



NHF Local Economic Impacts Calculator (LEIC): User Guide

April 2019

Cebr

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1 Introduction

This is a guide to users of the Local Economic Impacts Calculator (LEIC) that Cebr first constructed in 2013 on behalf of the National Housing Federation.

The point of the LEIC is to allow users (NHF housing association members) to estimate the economic impacts of their:

- a investments in new affordable housing; and
- b day-to-day activities in managing their existing stocks of housing.

Originally, the database provided impacts at the regional, national and UK level. In 2014, the model was innovated to include a tool that could be used to estimate these impacts at the local authority (LA) and local enterprise partnership (LEP) level.

The LEIC produces impacts at the LA level that are derived on the basis of the HA user's estimates of the proportion of the different elements of their supply chain that are provided by people or businesses located within the LA or LEP. The higher the percentage of housing investment, for example, that is supported by local goods and services, the greater the likelihood that the multiplier impacts of this investment will be realised within the locality. But it is important to note that goods and services that are not supplied within the local economy are likely to be supplied from other local authority areas, generating multiplier impacts in other parts of the UK.

The 2016 update of the LEIC built in the ability to estimate impacts at the Combined Authority (CA) level. Five CAs were incorporated in 2016. The 2017 update incorporated a further four CAs, including two options for the West Midlands CA – one including constituent LAs only and one including constituents and non-constituents (candidates for inclusion).

The May 2018 refresh of the database was updated to incorporate changes in the make-up of the combined authorities, including the removal of the North East CA and the addition of the new North of Tyne CA and changes in the local authority compositions of some of the others. It also reflected the merging of Northamptonshire LEP with South East Midlands LEP to create the "NEW South East Midlands LEP" featured in the 2018 LEIC.

This April 2019 iteration incorporates minor changes, principally the inclusion of five new Local Authorities within the Sheffield City Region CA and the name change for the Shepway LAD to Folkestone & Hythe. This can be embedded in future iterations as the raw datasets become consistent. In the meantime, if a LEIC user chooses Shepway in any of Worksheets 3-5, a note to this effect will appear in red text.

2 Structure of the database

The LEIC consists of six worksheets. These are outlined as follows:

- 1 Database information:** containing high-level details of the history of the LEIC and its purpose.
- 2 Glossary of data:** featuring definitions of the economic, socioeconomic and housing-related indicators that feature in the LEIC.
- 3 Impacts of affordable homes investments:** allowing users to estimate the economic impacts of affordable housing schemes that they plan to invest in. Impacts are produced at the level of local authority districts (LADs), local enterprise partnerships (LEPs), combined authorities (CAs), government office regions (GORs) and for each of England and the UK as a whole.
- 4 Impact of housing associations:** allowing users to estimate the economic impacts of their day-to-day housing association activities required to manage and maintain their existing affordable housing stocks. Again, the LEIC produces impacts at the level of LADs, LEPs, CAs, GORs and for each of England and the UK as a whole.
- 5 Area profiles:** providing a wide range of economic, socioeconomic and housing-related data. It includes a mapping of the economic 'footprint' of all HA day-to-day activities, as well as affordable homes investment activities within a particular LAD, LEP, CA or GOR.
- 6 Detailed product categories:** this is designed to assist LEIC users of worksheets 3 and 4. If users have a supply chain line item that they are not sure about how to treat within the categories into which supply chain expenditures can be broken down in worksheets 3 and 4, they can identify their expenditure stream with a code and description from worksheet 6. It can then be established which of the categories in worksheets 3 and 4 should be used.

Behind these sheets sit over 80 worksheets of detailed data and calculations that support the three key user sheets (worksheets 3, 4 and 5). The following sections provide a guide to the use of each of these key worksheets.

3 Worksheet 3: Economic impacts of HA investments in new affordable homes

Worksheet 3 allows LEIC users to estimate the economic impacts of their current or planned investments in new affordable housing. Figure 1 shows the user inputs interface of Worksheet 3 for estimating impacts of investments in new affordable homes.

Figure 1: Worksheet 3 – user input interface for estimating impacts of investments in affordable homes

USER INPUTS		
1. Choose input method	Value of investment (£)	
2. Enter investment (£) (if known)	5,000,000	
3. Enter construction + on cost (£) (if known)		
4. Land Costs (£) (if known)		
4. Select geography	Local authority	
5. Select investment area	Barnsley	
6. Enter % of products sourced within local authority:		
Entry method:	Product category	For detailed explanation of categories see '6. Detailed product categories' worksheet If 'product category' chosen, a % must be entered in all cells C22:C26
Agriculture, forestry and fishing	100%	e.g. food purchased from source
Production	90%	e.g. manufactured goods, energy and utilities
Construction	75%	e.g. housing development services, maintenance and repair
Distribution, transport, accommodation and food	100%	e.g. transport, hotels, restaurants and retail
Other Services	100%	e.g. all other services, e.g. finance, insurance, legal, administrative etc.

Source: LEIC

To estimate economic impacts, users are required to provide some or all of the following information:

- **Input method** – users are required to specify whether they are inputting the total spend under the scheme (“Value of investment (£)”) or the number of homes to be delivered (“Number of homes”).
- **Investment (£)** – if the input method is “Value of investment (£)”, users are required to enter the £ value of the affordable housing investment to be undertaken. If possible, users should provide the breakdown between construction and on costs versus land costs. If this cannot be provided, the database will automatically estimate this breakdown based on regional housing investment data – derived from the Affordable Homes Programmes (AHPs) and the National Affordable Housing Programme (NAHP), which broadly correspond with the shares accounted for by the “works” element of scheme costs under the current SOAHP.
- **Number of homes** – if the input method is “Number of homes”, users should enter the number of new homes to be built under their scheme. If this option is chosen, the database automatically translates the number of homes into estimates of the value of the investment based on total scheme costs under the current 2016-2021 SOAHP (to end March 2018).
- **Geography** – users can choose the scope of the area in which they wish to measure the economic impacts of its affordable housing schemes. It is possible to choose local authority, LEP, Government Office Region or Combined Authority.
- **Products sourced within LA, LEP or CA** – when LA, LEP or CA is selected for the geographic scope of the assessment, users can specify information related to the supply chains that support their schemes. Users can either provide this as an overall percentage of the goods and services sourced within the LA, LEP or CA economy, or can enter individual amounts for five broad categories of input. (More detailed information on what each of these categories include can be found in Worksheet 6: Detailed Product Categories.) The extent to which supplies are sourced from within the LA, LEP or CA area is a key driver of the extent to which the wider multiplier impacts of the HA’s affordable housing scheme remain in

the LA, LEP or CA economy. Supplies sourced from outside mean the impacts in the LA, LEP or CA itself will be diluted through leakage to other LAs, LEPs or CAs.

- **LA composition of CAs and LEPs:** the cells on the right of Figure 1 show the local authority composition of chosen CAs or LEPs, when either is chosen as the geographic scope of a LEIC user's assessment.

Figure 2 illustrates the modelled outputs. The relevant geographies for the assessment being carried out by the user are confirmed in the first four rows visible in Figure 2. If users have not specified the breakdown between construction and on-costs, on one hand, and land costs on the other, estimates are provided by the database.

The core outputs are the direct impacts and the total impacts tables. Direct impacts are only presented for the local authority and the relevant region. They are the same across the board, so there is no need to repeat for England and the UK. The total impacts include the indirect and induced multiplier impacts associated with investments in affordable homes. The LA-level impacts are driven by what the user has inputted for products sourced within the LA (or the LEP or CA when either is the chosen geography).

Figure 2: Worksheet 3 – modelled outputs on economic impact of new affordable homes investment

MODELLED OUTPUTS				
Local authority (if applicable)	Barnsley			
Local Enterprise Partnership (if applicable)	Leeds City Region LEP			
Combined authority (if applicable)	Sheffield City Region CA			
Region	Yorkshire and The Humber			
Estimated Construction + on costs	3,993,000			
Estimated land costs	1,007,000			
Direct impacts	Barnsley	Yorkshire and The Humber		
Gross value added (GVA) (£)	1,639,682	1,639,682		
Gross employee earnings (£)	923,196	923,196		
Jobs (annual)	33	33		
Total impacts	Barnsley	Yorkshire and The Humber	England	UK
Gross value added (GVA) (£)	3,323,958	3,693,530	3,794,216	3,866,532
Gross employee earnings (£)	1,864,687	2,057,371	2,098,532	2,134,316
Jobs (annual)	71	75	77	79

The total impacts for the region are driven by the regional multipliers, as detailed in the Methodology Statement supporting the LEIC. Similarly for total impacts in England, which are driven by the estimates of the multipliers associated with affordable homes investments in England, as calculated through our regional input-output models and, again, detailed in the Methodology Statement. The UK-level total impacts are driven by the estimated multiplier for the UK as a whole, as calculated through our UK input-output models.

Direct and total impacts are estimated for three indicators: gross value added (GVA), employee incomes and jobs (for a year).

4 Worksheet 4: Economic impacts of Housing Associations' day-to-day activities

This section provides a guide for users of Worksheet 4: Impact of Housing Associations in the LEIC. This allows LEIC users to estimate the economic impacts of their day-to-day activities in managing their existing stock of affordable housing.

Figure 3 shows the user inputs interface of Worksheet 4 for estimating the economic impacts of housing associations and the economic activities involved in renting out, managing and maintaining their existing stocks of affordable housing.

Figure 3: Worksheet 4 – user input interface for estimating impacts of a HA's day-to-day activities

USER INPUTS		
1. Choose input method	Number of homes	
2. Number of homes under management	500	
3. Select geography	Local authority	
4. Select operating area	Barnsley	
5. Enter % of products sourced within local authority:		
Entry method:	Product category	For detailed explanation of categories see '6. Detailed product categories' worksheet If 'product category' chosen, a % must be entered in all cells C22:C26
Agriculture, forestry and fishing	75%	e.g. food purchased from source
Production	100%	e.g. manufactured goods, energy and utilities
Construction	46%	e.g. housing development services, maintenance and repair
Distribution; transport; accommodation and food	75%	e.g. transport, hotels, restaurants and retail
Housing associations	75%	e.g. goods and services provided by your or another housing association
Other Services	50%	e.g. all other services, e.g. finance, insurance, legal, telecommunications etc.

To estimate economic impacts, users are required to provide some or all of the following information:

- **Input method** – users are required to specify whether they are inputting the total turnover of their HA (“Turnover”) or the number of homes under the HA’s ownership and/or management (“Number of homes”).
- **Turnover (£)** – if the input method is “Turnover”, users are required to enter the £ value of the turnover of their housing association.
- **Number of homes** – if the input method is “Number of homes”, users are required to enter the number of homes under the ownership and/or management of their housing association.
- **Geography** – users can choose the scope of the area in which they wish to measure the economic impacts of their HA’s day-to-day activities. It is possible to choose local authority, LEP, Government Office Region or Combined Authority (if applicable).
- **Products sourced within LA, LEP or CA** – when LA, LEP or CA is selected for the geographic scope of the assessment, users can specify information related to the supply chains that support their HA’s day-to-day activities. Users can either provide this as an overall percentage of the goods and services sourced within the LA, LEP or CA economy, or can enter individual amounts for six broad categories of input. (More detailed information on what each of these six categories include can be found in Worksheet 6: Detailed Product Categories.) The extent to which supplies are sourced from within the LA, LEP or CA area is a key driver of the extent to which the wider multiplier impacts of the scheme remain in the LA, LEP or CA economy. Supplies sourced from outside mean the impacts in the LA, LEP or CA itself will be diluted through leakage to other LAs, LEPs or CAs.

Figure 4 illustrates the modelled outputs in Worksheet 4. The relevant geographies for the assessment being carried out by the user are confirmed in the first three rows visible in Figure 4. If users have chosen “Number of homes” as the input method in the user inputs interface, the LEIC provides an estimate of the corresponding turnover of the HA managing those homes.

The core outputs are the direct impacts and the total impacts tables. Direct impacts are only presented for the local authority and the relevant region. They are the same across the board, so there is no need to repeat for England and the UK. The total impacts include the indirect and induced multiplier impacts associated with the HA’s day-to-day activities. The LA-level impacts are driven by what the user has inputted for products sourced within the LA (or LEP or CA when those geographies are chosen for the geographic scope of the assessment).

Figure 4: Worksheet 4 – modelled outputs on economic impact of housing association day-to-day activities

MODELLED OUTPUTS				
Local Enterprise Partnership (if applicable)	Leeds City Region LEP			
Combined Authority (if applicable)	Sheffield City Region CA			
Region	Yorkshire and The Humber			
Estimated turnover (£)	3,093,906			
DIRECT IMPACTS	Barnsley	Yorkshire and The Humber		
Gross value added (GVA) (£)	1,343,037	1,343,037		
Employee income (£)	747,126	747,126		
Jobs	34	34		
TOTAL IMPACTS	Barnsley	Yorkshire and The Humber	England	UK
Gross value added (GVA) (£)	1,729,595	3,206,824	3,325,806	3,428,165
Employee income (£)	943,924	1,723,869	1,789,007	1,848,195
Jobs	39	71	73	75

The total impacts for the region are driven by the regional multipliers, as detailed in the Methodology Statement supporting the LEIC. Similarly for total impacts in England, which are driven by the estimates of the multipliers associated with the day-to-day activities of HAs in England, as calculated through our regional input-output models and detailed in the Methodology Statement. The UK-level total impacts are driven by the estimated multiplier for the UK as a whole, as calculated through our UK input-output models.

Direct and total impacts are estimated for three indicators: gross value added (GVA), employee incomes and jobs.

5 Worksheet 5: Area profiles

This section provides a guide for users of Worksheet 5: Area Profiles in the LEIC. This allows LEIC users to examine the activities and economic impacts of all housing associations within a chosen geographic area. The sheet provides a basis for LEIC users to place their outputs from Worksheet 3 or 4 within a wider context of the housing market and economy of the geographic area in which they operate – be that the local authority, local enterprise partnership, combined authority or government office region.

Figure 5 shows the user inputs interface of Worksheet 5.

Figure 5: Worksheet 5 – Area profiles

USER INPUTS	
1. Examine by:	Local authority
2. Area	Barnsley
3. Year of interest	2018

To review the profile of an area, users are required to make some simple choices:

- **Examine by** – users can choose the scope of the area they wish to examine – be that LA, LEP, CA (if applicable) or GOR.
- **Area** – once the scope of the area is chosen, users just need to choose the specific LA, LEP, CA or GOR that they would like to examine.
- **Year of interest** – the LEIC predominantly includes information dating from 2010 (and in some cases back to 2007) to 2017 or 2018 and users can choose the year of interest.

Figure 6 illustrates the first set of modelled outputs in Worksheet 5. This includes indicators for the chosen geography, as well as all for the broader geographic area in which it sits. In the illustration, the chosen geography is LA and the specific choice of LA is Barnsley. Indicators are thus provided for the Barnsley LA, the Leeds City Region LEP, the Sheffield City Region CA, Yorkshire and The Humber region and England as a whole. The indicators include total turnover of all HAs in the relevant geographic area and likewise for employment, housing stock and indicative value of the housing stock.

Figure 6: Worksheet 5 – outputs – Housing Association Activity

HOUSING ASSOCIATION ACTIVITY					
	Barnsley	Leeds City Region LEP	Yorkshire and The Humber	Sheffield City Region CA	England
GSS codes	E08000016	E37000020	E12000003	E47000002	E92000001
Estimated turnover (£)	34,867,561	994,319,241	1,649,368,162	328,419,383	20,345,574,761
<i>Source: global accounts estimates</i>					
PRP employment (employees)	226	6,450	10,699	2,130	131,975
<i>Source: PRP employment data from NHF</i>					
Quantity of PRP housing stock	3,827	119,984	196,226	39,095	2,539,112
<i>Source: DCLG Live Table 115 PRP dwelling stock, by district: England 1997-2018</i>					
Indicative value of PRP housing stock (£)	570,820,012	22,933,981,728	37,507,030,092	7,472,696,490	753,481,486,000
<i>(based on average house price from land registry)</i>					
Note that PRP property may be valued differently to other residential property. Therefore the estimated valuations are indicative only.					

Figure 7 illustrates the second set of outputs produced by Worksheet 5. This includes estimates of the economic impacts of the day-to-day activities of all housing associations in the relevant GOR, in England as a whole and in the UK as a whole. The GOR for which the outputs are provided corresponds with the user's choice of area (as in Figure 5 above).

Figure 7: Worksheet 5 – outputs – Economic impacts of housing association day-to-day activities

ECONOMIC IMPACTS OF HOUSING ASSOCIATIONS' DAY-TO-DAY ACTIVITIES			
DIRECT IMPACTS		Yorkshire and The Humber	
Gross value added (GVA) (£)		715,975,973	
Employee income (£)		398,294,409	
Jobs		10,699	
TOTAL IMPACTS (INCL. MULTIPLIERS)		Yorkshire and The Humber	England
Gross value added (GVA) (£)		1,709,564,700	1,772,994,024
Employee income (£)		918,998,232	953,723,469
Jobs		22,347	23,071
			UK
			1,827,562,030
			985,276,709
			23,749

Figure 8 shows the location statistics provided by LEIC. This includes details of the broader housing stock, average house prices and average house price differentials and labour market indicators like the unemployment rate, average earnings and earnings differentials.

Figure 8: Worksheet 5 – outputs – location statistics (Barnsley 2017)

LOCATION STATISTICS					
HOUSING STOCK	Barnsley	Leeds City Region LEP	Yorkshire and The Humber	Sheffield City Region CA	England
Total housing (N/A for 2018)	109,380	1,328,440	2,400,910	820,670	23,950,020
LA housing (N/A for 2018)	18,600	113,120	231,240	128,600	1,601,680
PRP housing	3,806	119,909	195,533	38,879	2,511,258
Private housing (N/A for 2018)	86,980	1,094,410	1,969,900	652,750	19,780,920
<i>Sources: HA stock is provided by NHF from 2012 onwards, all other data are sourced from MHCLG</i>					
EMPLOYMENT	Barnsley	Leeds City Region LEP	Yorkshire and The Humber	Sheffield City Region CA	England
Unemployment rate	5.5%	4.5%	4.9%	5.5%	4.5%
Total labour force	117,800	1,521,800	2,678,100	893,600	28,160,000
Total unemployed	6,500	68,400	130,300	49,100	1,261,900
Total economically inactive	39,700	443,800	783,500	280,900	7,502,500
Total economically inactive discouraged	!	1,100	2,300	-	26,500
Percentage inactive discouraged	!	0.2%	0.3%	0.0%	0.4%
<i>Source: All data are taken from the ONS / NOMIS - Annual Population Survey & Labour Force Survey; some data missing at local level (LAD, LEP, CA)</i>					
EARNINGS	Barnsley	Leeds City Region LEP	Yorkshire and The Humber	Sheffield City Region CA	England and Wales
Average earnings	24,904	26,529	26,258	24,978	28,933
Percentage difference from national average	-13.9%	-8.3%	-9.2%	-13.7%	0%
<i>Source: ONS</i>					
HOUSE PRICES	Barnsley	Leeds City Region LEP	Yorkshire and The Humber	Sheffield City Region CA	England and Wales
Average house price (£)	138,475	N/A for LEPs	185,271	N/A for CAs	291,388
Difference from national average	-52.5%	N/A for LEPs	-36.4%	N/A for CAs	0%
<i>Source: Land registry</i>					

Figure 9 below illustrates the final set of outputs from Worksheet 5, which includes the £ values of annual investment in affordable homes and the number of affordable home completions. These data are provided at LA level, CA level and GOR level.

Figure 9: Worksheet 5 – outputs – home completions and amounts invested under AHP/soahp

Affordable homes construction under NAHP and AHP schemes					
Investment (£)	Barnsley		Yorkshire and The Humber	Sheffield City Region CA	England (excl. London)
2014	£ 3,250,678		£ 74,682,988	£ 27,381,782	£ 1,058,363,345
2015	£ 14,479,705		£ 145,994,720	£ 61,705,546	£ 2,144,973,682
2016	£ 10,263,669		£ 224,092,468	£ 68,754,634	£ 2,940,308,452
2017	£ 12,734,299		£ 447,620,932	£ 119,398,303	£ 7,185,043,395
Home completions	Barnsley		Yorkshire and The Humber	Sheffield City Region CA	England (excl. London)
2014	162		3,126	979	40,421
2015	137		1,346	461	16,750
2016	96		1,988	560	22,501
2017	125		3,483	735	44,966
<i>Note that data for London are unavailable</i>					
<i>Data are for financial/fiscal years => 2014=FY2014-15 etc.</i>					

Worksheet 5 also provides a set of graphically illustrated time series data for some of the indicators covered in Area Profiles. Samples are provided in Figure 10, Figure 11 and Figure 12 below.

Figure 10: Worksheet 5 – outputs – graphical illustrations of time series data

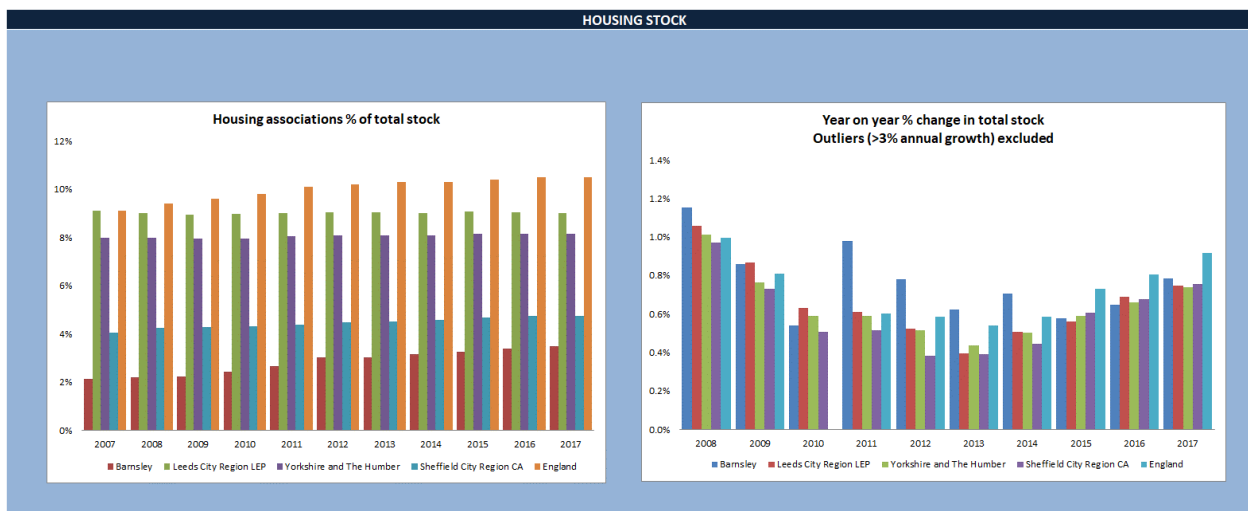


Figure 11: Worksheet 5 – outputs – graphical illustrations of time series data

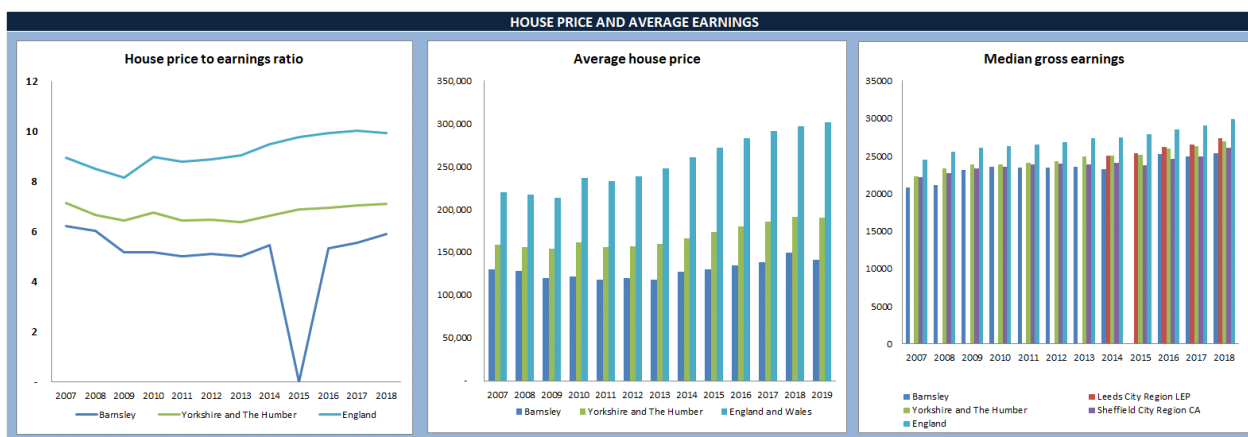


Figure 12: Worksheet 5 – outputs – graphical illustrations of time series data

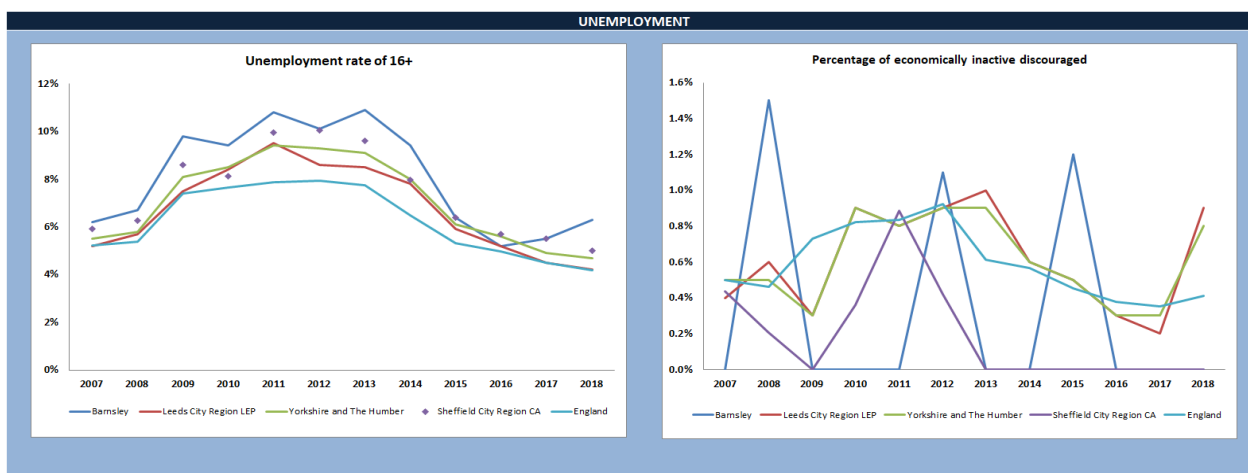


Figure 13: Worksheet 5 – outputs – graphical illustrations of time series data

