

NEW SOURCES OF RURAL EMPLOYMENT IN THE EUROPEAN UNION BEYOND AGRICULTURE

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In the medium-term (i.e. to 2020), employment in the European Union (EU) will be characterised by a continuing shift away from the primary sector (especially agriculture) and manufacturing towards services, with potentially serious consequences for rural economic prosperity. A component of strong regional resilience (the ability to withstand and/or recover from economic shocks) is a broad mix of economic sectors. This paper summarises the potential for new sources of employment beyond agriculture in rural areas across the EU, as identified in the pilot areas research undertaken by the EU Framework 7 project 'RuralJobs'. It concludes that the potential for new jobs exists in most sectors in most areas, and that innovation and local resources are important determining factors of job creation².

Key words: Non-agricultural rural employment, European Union, regional resilience.

JEL classification: J21

Introduction

A recently published report on skills supply and demand in Europe (Cedefop, 2010) provides a post-economic crisis prediction of medium-term (i.e. to 2020) trends in employment in the European Union (EU). It predicts a continuing shift away from the primary sector (especially agriculture) and traditional manufacturing industries towards services and knowledge-intensive sectors. Although in many newer as well as some older EU Member States employment in agriculture and manufacturing is still relatively high, there are clear signs that this is changing rapidly. In the next decade the total share of jobs across the EU in the primary sector and utilities is expected to decrease from 6.5% to 5.1% (down from 7.4% in 2000), and in manufacturing and construction from 22.9% to 21.3%. By contrast, the share in the service sector is expected to rise from 70.7% to nearly 74% (Cedefop, 2010).

These trends are of particular relevance for rural areas. Cedefop (2010) anticipates the loss of more than 2.5 million jobs in the EU-27 in the primary sector, especially in agriculture, by 2020. In 2003, with ca. EUR 23,000, the primary sector had the lowest value added per hired employee (EC, 2007), and these factors taken together represent a potential threat to rural economic prosperity.

The publication of Cedefop (2010) approximately coincided with the completion of the EU Framework 7 project

'RuralJobs' (www.ruraljobs.org) which used case study research to review the opportunities for rural economic diversification across the EU. As there is no generally accepted definition of 'rural' there can be no simple definition of 'rural employment'. Agriculture is clearly associated with rural areas but there is ample evidence (e.g. Copus et al., 2006) to show that rural employment should not only be associated with agriculture. In fact, the importance of agriculture to rural employment varies widely between regions. In the RuralJobs case study areas (Table 1), a strong link exists in Bistrita-Nasaud county where, owing to semi-subsistence agriculture, 73.2% of 'employed' rural people still work in farming. However, the percentage working in agriculture and forestry in the other case study areas ranged from 1.2% (Chelmsford and Braintree TTWA) to 12.6% (Hajdusoboszlo LLS). Even in the latter area 58.8% of people worked in the service sector.

There is an increasing body of literature on the topic of the economic resilience of regions (e.g. Simmie and Martin, 2010). This concept can cover not just the ability of a regional economy to recover from a shock but also its degree of resistance to the shock in the first place. Although there is, as yet, no universally agreed definition of resilience in regional studies, let alone rural development, the Index of Economic Resilience developed by Ecosgen (2009) is illustrative in that it measures resilience across five domains: industry mix, the workforce, enterprise, labour market and economic dynamism. In line with the first of these, Lukesch (2010) lists mixture of sectors, branches, size of productive units, operation scales, purchase and sales markets, and technologies as being amongst the features of resilience.

This paper summarises the potential for new sources of employment beyond agriculture in rural areas across the EU, as identified in the pilot areas research undertaken by the RuralJobs project. It concludes that the poten-

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² The author acknowledges the contributions to the content of this paper of his colleagues at partner institutions in the RuralJobs project, in particular Dr. Bozhidar Ivanov, Dr Judit Katona-Kovacs, Dr. Kinga Kerekes, Dr. Miklos Pakurar, Clovis Sabau and Prof. Dr. Maria Vincze. This work was partly funded by the EU Seventh Framework Programme grant number 211605. The opinions expressed in this paper are not necessarily those of the EU.

tial for new jobs exists in most sectors in most areas, and that innovation and local resources are important determining factors of job creation.

Methodology

The research was conducted in five contrasting NUTS2 regions across the EU, primarily by means of semi-structured

interviews with local actors/key experts. There were two case study areas in France, Hungary and the UK, and one in each of Bulgaria and Romania (Table 1). The definition of 'rural employment' used in this study is 'any income-generating activity undertaken by an individual that takes place in a rural area'. This definition covers both the self-employed and employees, and all sectors of the economy.

Table 1. Case study regions included in the research.

Name of case study area	Region and country
1. Pazardjik agglomeration area (AA)	South-Central Region, Bulgaria
2. Pays de Tulle	Correze, Limousin Region, France
3. Pays de Gueret	Creuse, Limousin Region, France
4. Hajduszoboszlo Local Labour System (LLS)	North Great Plain Region, Hungary
5. Karcag Local Labour System (LLS)	North Great Plain Region, Hungary
6. Bistrita-Nasaud county	North West Region, Romania
7. The Chelmsford and Braintree Travel to Work Area (TTWA)	Essex, East of England, UK
8. Thames Gateway South Essex	Essex, East of England, UK

The results are presented in the framework of the Statistical Classification of Economic Activities in the European Community, commonly referred to as NACE, which is a European industry standard classification system (EC, 2008). The full 31 sector breakdown can be rationalised into six 'broad industry sectors'. Five of these sectors (Industry; Construction; Trade, transport and communication; Financial and business services, and Other Services) are discussed here, the exception being Agriculture, fishing and

hunting, which covers the following NACE sectors: Agriculture, hunting and forestry (A) and Fishing (B).

Results and discussion

There is widespread potential across the EU for the creation of jobs in rural areas beyond agriculture (Table 2). These results are analysed in detail below.

Table 2. Potential new sources of rural employment identified in each RuralJobs case study area in the framework of the Statistical Classification of Economic Activities in the European Community. See Table 1 for identities of case study areas.

NACE sector	Case study area							
	1	2	3	4	5	6	7	8
Industry								
• C. Mining and quarrying						♦	♦	
• D. Manufacturing	♦	♦	♦			♦	♦	♦
• E. Electricity, gas and water	♦	♦	♦	♦	♦	♦	♦	♦
Construction								
• F. Construction	♦	♦	♦	♦	♦	♦		♦
Trade, transport and communication								
• G. Wholesale and retail trade etc.		♦	♦	♦	♦	♦	♦	♦
• H. Hotels and restaurants	♦	♦	♦	♦	♦	♦	♦	♦
• I. Transport, storage and communication	♦				♦		♦	♦
Financial and business services								
• J,K. Financial intermediation, real estate etc.		♦	♦	♦	♦		♦	♦
Other services								
• L,M. Public administration etc., education					♦			
• N. Health and social work		♦	♦	♦		♦	♦	
• O. Other community, social & personal service activities	♦	♦		♦		♦	♦	
• P. Activities of households								

Industry

Industry covers the following NACE sectors: *Mining and quarrying* (C); *Manufacturing* (D) and *Electricity, gas*

and water supply (E). In turn, *Mining and quarrying* is divided into *Mining and quarrying of energy producing materials* (CA) and *Mining and quarrying, except of energy producing materials* (CB). *Manufacturing* is divided into four-

teen sub-sectors, such as *Manufacture of food products, beverages and tobacco* (DA). In the period 2010-20 around two million jobs are likely to be lost in manufacturing and production across the EU (Cedefop, 2010).

Mining and quarrying

No case study reports mention coal mining as a source of employment. In a 'business as usual' (BAU) scenario cited by Greenpeace (2009), the number of coal power jobs in OECD Europe is likely to decline from 260,000 in 2010 to 184,000 in 2020. Of these, most coal extraction, transportation and electricity generation jobs are likely to be in rural areas. While Greenpeace (2009) suggests that an even bigger reduction is achievable, and that it could continue beyond 2020, the BAU scenario states that the number of jobs will recover to 255,000 in 2030. With increasing attention being attached to the importance of energy security in the EU and the risk of unexpected supply shocks, especially with respect to gas (TSO, 2009), the remaining large coal reserves in the EU may gain new importance.

In the Chelmsford and Braintree TTWA sand and gravel extraction is a fairly significant rural employer but reserves are becoming exhausted and there is often local opposition to new extractions. There are potentially valuable granite deposits in Pazardjik AA, and a small rural extracting, processing and manufacturing industry has developed there around clay deposits. In Bistruta-Nasaud county much of the mining has been closed down since 2002 but the existence of mineral resources, for example polymetallic minerals, marble, argile and sand, provides opportunities for creation of rurally-based jobs in the extractive industry.

Manufacturing

In the EU the importance of the food industry in total manufacturing is growing and the value-added of this sub-sector (NACE code DA) is higher (and is growing faster) than that of most other manufacturing sub-sectors (NACE codes DB-DN). In 2003 it provided 2.2% of employment in the EU-15 (down from 2.4% in 1995 although it grew slightly in absolute terms), often in rural areas. The competitiveness of the sector is weak and a decline in employment is anticipated, accompanied by increasing productivity.

In the Chelmsford and Braintree TTWA job creation in the agri-food chain will occur where Gross Value Added (GVA) is greatest (including in food processing) and GVA will be raised by increasing demand for convenience foods, functional foods and more eating out (as part of a 'fork to farm' approach). By 2020 employment in the agri-food chain could be 10% higher than at present, despite a continuing decline in farming jobs. Some job crea-

tion is occurring through on-farm diversification e.g. potato packing, small-scale grain and meat processing and production of food products (jams etc.), sometimes using redundant farm buildings and often to supply local markets. Other jobs are being created in independent businesses e.g. cider makers and microbreweries. It is likely, however, that most job creation will be in the 'mainstream' supply chain. Similar trends are occurring in Thames Gateway South Essex.

In Pays de Tulle and Pays de Gueret 22% and 17% of farms respectively have diversified into activities such as fruit juice production and finished products to meet an increasing demand for local products (especially in the former region). In Pays de Gueret, at least, the processing domain remains very underdeveloped and the closure of the slaughterhouse has left a gap in the agri-food supply chain. The development of milling, meat and dairy processors in Karcag LLS would exploit the added value of locally produced products. Food processing in Pazardjik AA is concentrated in urban centres and its development will provide relatively few new rural jobs directly, but would add value in the regional agri-food chain and so stimulate upstream and downstream job creation. There is potential for food processing at family farm level in Bistruta-Nasaud county and this would support the capitalisation of local brands.

In line with the predictions for a net loss of jobs in other manufacturing sectors, little potential for rural job creation was noted in the case study areas. In the Chelmsford and Braintree TTWA, competition in the low added value manufactured products sector from other regions able to produce such as caravans, window and door frames etc. more cheaply was identified as a threat to current rural employment. By contrast, the growing interest in recycling and 'the environment' in general could lead to the 'mining' of landfill sites to recover valuable materials such as tin and glass. The sites could then be converted to leisure (lakes, country parks) or other uses. Manufacturing job losses are also reported in Pays de Tulle. In Bistruta-Nasaud county manufacturing increased from 10% of employment in 2003 to 15% in 2007 and there is potential for job creation in textile, clothing and footwear manufacturing, and wood processing as well as manufacture of agricultural equipment. In Pazardjik AA, opportunities include craftsman workshops and manufacturing furniture.

Electricity, gas and water supply

As with the agri-food supply chain, the energy supply chain (well to wheel) for the most part starts in rural areas and ends in urban centres. Biomass as a source of jobs has already been discussed and indeed farmers are increasingly seeing themselves as 'energy producers' as their produce may be in the form of food energy, or fuel energy, or both. Biogas production from farm and food wastes (such as live-

stock manures and slurries) via anaerobic digestion can provide 'green jobs' in rural areas. The 'digestate' can be used as a fertiliser and soil conditioner. Potential for biogas production was noted in Karcag LLS and Defra (2010) estimates that bio-gas production will have a significant role in a renewable energy sector that will provide up to 0.5 million jobs in the UK alone by 2020, as part of a move towards a low-carbon economy.

Regarding other renewable energy technologies, wind was suggested in the Chelmsford and Braintree TTWA, Karcag LLS and Pazardjik AA, geothermal in Hajduszoboszlo and Karcag LLS, and solar in Hajduszoboszlo and Karcag LLS and Pazardjik AA. The 'green economy', including renewable energy production, was judged to be a potentially major source of new jobs in Pays de Tulle and Pays de Gueret. Of the estimated 749,000 energy sector jobs in the EU-27 in 2010 in the BAU scenario cited by Greenpeace (2009), 342,000 are in the renewable energy sector (Rutovitz and Atherton, 2009). The figures are expected to increase to 854,000 and 533,000 in 2020, although Greenpeace (2009) suggests that even bigger increases are feasible. These figures include direct employment in construction, installation, manufacturing and development (CMI) and in operations and maintenance (O&M) only. Unlike biomass, where most of the jobs are in O&M, for wind, geothermal and solar, in the short term at least, most of the jobs are in CMI (and hence should be counted under 'Construction'). For example, Rutovitz and Atherton (2009) estimated that worldwide there would be 0.29 m CMI and 0.07m O&M wind energy jobs in 2010 rising to 0.15 m and 0.36 m in 2020.

The major non-renewable energy sources are coal, gas, nuclear and oil and the potential for rural job creation in the case study areas appears to be low. In Chelmsford and Braintree TTWA the site of a nuclear power station which closed in 2002 is being considered for the construction of a new facility. Its operation would create a number of knowledge-based jobs, mostly likely to be filled by incomers to the area. For OECD Europe, Rutovitz and Atherton (2009) estimate that under the BAU scenario the number of jobs in electricity generation from gas will increase from 83,000 in 2010 to 86,000 in 2020, while from nuclear, oil and diesel the number will decline from 64,000 to 51,000.

Rutovitz and Atherton (2009) do not explain why the number of jobs in electricity generation from coal should increase after 2010 but it is accompanied by a projected increase in output. TSO (2009) suggests that, with the adoption of carbon capture and storage technology, electricity generation from coal (and gas) could be part of a low carbon future. The North Sea offers many potential sites for carbon storage and there is potential for rural job creation in Thames Gateway South Essex around pipelines transporting carbon dioxide.

No case study area reports identify significant potential for rural job creation in the management of the water

supply chain (cloud to coast) although the headquarters of a water supply company, located adjacent to a large reservoir, is a major rural employer in the Chelmsford and Braintree TTWA. In the New Member States (NMS) case study areas, the rural water supply remains undeveloped. In Bistrita-Nasaud county, valorisation of the natural gas supply from the plain used for industrial and household consumption is suggested.

Construction

Construction is covered by NACE code F. Cedefop (2010) anticipates that the number of EU jobs in construction will remain almost constant at just over 15 million in the period to 2020, declining slightly from 6.8% to 6.7% of total employment. There will be big differences between countries, however, from a net loss of 379,000 in Spain to net gain of 136,000 in Romania. In the East of England region, Karcag LLS and in Bistrita-Nasaud county the recent economic recession had one of the biggest impacts in terms of rural jobs on construction, reflecting Cedefop (2010) data which suggest that the increase in jobs since about 2004 was wiped out.

Intuitively, construction is perceived as an urban-based sector and no data on the urban-rural split in construction jobs in the EU are to hand. However, the significant potential in the energy supply chain for new rural construction jobs (wind turbines, solar parks etc) has already been reviewed, and in all four NMS case study areas potential was identified in the water supply chain and also in waste management to make up for earlier lack of investment. In terms of VAT registered businesses, construction is the biggest rural employer in Thames Gateway South East, and was considered to be the most important sector for rural job creation. Although much of this potential may be for work for rurally-based businesses and people in urban centres, demand for rural construction certainly exists. For example, climate change will increase the need for flood management systems including improving existing flood defences and structures; maintaining river channels; maintenance of drainage networks by landowners and maintaining road drainage systems, as well as floodwater storage schemes.

In Pays de Tulle in 2008 the creation of new construction companies seemed to be particularly high (3.5 times higher pro-rata than all other businesses), probably stimulated at least in part by the increase in the number of households and the need for housing. In response to the threat of climate change energy-saving construction methods are being adopted. The sector still has room for development in Pays de Gueret providing sufficient labour can be found.

All case study areas in the NMS report the potential for more rural construction jobs associated with the improvement of (particularly) communications infrastruc-

ture, which is often still in very poor condition after years of neglect, as follows: Pazardjik AA: rural roads, and in some remote areas mobile phone services, Internet connections and electricity supply; Karcag and Hajduszoboszlo LLS: the road network, bus and railway stations, cycle tracks, cable television, broadband internet, plus sewage and waste management, and Bistríta-Nasaud county: roads, telephone and Internet connection, and sometimes electricity supply. Construction jobs would also be created in connection with investments in other sectors such as tourism (for example thermal bath investments and castle renovation in Karcag LLS) and in general village modernisation such as in Bistríta-Nasaud county. In the latter case, house building funded by local people working abroad has provided some jobs.

Trade, transport and communication

This grouping covers the following NACE sectors: *Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods* (G); *Hotels and restaurants* (H) and *Transport, storage and communication* (I). Cedefop (2010) projects an increase of 3.4 million in the number of jobs in distribution, transport, hotels and catering in the EU between 2010 and 2020, with the share of all jobs increasing from 21.5% to 23.9%. Linked with this will be a significant expansion in the number of skilled jobs, especially in retail and distribution. Approximately 200,000 jobs were lost in the sector during the economic recession (2008-2009), an impact noted in some case study area research, such as in the Chelmsford and Braintree TTWA where logistics was particularly severely affected.

Wholesale and retail trade etc.

In the Chelmsford and Braintree TTWA and Thames Gateway South Essex, the number of jobs in the 'traditional' rural retail trade (village general stores, pubs etc.) is declining for several reasons including competition from edge-of-town supermarkets and the 'clustering' of rural services has been proposed as a way of reducing this trend. By contrast, in recent years there has been a major expansion in farm shops and farmers' markets (associated with short supply chains) linked with a 'valorisation' of rural and its associated brands (such as 'wildlife friendly' meat products in Thames Gateway South Essex) which has allowed product innovation and production of greater value-added. Activities have included local food networks, food trails, festivals and fairs as well as tea shops and delicatessens. These supply chains are not however expected to supplant the mainstream food supply chain which is also offering more local/quality/ethical products. Creation of more jobs is expected in 'specialist' non-food rural shops which cater for the expanding tourism and lei-

sure market (e.g. antique shops, art, crafts e.g. glass blowing, leather crafts and floristry, yachting supplies etc.). In both case study areas, redundant farm buildings have allowed businesses such as car repair businesses to move from towns to cheaper rural accommodation.

In Pays de Tulle and Pays de Gueret, retail trade has seen a drop in customer numbers for demographic reasons and in the latter both supermarkets and the rise of online shopping have heightened the need for neighbourhood shops to diversify and find new sources of added value. However, a return to the consumption of local products via short supply chains is allowing the exploitation of brands such as the home of Limousin cattle, 'milk veal' label, 'mountain' appellations etc. At present, short supply chains are developed very little in Pays de Gueret. In Karcag LLS organic farming could be linked with tourism via organic hotels, shops and bakeries, and there is potential for more competitive handicrafts. The potential for local products and supply chains in association with tourism is also recognised in Hajduszoboszlo LLS. In Bistríta-Nasaud county retail trade increased from 7% of employment in 2003 to 13% in 2007. Although this figure declined somewhat during the recession, and some family businesses (e.g. shops) have been set up by 'constraint-push entrepreneurs' seeing no other alternative, perhaps after redundancy, this sector is considered to be a source of new jobs in the case study area.

Hotels and restaurants

Cedefop (2010) anticipates a 0.9% per annum growth in employment in hotels and catering in the period 2010-2020, one of the strongest sector performances, although less than the 1.9% p.a. growth recorded in the ten years to 2010. In the agri-food chain restaurants and catering (as opposed to retailers) provide the high value-added 'offer' to the consumer. Food services are of growing importance: in the EU consumers spend one third of their food purchases in food services outlets (mainly restaurants and fast food outlets). Catering has a market share in the EU of below 20% (EC, 2007). In 2003 the value added per hired employee in hotels and catering (ca. EUR 27,000) exceeded only that of Agriculture (EC, 2007).

It is convenient to deal with the entire rural tourism/leisure sector in this section. All case study area reports identify tourism and leisure as an important sector for rural job creation. In the Chelmsford and Braintree TTWA and Thames Gateway South Essex the nearby urban centres including London are the major source of customers. Although Essex is "not particularly famous for anything", niche markets such as the 'silver pound', out of season holidays at the 'high end' of tourism: high-spending quality weekends e.g. museums, music concerts and festivals, adventure holidays, coastal and ecotourism provide job creation opportunities in hotels, 'bed and breakfast' and restaur-

rants as well as activities such as boat trips, fishing and bird watching, and supporting infrastructure such as boatbuilding and tourism interpretation centres. Leisure activities (similar to tourism except that there is no overnight stay) includes children's play areas, paintballing, go-karting, fishing, golf courses, country parks, gardens, footpaths, cycling, equine, airfields, water based sports, activity centres and restaurants. Farm diversification in Thames Gateway South Essex includes hay production for horses.

In Pays de Tulle, the accessibility of the territory is now good and a significant tourist trade could be based on the pleasant rural environment, much in demand for walking, cycling, horse riding, etc., through improvements in the quality and quantity of tourist accommodation, promotion of a 'green offer' and targeting at groups such as the (relatively wealthy) active elderly. There are increasing numbers of jobs in the hotels and restaurants sector. Similarly, Pays de Gueret's location, close to the natural areas of Limousin, could make it an ideal centre for green tourism, for which demand is growing. These markets could be exploited by local farmers for example by providing on-farm accommodation.

In Pazardjik AA, cultural and natural-based individual and corporate tourism is presently not well developed but could capitalise on mineral and thermal water (spa and wellness resorts), landscape and mountains, archaeological sites and cultural heritage (crafts, artefacts, customs, traditions). Potential associated activities are craft workshops, furniture manufacture, art businesses etc. that are based on quality not quantity. Karcag LLS has seen a four-fold increase in the supply of hotel accommodation between 2001 and 2007, and an improvement in the quality of accommodation together with the development of the tourist infrastructure could result in more jobs, especially in wellness and spa tourism. Hajduszoboszlo is already an international spa destination but could be developed into a year-round service facility for a wider market including the young, families and the elderly. The number of German tourists has declined but new markets are being sought in Poland, Romania, Ukraine and Russia. An integrated 'offer' including other activities such as horse riding and closer links with the nearby Hortobagy National Park (a UNESCO World Heritage site) would help to expand the market. In Bistrita-Nasaud county, the National Reservation Muntii Rodnei could be the basis of tourism development together with other potentials including balnear resources (curative tourism), spa tourism, cultural tourism, agro-tourism, and mountain and ecological tourism. Here, tradition and locality can constitute local brands, but there is a pressing need to invest in infrastructure and few rural tourist establishments exist in the county at present.

Transport, storage and communication

By 2020, Cedefop (2010) anticipates 'significant increases' in the numbers of jobs in the distribution and transport sectors, the continuation of a trend observed over the period 2000-2010. Distribution would see 2,039,000 new jobs and there would be 684,000 new jobs in transport and telecommunications. In 2003 the value added per hired employee in transport, storage and communication, at around EUR 75,000 in the EU-15, exceeded all other sectors other than real estate, renting and business; and financial intermediation (EC, 2007).

In Thames Gateway South Essex, Thurrock has already become a major logistics centre due to its road and rail accessibility from a large hinterland, and logistics is expected to support more rural jobs in the Chelmsford and Braintree TTWA in the future. Redundant farm buildings, in particular, are commonly used for storage and packing, although the former provides few jobs. Good transport links to neighbouring urban centres from agricultural and forestry areas in Pazardjik AA, together with the low cost of rural land, are stimulating the development of the logistics and storage sectors there (warehouses, packing and distribution centres, and logistics centres), providing skilled construction, maintenance and operating jobs, a process which could be further encouraged via 'clustering' with processing companies.

Stansted Airport is the major rural employer in Essex (although located outside both case study areas) and has expanded considerably in recent years. In Thames Gateway South Essex, Southend Airport has also expanded, and in Karcag LLS Kunmadaras airport is believed to have potential for expansion coupled with the establishment of an industrial park. Unlike, for example, car assembly, an airport is a place-specific activity. In other words, it serves a particular area and cannot be moved to a lower-cost location. Creation of operational jobs in other transport modes and in communications was not mentioned in any case study area.

Financial and business services

The following NACE sectors are included here: *Financial intermediation* (J) and *Real estate, renting and business activities* (K). According to Cedefop (2010) the Business and other services sector, which already provides almost 59 million jobs in the EU, is projected to see a growth of around seven million jobs in the period 2010-2020, making it the largest growth sector. The percentage of jobs in the EU in this sector would rise from 21.5% to 23.9%. In 2003 Financial intermediation has the highest value added per hired employee (ca. EUR 108,000), followed by Real estate, renting and business activities (EUR 100,000) (EC, 2007). Here, the two sectors are discussed together.

In the Chelmsford and Braintree TTWA, since about 1998 there has been a big increase in the number of ruraly-based businesses in Knowledge Intensive Business

Services (KIBS). In 2007, KIBS accounted for 8.6% of jobs in the rural areas of the TTWA (up to 16% in some localities), compared to 8.4% in urban areas. Further strong growth is expected in activities such as accountants, software developers, IT businesses, insurance, web design, media agencies, solicitors, architects, design studios, writers, printers and publishers, estate agents, structural and civil engineers, high-tech manufacturing and bio-technology companies, stimulated by the roll-out of high-speed broadband Internet. They tend to be small businesses (but not always so) and may be based in a converted farm building or an office suite on a rural industrial estate/business park. Their operations have a low impact on the environment. In Pays de Gueret the economic recession has prompted some businesses to cut their workforce and, as a result, more people have set up their own business (that trade over the Internet) in rural areas during 2009 (a trend also noted amongst professional workers (for example in accountancy and financial services) in the Chelmsford and Braintree TTWA).

Commercial services in Pays de Tulle saw a 9% increase in employment between 1990 and 1999 and there is scope for further expansion. In Pays de Gueret the number of jobs in businesses that trade over the internet is increasing. Activities such as marketing and business administration are gaining in importance in Hajduszoboszlo LLS and the ICT sector is developing. By contrast, in Bistríta-Nasaud county it is anticipated that it will be 10-15 years before IT infrastructure development contributes to the development of the digital economy: in 2007 Financial and business services accounted for only 0.5% of rural jobs.

Although 'teleworking' occurs in several sectors, the topic is discussed here for convenience. In the Chelmsford and Braintree TTWA and Thames Gateway South Essex increasing numbers of people with jobs in urban centres are working from home as businesses seek to cut their corporate accommodation costs and individuals reduce the time spent commuting. Whilst it can be pointed out that these are not necessarily 'new' jobs, they can have many impacts on rural areas which are similar to those of new jobs. In Pays de Gueret teleworking solutions are seen as a way of retaining people in the area and revitalising local shops and businesses. Teleworking via broadband Internet is just starting to develop in Hajduszoboszlo LLS and is also a breakout point in Karcag LLS where, for example, 25 people are employed by a rural-based telemarketing centre.

Other services

This grouping includes *Public administration and defence; compulsory social security* (L); *Education* (M); *Health and social work* (N); *Other community, social and personal service activities* (O); *Activities of households*

(P) and *Extra-territorial organisations and bodies* (Q). It is dominated by public services and civil society and voluntary sector activities but does include some private sector activities. After a number of years of increase, Cedefop (2010) anticipates that the overall number of jobs in the EU in non-marketed services will increase more slowly over the next ten years (by just over one million from approximately 53 million in 2010). The share of total employment will remain almost constant at around 23.2%. This moderate growth results from different trends within this sector: considerable demand increase in health care and education will be partly offset by reduced demand in public administration due to expected public budget constraints.

Public administration and defence; compulsory social security; Education

In the Essex and Limousin case study areas, job losses in public administration are expected. For example, the high percentage (83%) of tertiary employment in Pays de Tulle can be explained by the considerable proportion of public employment (42% of total employment, a rise of three percentage points since 2000) in the area and the number of public sector jobs is likely to fall. In Pays de Gueret public employment levels are also high and the same trend is expected. Consequently, the level of many services in rural areas (such as job centres) has declined in Essex, as it has in Pays de Tulle and Pays de Gueret. In Pazardjik AA rural public service jobs (education, healthcare) have been lost as a consequence of the economic recession and in many remote areas, as also in Bistríta-Nasaud county, public services are not sufficient. In the Chelmsford and Braintree TTWA child care clubs for school age children run as part of the local school, as an independent business or as a charity can be a focal point of support for working parents. Consulting and business services are almost lacking in Pays de Gueret. In Karcag LLS child care, adult education and retraining, business support and programmes for disadvantaged people provide opportunities for more rural jobs and the potential for e-public services was mentioned.

Health and social work

The growing elderly population in the Chelmsford and Braintree TTWA is relatively wealthy, many having incomes from private as well as state pensions, and so the 'silver economy' is becoming increasingly important. As well as being an expanding market for leisure and other services there will be an increasing need for specialist services which will provide rural jobs such as healthcare, home helps, transport, entertainment and 'sheltered' accommodation. By 2021, in Essex as a whole there will be 75% more over 85s than there were in 2009 and over a

quarter of the population will be over 65 years old. To mitigate the expected huge increase in costs the proportion of the care service budget allocated to residential care is likely to be reduced through a series of measures including more home-based delivery by 'telecare' (Audit Commission, 2010). Physical access to health and social services (such as hospitals) from rural areas other than by car can already be difficult.

In Pays de Tulle and Pays de Gueret, the rural population, in particular, is ageing (partly through natural ageing and partly through retired incomers) and the demand for caregivers is increasing (they account for a higher percentage of jobs in rural areas) and the social and charitable economy is a potential, although limited, opportunity for new jobs. Pays de Gueret is covered by support services for elderly people living at home (home-delivered meals, home help, home nursing care, etc.) and such services are generally in plentiful supply and well organised. In terms of number of businesses the health and welfare sector occupies fourth place, reflecting the connection with the high percentage of elderly people. The decline in neighbourhood services (doctors, dentists etc.) in rural areas provides an opportunity for young graduates and people to settle in rural areas and to set up service companies there.

Although ageing populations were also reported in all NMS case study areas, sometimes linked with retired people returning to lower cost-of-living rural areas to live and perhaps take up semi-subsistence agriculture, such as in Pazardjik AA, elderly people are generally less wealthy and therefore constitute a smaller 'market' than in France and the UK. They are also less mobile than younger people in terms of changing their place of residence. The establishment of social care institutions in remote parts of the Hajduszoboszlo LLS is seen as an opportunity for job creation. In Bistrita-Nasaud county, ageing will lead to an increase in the need for social care and homes for the retired. The aging of the rural society bring also new employment opportunities: home-care or household services (currently done by family members or neighbours), and business-based elderly-homes for single, wealthy old people. At present, the increasing numbers of social care jobs (e.g. housekeepers in families with older or handicapped people) are attracting women from the county to migrate to the EU-15.

Other community, social and personal service activities

This very mixed sector does include some private sector activities and is a convenient place to deal with local private sector trades. In the Chelmsford and Braintree TTWA, 'cash rich, time poor' people (such as those who commute to jobs in urban centres) are a big market for local tradespeople providing a range of services. These include gardeners, tree surgeons, carpenters serving the

luxury market (e.g. spiral staircases and bespoke kitchens), marble worktops, furniture making, restoration and polishing, swimming pool maintenance, cleaners, builders and building maintenance, traditional skills (such as reed cutting, hedge laying and thatching, blacksmiths), plumbers, car repair/mechanic, electricians, kindergarten, beauty service, mobile hairdresser, pedicure, cattery, dog 'sitters' and dog grooming. For these there may be supply chains, for example thatchers need farmers who know how to grow thatching straw.

There is a need for good quality tradesmen in Pays de Gueret as existing businesses have full work schedules. Job offers for salaried gardeners have increased by 67% in two years and tradesmen by 500%. In Hajduszoboszlo LLS there are job opportunities for craftsmen such as plumbing and electrical work. Once rural people Bistrita-Nasaud county have more money to spend, new services will be needed, such as house construction and repairs, car repairs, television repairs, plumbers, hairdressers, utilities development, change in the energy system of houses and of farms, clean water assurance etc., which could be provided by rural micro enterprises. A shortage of such services in Pazardjik AA is also attributed to the limited demand, although the peri-urban zones located close to the mountains have the potential to attract people to live there rather than in the urban centres, thus creating a market.

Activities of households; Extra-territorial organisations and bodies

No case study area reports identified potential for rural employment creation in these small sectors.

Conclusions

The trends in rural employment identified by the RuralJobs field research are consistent with those predicted by Cedefop (2010) to occur at EU level (i.e. rural and urban) over the next ten years. Across the EU, jobs in most if not all sectors are present in rural areas. Although agriculture and manufacturing will clearly continue to be of major importance, rural job creation need not be constrained to employment based on agriculture and related sectors, and indeed most new rural jobs will be created in services.

A key point arising from the research is the need to maintain complete supply chains. This is especially evident in the agri-food supply chain where, for example, the absence of a local processing industry can depress the levels of upstream and downstream activities. It is also true in the renewable energy supply chain, where biomass production relies on the existence of local processing demand, and in tourism and leisure which requires a 'market' in the form of consumer demand, within which local demand is frequently a significant component.

The topic of regional resilience is relevant to rural areas which can often be dependent on only a few sectors. Whilst

agriculture is the most frequently cited in this respect, the most striking example from the RuralJobs research relates to mining. In 2006 the lead-zinc ore mines around the village of Rodna in Bistrita-Nasaud county were closed and thousands of miners were sent to early retirement or unemployment. While in 1989 there were 4000 employees in the commune, of which 2560 were in mining, 1000 in geological prospecting and 600 in forestry, by 2009 out of the active population of 3800 only 675 were employed.

The most appropriate approach to rural job creation varies between different types of rural areas, and innovation and local resources (particularly natural capital) are important determining factors. The creation of jobs in sectors beyond agriculture can help rural areas in the EU to be part of a smart, sustainable and inclusive economy delivering high levels of employment, productivity and social cohesion.

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