the same individual and area characteristics but are not in the programme. In other words, such matching creates a quasi-control group and we can move nearer to an experimental type of evaluation approach by comparing the employment outcomes of the treatment group and the control. Readers interested in greater detail on matching are pointed towards Purdon et al (2001).

Table 26 gives the results for a matched sample of those identified as living in the NDC areas in the cross-sectional data of LFS at three points of time. We have used a matching technique called nearest neighbour propensity score matching, which creates a matched control group with the characteristics that are closest to each of the LFS respondents who are identified as living in the NDC areas (the treatment group). This then enables the estimation of a specific difference in the outcome measure of being employed for each set of neighbours that can then be aggregate up to an "average treatment effect".

**Table 26 - Impact of Living in an NDC Area on being Employed: Estimates made on Labour Force cross-sectional samples 1993, 1999, 2003.**

*Nearest Neighbour Matching*

Period	<i>n</i> treated (living in NDC Areas)	<i>n</i> control group	Average Treatment Effect	Standard Errors	T statistic
<b>Men</b>					
2003	766	963	-0.048	0.025	-1.883
1999	846	1116	-0.094	0.023	-4.121**
1993	713	955	-0.033	0.030	-1.109
<b>Women</b>					
2003	839	1066	0.018	0.028	0.639
1999	946	1361	0.013	0.026	0.491
1993	747	1114	-0.001	0.029	-0.050

\*\* denotes significance

Table 26 shows that there are no significant treatment estimates for 2003 for either men or women, and thus that the propensity score matching has found no significant difference between the NDC treatment group and the matched control group. The only significant difference, not a treatment as such because there was no programme, is that the NDC group in 1999 had a significant negative estimate, suggesting that prior to the introduction of NDC there was a significant disadvantage to employment that was not seen in the control group for that year.

One concern for matching is the same that underlies the previous regression models: what unobserved bias will affect these estimates? Can one really match on characteristics accurately to capture “area characteristics”? To see if it was possible to further specify the matching we introduced the ward level area characteristics variables previously described in Part 1 above and in Text Box 1. Of particular concern was the potential of the increased prevalence of concentrations of non-white populations in the classification “Multicultural Areas” that escaped accurate matching, when one of the clearest types of “area effects” is one of employer or business discrimination by race and by associated neighbourhood and we have observed an increase in such areas in the representation of deprived and NDC areas over time (see Table 3 previously)

Table 27 shows the results from a re-specified matching estimation that specifically matches by such area characteristics. One of the outcomes of this is that the numbers in control and treatment groups are reduced. There is no treatment effect estimate for men of any statistical significance but we do find one for women, and it exists for 2003 when NDC is in place. However, it is strongly negative, suggesting that women who live in multi-cultural NDC areas have significantly worse employment compared to women who live in other similar areas and who have similar personal characteristics.

With employment rates in deprived and non-deprived areas being most defined by persistent static states, perhaps it is better and more pertinent to estimate the impact of the programme on job entry and job exit? We therefore repeated the matching analysis on the LFS panels and group them into pre and post period samples as previously but found no significant results due to small numbers of job enterers and exiters in our NDC sub samples before or after the programmes were introduced.

**Table 27 - Impact of Living in an NDC Area on being Employed: Estimates made on Labour Force cross-sectional samples 1993, 1999, 2003 for defined Multi-Cultural Areas (ONS ward level Area Characteristics)**

*Nearest Neighbour Matching*

Period	<i>n</i> treated (living in NDC Areas)	<i>n</i> control group	Average Treatment Effect	Standard Errors	T Statistic
<b>Men</b>					
2003	147	130	-0.070	0.075	-0.932
1999	105	88	-0.004	0.089	-0.043
1993	85	88	-0.106	0.084	-1.262
<b>Women</b>					
2003	131	95	-0.168	0.072	-2.344**
1999	134	144	-0.049	0.077	-0.630
1993	86	94	-0.152	0.088	-1.720

\*\* denotes significance

The results from matching provide broad support for our earlier conclusions. From the cross-sectional analysis we find that men living in NDC areas are less likely to be employed, all else being equal, than those living in non-NDC areas, and that the negative effect of living in a NDC area declined in 2003. However the negative employment effects are not always significant. For women, living in an NDC area has no discernible employment effect except among those living in “multicultural” areas. There are three main reasons that we may not detect clear employment outcomes for NDC. First, as NDC is defined at a local level, NDC programmes may have a widely varying range of employment outcomes, leading to statistically insignificant results. Second, small sample sizes may mean we are unable to detect any impact. Finally, it may be that NDC areas are being broadly similar to other deprived areas and that NDC has no additional employment effect. We are unable however to distinguish between these reasons where we find no employment effect.

## Part 3

### Summary and Conclusions

There are three main questions that have to be addressed in our conclusions:

- *What are our findings and how should they be interpreted?*
- *How do these findings relate to the other evaluation findings on worklessness estimated by Noble et al (2005) and what explains differences in findings?*
- *What are the lessons learned for NDC evaluation?*

#### 3.1 Findings and Interpretation

Our analysis springs from an innovative attempt to use existing Labour Force Survey data to evaluate an area based initiative. The original idea was that the rich source of LFS data was the optimal data set with which to capture employment outcomes if significant sample sizes could be obtained for those living in NDC areas. We fully expected a “small numbers” problem but quarterly cross-sectional data showed between 700 to 1,000 respondents residing in NDC areas, while panel data sets were more problematic and required pooling to obtain large enough samples for statistical significance. In many ways this report is thus one of a prototype evaluation for the methodology of using existing national survey data sets. We have not laid it out in this fashion as we expect our primary readership is concerned with the subject of evaluation rather than the method, but we return to this point later in our conclusions.

We have produced two main sets of results:

Analysis of trends in employment-related characteristics over time and the evolving differences between deprived and non-deprived areas and NDC areas

Evaluation evidence that compared NDC areas to other areas in a variety of ways in order to estimate how far NDC has been associated with any changes since 2000.

##### 3.1.1 Summary of Trends 1993-2003

The analysis of trends showed that over the decade of 1993 to 2003 there had been a rise in the proportion of people in the most deprived areas who lived in areas classified as multi-cultural areas and as out of town housing. These were the most significant changes in geo-economic characteristics and ran counter to the overall changes for all of England. Additionally, the population in the most deprived areas were seen to have increasing concentrations of lone parent and single person households and to be younger, with growing populations aged 16-25, again counter to the national trend. The most deprived areas were also more likely to have higher proportions of recent movers. Ethnicity was also changing with a large growth in the proportion of Asian and Black people living in the most deprived and NDC areas.

The trends in male employment showed that overall there had been an increase in employment rates, a decrease in unemployment, an increase in inactivity and that these trends were common across deprived and non-deprived areas but to different extents. The most deprived areas still had far above average unemployment and inactivity and below average employment rates, but this to

some extent is tautologous because the definition of deprivation used includes direct and indirect measures of employment in the index. Trends in female employment showed increasing employment rates, decreasing unemployment across deprived and non-deprived areas. However, inactivity rates had fallen at the national level but had remained flat in the most deprived areas. Lone parents had greatly increased employment rates at national level but there was a less pronounced increase in employment in the most deprived areas where the lone parents were more likely to reside.

On the other hand employment rates for the low-skilled were falling nationally; in deprived areas these rates were flat for men but for women had fallen most in the most deprived areas. There were large increases in low-skilled inactivity in deprived areas for both men and women. A further indication of a growing divide in employment was shown among low-skilled renters who were shown to have falling employment rates across all areas, but with larger falls in deprived areas, where the vast majority of low-skilled renting population reside.

Employment dynamics also showed apparent differences in persistent employment, and persistent worklessness between deprived and non-deprived areas, with much lower employment and much higher workless persistence in the most deprived areas. Analysis of job entry and job exit probabilities for men and women showed that gross probabilities (i.e. those that did not control for individual characteristics) in men's job entry probability were narrowing across the deprived and non-deprived areas but that women's was widening. Regression analysis later supported this finding for women.

### ***3.1.2 Evaluation Analysis of NDC***

The analysis of trends showed that population characteristics were changing over time in deprived areas and that there was a widening divide between the most deprived areas and England as a whole. However, an intervention such as NDC in these deprived areas would be operating on both the micro-level with individuals and on the meso-level; on the infrastructure and public goods available to residents. There could thus be individual level programmes to assist people move into employment alongside more general improvements to employment that could come about through improved community resources.

Furthermore, when it came to interpreting any results on individual level outcomes we are constrained by problems of selectivity. Recent literature reviews had conclusively demonstrated that any differences found between individuals that were ascribed to "area effects" may be due to unobserved endogeneity as the least employable may also live in the worst areas, and we are unable to fully identify separate area effects.

We were also attempting to estimate changes over time in a "before and after" manner to identify any changes that occurred during the programme period. But we knew that the differences in trends we had identified were likely to be a mixture of changing selection (sorting by labour and housing markets and by the income distribution) and by changes in unobserved second-order area effects, if any, in addition to the individual characteristics that we use in our analysis.

Put simply, these theoretical and measurement uncertainties constrain interpretation of any evaluation findings because it is not clear that we can definitely attribute any observed effects we find to the programme – even when they occur during the programme period of operation and are not observed in non-programme areas. For instance, where the underlying profile of the area worsened but the programme had a "braking effect" that countered *some* of that deterioration, because it is difficult to specify the counterfactual, a true assessment of the NDC impact is difficult.

Other difficulties in interpretation stem directly from the data we used – the Labour Force Survey in three main ways:

- “*small numbers*” mean that for some analysis it is not possible to distinguish between true insignificance of effect and statistical insignificance due to small samples.
- “*participation*” in NDC is not measured directly as there is no indicator of take-up of the programme only a flag based on postcode that enables us to identify that they lived in the area. This means we are likely to mix “direct” impacts of joining a programme run by NDC with the more general improvements
- “*time window*” for evaluation was a limited one as the most recent data was for 2003, allowing for 3 year of programme effect in a ten year programme. This means that more investment-based initiatives with longer-term employment effects will not be identified, whereas more “transition” based initiatives aimed at moving people directly into employment, will.

Further difficulties come from the design of the intervention and its relationship to other area-based programmes. First, NDC areas do not have improving employment as their sole aim and only some of them specialise in improving employment. We are unable at this stage to distinguish between employment specialists and others, and will be averaging out their impacts.

A second feature of NDC areas has more strategic implications for estimation of effects and for their interpretation. They are not run exclusively in the areas they operate in but overlap with other area-based initiatives. We have been able to control for this by having the areas of operation of the two most important area-based employment programmes in potential effect: Action Teams and Employment Zones, both run by the Department of Work and Pensions. However, one outcome of employing such controls is that it worsens the “small numbers” problem by reducing the overall cell size for NDC area populations in the models into a matrix of interactive programme areas.

With these clear caveats and clarifications on interpretation, what were our evaluative findings on effect of NDC?

### **3.1.2.1 Employment Rates**

Our preferred model used annual sets of data to estimate impacts over time before and after NDC implementation. Effects were estimated above and beyond underlying employment penalties from living in the most deprived quintile of areas in England.

Men were found to have a reduced employment penalty when living in areas where both Action Teams and NDC were operating together. But there was no discernable effect for men in any other NDC area. On the other hand, male employment penalties were seen to fall over the NDC period where the DWP ABIs were in operation separately from NDC. This finding of significant difference for the DWP ABIs suggests that the underlying methodology can at least identify area-specific effects associated with area-specific programmes.

Women were also found to have a reduced employment penalty when living in NDC areas that operated alongside ATs, but at the boundaries of being significantly different from the pre-programme period.

Low-skilled men were also found to have a reduced employment penalty when living in NDC areas that operated alongside AT alone and alongside both AT and EZs.

There were no significant findings for lone mothers’ employment.

These sets of results suggest that there appears to be stronger evidence of an associated effect for DWP-style programmes than NDC. However, we are unable to draw strong conclusions about NDC areas in themselves because it is not clear if non-significance is an effect or an underlying measurement problem from small numbers.

To try and estimate a large enough sample of NDC-only areas we joined annual cross sections together and found a significant worsening of employment penalties for men in NDC-only areas at the boundaries of being significantly different after the programme. This method also found small significant but stable men's employment penalties in areas where DWP programmes operated alongside NDC areas and significant reductions in penalties when operating on their own. This larger pooled period approach also found no significant result for women in areas where NDC operated on its own but also found significant worsening in employment penalties where NDC operated alongside DWP ABIs and for DWP ABIs operating alone. This pooled year approach also found no significant effects for NDC-only areas on low-skilled men's employment penalties. However, low-skilled employment penalties in NDC areas operating alongside DWP ABI areas significantly worsened, but improved significantly in areas where DWP ABIs operated alone.

Findings for lone mothers in the pooled annual models were most concerning, but also least consistent. In NDC-only areas there was an associated 12 per cent increase in employment penalties after the programme was introduced. No other results were significant.

All in all, the pooled year results are more difficult to interpret because they spread potential changes in underlying unobserved effects across a longer period of estimation and this means that a programme may be having an effect, say in year 3, but this is swallowed up by other changes over the longer period, for instance in years 1 and 2. However, the results for men, which are most easily interpreted, do suggest effects that make clear intuitive sense and match those found for the annual models. Area based programmes that focus on individuals and that focus on employment entry (the DWP programmes) have more immediately discernable effects, echoing Gibbons et al's suggestions that "*the major focus on raising employment among people in deprived city areas should be about helping the individual.*" (2005 p13) But, this does not mean that NDC is having no effect or that over a longer period it may equal or outdo the other DWP ABIs in employment terms. If NDC is doing more to influence investment-based employment, training and education for instance, this would have a longer pay-off but in the short-term would show lower employment outcomes.

### **3.1.2.2 Job Entry and Job Exits**

Estimations of effects on job entry showed no significant differences for men, for whom differences in job entry probability associated with deprivation also became non-significant. Women however, were seen to have improved job entry probabilities in areas where NDC areas operate alongside other DWP ABIs, but had no other effects from NDC or other ABIs. We found no significant effects for men or women on their probabilities of job exit.

These results are hindered by small numbers made worse by cutting impacts to control for the presence of the other ABIs. A longer series of data post NDC may improve the ability to estimate any programme effects.

## **3.2 Results alongside Benefit Exit Results**

There are very good reason for our findings not matching those found by Noble et al (2005) in their parallel analysis of worklessness and NDC impacts.

First, they are using a different outcome measure, of cessation of benefit claim, which can be used as a proxy for employment entry but can also result from re-partnering, emigration (temporary or permanent) or other reasons. It is thus expected that our measure of job entries will include this subset, benefit exiters, and will have lower overall probabilities of movement.

Second, they are able to use a longer longitudinal sample; we use cross-sectional data or limited five quarter panels rather than following individuals across the duration of the programme.

Third, their data is different and being administrative data has less ability to identify key characteristics that are required to estimate employment, for instance, education and qualifications, and ethnicity. We are thus in a position to more accurately separate individual effects from area level effects on employment probabilities, although both LFS and administrative data have the same identification problems in defining area level effects as a result of selection biases.

Fourth, we are in a position to control for the presence of other employment-based ABIs, that we demonstrate have significant interactions with NDC areas, and that, in general, improve employment probabilities. Without these controls it is difficult to estimate what is due to NDC and what is due to other programmes.

Fifth, Noble et al are not constrained by sample sizes and with an effective census or 100% sample are in a position to identify differences and effects as statistically significant. We are more constrained and our sample is weaker in coverage of NDCs for the core population of workless population on benefits. However it remains unclear whether increased sample sizes would lead to improved significance; the alternative interpretation is that the programme has to date had limited employment effects.

Sixth, we employ different estimation techniques and a greater range of techniques to attempt to capture a programme effect.

The key question is not actually one of different results because there is much intuitive sense in the findings across the two analyses. It is perfectly reasonable to find positive programme impacts on benefit exits using their data and for us to find no clear set of discernable effects using survey data. It is all a question of data, of methods and interpretation differences. The more important question for evaluation concerns the need for an alignment of results between the LFS and administrative data analyses to ensure that interpretation is clarified. Such an alignment would enable some of the weaknesses of the LFS approach to be tested in administrative data and vice-versa. For instance, do the effects found for benefit exits continue if controls for DWP ABIs are introduced? It could also involve including the specific survey results from the MORI survey in an overarching synthesising meta-analysis.

### **3.3 NDC Evaluation**

What are the lessons learned for future evaluation? Our analysis represents a prototype that holds much promise for future analysis of geographically specific programmes and differences. We have had difficulty with small sample sizes in parts of our analysis but we chose to emphasise the time series of LFS data over a longer period and to thus choose the smaller version of LFS. The availability of larger samples of LFS data from 2000 from the Annual Local Area Labour Force Survey represents a real opportunity to take forward some of the modelling undertaken in Part 2 on larger cross-sectional samples. Additionally, a greater number of years of LFS data may improve the panel sizes. Furthermore, there is no reason by the General Household Survey or Family Resources Survey, British Crime Survey and other material could not be brought into play in evaluation. Such work could prove cost effective in both minimizing the need for expensive

pecially commissioned surveys but also in more accurately specifying what such commissioned surveys should capture for an optimal evaluation.

There also appears to be a need for methodological and econometric development across a number of issues.

First, identification of NDC only effects. Much of our (unanticipated) problem with sample sizes came from the necessity to split the NDC sample to control for other ABIs. But this is the reality of current programmes and therefore there is a requirement to develop techniques that try to capture such a reality in evaluation. This is not just a requirement for LFS but for all future NDC analysis and also potentially for other programmes in DWP and other departments. However, at the same time as the measurement hurdle is raised by policy makers implementing ABIs that interact, there is also the recent consolidation of econometric and other evidence on area effects. There appears to be the need for a sharing and development of measurement techniques across programmes and across evaluations to reflect these concerns.

Second, but a continuation of the first point, is that such development should also bring together some of the growing understanding of local variation in mainstream programmes with local impact evaluation of area based initiatives. We concentrated our controls on other ABIs on the assumption, which we know to be incorrect, that nationally run employment programmes operate equally across all areas. They do not, and it is just as valid to control for such fluctuations, and to explain them, in any future analysis.

Third, another current weakness in modelling which is shared by all current analysis of small area employment is the absence of a good demand predictor. We know that TTWA is a poor geographical indicator of low-skilled and part-time work and for women and disabled people more generally. The development of better smaller labour demand indicators could improve our understanding considerably.

Fourth, with the proposed use of the Local Area Labour Force Survey and other national surveys there should be a closer look at response bias in deprived areas and of the weighting conventions when using surveys to analyse smaller geographical areas.

# Bibliography

- Bolster A., Burgess S. Johnston R, Jones K., Propper C and Carker R (2004) *Neighbourhoods, Households and Income Dynamics: A semi-parametric investigation of Neighbourhood Effects*, CMPO Working Paper 04/106, Bristol: CMPO, Department of Economics University of Bristol
- Buck N (2001) Identifying Neighbourhood Effects on Social Exclusion, *Urban Studies* Vol 38 No 12, 2251-2275
- Cheshire P., Monastiriotis V. and Sheppard S (2003) 'Income Inequality and Residential Segregation: Labour market sorting and the demand for positional goods' in Martin R and Morrison P (eds) *Geographies of Labour Market Inequality*, London: Routledge
- Durlauf 2004 'Neighborhood Effects' in Henderson J and Thisse J-F (eds) *Handbook of Regional and Urban Economics Volume 4*, Amsterdam: Elsevier
- Department for Work and Pensions (DWP) (2004) *Jobcentre Plus District Clusters*, Sheffield: DWP Jobcentre Plus Analytical Division, mimeo
- Gibbons S, Green A., Gregg P and Machin S (2005) *Is Britain Pulling Apart? Disparities in Employment, Education and Crime*, CMPO Working Paper no 05/120, Bristol: Centre for Market and Public Organisation, University of Bristol
- Gordon I (2003) 'Unemployment and Spatial Labour Markets: Strong adjustment and persistent concentration' in Martin R and Morrison P (eds) *Geographies of Labour Market Inequality*, London: Routledge
- Gregg P and Wadsworth J (2003) labour market prospects of less-skilled workers over the recovery in Dickens R, Gregg P and Wadsworth J T(eds) *The Labour Market Under New Labour: The State of Working Britain*, Basingstoke: Palgrave Macmillan
- McCulloch (2001) Ward level deprivation and individual social and economic outcomes in the British Household Panel Survey, *Environment and Planning A* Volume 33, 667-684
- Noble M., Anttila C., McLennan D., Covizzi I., Mason D., Wilkinson K., and Gutierrez-Romero R (2005) *Worklessness in New Deal for Communities Areas: Findings from Phase 1 of the National Evaluation*, Oxford: Social Disadvantage Research Centre, University of Oxford.
- ODPM 2004 Indices of deprivation 2004, London : ODPM
- ONS (2003) *Labour Force Survey User Guide Volume 3*, London: ONS
- ONS (2004) National Statistics 2001 Area Classification, London: ONS
- Purdon S., Lessof C., Woodfield K. and Bryson C (2001) *Research Methods For Policy Evaluation*, Department For Work And Pensions Research Working Paper No 2, London: DWP
- Webster D (2000) 'The Geographical Concentration of Labour Market Disadvantage, *Oxford Review of Economic Policy* 16 (1) 114-128



# Appendix 1: Full versions of models from Part 2.

**Table A1 - Full version of Table 11 - Men**  
*Marginal Effect from Probit Model*

Controls	Quintile only			+ Personal Characteristics			+ Region		
	1993	1999	2003	1993	1999	2003	1993	1999	2003
<i>Quintile</i>									
One	-.193**	-.181**	-.167**	-.112**	-.080**	-.077**	-.108**	-.072**	-.077**
Two	-.072**	-.053**	-.045**	-.048**	-.026**	-.015**	-.046**	-.013**	-.015**
Four	.038**	.034**	.027**	.026**	.017**	.010**	.024**	.008**	.010**
Five	.070**	.060**	.044**	.039**	.022**	-.001	.038**	-.003**	-.001
<i>Obs P</i>	.768	.812	.815	.769	.812	.815	.769	.812	.815
<i>Pred P</i>	.777	.822	.822	.809	.868	.869	.809	.868	.869
<i>P Value</i>	0.000	0.000	.000	.000	.000	.000	.000	.000	.000
<i>N</i>	104069	130945	120437	98292	130524	119922	98292	130524	119922
<i>Pseudo R2</i>	.043	.045	.035	.193	.287	.278	.195	.288	.279

**Table A2 - Full version of Table 12 - Men: Provisional Impact of NDC**  
*Marginal Effect from Probit Model*

Controls	Quintile only			+ Personal Characteristics			+ Region		
	1993	1999	2003	1993	1999	2003	1993	1999	2003
<i>NDC only</i>	-.083**	-.074**	-.064**	-.053*	-.050**	-.063**	-.054*	-.053**	-.062**
<i>EZ only</i>	-.031**	-.032**	-.025	-.048**	-.047**	-.026**	-.044**	-.050**	-.026**
<i>AT only</i>	-.049**	-.035**	-.037**	-.052*	-.050**	-.032**	-.043*	-.042**	-.027**
<i>NDC + EZ</i>	-.021**	-.220**	-.236**	-.181**	-.113*	-.172*	-.154*	-.105	-.171*
<i>NDC + EZ + AT</i>	-.134**	-.183**	-.103**	-.123**	-.099**	-.073**	-.119**	-.102**	-.071**
<i>NDC + AT</i>	-.085**	-.152**	-.124**	-.033	-.145**	-.092**	-.030	-.139**	-.089**
<i>EZ + AT</i>	-.045**	-.035**	-.029**	-.043**	-.047**	-.030**	-.042**	-.052**	-.028**
<i>Quintile</i>									
One	-.173**	-.163**	-.150**	-.093**	-.061**	-.062**	-.093**	-.058**	-.060**
Two	-.066**	-.048**	-.041**	-.041**	-.020**	-.011**	-.042**	-.020**	-.010**
Four	.035**	.032**	.025**	.022**	.015	.008*	.022**	.014**	.007*
Five	.066**	.057**	.041**	.034**	.018	-.004	.035**	.016**	-.005
<i>Obs P</i>	.768	.812	.815	.769	.812	.815	.769	.812	.815
<i>Pred P</i>	.777	.822	.822	.809	.868	.869	.809	.868	.869
<i>P Value</i>	0.000	0.000	.000	.000	.000	.000	.000	.000	.000
<i>N</i>	104069	130945	120437	98292	130524	119922	98292	130524	119922
<i>Pseudo R2</i>	.044	.046	.036	.195	.289	.279	.196	.290	.279

**Table A3 – Full version of Table 13 – Women**  
*Marginal Effect from Probit Model*

Controls	Quintile only			+ Personal Characteristics			+ Region		
	1993	1999	2003	1993	1999	2003	1993	1999	2003
<i>Quintile</i>									
One	-.192**	-.208**	-.210**	-.074**	-.071**	-.073**	-.072**	-.067**	-.068**
Two	-.063**	-.068**	-.070**	-.026**	-.022**	-.022**	-.025**	-.020**	-.020**
Four	.026**	.029**	.028**	-.003	.003	-.001	-.003	.002	-.002
Five	.038**	.040**	.036**	-.008	-.015	-.018**	-.008	-.016**	-.020**
<i>Obs P</i>	.667	.702	.711	.670	.702	.815	.670	.702	.815
<i>Pred P</i>	.671	.707	.717	.691	.731	.869	.691	.731	.869
<i>P Value</i>	0.000	0.000	.000	.000	.000	.000	.000	.000	.000
<i>N</i>	99783	128551	118964	91153	128334	118593	91153	128334	118593
<i>Pseudo R2</i>	.025	.031	.031	.136	.185	.195	.136	.186	.195

**Table A4 - Full version of Table 14 - Women: Provisional Impact of NDC**  
*Marginal Effect from Probit Model*

Controls	Quintile only			+ Personal Characteristics			+ Region		
	1993	1999	2003	1993	1999	2003	1993	1999	2003
NDC only	-.066*	-.002	.025	-.018	.029	.018	-.019	.031	.019
EZ only	-.023**	.002	-.022**	-.048**	-.033**	-.034**	-.044**	-.035**	-.040**
AT only	-.013*	-.019**	-.012**	-.024**	-.026**	-.022**	-.019*	-.033**	-.027**
NDC + EZ	-.164*	.131*	-.141	-.192*	.133*	-.167*	-.181*	.136*	-.187*
NDC + EZ +AT	-.111**	-.085**	-.105**	-.067*	-.050	-.047	-.060	-.055	-.056
NDC + AT	-.131**	-.103**	-.092**	-.056	-.098**	-.093**	-.049	-.111**	-.104**
EZ + AT	-.035**	-.019**	-.022**	-.046**	-.039**	-.019**	-.041**	-.009	-.055**
Quintile									
One	-.181**	-.200**	-.202**	-.062**	-.057**	-.061**	-.062**	-.057**	-.061**
Two	-.061**	-.066**	-.068**	-.022**	-.017**	-.018**	-.022**	-.017**	-.010**
Four	.024**	.028**	.027**	-.005	.001	-.003	-.005	.001	.006*
Five	.036**	.039**	.034**	-.012*	-.019**	-.022**	-.011*	-.019**	-.005
Obs P	.667	.702	.711	.670	.702	.711	.670	.702	.711
Pred P	.671	.707	.717	.691	.731	.742	.691	.731	.742
P Value	0.000	0.000	.000	.000	.000	.000	.000	.000	.000
N	99783	128551	118964	91153	128334	118593	91153	128334	118593
Pseudo R2	.025	.031	.032	.136	.186	.196	.137	.186	.195

**Table A 5 – Full version of Table 15 - Low Skilled Men**  
*Marginal Effect from Probit Model*

Controls	Quintile only			+ Personal Characteristics			+ Region		
	1993	1999	2003	1993	1999	2003	1993	1999	2003
<b>Quintile</b>									
One	-.204**	-.201**	-.190**	-.131**	-.102**	-.109**	-.125**	-.095**	-.100**
Two	-.076**	-.060**	-.055**	-.053**	-.038**	-.029**	-.051**	-.036*	-.025**
Four	.051**	.044**	.046**	.043**	.021**	.021**	.041**	.020**	.020**
Five	.070**	.070**	.062**	.043**	.025**	.003	.042**	.021**	.002
<i>Obs P</i>	.734	.757	.763	.734	.757	.763	.734	.757	.763
<i>Pred P</i>	.743	.767	.773	.769	.810	.819	.769	.810	.820
<i>P Value</i>	0.000	0.000	.000	0.000	0.000	.000	0.000	0.000	.000
<i>N</i>	64051	58161	52553	64051	58044	52428	64051	58044	52428
<i>Pseudo R2</i>	.044	.046	.043	.183	.302	.311	.185	.304	.312

**Table A 6 – Full version of Table 16 - Low Skilled Men: Provisional Impact of NDC**  
*Marginal Effect from Probit Model*

Controls	Quintile only			+ Personal Characteristics			+ Region		
	1993	1999	2003	1993	1999	2003	1993	1999	2003
NDC only	-.072*	-.025	-.040	-.042	-.058*	-.030	-.042	-.053**	-.030
EZ only	-.045**	-.018	-.019	-.060**	-.045**	-.011	-.056**	-.050**	-.010
AT only	-.062**	-.084**	-.055	-.066*	-.074**	-.045**	-.053*	-.042**	-.034**
NDC + EZ	-.197**	-	-	-.228**	-.097	-.187*	-.202*	-.105	-.183*
NDC + EZ + AT	-.131**	-.156**	-.096**	-.124**	-.090**	-.091**	-.118**	-.102**	-.083*
NDC + AT	-.085**	-.234**	-.166**	-.055	-.148**	-.095**	-.053	-.139**	-.088**
EZ + AT	-.052**	-.063**	-.057**	-.053**	-.061**	-.046**	-.051**	-.052**	-.040**
Quintile									
One	-.181**	-.137**	-.166**	-.108**	-.077**	-.090**	-.108**	-.058**	-.086**
Two	-.070**	-.045**	-.048**	-.047**	-.031**	-.023**	-.047**	-.020**	-.022**
Four	.048**	.046*	.044**	.040**	.018**	.019**	.038**	.014**	.019
Five	.065**	.064**	.058**	.038**	.020**	.001	.039**	.016**	-.001
Obs P	.734	.757	.763	.734	.757	.763	.734	.757	.763
Pred P	.743	.765	.773	.769	.810	.820	.769	.810	.820
P Value	0.000	0.000	.000	0.000	0.000	.000	0.000	0.000	.000
N	64051	58044	52553	64051	58044	52428	64051	58044	52428
Pseudo R2	.046	.038	.045	.185	.305	.312	.186	.306	.313

**Table A7 – Full version of Table 17 - Lone Parents**  
*Marginal Effect from Probit Model*

Controls	Quintile only			+ Personal Characteristics			+ Region		
	1993	1999	2003	1993	1999	2003	1993	1999	2003
<b>Quintile</b>									
One	-.186**	-.207**	-.231**	-.025	-.057**	-.088**	-.024	-.053**	-.088**
Two	-.084**	-.070**	-.111**	-.016	-.002	-.046**	-.016	.001	-.045**
Four	.105**	.063**	.072**	.049*	.019	.019	.047*	.019	.017
Five	.138**	.153**	.106**	.034	.064**	.019	.033	.064**	.020
<i>Obs P</i>	.472	.543	.568	.478	.544	.569	.478	.544	.569
<i>Pred P</i>	.472	.546	.572	.474	.550	.580	.474	.550	.580
<i>P Value</i>	0.000	0.000	.000	0.000	0.000	.000	0.000	0.000	.000
<i>N</i>	10899	22428	22445	9553	22406	22409	9553	22406	22409
<i>Pseudo R2</i>	.041	.044	.047	.162	.169	.194	.164	.171	.194

**Table A 8 – Full version of Table 18 - Lone Parents: Provisional Impact of NDC**  
*Marginal Effect from Probit Model*

Controls	Quintile only			+ Personal Characteristics			+ Region		
	1993	1999	2003	1993	1999	2003	1993	1999	2003
<i>NDC only</i>	-.004	-.022	-.098	.111	.040	-.100	.096	.039	-.101
<i>EZ only</i>	-.052*	-.016	-.009	-.068*	-.032	-.031	-.061*	-.025	-.017
<i>AT only</i>	-.009	-.041**	.004	-.010	-.058**	-.014	-.015	-.053**	-.010
<i>NDC + EZ</i>	-	-	.008	-	.376*	-.102		.375*	-.077
<i>NDC + EZ + AT</i>	-.005	-.106**	-.012	.033	-.111**	.076	.044	-.092	.090
<i>NDC + AT</i>	-.139*	-.040	-.197**	-.122	-.001	-.174**	-.114	.013	-.159
<i>EZ + AT</i>	-.046*	.028*	-.000	-.060**	-.023	-.002	-.052*	-.007	.013
<i>Quintile</i>									
One	-.176**	-.201**	-.229**	-.108**	-.043**	-.082**	-.013	-.045**	-.087**
Two	-.082**	-.068**	-.111**	-.047**	.003	-.045**	-.014	-.020**	-.045**
Four	.103**	.062**	.072**	.040**	.016	.018	.044*	.017	.017
Five	.135**	.152**	.106**	.038**	.061**	.018	.029	.063**	.020
<i>Obs P</i>	.472	.544	.568	.478	.544	.569	.478	.544	.569
<i>Pred P</i>	.472	.550	.572	.474	.550	.580	.474	.550	.580
<i>P Value</i>	0.000	0.000	.000	0.000	0.000	.000	0.000	0.000	.000
<i>N</i>	10894	22428	22445	9548	22406	22409	9548	22406	22409
<i>Pseudo R2</i>	.042	.046	.047	.164	.170	.194	.165	.172	.195

## Appendix 2

**Table B 1 - NDC and other Area-Based Interventions and their Interactions:**  
*Labour Force Survey 2003*

	<b>NDC</b>	<b>EZ</b>	<b>AT</b>
<b>NDC</b>	684	69	494
<b>EZ</b>	69	7162	12578
<b>AT</b>	494	12578	18749
<b>EZ and AT</b>	503	503	503
<b>Total</b>	<b>1,758</b>	<b>20,312</b>	<b>32,324</b>

*Of those in NDC, 37% NDC only, 4% NDC and EZ, 30% NDC and AT, and 29% NDC, EZ and AT.*