Functional Economic Market Areas

An economic note
1. Introduction

Economic analysis is best undertaken at the spatial level at which the relevant economic market operates – or the ‘functional economic market area’ (FEMAs).¹ This economic note is aimed at local authorities and provides a succinct overview of the types of issues partners may wish to consider when seeking to identify these areas. It does not represent Government policy.²

This economic note reveals that there is no universal approach to defining FEMAs. The pattern of economic flows can be different depending on which local markets are being considered.³ There is an argument for analysing Census commuting or migration data, as the most reliable flow data, and supplementing this with data from other key markets: such as housing markets; supply chains in industry and commerce; and service markets for consumers.⁴ Where strong economic links are identified, local authorities should consider the benefits of collaborating with neighbouring areas, both when undertaking economic assessments and implementing policy.

2. What is a Functional Economic Market Area?

Economic flows often overlap local authority boundaries. This means that the functional area over which the local economy and its key markets operate will not necessarily adhere to administrative boundaries.⁵ Instead, key economic markets broadly correspond to sub-regions or city regions - known as functional economic market areas (FEMAs).

There is no universal approach to defining FEMAs. A city’s labour market area and hospital catchment area, for example, are unlikely to have similar boundaries. Ideally, FEMAs would be defined on the basis of several markets or catchment areas which best reflect the drivers of the local economy.

3. Why are FEMAs useful?

Whereas the national or regional level is often seen as too large to tackle many of the issues facing individual urban economies, local authority areas can be too small if they cover a smaller geographical area than their economic markets. Policies designed at a local authority level, for example, may not fully consider the costs and benefits of implementing a policy if this spreads beyond their administrative boundaries. This can make it harder to tackle economic challenges effectively.⁶

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² The note was authored by the Spatial Analysis Unit at Communities and Local Government, and peer reviewed by Mike Coombes from the Centre for Urban and Regional Development Studies, Newcastle University.  
⁵ PACEC (2007) Thriving Local Communities: Mapping Sub-Regions.  
If economic policy is formulated at the FEMA level, as a closer fit to the area’s real economic market, most of the impacts of the policy area will be contained. There will be less risk of local policies which are against the wider sub-regional or national interest, and local partners will be able to make more strategic decisions on economic development.\footnote{CLG (2007b) A Framework for Intervention: Economics Paper 1.}

Academics have long argued that FEMAs are the most appropriate unit for economic policy analysis.\footnote{Fox, K. & Kumar, T. (1965) The Functional Economic Area: Delineation and Implications for Economic Analysis and Policy. Papers in Regional Science, 15(1), pp. 57-85.} This is supported by evidence to show that governance arrangements spanning FEMAs can perform better than areas where arrangements are constrained by administrative boundaries.\footnote{Cheshire, P. & Magrini, S. (2009) Urban Growth Drivers in a Europe of Sticky People and Implicit Boundaries. Journal of Economic Geography, 9(1), pp. 85-115.}

Several local authorities working across FEMAs can build a common evidence base, which can lead to better integration of different policy areas.\footnote{CLG (2007a) Identifying Sub-Regional Housing Market Areas: Advice Note.} A good example is the Manchester Independent Economic Review (MIER).\footnote{The Manchester Independent Economic Review (MIER): www.manchester-review.org.uk/} This was the first independent study undertaken by a city region in Europe that analysed the economy as a cohesive whole. Importantly, joint working across FEMAs can enable otherwise separate interventions to be aggregated, overcoming potential coordination failure between individual local authorities.

4. What information is relevant to defining the boundaries of FEMAs?

There is no universally agreed approach to defining FEMAs, but there is a wide range of alternative ways to measure functional boundaries. As the boundaries vary depending on the method used there is a challenge for policymakers in judging which features of the economy should be considered.\footnote{Hann, K. (2009) Pushing the Boundaries: Rethinking traditional geographies.} Key relevant markets are identified below.

4.1 Labour markets

The most widely accepted approach to identifying FEMAs is by reference to Travel to Work Areas (TTWAs), which are relatively self contained, internally contiguous labour market areas. A commonly used definition is that: of the resident economically active population at least 75 per cent work in the area; and of all those working in the area at least 75 per cent also live in the area – drawing on the 2001 Census.\footnote{For TTWAs, with 25,000 or more workers living in the area, this requirement is often relaxed to 66.67 per cent, ONS Statistics: www.statistics.gov.uk/geography/ttwa.asp}

TTWAs are often treated as the default definition of FEMAs for two reasons:

- The labour market is fundamental to policy-relevant definitions of FEMAs (as with the use of TTWAs in research on the State of the English Cities);\footnote{CLG (2006a) The State of the English Cities.} and

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Functional Economic Market Areas: An economic note

- TTWAs are the only sub-regional economic area robustly defined under the remit of National Statistics.\(^{15}\)

Variations in labour market areas can be mapped using different levels of self-containment or by only including commuters of certain occupations. The Manchester Independent Economic Review (MIER), for example, determined the boundary of the Manchester city region by identifying the employment centre and mapping commuting patterns of managerial and professional workers.\(^{16}\)

In contrast to this approach, the TTWA method does not presume a single employment centre for each FEMA. This more flexible method can be preferable as an increasing number of sub-regions are polycentric.\(^{17}\)

Using the Census (2001) to construct TTWAs can be criticised as out of date. Annual data is, however, available from the NHS central register.\(^{18}\) The Office for National Statistics is also exploring the extent to which the Annual Population Survey (APS) can be used.\(^{19}\) Although the survey is not sufficient to create updated TTWAs, the APS can provide up to date information on commuting flows between local authorities. This can be used to explore the extent to which a local authority’s labour market is linked to authorities in the surrounding area.

London’s Economic Geography

GLA Economics drew on employment and commuter data to examine the spatial patterns of London’s economy and inform development of the Mayor’s London Plan.\(^{20}\)

Employment data was used to map the geography of jobs across the Greater London area. Four key ‘pillars’ of employment activity were identified: the Central Activity Zone (covering the City of London and neighbouring areas), Isle of Dogs, Heathrow Airport and Croydon. Six wider areas or ‘corridors’ were also identified where employment rates were lower than the pillars of economic activity, but were also growing faster than the London average. In most cases these areas did not follow political or administrative boundaries.

The analysis of commuting data revealed a small cluster of areas that exhibited inward migration (central London), whilst most areas exhibited net outward migration. Most employees were found to live and work in different boroughs, while businesses in all London boroughs relied on workers from other boroughs. This reveals the interdependence of London’s labour markets - there are no self-contained boroughs or sub-regional labour markets. Job growth in one part of London can create opportunities for all. This analysis has implications for planning for London’s future growth, including where to accommodate housing growth and ensuring connectivity to centres of employment.

\(^{17}\) For greater detail on commuting flows in and out of a local authority boundary, the interactive tool CommuterView (or underlying data CommuterFlow) is available from the Office for National Statistics. The products draw on 2001 Census Travel to Work data. www.statistics.gov.uk/pdfdir/com0608.pdf
\(^{18}\) Although the data does not include all moves, the data is robustly defined under the remit of National Statistics. As such, it has undergone a number of checks of completeness and reliability.
4.2 Housing markets

FEMAs can be defined on the basis of housing market areas (HMAs), where the area containing the origin and destination of the majority of moves is the FEMA. Data on house prices and residential mobility can be used to define HMAs, in addition to contextual information, such as TTWAs.

As aforementioned, the pattern of economic flows can be different depending on which local markets are being considered. TTWAs, for example, are likely to have larger boundaries compared to residential mobility patterns, which are more likely to be local. One way of identifying HMAs is to map migration areas onto house price information, to assess the relationship between household movement areas and sub-markets. TTWAs are then used as contextual information to guide the positioning of sub-regional boundaries (such as where household moves cross boundaries).21

There is no established method for defining HMAs from house price or mobility data. This has led to a new study, commissioned by the National Housing & Planning Advisory Unit, to identify and implement a single robust approach to housing market definitions.22

4.3 Supply chains in industry and commerce

Measuring the flows of goods, services and information across the local economy can help to map sub-regional economic activity, such as the market and supply links of businesses and business services.

Supply chains are, however, very difficult to map as national data sources of sub-regional supply chains and linkages are not available. One approach is the identification of different sectoral clusters, where supply needs are estimated using input/output tables. Whilst this approach may be viable, it is questionable whether the information has much value, since it is not based on data about real links. The impact of firm ownership on procurement, for example, may mean supplies for plants are determined by wider corporate purchasing patterns. In the absence of evidence from official or commercial sources, detailed surveys would have to be commissioned.

4.4 Service markets for consumers

Service markets can be used to map the spatial area from which users of goods and services are drawn. Although mobility rates have increased considerably, the principle that people access services at their nearest location still largely holds. This leads to the presence of a large number of frequently used services, and a smaller number of higher order services.23

On this basis FEMAs can be identified by analysing travel patterns to higher order services, which have a wider catchment area, such as: major shopping centres, airports, concert halls or hospitals; the patterns of sub-regional newspaper readership; the audience geography of local radio stations; or

21 CLG (2007a) Identifying Sub-Regional Housing Market Areas: Advice Note.
Functional Economic Market Areas: An economic note

further education college ‘travel to learn’ areas. This information only shows the pull of certain services, however, and will need to be used as part of a comprehensive approach to defining FEMAs.24

4.5 Administrative areas

It is within administrative boundaries that services and strategies are applied and developed, based on analyses using FEMAs. The importance of administrative boundaries therefore also needs to be recognised. This can be done through ‘best fitting’ FEMA boundaries to local authority administrative areas so that they are approximated in terms of whole local authority boundaries, upper or lower tier.25

4.6 Transport networks

Where as most major transport networks are determined by national requirements, local transport policy is best considered at the scale of FEMAs. Carlisle’s north-south transport links, for example, reflect the need for cross-border flows near the Scottish border above serving east-west flows that relate to the city region’s economic role. This means that transport data are not the best data sources for FEMA definitions. In practice, the key role of transport will be reflected using other FEMA definitions, such as TTWAs, as these flows are partly shaped by transport availability.

5. What method of definition should be used?

The outcome when defining FEMA boundaries depends as much on the method used as the specific types of flows that are analysed.

To date, most approaches have relied upon analysing one single market out of the list of markets in the previous section. Considering just one type of market, however, overlooks the links between the decisions people make about where they live, work, shop and pursue leisure activities.

There is an argument for analysing Census commuting or migration data, as the most complete and reliable flow data, and supplementing this with data from other key economic markets. Key markets can be identified by the main drivers of economic activity in an area, using evidence gathered by the Local Economic Assessments.26

Examples of approaches trialled by regional observatories and development agencies are provided below:

24 Ibid.
The East Midland’s Economic Geography

Research by the East Midlands Development Agency (emda) drew on different methodological approaches to better understand the region’s economic geography. This was in recognition that the nature of the boundaries would vary depending on the relationships examined.27

- Agglomeration effects: agglomeration economies were identified using aggregations of ONS Census Output Areas to map the extent of urban centres, alongside supplementary performance data on labour markets, earnings and land costs. Derby, Leicester, Northampton and Nottingham were identified as the largest agglomeration economies. Agglomeration and the benefits it can bring, however, were also found to occur on a smaller scale, in cities such as Lincoln.

- Inter-linkages and flows between centres: in order to build a more dynamic assessment of the regional economy, commuting, leisure and retail flows to and between the East Midlands urban centres were analysed. The 2001 Census and Labour Force Survey were used, alongside Experian proprietary data.

- Polycentrism: the above research identified the key economic centres of the region, in addition to a number of smaller ‘secondary’ centres providing a service centre function to the rural hinterlands. This could suggest that the East Midlands is a polycentric region. Further research was conducted to determine the extent of the relationships between the East Midlands urban centres using business stock, population and commuting data. The research revealed the complex structure of the regional economy, with no single dominant core. Polycentricity may, however, be a feature at sub-regional level.

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The North East’s Economic Geography

The North East Regional Information Partnership (NERIP) analysed how different parts of North East connect with each other - where people travel to and from for different purposes. Looking at the distances people travel, and the numbers of people doing so, enabled a picture to emerge of how integrated the region is, and the extent to which it is self-contained versus being connected with other regions.

NERIP’s analysis drew on the following datasets:28

- 2001 Census commuting data to identify TTWAs and residential relocation data (using the TTWA methodology) in an attempt to define Housing Market Areas;29 and

The analysis revealed that there are a number of economic centres within the region, which are to a greater or lesser extent linked with one another. The complexities identified militate against the commonly assumed concept that the North East consists of two city regions, centred around Tyne and Wear and Tees Valley. Two city regions were identified, but they did not dominate the region – there are too many other powerful secondary centres in the North East to allow this to be the case.

Further investigation of the North East’s spatial geography is continuing with the 2009 Economic Geography of the North East project to inform the Regional Strategy and Local Economic Assessments.30 Using smaller area level data than in the previous analysis, the project aims to map the regions economic linkages, functional economic areas and economic hotspots (areas with highest concentration of employment), to inform future housing and transport planning decisions.

6. What are the key remaining issues?

There are several remaining issues which need to be considered when identifying FEMAs.

6.1 Political issues

FEMA boundaries can provide strong evidence regarding which local authorities should be collaborating. As political tensions can make it harder for economically interdependent local authorities to work together, local actors may need to build political support, including a shared sense of sub-regional identity.

6.2 Local interpretation

There is a risk that, in leaving FEMA definitions to individual local actors, approaches may differ so greatly that the resulting FEMAs will not be

28 NERIP (2006) Spatial Analysis of Economic Flows in the North East
29 See Technical report for greater detail on the methodology used: http://nerip.co.uk/library/view.aspx?id=259
comparable overall, and some areas could be excluded altogether.\textsuperscript{31} As a result, the identified FEMAs may be unsuitable for policy analysis at a national or regional level. Several regional observatories, however, have successfully trialled different approaches to analysing the functional economic geographies of their regions.\textsuperscript{32} This work reveals the advantages of enabling local actors to identify their own FEMA, including the use of local data sources.

6.3 Implementation issues

Once the set of indicators for mapping FEMAs has been chosen, collating the evidence into a single FEMA boundary can be challenging. Some experimental studies have applied quantitative methods, but there is as yet no existing approach which can be identified as best practice.\textsuperscript{33} As a result, qualitative methods have sometimes been used to supplement quantitative analysis, including the use of local intelligence. One approach is to bring together key partners, using qualitative techniques to pool views and prioritise different market boundaries.

7. Concluding remarks

This paper has presented an overview of the types of issues local actors may wish to consider when seeking to identify FEMAs. Although there is no established methodology, there is an argument for analysing Census commuting or migration data, as the most complete and reliable flow data, and supplementing this with data from other key economic markets.

FEMA boundaries provide strong evidence regarding which local authorities should collaborate when undertaking economic analysis, policy design and implementation. Mapping functional areas, however, is only a starting point to bringing about sub-regional policy collaboration. Success also requires strong political support at a local and regional level. Nevertheless, if this can be achieved, local areas can benefit from a shared and more robust evidence base, greater integration between different policy areas and better targeted spend.


\textsuperscript{32} This paper summarises the work of the Regional Observatories to date www.communities.idea.gov.uk/c/1108381/doclib/document-display.do?backlink=ref&id=2290427

\textsuperscript{33} IDeA & Planning Advisory Service (2008) \textit{How to do a Local Economic Assessment}. 10
References


