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The impact of financial inclusion interventions on the economy of Calderdale – final technical report

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Title	The impact of financial inclusion interventions on the economy of Calderdale – final technical report
Authors	Dayson, KT and Vik, PM
Type	Monograph
URL	This version is available at: http://usir.salford.ac.uk/19311/
Published Date	2011

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THE IMPACT OF FINANCIAL INCLUSION INTERVENTIONS ON THE ECONOMY OF CALDERDALE – FINAL TECHNICAL REPORT

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Community Finance Solutions
January, 2011



About CFS

Located within the University of Salford, Community Finance Solutions (CFS) is an independent award-winning research and development unit engaged in promoting and developing integrated solutions for financial and social inclusion, and community ownership of assets.

For more information about CFS and our work, please visit our website at www.communityfinance.salford.ac.uk

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Foreword

In early 2009, a broad partnership of voluntary sector agencies in Calderdale met to discuss how they could better support people through the recession. This wide partnership was driven by a desire to make a real difference to our community, and to do work that improved people's lives, not just to talk about doing it. The group lead a range of work across Calderdale in 2009/10 completed by a number of different organisations, all working together to support people better during the recession.

The group's later discussions were about measuring and demonstrating the impact that different organisations had in Calderdale. The group wanted to move away from the idea that funding a voluntary sector group was something that funders should do because it was a good thing in itself, but instead because it was something that could be measured and quantified in its impact. Subsequent discussions included Social Impact Bonds, and measuring a communities wider Health and Wellbeing and it was these discussions that lead to a desire to assess the economic impact of the Financial Inclusion work that is completed in the borough. The group were convinced by the idea that by maximising people's income through effective benefits advice, by increasing their disposable income by stabilising their debts, and by providing affordable credit to target doorstep money lenders produced a measureable benefit and wanted to try to quantify this impact in economic terms.

At the same time, social housing providers and anti poverty groups in Calderdale lead by Calderdale Council's Head of Housing Mark Thompson were looking at Financial Inclusion in the context of better supporting vulnerable tenants and communities. Their aim was to assess the impact of the investment that they are putting into this type of work.

The report was funded by Voluntary Action Calderdale, the Department of Work and Pensions, Barclays Bank and Calderdale Council and we're grateful to all of the following organisations for the support that they have given.

Voluntary Action Calderdale Age Concern Calderdale Calderdale Smartmove The Acorn Centre Calderdale Womens Centre Halifax Opportunities Trust North Halifax Partnership Calderdale Credit Union Calderdale CAB	Calderdale Council Housing Department Pennine 2000
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There are many areas of this report that are incomplete and outside the scope of this document. The report has been unable to fully quantify an economic benefit to Debt Advice in Calderdale, even though we spend around £150k a year on this type of support, much of it through Calderdale CAB. However, when dealing with multiple debt problems, the aim is not to write off a debt, releasing money back into the local economy, but to stabilise a person's situation, reaching repayment arrangements with their creditors and ensuring that a repayment plan is affordable and equitable. As such the impact of such work is more closely related to a person's health and wellbeing as opposed to having a measureable economic benefit.

Another limitation of the document is that as an academic paper, all data that supports the study has to reach a high level of verification in order to be included. As a result the immense benefit that the Credit Union brings to Calderdale is also not fully quantified, as it is impossible to quantify the rates at which their customers "might" have borrowed at had the Credit Union not been there. As a result, whilst all partners recognise that Calderdale Credit Union is critical to our work in Calderdale, the economic benefit of their work, and the main focus of the study, is impossible to evidence.

All partners recognise that ensuring that everyone in Calderdale has access to a bank account, has the ability to budget, and an understanding of APR and affordable credit, people's ability to live healthy happy and economically productive lives is significantly diminished. The partners involved in this report hope that it represents a starting point for further discussion in this area, not an end in itself, and that the report can be used by commissioners of services in the future.

Rory Deighton
Chief Executive
Calderdale CAB

Glossary

ACCK – Age Concern Calderdale and Kirklees

BAU – Benefit Advice Unit

BIM – Business Intervention Model, a cost-benefit analysis methodology developed by CFS for the analysis of financial inclusion interventions

CAB – Citizen Advice Bureaux

CCU – Calderdale Credit Union

DART – Disabled Advice Resource Team

DWP – Department of Works and Pension

FRS – Family Resources Survey, bi-annual national survey about the living conditions and resources of UK households

Growth Fund – Fund of £36 million fund set up by DWP in 2004 to increase availability of affordable personal loans via third sector (not-for-profit) lenders (e.g. CDFIs and credit unions)

Input-output table – Transaction table which shows purchases (input) and sales (output) by sector within a regional or local economy in a given year

Keynesian income-expenditure model – Method developed by John Maynard Keynes for estimating impact of changes in demand on an economy based on calculating income and employment multipliers

LM3 – Local Multiplier 3, simplified method for calculating local multipliers designed measure the impact of a certain economic activity, company or investment on a local economy.

Marginal propensity to consume locally – Likelihood of households and firms to purchase locally produced goods

Multiplier – Measure of magnitude of the impact of a change in investment beyond what is immediately measurable

NEF – New Economics Foundation, independent think-tank based in London

EXECUTIVE SUMMARY

Introduction

This study quantifies the wider effects of financial inclusion interventions in Calderdale on both the local and regional economy. The methodology applied is two-pronged:

- First we conduct an analysis of performance management information provided by the financial inclusion service providers. This is used to quantify the increase in disposable income resulting from the intervention as well as the costs of providing the service.
- Second, we use an input-output table for the Yorkshire and Humber region to assess the wide economic impact of this increase on the regional economy. We also make some estimates for the economic impact on the economy of Calderdale.

Financial inclusion in an age of austerity

The findings of this study are being published at a time when both the national and local financial inclusion agenda is shifting radically. After the election of New Labour in 1997, there was a decade of sustained government investment in financial inclusion programmes, underpinned by period of unprecedented economic growth. Today following the largest banking crisis since 1929-33 and the most severe recession since the Second World War, we are entering a period in which financial inclusion interventions and their beneficiaries and providers will be under considerable financial pressure.

Under an extensive programme of cuts many national financial inclusion programmes have already been discontinued or are likely to be discontinued. In addition, the funding of local authorities is also likely to decrease considerably with potential ripple effects on the many services and programmes they deliver or fund.

The impact of financial inclusion interventions on the economy of Calderdale

In total we estimate that financial inclusion interventions in Calderdale generate an increase in disposable income among its users of £16 million per year at a cost of around £4.2 million. The financial inclusion service providers achieve this mainly by providing access to affordable credit and increasing benefit up-take.

In turn, using the Family Resources Survey, we estimate that £14.2 million is spent in the economy of Calderdale. Based on input-output for the Yorkshire and Humber region, we estimate that this, in turn, has a cumulative impact on the regional economy of £17.7 million. This cumulative impact is generated as the firms providing goods and services to the financial inclusion service users, purchase goods and services from other firms in the region.

If we take into account the increase in disposable income of users as a result of the intervention and the effect this has on local businesses and industry, this means that for every £1 invested in financial inclusion in Calderdale, £4.20 is generated for the regional economy.

The impact on the local economy of Calderdale is likely to be smaller than that of Yorkshire and Humber because smaller economies tend to rely more on imports and a greater proportion of workers would be commuting in from (and spending their wages) outside the economy. However, in absence of data on the proportion of inputs imported by local industry from outside the local economy, it is difficult to know for

certain the exact impact on the local economy. Using inward commuting as a proxy for leakage, we estimate the impact on the local economy to be in the region of £14.2 million. This means that for every £1 invested in financial inclusion work, £3.2 is generated for the regional economy.

Policy implications

The impact and benefits of financial inclusion interventions have been considered in numerous studies and are also an important consideration for organisations, local authorities and governments investing in financial inclusion. In the main the impact and benefits are understood in terms of impacts on the financial and social well-being of the households of the beneficiaries.

This study points to an additional dimension of benefits associated with financial inclusion interventions: the impact on the local and regional economy. The providers, funders and supporters of such interventions may want to consider this dimension when it comes to making decisions on allocation of funding.

The discontinuation of funding of financial inclusion interventions in Calderdale is likely to have knock-on effects on the local and regional economy. The services provided by the organisations in this study enable Calderdale residents to access benefits and cheaper finance which has positive ripple effects on the local and regional economy.

That said it is important to not let financial inclusion policy be determined by one dimension alone. For example services aimed at increasing benefit up-take are more likely to provide higher sums than say weaning people of home credit. However, it does not mean that increasing benefits is more worthwhile than the latter. Ultimately financial inclusion policy should take a broader view of importance and effectiveness.

1. Introduction

This document presents the findings and the methodology for a research project assessing the impact of financial inclusion interventions on the economy of Calderdale. Specifically, the research focused on the interventions by Calderdale CAB, Calderdale Credit Union, Pennine Housing, Calderdale Benefits Assessment Unit, Calderdale Disabled Advice Resource Team (DART) and Calderdale Social Services Mental Health Team.

The remainder of this report is organised into four chapters:

- *Chapter 2*: Methodology
- *Chapter 3*: Costs and benefits of financial inclusion interventions in Calderdale
- *Chapter 4*: Economic impact of financial inclusion interventions in Calderdale
- *Chapter 5*: Summary and conclusions

Additional documentation can be found in Appendices A and B:

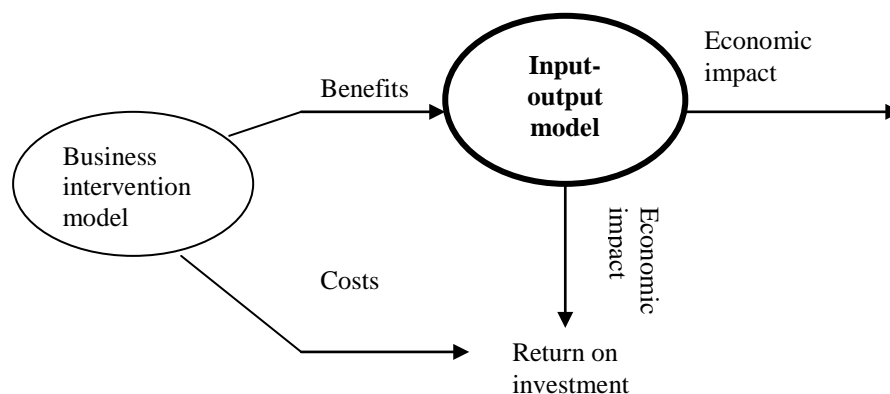
- *Appendix A*: Details of assumptions used
- *Appendix B*: Economic impact of financial inclusion – models and applications

2. Methodology

2.1. Introduction

This chapter details and discusses the methodology applied to evaluate the regeneration impact of the financial inclusion interventions in Calderdale. The methodology on which the present study is based was first developed for a study conducted in Leeds (see Dayson et al, 2009). The methodology applied is depicted in Figure 2.1.

Figure 2.1: Methodology



The methodology consists of two components. First we applied an input-output model. This is the core component of the methodology, as illustrated by the circle in bold font, because it allows us to translate the benefits for clients into impact on the local economy. Second, we used a Business Intervention Model (BIM) – a cost-benefit analysis methodology developed by CFS for the analysis of financial inclusion interventions – to calculate the costs and benefits of the financial inclusion interventions. As illustrated in Figure 2.1, looking at the costs relative to the economic impact quantified by the input-output models allows us to ascertain return on investment in financial inclusion activities.

The remainder of this chapter is organised into three sections. The first lists the financial inclusion interventions included in the study and the rationale for including these. The second outlines the methodology of the BIM, while the third describes and discusses input-output model used to ascertain the impact of the interventions on the local economy.

2.2. Financial inclusion interventions studied

A number of key partner organisations were identified for participation in this research study:

- **Age Concern Calderdale and Kirklees:** Offers information and advice for elderly and their carers on welfare benefits, grants, housing options and community care issues.
- **Calderdale CAB:** Citizen Advice Bureau offering generalist and specialist advice in debt, housing and benefits to in excess of 10,000 clients per annum.

- ***Pennine Housing:*** The largest social housing landlord in Calderdale with a housing stock of 11,500 properties. Has a range of financial inclusion interventions, including an in-house welfare benefits adviser.
- ***Calderdale Benefits Assessment Unit:*** Local authority unit providing comprehensive and equal benefits/care charge assessment and customer information service in respect of a range of Local Authority benefits and care charge services.
- ***Calderdale Credit Union:*** Mutual financial institution offering savings and loans to its members. Its common bond covers people working or living in Calderdale and it has around 5,000 members.
- ***Calderdale DART:*** Provides generalist and specialist advice to people with disabilities and their carers on issues relating to welfare benefits.
- ***Calderdale Social Services Mental Health Team:*** One full-time adviser provides specialist welfare benefits advice within Mental Health Services.

The reasons for choosing these particular partners were numerous, but on the whole they provide a broad mix of perspectives across a range of financial inclusion activities, and offered a cost effective way to undertake the research.

2.3. Business Intervention Model

We used a Business Intervention Model (BIM) to quantify the costs and benefits of the financial inclusion interventions in the study. In simple terms, the Calderdale BIM works by calculating the net average benefits accrued to beneficiaries by receiving the financial inclusion services provided net of the costs of delivering the services. It involves:

- Understanding the roles, responsibilities and required activities of all relevant staff in terms of delivering and managing the activities
- Understanding the interaction and information flows between these parties (internally and externally, with beneficiaries and also with other agencies);
- Understanding the outputs and, to a lesser degree, the outcomes of the interventions; both with regards to the number of beneficiaries dealt with but also the net average return to the beneficiary as a result of being involved in the activity
- Calculating the cost of delivering the services provided; at an organisational level where appropriate, certainly at a unit level and also, where possible and appropriate at a unit cost per beneficiary level

The calculations have in the main been based on data provided by key partners (e.g. Performance Management Information etc). Where such data has not been available, we have had to make some assumptions, which are detailed in Appendix A. The assumptions have either been informed by empirical research, which findings can feasibly be transferred, or by estimates provided by the management of the service providers.

The creation of the Calderdale BIM has involved a number of stages:

1. ***Identification of potential organisations to review:*** This involved selecting a subset of organisations from a number of organisations providing financial inclusion services.
2. ***Agreement with key partners to participate in the evaluation:*** At this stage agreement by the management of the organisations is sought as this is important for completion of the template.

3. **Intervention template:** The intervention template was designed to provide an overview of the services being delivered by the financial inclusion organisations. This was to provide the foundation for the key partner interviews, ensuring that the interviewer had some knowledge of the type, scale and outputs being generated by the services provided.
4. **Field interviews:** The interview process was semi-structured in that it looked to broadly follow the format of the Intervention templates. At the end of each interview each interviewee was advised that there would be a number of questions according to how the interview had progressed.
5. **Follow up information:** In most cases there would be need to collect some additional information
6. **BIM development:** At this stage the results are cross-referenced with the client survey findings. The development of the BIM seeks to:
 - Understand the organisation and its structure, the context it operates in, partnerships, any key issues it faces and the services it provides -generally the internal dynamic
 - Understand client behaviour and how he / she interacts with service providers
 - To calculate average beneficiary benefit / loss of benefit per beneficiary
 - To understand cost of delivery (per FTE equivalent at programme level) plus management overview and contribution to core costs
 - To calculate Return on Investment in relatively simple terms: benefit / loss per beneficiary in the ratio of £1 cost to run the service provided
 - Rely on actual information wherever possible, and prudent assumptions and forecasts where necessary
 - Apply control factors to compensate for other dynamics (might be positive or negative)

2.4. Input-output modelling

The methodology on which the template is based is an input-output approach to modelling impact. (See Appendix B for a discussion and justification for using this particular approach.) This approach uses an input-output table to assess the impact of increased demand (in this case resulting from financial inclusion interventions) on an economy. An input-output table is a transaction table which shows purchases (input) and sales (output) by sector within a regional or local economy in a given year.

The input-output modelling is conducted in three stages. In stage one we quantified the income per beneficiary resulting from the financial inclusion intervention (advice, credit etc).

In stage two, using data from the 2005-2006 Family Resources Survey (FRS) for the lowest income decile we estimated how the households would spend this increased expenditure (i.e. % spent on clothing and footwear, fuel, transport etc). With the exception of non-consumption expenditure (i.e. savings, investments and housing related spending), we assume that the residents of Calderdale spend all their income within the city and that inward commuters spend all their income where they reside (i.e. outside of Calderdale). This is not a realistic assumption as residents of Calderdale may go shopping outside of the city and as inward commuters may spend part of their income in Calderdale. However, in absence of a viable method of collecting accurate data on proportion of income spent locally, this was deemed the best approach.

In stage three, once the increased income, discounting inward commuters, has been calculated and allocated by sector according to the FRS 2005-2006, we used the input-output table for the Yorkshire and Humber region to see the distribution of spending by sector on the other industries (e.g. if £10 is spent on agriculture, how much does this sector spend on rubber and plastics, and banking and insurance, and in turn how much does rubber and plastics spend on banking and insurance etc). We have developed a simplified set of equations estimating the percentages of spending by sector. For example, from the input-output table for Yorkshire and Humber we can see that Agriculture, Forestry and Fishing purchases 2% of inputs from Chemicals.

3. The costs and benefits of financial inclusion interventions in Calderdale

3.1. Introduction

This chapter details the operating costs of the financial inclusion interventions under study and quantifies the benefits for users and clients of the different programmes. The estimates on benefits presented in this chapter will be used in the input-output modelling in Chapter 4 to assess the impact of financial inclusion interventions on the economy of Calderdale. Similarly the costs detailed in this chapter will allow us to estimate the economic benefit generated by each pound invested in financial inclusion activities in Calderdale.

The remainder of this chapter is structured as follows. The first sections present the costs and benefits for each of the financial inclusion service providers. We then provide data on the overall costs and benefits of the interventions.

3.2. Business Intervention Model

This section presents the results of the Business Intervention Model (BIM). The BIM estimates the increase in disposable income resulting from the financial inclusion interventions and the operating costs of these interventions. We use this data in the input-output modelling in Chapter 4. The BIM calculates costs and benefits by relying on data from a wide range of sources:

- ***Performance Management Information:*** Most of the financial inclusion service providers collect data on benefit uptake, decreased debt burden, number of clients and other useful information which we use in our calculations.
- ***Audited accounts:*** For the costs we have used audited accounts or similar documentation on the operating costs.
- ***Selected random sample:*** Where data has been unavailable we have in some cases asked for aggregate data from a random selection of clients.
- ***Estimation:*** In some cases, when we have not had data, we have had to make estimates.

Most of the data provided by the organisations is for the financial years of 2009 and 2010. We use more up-to-date where available and older data when necessary.

3.2.1. Age Concern Calderdale and Kirklees

The Age Concern Calderdale and Kirklees (ACCK) Information and Advice Service offers information and advice for elderly and their carers on welfare benefits, grants, housing options and community care issues. ACCK started with a part-time welfare benefits officer in 2001. This was expanded in 2004 when the organisation, with funding from the Big Lottery Fund, started a dedicated Information and Advice drop-in centre. The advice it offers on benefit uptake ranges from basic benefit checks to casework and specialist advice involving court representation.

Table 3.1 shows the result of the BIM for ACCK. The estimation of costs and benefits of the service is based on data for the financial year 2009/2010 and covers only Calderdale, not Kirklees.

Table 3.1: Costs and benefits ACCK (£)

Increase in disposable income:	626,114
Total costs:	70,000
Number of beneficiaries	NA

In Calderdale, ACCK Information and Advice Service is resourced with 3.5 FTE staff resources and six volunteers (equivalent to 3 FTE). The advice it offers on benefit uptake ranges from basic benefit checks to casework and specialist advice involving court representation. In the financial year 2009/2010, the organisation completed over 1,500 benefits calculations and nearly 300 benefits applications.

Not all the services provided by the ACCK Information and Advice centre relates to financial inclusion so the costs for providing the financial inclusion service have been split out. The calculation of the increase in disposable income has been based on performance management information recorded by ACCK. The assumptions are detailed in Appendix A.

It is estimated that the services provided by ACCK generated in excess of £600,000 in increased disposable income in the form of increased benefit up-take in the year 2009/2010.

3.2.2. Calderdale CAB

Calderdale CAB has been offering advice in Calderdale since it started its first bureau in Hebden Bridge in 1939. Today Calderdale CAB offers advice through offices in Halifax, Elland and Todmorden. It also runs a number of surgeries and a telephone advice line. The organisation offers information, guidance, casework and generalist and specialist advice on debt, welfare rights, housing, family law and consumer rights. The bureau offers complex advice and casework including court representation under the Financial Inclusion Fund and the Legal Services Commission and manages the County court Duty Scheme in Halifax.

Table 3.2 shows the result of the BIM for Calderdale CAB. The calculation uses data from the financial year 2009/2010.

Table 3.2: Costs and benefits Calderdale CAB (£)

Increase in disposable income:	7,000,881
Total costs:	787,770
Number of beneficiaries	5,996

There are at least three ways in which the advisory services of Calderdale CAB may lead to increased disposable income for its clients which in turn may generate an impact on the local economy. First, the bureau may assist its clients with accessing benefits and hardship funds by checking eligibility and assisting in the application for benefits. Second, as a result of negotiating with creditors, the clients may have to pay less in debt repayments increasing their disposable income. Third, As a result of budgeting advice and assessment, the client may be assisted in reducing their household costs (financing costs, fuel costs etc).

It is hard to quantify the amount gained from reducing repayments on a debt as whilst the majority of debts are rescheduled to £1 a month Calderdale CAB does not record what the original payments were in detail. Instead the gains in disposable income due to debt advice have been based on write-offs recorded due to bankruptcy and DROs.

The increase in disposable income has also been based on increased up-take of benefits. The calculation has been based in part on Calderdale CAB's own estimates for benefits gained through tribunal work. In addition, we have made a series of assumptions based on a study conducted by CitA of 13 bureaux including Calderdale CAB. The assumptions are detailed in Appendix A.

It is estimated that the service of Calderdale CAB generates £7 million in increased benefit uptake at a cost of nearly £800,000. This makes it the single-greatest generator of economic impact in the study, which is in part due to the scale of its operation and its emphasis on advice and casework. In 2009/2010 it provided face-to-face advice to over 12,000 clients.

3.2.3. Calderdale Benefits Assessment Unit

Calderdale Council Benefits Assessment Unit (BAU) provides a comprehensive and equal benefits/care charge assessment and customer information service in respect of a range of Local Authority benefits and care charge.

Table 3.3 shows the result of the BIM for Calderdale BAU.

Table 3.3: Costs and benefits Calderdale BAU (£)

Increase in disposable income:	6,233,140
Total costs:	2,979,652
Number of beneficiaries	9,838

Calderdale BAU provides a range of services, some of which are not directly related to the uptake of benefits, such as accommodation in older people's homes and elderly fostering. The estimation of costs and benefits has sought to separate out those relating specifically to financial inclusion. The assumptions are detailed in Appendix A. It is estimated that the service provided by Calderdale BAU generates in excess of £6 million in increased disposable income for its beneficiaries at a cost of nearly £3 million. It is important to note that the calculation of benefits only take into account face-to-face interviews, while the costs also include telephone advice.

3.2.4. Calderdale Credit Union

Calderdale Credit Union (CCU) is a mutual financial institution whose common bond covers people living or working in Calderdale. It currently has around 5,000 members and from August 2009 to August 2010 it made 1,181 of loans to its members and 2,300 Growth Fund loans.

Table 3.4 details the results of the BIM for CCU.

Table 3.4: Costs and benefits CCU (£)

Increase in disposable income:	176,964
Total costs:	171,212
Number of beneficiaries	NA

The present study focuses on increase in disposable income as opposed to the wide range of positive outcomes which financial inclusion service providers may facilitate. This has particular implications for CCU. While the Credit Union may have a positive impact on its members, by increasing their resilience through saving and by enabling them to access banking and transaction services, it may not necessarily increase the disposable income or the spending of its members. The estimation of benefits of CCU has focused on increases in disposable income due to decreased financing costs. In turn the reduction in financing costs is produced as some of the borrowers transition from more expensive sources of credit to a credit union loan or a growth fund loan. The assumptions are detailed in Appendix A.

It is estimated that over the course of a year the reduced financing costs lead to an increase in disposable income of £176,964 at a cost of £171,212. Again it is important to stress that this study had the relatively narrow focus of quantifying increased spending in the local economy as a result of the interventions. The scope and potential impact of the Credit Union is more holistic aimed at increased resilience and propensity to save, and enhanced financial capability, which are not covered in this study.

3.2.5. Calderdale DART

Established in 1984, Calderdale Disabled Advice Resource Team (DART) was established in September 1984 and offers an advice and information service for people with disabilities and their carers living in Calderdale. It offers a range of advisory services, including welfare benefits, and accessing Council services

Table 3.5 details the results of the BIM for Calderdale DART. The data on which the calculations are based are for the financial year 2009/2010.

Table 3.5: Costs and benefits Calderdale DART (£)

Increase in disposable income:	780,809
Total costs:	78,884
Number beneficiaries	835

The estimation of disposable income and costs is based on Performance Management Information provided by Calderdale DART. The assumptions are detailed in Appendix A. According to our estimates, DART generates approximately £780,000 in increased disposable income at a cost of around £80,000.

The significant results for this organisation are driven by the nature of its work and the target group for its activities, and the way that this work relates directly to this study. For example, assisting clients with a Disability Living Allowance claim, could for an input of 2 hours work generate up to £10,000 in annualised benefit for the client and local economy.

3.2.6. Pennine Housing

Pennine Housing is the largest social housing landlord in Calderdale with around 11,500 properties. It was established in 2001 when it took over the ownership and management of the local authority housing stock. Pennine Housing also operates with a range of financial inclusion services, including fuel efficiency measures and welfare benefit advice.

Table 3.6 details the results of the BIM for Pennine Housing.

Table 3.6: Costs and benefits Pennine Housing (£)

Increase in disposable income:	£882,000
Total costs:	£101,918
Number of beneficiaries	NA

As noted above, Pennine Housing operates with a wide range of financial inclusion interventions. However, in this study we have focused on its work around increased benefit up-take. This was because benefit uptake is easier to quantify and because Pennine Housing had reliable performance management information in this area. The assumptions are detailed in Appendix A. Pennine Housing generates nearly £900,000 in increased disposable income at a cost of around £102,000.

3.2.7. Mental Health Team

The Mental Health Team within Calderdale Health and Social Care has a full-time specialist welfare rights officer. The adviser provides a Specialist Welfare Benefits advice service within Mental Health Services in Calderdale. This involves providing consultancy type support and training to staff at all levels and in all teams within Mental Health Services in Calderdale, and also undertaking direct casework with service users and their carers. This service advises and advocates across the full spectrum of Welfare Benefits issues up to and including Representation at Tribunal and appeals to the Upper Tribunal. Home visits or visits to hospital patients are provided where required. The service also represents the interests of the service user group at a local and a national social policy level.

Table 3.6 details the results of the BIM for the welfare rights officer based in the Mental Health Team. The costs and benefits are for the calendar year 2010.

Table 3.7: Costs and benefits Mental Health Team (£)

Increase in disposable income:	£882,000
Total costs:	£29,447
Number of beneficiaries	NA

The service generates nearly £882,000 in increased disposable income for its users. This is largely down to increased uptake of benefits as lump sum and weekly payments, and, to a lesser extent, due to debt from over-payment of benefits being reduced or waived. The assumptions are detailed in Appendix A.

3.3. Overall costs and benefits

Table 3.8 summarises the results of the BIM for the organisations in this study.

Table 3.8: Costs and benefits all activities (£)

	Total increase in disposable income	Total costs
ACCK	626,114	70,000
Calderdale CAB	7,000,881	787,770
Calderdale DART	780,809	78,884
Pennine Housing	882,000	101,918
Calderdale Credit Union	176,964	171,212
Calderdale Benefit Assessment Unit	6,233,140	2,979,652
Mental Health Team	266,403	29,447
Total	15,966,311	4,218,883

In total the financial inclusion service providers generate nearly £16 million in increased disposable income among its users. The total costs of running these interventions are around £4.2 million.

In the next chapter we will use the data in the table above in our input-output modelling to look at the ripple effects of this spending on the economy.

4. Economic impact of financial inclusion interventions in Calderdale

4.1. Introduction

In the previous chapter we detailed the operating costs of the financial inclusion interventions under study and quantified the increase in disposable income for users of the different programmes. We now turn to how the additional increase in disposable income is spent and how this affects the local economy as they spend money on local suppliers and households (labour) who in turn spend part of that income in the local economy.

It is important to note that a distinction is made throughout the chapter between the **local** (i.e. Calderdale) and the **regional** economy (i.e. the Yorkshire and Humber region). The estimates for the increase in income and expenditure resulting from financial inclusion interventions are for the **local** economy, in other words, the economy of Calderdale. However, the ripple effects of this expenditure across different industries are estimated on a **regional** level (i.e. for the Yorkshire and Humber region). This is because we rely on an input-output table for Yorkshire and Humber as opposed to one for Calderdale.

4.2. The economic impact of financial inclusion interventions in Calderdale

Table 4.1 displays the estimated increase in disposable income per year by intervention. This increase in disposable income was calculated in Chapter 3 (see Table 3.7).

Table 4.1: Increase in disposable income by intervention (£)

	Total increase in disposable income
ACCK	626,114
Calderdale CAB	7,000,881
Calderdale DART	780,809
Pennine Housing	882,000
Calderdale Credit Union	176,964
Calderdale BAU	6,233,140
Mental Health Team	266,403
Total	15,966,311

The increases in income vary considerably by intervention. Calderdale CAB and Calderdale BAU produce the largest increases with £7 and £6.2 million. At the other end the Credit Union generates nearly £200,000 and Calderdale Mental Health Team generates just over 266,000. The main reasons for these variations include:

- *Scale*: The larger the scale of the intervention in terms of clients served, the larger the increase in disposable income tends to be. Calderdale CAB and Calderdale BAU are the largest providers in this study providing face-to-face advice to around 6,000 and 9,000 respectively
- *Benefit uptake*: Organisations providing support and advice relating to the take-up of benefits tend to provide higher returns than those with less tangible outcomes.
- *Face-to-face contact*: In this study we have focused on advice and support provided face-to-face. The thinking behind this is that the organisation must have a minimum involvement, in the form of a minimum of casework or related involvement, in the case to take the credit for the outcome.

We assume that the beneficiaries will spend the increase in disposable income as the lowest income decile households in the Family Resources Survey (Table 4.2).

Table 4.2: Spending for lowest income decile by sector (%)

Food & Non-Alcoholic Drinks	16
Alcoholic Drinks, Tobacco & Narcotics	3
Clothing and footwear	4
Housing, fuel and power	21
Household Goods & Services	7
Health	1
Transport	9
Communications	4
Recreation Culture	11
Education	1
Restaurants & Hotels	6
Miscellaneous goods & services	6
Non-consumption spending*	11

Source: Family Resources Survey 2005-06

Notes: * Refers to addition to savings, investments, financing costs (loan and mortgage repayments), cash donations, house purchases and major renovations and alterations

It is especially important to note that 11% of spending is classed as non-consumption spending, i.e. it is not spent in the economy, as this constitutes an important form of leakage. When imported into the input-output table for the Yorkshire and Humber region, household spending is distributed as detailed in Table 4.3.

Table 4.3: Spending for lowest income decile by sector according to I-O Table (%)

Gas, electricity & water	21
Food, drink & tobacco	19
Textiles and clothing	4
Retailing	7
Hotels & catering	6
Transport	9
Communications	4
Education	1
Health	1
Other (mainly public services)	17

The sectors which are estimated to receive the greatest proportion of the increased spending are utilities, food, drink and tobacco, and other (mainly public services).

Table 4.4 details the impact on the economy of the increase in client income as a result of financial inclusion interventions. (The cumulative impact on the regional economy is the result of the input-output modelling.)

Table 4.4: Impact on local economy by intervention (£)

	Increase disposable income	Income spent in local economy	Cumulative impact on regional economy
ACCK	626,114	557,241	695,409
Calderdale CAB	7,000,881	6,230,784	7,775,699
Calderdale DART	780,809	694,920	867,227
Pennine Housing	882,000	784,980	979,615
Calderdale CU	176,964	157,498	196,549
Calderdale BAU	6,223,140	5,547,495	6,922,988
Mental Health Team	266,403	237,099	295,887
Total	15,966,311	14,210,017	17,733,371

It is important to remember that 11% or approximately £1.8 million is destined to what we refer to as non-consumption spending and is therefore not spent in the local economy. Thus, of the **£16 million** total estimated increase in income **£14.2 million** is spent in the local economy. This in turn leads to an estimated **£17.7 million** being spent in the regional economy as the recipient industries of the increase in income purchase inputs from other industries.

The regional economic multiplier is 1.25. In other words, for every £1 spent in the local economy as a result of a financial inclusion intervention an additional £0.25 is spent in the regional economy as recipient industries purchase some of their inputs from other industries in the region.

However, the industries in Yorkshire and Humber import a considerable proportion of their inputs from outside the regional economy and, as such, constitute an important leakage. On average over 60% of inputs are either imported from outside the Yorkshire and Humber region or categorised as gross operating surplus (i.e. not spent on inputs from other industries in the region). At the high end of import reliance, sectors such as fuel refining and oil & gas import 85% and 84% of their inputs respectively. Conversely, the health sector only imports around 48% of their inputs.

Table 4.5 displays the return on every £1 of investment (operating costs) by intervention in the regional economy.

Table 4.5: Return on every £1 invested by intervention

	Cumulative impact on regional economy	Operating costs	Return on £1 invested
ACCK	695,409	70,000	9.9
Calderdale CAB	7,775,699	787,770	9.9
Calderdale DART	867,227	78,884	11.0
Pennine Housing	979,615	101,918	9.6
Calderdale CU	196,549	171,212	1.1
Calderdale BAU	6,922,988	2,979,652	2.3
Mental Health Team	295,887	29,447	10.0
Total	17,733,371	4,189,436	4.2

On average every £1 invested in financial inclusion activity generates £4.2 of spending by individuals and industries in the regional economy. The extra spending by individuals and industries in the regional economy generated for every £1 invested vary from £1.1 to £11.0 for the different interventions. The reason for this is that the

financial inclusion interventions studied generate different levels of increased disposable income.

4.3. Isolating the impact on the economy of Calderdale

The input-output table on which the modelling is based is for Yorkshire and the Humber. When we conducted the study in Leeds this was somewhat less problematic given that Leeds constitutes a larger part of the regional economy than Calderdale.¹ Because the study was also part funded by the Regional Development Agency, the regional impact of the interventions was also of greater interest.

Thus in this section we attempt to discuss and isolate the impact on the economy of Calderdale. We would expect that the impact would be greater at a regional level because smaller economies tend to rely more on imports and a greater proportion of workers would be commuting in from (and spending their wages) outside the economy. That said it is important to note that the amount of leakage in the form of commuting and imports is not necessarily proportional to the size of the economy, but that this will depend on the structure of the economy. For example, a free-standing town with limited transport links to other towns and cities may be more self-contained and self-sufficient than a town that is situated within a closely linked network of towns and cities.

The question then is how can we measure the amount of leakage from the economy of Calderdale in order to isolate the impact? The most accurate way of ascertaining the amount leakage would be calculating the proportion of inputs imported by local industry. However, such data is not available in Calderdale (and is, as far as we are aware, not available in any local authority in Britain). Instead we use inward commuting as a proxy of leakage, which according to the 2001 census was 24%.

Table 4.6: Estimated cumulative impact on Calderdale

	Increase in disposable income	Cumulative impact on regional economy	Estimated cumulative impact on Calderdale
ACCK	626,114	695,409	528,511
Calderdale CAB	7,000,881	7,775,699	5,895,531
Calderdale DART	780,809	867,227	659,092
Pennine Housing	882,000	979,615	744,507
Calderdale CU	176,964	196,549	149,377
Calderdale BAU	6,223,140	6,922,988	5,261,471
Mental Health Team	266,403	295,887	224,874
Total	15,966,311	17,733,371	13,463,363

Using this proxy, we estimate an impact on the local economy of around **£13.5 million**. This means that on average for every £1 invested in financial inclusion activity £3.2 of spending by individuals and industries in the regional economy. It is important to stress that this is only an estimate as one could only isolate the impact with certainty with data on industry imports.

¹ There are no GDP figures on a sub-regional level. However, the economically active population of Leeds constitutes around 15% of the economically active population of Yorkshire and Humber, compared with 4% for Calderdale.

5. Conclusions and policy implications

Introduction

This study attempted to quantify the wider effects of financial inclusion interventions in Calderdale on both the local and regional economy. The methodology we applied was two-pronged. First we conducted an analysis of performance management information provided by the financial inclusion service providers. This was used to quantify the increase in disposable income resulting from the intervention as well as the costs of providing the service. Second, we used an input-output table for the Yorkshire and Humber region to assess the wide economic impact of this increase on the regional economy. We also made some estimates for the economic impact on the economy of Calderdale.

Financial inclusion in an age of austerity

The findings of this study are being published at a time when both the national and local financial inclusion agenda is shifting radically. After the election of New Labour in 1997, there was a decade of sustained government investment in financial inclusion programmes, underpinned by period of unprecedented economic growth. Today following the largest banking crisis since 1929-33 and the most severe recession since the Second World War, we are entering a period in which financial inclusion interventions and their beneficiaries and providers will be under considerable financial pressure.

Under an extensive programme of cuts many national financial inclusion programmes have already been discontinued or are likely to be discontinued. In addition, the funding of local authorities is also likely to decrease considerably with potential ripple effects on the many services and programmes they deliver or fund.

The impact of financial inclusion interventions on the economy of Calderdale

In total we estimate that financial inclusion interventions in Calderdale generate an increase in disposable income among its users of nearly £16 million per year at a cost of around £4.2 million. The financial inclusion service providers achieve this mainly by providing access to affordable credit and increasing benefit up-take.

In turn, using the Family Resources Survey, we estimate that £14.2 million is spent in the economy of Calderdale. Based on input-output for the Yorkshire and Humber region, we estimate that this, in turn, has a cumulative impact on the regional economy of £17.7 million. This cumulative impact is generated as the firms providing goods and services to the financial inclusion service users, purchase goods and services from other firms in the region.

If we take into account the increase in disposable income of users as a result of the intervention and the effect this has on local businesses and industry, this means that for every £1 invested in financial inclusion in Calderdale, £4.20 is generated for the regional economy.

The impact on the local economy of Calderdale is likely to be smaller than that because smaller economies tend to rely more on imports and a greater proportion of workers would be commuting in from (and spending their wages) outside the economy. However, in absence of data on the proportion of inputs imported by local industry from outside the local economy, it is difficult to know for certain the exact impact on the local economy. Using inward commuting as a proxy for leakage, we

estimate the impact on the local economy to be in the region of £13.5 million. This means that for every £1 invested in financial inclusion work, £3.2 is generated for the regional economy.

Policy implications

The impact and benefits of financial inclusion interventions have been considered in numerous studies and are also an important consideration for organisations, local authorities and governments investing in financial inclusion. In the main the impact and benefits are understood in terms of impacts on the financial and social well-being of the households of the beneficiaries.

This study points to an additional dimension of benefits associated with financial inclusion interventions: the impact on the local and regional economy. The providers, funders and supporters of such interventions may want to consider this dimension when it comes to making decisions on allocation of funding.

The discontinuation of funding of financial inclusion interventions in Calderdale is likely to have knock-on effects on the local and regional economy. The services provided by the organisations in this study enable Calderdale residents to access benefits and cheaper finance which has positive ripple effects on the local and regional economy.

That said it is important to not let financial inclusion policy be determined by one dimension alone. For example services aimed at increasing benefit up-take are more likely to provide higher sums than say weaning people of home credit. However, it does not mean that increasing benefits is more worthwhile than the latter. Ultimately financial inclusion policy should take a broader view of importance and effectiveness.

6. Bibliography

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A. Details of assumptions used

Age Concern Calderdale and Kirklees

In the estimation of costs we have calculated, based on discussions with the management, that around 70% of the employees time was spent on financial inclusion-related issues. The same proportion of overhead and management costs was apportioned to financial inclusion work. The estimation of increased benefit uptake is based on performance management information collected by ACCK.

Calderdale CAB

The calculation of costs is based on the quarterly monitoring form submitted to Calderdale Council. No attempt has been made at separating out any part of the service.

The estimation of the increase in disposable income resulting from the intervention of Calderdale CAB is based on three data sources. First, we relied on the figure cited in the Calderdale council quarterly monitoring form under benefit gained through tribunal work (Method 1). This figure was just short of 750,000. Second, we estimated the increased up-take in benefits for the remaining clients based on a study conducted by Citizen Advice on benefit advice in 13 CABx during two weeks in March and April 2010 (Method 2).² 1,009 clients received benefit advice during this period from the pilot bureaux. 464 outcomes were recorded for 378 of these clients. All clients whose main problem was a benefit problem and whose enquiry proceeded past the initial stage of the gateway system were included in the study.

The table below goes through the calculation step-by-step.

Total number of F2F advice clients	5,996
Less	
Number of clients covered by tribunal work	450
Equals	
Remaining F2F advice clients	5,546
Estimated number of clients receiving advice on benefits	1,997
Multiplied by	
Average amount benefit increase in CitA study	£2,088 ³
Equals	£3,327,002

The estimated number of clients receiving advice is based on CASE statistics for 2009/2010. In this period 36% of the issues on which advisers gave advice were on benefits. It is therefore assumed that the same percentage of clients received advice on benefits. We have not included clients receiving telephone advice. This is because it is assumed that in order to increase the benefit uptake among clients a minimum of casework is required which may not be provided through telephone advice.

The third and final method used relied on write-off figures due to bankruptcy and DROs for the FIF2-funded work for the financial year 2009/2010. This came to a total

² Citizen Advice (2010). *Outcomes from Benefit Advice*. Research paper published September 2010.

³ The study followed up the outcomes for 378 clients seeking advice on benefits. Out of these clients, 234 experienced an increased in benefits of a total of £789,210. The average gain for all clients seeking advice on benefits was £2,088 (£789,210/378 clients).

of £967,981 for casework for 249 clients, resulting in an average figure of £3,887. This was then multiplied by the number of LSC debt clients of 285, who receive a similar form of casework, which equals £2,075,911.

The table below lists the estimated increase in disposable income by the three methods outline above.

<i>Increased disposable income by method (£)</i>	
Increased disposable income Method 1	749,644
Increased disposable income Method 2	4,169,736
Increased disposable income Method 3	2,075,911
Total	7,000,881

For the

Calderdale Benefit Assessment Unit

In the estimation of costs we have separated out the costs related to housing benefits and council tax based on caseload figures. Around 30% of the caseload is for council tax benefits and 59% is for housing benefits.

In the absence of any data on benefit uptake we had to make some estimates which are detailed in the table below and discussed below.

<i>Overview of calculation of increased benefit uptake</i>	
Total number of interviews	9,838
30.32% of all interviews are on council tax benefit*	2,983
62% of cases lead to increased benefit uptake**	1,849
Multiplied by	
Estimated average gain council tax benefit***	£617
Equals	£1,141,072
59.04% of all interviews are on housing benefit*	5,808
62% of cases lead to increased benefit uptake**	3,601
Multiplied by	
Estimated average gain housing benefit****	£1,414
Equals	£5,092,069
Total increase in disposable income	£6,233,140

Notes: * Based on caseload data, ** Based on rate from CitA study, ***Based on average gain for council tax benefit from CitA study, **** Based on average gain for housing benefit from CitA study

The process of estimating the increased benefit up-take was as follows. First, we used the number of interviews conducted by BAU as a proxy for the number of clients. The reason for focusing on interviews is that we only attribute benefits to an organisation when it has a minimum involvement in the case. Second, we used the case load figures to estimate the number of interviews focusing on council tax and housing benefits. Third, we used the figures from the CitA study on benefit advice (see section on Calderdale CAB) to calculate the percentage of cases that lead to an increase in receipt of benefit. This is problematic given that CABx are different from Welfare Rights Units. However, in the absence of alternative figures this was the best option. Fourth, we then use the average gain in council tax and housing benefits (annualised and backdated) from the CitA study respectively to estimate the average gain per successful client.

Calderdale Credit Union

The central assumption underpinning the calculation of the costs and benefits of the Credit Union is that a proportion of member and Growth Fund borrowers make two

transitions. First, a proportion of member and Growth Fund clients start using Growth Fund or core credit union loans rather than costly sub-prime credit. Second, a proportion of core members have graduated from Growth Fund loans to core loans.

The assumptions and calculations for the first transition are detailed in the table below.

Overview of Transition 1

Total number growth fund clients	2,451
Less	
Number repeat clients (60%)**	1,471
Equals	
Total number new clients	980
29% of clients transitioning*	284
Multiplied by	
Average reduction in financing costs	£466
Equals	
Total reduction in financing costs	£132,622
Total number core clients	1,271
Less	
Number repeat clients (90%)**	1,144
Equals	
Total number new clients	980
29% of clients transitioning*	127
Multiplied by	
Average reduction in financing costs	£1,136
Equals	
Total reduction in financing costs	£41,888
Total reduction in financing costs	£174,510

Notes: * Based on study conducted of CDFI clients by Dayson and Vik (Forthcoming), * Management estimate

Unless otherwise specified, the assumptions are based on loan portfolio data for October to September. We estimate the reduced financing costs as a result of the first transition outlined above (sub-prime to core or Growth Fund). This only applies for new clients as we are looking at the impact over a year and not cumulatively.

The number of clients is based on the number of loans made over the period in question. We arrive at new clients by subtracting the number of repeat clients (based on management estimates). The average reduction is based on a comparison of the costs of a loan with Provident Financial (the market leader in home credit) and with those of either the Growth Fund or a core loan. The average amounts used are £1,300 for core clients and £700 for Growth Fund clients, which are approximately the average sizes of the loans issued in 2009/2010.

The percentage of clients transitioning is based on a study conducted of Growth Fund clients by CFS in 2009.⁴ The make-up of the clients of Calderdale Credit Union and those surveyed in the study referred to is similar: around 70% are women, around 70-80% have children, they are for the most part young and most are not in employment. This suggests that extrapolation based on these figures is relevant and reasonable.

For the second transition – that from Growth Fund to core loans – we have, based on management input, estimated that around 40 of the core borrowers transitioned from

⁴ Dayson et al (2010). *The social impact of UK microfinance*. University of Salford.

Growth Fund to core loans. With an average amount of £700 we estimate the average reduction in financing costs to be £61.34, which equates to a total reduction of £2,454.

In terms of the delivery costs we have separated out the costs of providing the loans (as opposed to savings and other products). The cost per loan is set to be £46 (for a total cost of around £170,000) which is based on a formula used by DWP to estimate costs for the Growth Fund. This is based on staff time per part of the lending process and an apportionment of overheads.

Calderdale DART

The calculation of costs is based on the quarterly monitoring form submitted to Calderdale Council. No attempt has been made at separating out any part of the service, though it could be argued that some of the services provided by DART may not be strictly financial inclusion-related. The estimation of the increase in disposable income resulting from the intervention of Calderdale DART is based on the figure cited in the Calderdale council quarterly monitoring form under benefits obtained. This figure was approximately 780,000.

Pennine Housing

The costs for Pennine Housing are based on an estimate of the time taken by each of the eight rent officer and the manager to do financial inclusion work. The total costs are estimated to be £101,918. We have also integrated in this a small proportion of district housing assistant time, as they calculate housing benefit entitlement and verify HB claims at sign up for properties, and a small proportion of Support Officer's time as they visit tenants in sheltered accommodation and an integral part of their role is to maximise income.

The benefit gains are based on performance management information and are estimated at £882,000 over one year. A proportion of gains from district housing assistants and support officers has been estimated, as they do not keep separate records of this.

Mental Health Team

The estimates of gains in disposable income are based on recorded outcomes of benefit case work, and includes both benefit overpayments waived or reduced and benefit applications. The gains are incomplete as sometimes the adviser does not find out the outcome of a case. In other cases, estimates have had to be made as the outcome is known, but the exact figure is not provided by the client. This is more the case with back-payments than ongoing entitlement, for which accurate amounts tend to be produced.

B. The economic impact of financial inclusion interventions – models and applications

Introduction

The economic landscape of local communities and cities is constantly evolving as plants open and close, the industry mix changes, and public investment oscillates. This has potentially important implications for employment opportunities for the local population, for industries interlinked through trade and for the planning of public infrastructure and service provision. Thus economists have long been developing methods and models, often referred to as impact analysis or multiplier models, to estimate the impact of such changes.

This appendix critically analyses and discusses impact or multiplier analysis models and their applications in the evaluation of financial inclusion interventions. We start by examining the two main models for estimating the impact of increased demand resulting from new economic activities or public investment on a local or regional economy: the Keynesian income-expenditure model and the input-output approach. We then examine and discuss various applications of such models in the evaluation of financial inclusion interventions. We discuss the main considerations and justification guiding the selection of an appropriate model for assessing the economic impact of financial inclusion activities in Leeds. Finally, we provide some information about the Yorkshire and Humber input-output table on which our analysis is based.

The Keynesian income-expenditure model

John Maynard Keynes is arguably one of the most influential economists in the field of regional economic analysis and methodology. Perhaps one of his most important contributions to this discipline has been the Keynesian income-expenditure model. Central to Keynes model is that an initial injection of capital into a local economy has ripple effects beyond the initial investment as recipients of the injection spend money on local suppliers and households (for labour) who in turn spend part of that amount in the local economy. These ripple effects continue over several rounds of spending.

Keynes' framework for estimating the impact of these changes in demand on an economy is based on calculating income and employment multipliers of government investment and the establishment of new plants (Miernyk, 1965). Multipliers measure the magnitude of the impact of a change in investment beyond what is immediately measurable. In other words, if a government or a company invests a given amount on a particular project or in an economic activity, how would that affect local firms and households beyond the immediate investment? For example, an employment multiplier of 1.25 means that for each job created as a direct result of the investment leads to the creation of .25 jobs elsewhere in the economy.

Inevitably the initial injection and subsequent rounds of spending are not spent in their entirety in the local economy as inward commuters spend wages in other economies and as local industries and residents purchase goods imported from other economies. The likelihood of households and firms in purchasing locally produced goods is called the marginal propensity to consume locally. It is also important to seek to identify leakages in the initial injection, as the investment may include inputs and workers from other economies.

There are two principal ways of estimating the marginal propensity to consume locally produced goods. First, it is possible to conduct a survey of a sample of local

residents enquiring about the proportion of their income being spent locally. This approach may be problematic given that it is costly and because local residents may not be able to provide accurate estimates of the proportion of their income they spend locally.

A second and more commonly used approach was developed by Archibald (1967). He used data from the Family Expenditure Survey (FRS) to identify services and goods typically bought locally to calculate a national figure for marginal propensity to consume. By using data on regional disposable income, Archibald (1967) would then estimate a regional figure for marginal propensity to consume and subsequently a regional multiplier. Most empirical studies use a variant of this approach.

Because sub-national economies, relative to national economies, tend to rely to a greater degree on imports and inward commuters, producing a realistic estimate of the marginal propensity to consume locally produced goods and services is crucial in determining the economic impact of increased demand. The marginal propensity to consume goods from that locality depends on numerous factors (Armstrong and Taylor, 2000). First, the marginal propensity to consume locally is likely to be smaller in smaller regions as they are likely to rely more on imports. Second, highly specialised regions will to a greater extent rely on imports and the marginal propensity to consume locally will, therefore, be smaller. Finally, the greater the flow of inward commuters is, the smaller is the propensity to consume locally. This is because inward commuters tend to spend most of their income where they live rather than where they work.

The Keynesian income-expenditure model is a scientifically sound and useful methodology for assessing the impact of increased demand on local and national economies. The Keynesian income-expenditure model is especially suitable for assessment of specific economic activities for which there are audited accounts and similar information available. For example, Bleaney et al (1992) used university audited accounts and local statistics to assess the impact of the University of Nottingham on the city-economy.

However, the model also has some drawbacks. Among frequently cited weaknesses is that it is too aggregate in that it does not separate out sectoral effects (Armstrong and Taylor, 2000), unlike the input-output model discussed below. The ability to differentiate between the impacts of different industries is crucial in local economic planning as different industries may have different infrastructure and service needs. Moreover, the expansion of some industries may have greater impact on the local economy than others owing to greater embeddedness in the local economy through trade links and local employment

Another criticism levelled at Keynes' model is that it disregards capacity constraints, although this is a common trait of most regional economic models including the input-output approach which we turn to in the next section. The model assumes that local industries face no constraints in coping with increased demand for their goods.

The input-output approach

The input-output approach to economic modelling was first developed by the US economist Leontief in the 1930s. Today it is one of the most widely used methods by national and sub-national policy-makers and authorities in forecasting the development of the economy and in planning future infrastructure and service

provision needs. Input-output analysis is also used to calculate important regional and national economic indicators, namely GDP and Gross Value Added.

At the heart of the input-output approach to modelling local and regional economies lies the input-output table (Table B.1).

Table B.1: Illustrative input-output table

	Inputs purchased by			Final demand sector				Gross output
	Agriculture	Manufacturing	Services	Households	Government	Exports	Investments	
Outputs purchased by:								
Agriculture	20	40	0	20	0	20	0	100
Manufacturing	20	20	10	75	10	55	10	200
Services	0	40	10	25	20	5	0	100
Payments for:								
Household services	40	45	70	5	0	0	0	160
Government services	10	15	5	0	0	0	0	30
Imports into regions	10	40	5	0	0	0	5	60
Gross inputs	100	200	100	125	30	80	15	650

Source: Yan (1969, p.20)

The input-output table is a transaction table which shows purchases (input) and sales (output) by sector within a regional or local economy in a given year. Sales by sector are displayed horizontally, while purchases are displayed vertically. For example, if we turn to Table 2.1, we can see that Services purchase 10 from Manufacturing, 10 from Services, 70 from Households (labour), 5 from Government and 5 from Imports totalling inputs of 100 to produce an output of 100. Services sell their outputs to Manufacturing (40), Services (10), Households (25), Government (20) and Exports (5). For each unit of output there must be an input so that outputs are always equal to inputs. If outputs are smaller (loss) or greater (profit) than input then this is recorded in the payments sector.

Input-output tables vary greatly in complexity and size. The simplest tables consist of a handful of sectors, like our illustrative transactions table (Table B.1), while national input-output tables can consist of as many as 500 industrial sectors (Miernyk, 1965). The input-output table for the Yorkshire and Humber region consists of 30 industries.

In itself the input-output table constitutes a rich insight and snapshot of an economy, facilitating an understanding of inter-industry links, dependency between different economic agents and of relationships with other economies. Nevertheless, arguably the most useful aspect of the input-output table is that it can be applied to predict or assess the impact of increased demand.

In order to use the input-output table to model the impact of an increase in demand of one or more sectors, the impact of the increased demand has to be calculated between each of the industries. For example, if the demand for agricultural goods increases by £10, we have to calculate how this impacts upon manufacturing, services and all the other industries separately.

The initial increase in output of the industry in question leads to increased demand for inputs from other sectors, whose increased output in turn leads to increased demand for inputs from other sectors. This process occurs over several rounds of spending until the net increases in output for the sectors converge to zero. So an initial increase in demand for agricultural goods of £10 will have greater impact on the regional economy than the initial injection.

Like with the Keynesian income-expenditure model, income, employment and sectoral multipliers can also be calculated using input-output tables. For example, as we discuss in the next section, an evaluation of CAB in Glasgow used an input-output approach to calculate multipliers and found that an increase in benefit uptake by £5.48 million supported 97.6 additional jobs in the city (The Fraser of Allander Institute, 2005).

The input-output approach to modelling the local economy can provide policy-makers and economists with rich picture and forecasts of past and future trends in the economy. One can see how increased output in one sector affects the output of other sectors and employment opportunities for the local population. Nevertheless, there are also some limitations of the use of the input-output approach to analysing the local economy.

In particular, there are a range of challenges concerning the accuracy of input-output tables themselves with important implications for their use in impact assessments. Due to high costs associated with conducting direct surveys with all firms, most statistical authorities use non-survey methods or estimates based on a sample of industries. This may negatively affect the accuracy of the input-output tables in

describing industry relations. Another problem possibly affecting the accuracy of transaction tables is that it assumes that the relationships between industries are constant. Thus, changing technology and industry sensitivity to prices of inputs may erode the usefulness of the transactions table to model economic impact (Armstrong and Taylor, 2000). These issues may cause problems in the modelling of impacts, because the model is only as accurate as the input-output table upon which it is based.

Applications of multiplier models in financial inclusion evaluations

Above we have outlined the two key approaches to economic impact analysis. In this section we examine how these approaches have been applied in two cases of financial inclusion intervention analyses. First, we discuss a study by the Fraser of Allander Institute (2005) using the input-output approach to modelling. Second, we consider the application of the LM3 (Local Multiplier 3) methodology of the New Economics Foundation (NEF), which is based on the Keynesian income-expenditure model.

Fraser of Allander Institute study

The impact assessment of Glasgow Citizens Advice Bureaux (CAB) conducted by the Fraser of Allander Institute (2005) assesses the employment effect of CABs on the local economy. The study estimates the number of jobs supported in Glasgow by expenditures generated through CAB advisory services using an input-output approach to modelling.

It is assumed that CAB advisory services can enhance income of low-income households through maximising up-take of benefits which in turn can be spent in the local economy generating jobs. The increased up-take is estimated based on figures provided by CAB, which for the financial year of 2003/2004 was £5.48 million. The researchers assume all of this increased income results in increased expenditure. The areas or sectors in which this is spent (e.g. household fuel and power, transport etc) is broken down using the 2001/2002 Expenditure and Food Survey data for the lowest income quintile. It is believed that all CAB clients are among the 20% poorest households.

They then estimate the impact of this increased income on the local economy through being re-spent within Scotland. This is because there is no way of directly estimating the impact for Glasgow. They argue that a high proportion will be spent locally based on the fact that CAB's clients live locally in Glasgow and because they are on a low income the study assumes that they do not travel outside of Glasgow to spend additional payments.

They then run this estimated increase in spending through a version of the Scottish Input-Output model, which results in total effects on Scotland. Using sectoral employment/output ratios (multipliers) they then estimated the number of jobs created at a national level. By examining the sectoral composition of the local economy, the authors estimate that 82% of the jobs created at a national level through increased spending are created in Glasgow. They also estimate wage effects estimated using a similar procedure. By examining at the structure of the local economy, they estimate that 65% of the wage increase across Scotland would benefit Glasgow.

The study then derives the cost per job of this increased employment. The study does this by looking at the total cost of running the CAB offices in Glasgow for the financial year of 2003/2004. They then divide this sum by the number of jobs created in Scotland and for the number of jobs created in Glasgow. The study concluded that the increase in benefit uptake by £5.48 million supported 97.6 additional jobs in the

city and that the cost per job support was £6,279 (The Fraser of Allander Institute, 2005).

New Economics Foundation study

Based on the Keynesian income-expenditure model, the New Economics Foundation (NEF) has developed a simplified method for calculating local multipliers called Local Multiplier 3 (LM3) (Sacks, 2002). The methodology is designed to measure the impact of a certain economic activity, company or investment on a local economy.

It attempts to do this by measuring the impact of the initial increase in demand over three rounds. The first round measures the initial income of the group of people, the organisation or the company in question. The second round measures the proportion of this initial income spent locally, while the third measures the proportion of the locally spent income estimated in the second round spent locally. The three rounds of local spending are added together and divided by the initial income to produce a multiplier.

Most of the data needed for LM3 has to be collected from accounts or registers of individual business or through surveys of local people and businesses. NEF has developed a set of generic surveys for interviewing individuals and businesses (see Sacks, 2002).

However, NEF has also calculated a set of standardised percentage figures of how much major chains and public sector organisations (including the armed forces) are likely to spend in the local economy based on annual reports published by the companies (Sacks, 2002). These percentages are calculated as follows. It is assumed that most of turnover is spent on VAT, supplies, rent, profit and labour. It is further assumed that “almost all” of VAT, supplies, rent and profit leave the local economy leaving only spending on labour which, NEF assumes, is spent in its entirety in the local economy (Sacks, 2002).

This methodology has been applied by NEF on numerous studies including in the evaluations of financial inclusion interventions. For example, the methodology has been applied in the village of Killamarsh outside of Sheffield to evaluate the impact of a cash machine put in by Coop Bank following local pressure. A survey was conducted of users of the cash point and revealed that between 50 and 70% of cash taken out was spent in the local community.

Another example of the application of LM3 is the evaluation of effort by Newham Council to encourage people in low-income employment to take up Working Family Tax Credit. A survey found that people eligible for this means-tested tax credit spent most of their income locally and the intervention carried a multiplier of 1.77.

The LM3 is a practical methodology which local community groups and policy-makers can use and replicate with relative ease. It is especially useful in evaluating economic effects of economic activities and interventions in small economies and for individual organisations and companies with few suppliers.

However, the LM3 does require collection of primary data, through surveys and from company accounts, which makes it difficult and impractical for larger and more complex economies. Moreover, the methodology does not differentiate between the different sectors.

Selecting a model for Leeds – considerations and justification

In the preceding sections, we examined the underlying methodology and the applications of the Keynesian income-expenditure model and the input-output approach. One could have justified using either of these models in the economic impact analysis of financial inclusion interventions. Both models have a strong theoretical underpinning and there is a wealth of examples of where they have been applied, though perhaps not so extensively in the context of financial inclusion interventions.

Ultimately in the case of Leeds (and now for Calderdale) for three reasons we opted for an input-output approach instead of the Keynesian income-expenditure model;

- The necessary data for an input-output analysis were readily available data in the form of a recent input-output table for Yorkshire and Humber. Conversely, to use a Keynesian income-expenditure model we would have to collect data on marginal propensity to consume using a survey or estimated the propensity to consume locally from the FRS.
- The second advantage of the input-output approach over the Keynesian income-expenditure model was the ability to disaggregate impact by industry and sector.
- In choosing the input-output analysis we also put emphasis on the ease with which the analysis could be replicated. As detailed in the next chapter, repeating an analysis would only requiring inputting basic information, such as number of beneficiaries and amount in increased disposable income. Moreover, the input-output table and the percentile expenditure of the lowest income decile could be updated when Yorkshire Forward and Office of National Statistics produce new data.

The Yorkshire and Humber input-output table

The input-output table used in the analysis is the estimated coefficients matrix for Yorkshire and Humber showing the relationship between industries in the region. The coefficients matrix tells us for each unit of output produced the purchases made of each input.

The Yorkshire and Humber matrix is based on the equivalent matrix for the UK, which itself was estimated from UK input-output tables updated to 2004. The UK coefficients matrix was adjusted to account for the differences in the relative size between industries in the region compared to the UK, and the absolute size of the industry in the region compared with the UK. The general idea is that industries in the region are smaller than at the UK level, and the economy as a whole is smaller, so industries in Yorkshire and Humber will not be able to supply as much to the purchasing industries as at the UK level per unit of output. This means the values in the regional matrix will be smaller than for the UK (a higher proportion will be imports) and that the multipliers will be smaller. It is important to bear in mind that the table does not use any actual data on industry purchases in the region, but as explained above estimates the relationships based on UK input-output tables.