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LABOUR FORCE COMPOSITION AND LABOUR SHORTAGE IN NORTH-WESTERN ROMANIA: A CROSS-COUNTRY COMPARISON[1]

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ABSTRACT: The paper analyses the labour force composition of two adjacent counties in north-west Romania: Maramureș and Sălaj. Regionally, employers stress the lack of available labour force and resort to commuter networks from nearby rural areas and immigrant labour. Why labour shortage? It is argued that Romania's FDI-reliant export-led growth model factors in. Namely, the growth model's reliance on low-cost labour that reduces employment incentives to a minimum (often minimum wage) and employment in repetitive labour-intensive activities make the prospect less attractive. If technological upgrading – requiring skilled employees – is absent, regional labour availability tends to be an issue. Alternative subsistence methods are favoured: seasonal transnational migration, household agricultural subsistence and remittances from relatives. Tying livelihood to families and households, these methods pool resources to replace (even if in part) wage labour under global market-dependency conditions.

Keywords: labour force; labour shortage; FDI; export-led growth model; Romania

Introduction

Extensive research has been devoted to Central and Eastern Europe's (CEE) reliance on foreign direct investments (FDIs) (Ban, 2016; Brenner et al., 2010; Bruszt and Langbein, 2020; Éltető et al., 2023; Nölke, 2022; Misztal, 2010; Pelinescu

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and Rădulescu, 2009). Following the collapse of socialist regimes, these countries embraced different forms of economic liberalization, leveraging their former socialist industrial infrastructure. Initially, Romania took a conservative stance with protectionist policies, but its national political economy underwent inevitable transformation during pre- and post-EU integration procedures (Medve-Bálint and Šćepanović, 2020; Tache and Neesham, 2009; Vukov, 2020). The liberal government soon instilled labour market deregulation as a strategy to enhance competitiveness for FDIs, which played a crucial role in driving Romania's current dependent market economy (Ban, 2019) and export-led growth regime (Ban and Adăscăliței, 2022).

As working conditions and labour control are deeply ingrained in national political economies, social relations in production are shaped by existing policies and politics. Therefore, pursuing EU prescribed domestic-transnational alignment came at a cost as existing industrial assets were compromised, resulting in significant consequences for regional workforces (Mihály, 2022). Labour market deregulation and flexibilization measures are also documented to have "fragmentation" effects on regional workforces embedded in global commodity chains (Komlosy and Musić, 2021). Labour fragmentation refers to the disaggregation of a workforce and the cessation of full-time employment[5]. Numerous writings have explored capitalist dynamics in CEE (Drahokoupil, 2009; Myant and Drahokoupil, 2011; Bohle and Greskovits, 2012), but comparatively less focus has been given to the role of labour in these processes. Currently, concerted efforts are being made to reevaluate the significance of labour relations in contemporary commodity chains (Baglioni et al., 2022; Palpaucer and Smith, 2021; Komlosy and Musić, 2021). This take is particularly relevant for underlining current labour trends, especially in peripheral regions. Our paper contributes to this framework. First, we define the labour force composition of two counties from north-west Romania – Maramureș and Sălaj – as a precursor for labour fragmentation. How is the labour force structured in the studied counties? Second, we argue that regional labour shortage is a manifestation of labour fragmentation. What are the causes behind the regional labour shortage?

The region is enmeshed in Romania's economic trajectory most notably via labour-intensive, low complexity production that confers a peripheral position in global commodity chains. Furniture and automobile components production are noteworthy industrial sectors. While Maramureș is dominated by furniture manufacturers embedded in IKEA's supplier network, Sălaj's largest employers are a rubber tire and pipe manufacturer. Our data shed light on the region's economic realities, symptomatic of Romania's export-led growth model –

[5] https://www.eurofound.europa.eu/observatories/eurwork/industrial-relations-dictionary/fragmentation-of-the-labour-force

categorized as less knowledge-intensive services and low-complexity production. Consequently, the workforce in question adapted to unattractive employment possibilities with seasonal immigration and alternative employment practices. In this context, labour shortage is therefore the subsequent outcome of unfavourable labour market conditions.

The paper is structured as follows. After lacing the relevant literature on global commodity chains with Romania's socio-economic context, we present the methodology used to define Maramureș and Sălaj's economic landscape. By using categories of technological complexity – knowledge-intensive and less knowledge-intensive for services and high, medium-high, medium-low, and low technology for manufacturing – we set the premises for the labour force composition. We present the results in the fourth section. It is split into two subsections, the first maps regional labour force composition in Maramureș and Sălaj, while the second describes the repercussions of low-cost and low value-added activities.

Romania's labour fragmentation and its culprits

The paper's conceptual framing combines global commodity chains literature (Palpaucer and Smith, 2021; Komlosy and Musić, 2021) – uneven development and low-road production (Gerőcs et al., 2021; Mihály, 2022) – with the growth models perspective (Baccaro et al., 2022; Baccaro and Hadziabdic; 2023) – more specifically, the export-led growth model (Ban and Adăscăliței, 2022) – in arguing that Romania's economic landscape determined the labour fragmentation and the consequent labour shortage seen in the studied region. Namely, regional labour shortage is a symptom of Romania's export-led growth model alongside the low-complexity production and inferior commodity chain position endemic to it.

Labour fragmentation is generally caused by contextual factors: low unionization rates, low wages, and labour-intensive activities (Durand, 2007). These circumstances can lead regional workforces to seek alternative means of income, thus creating labour shortage. Tapping into the global commodity chain literature, Gerőcs et al. (2021) discuss how the Hungarian automotive sector's position determines labour fragmentation. Categorizing work models into high and road-low road variants (Jürgens and Krzywdzinski's, 2009), they emphasize the country's skilled labour shortage, attributing it to the low-road work model. Along MNC commodity chains, high road models are present in core countries while low road in CEE subsidiaries or suppliers. While the high-road model offers substantial job security and invests in long-term employee training to develop job competencies, the low-road model focuses on employer cost-reduction both in terms of labour and technology. The low-road model also favours employer empowerment via labour market deregulation.

In Hungary, much like in neighbouring Romania, low value-added production is perpetuated by low-cost labour and deregulated employment relations as opposed to the high-road model's long-term investments into sustainable employment both financially and skill-wise. These circumstances lead to widespread labour fragmentation. As Romania's evolving economic model placed a growing emphasis on FDIs, the influence of labour unions diminished, leading to the emergence of various cost-cutting measures. One of these, the combined-income strategy (Petrovici, 2013), became prevalent in Romania's numerous manufacturing hubs embedded in global production networks. In the past, it was designed to attract the commuter workforce from rural areas. More specifically, the combined-income strategy involving both minimum wage and rural household resources served as an accumulation strategy, guaranteeing a source of low-cost labour, primarily via minimum wage earners. This strategy also ensured a steady labour supply, particularly in a region grappling with labour shortages. However, the perpetual low-wage strategies gradually eroded the willingness of the regional workforces to comply. Therefore, unlike in Hungary, Romania's regional workforce fragmentation goes a step further: it manifests itself via seasonal immigration (typically westward for seasonal jobs in agriculture) or other alternative employment arrangements, exacerbating the regional labour shortage.

The circumstances of labour fragmentation are also attributable to the mechanisms of surplus value capture within global commodity chains. Value creation and extraction is realized along the chain – from raw materials to sub-assemblages and consumable products – each actor (company) acquiring a portion of the produced value. Intra- and inter-company relations are structured hierarchically, lead and parent-companies accumulating value disproportionately compared to lower-tier suppliers and subsidiaries, often located in peripheral countries and regions. Uneven development or global inequality chains (Campling and Quentin, 2021) account for these dynamics. Intra-firm adaptation practices from the parent company can diverge among subsidiaries, primarily due to local disparities. As argued by Ferner et al. (2006), these discrepancies are the outcomes of interactions between the national business systems in the parent and host countries. This notion can be further clarified by considering the insights provided by Boyer and Freyssenet (2002), who argue that corporate profit strategies tend to evolve into productive models encompassing distinctive product strategies, methods of production organization, and national labour relations. The selection of product strategies is contingent upon the viability of products across various markets, while the structuring of production encompasses the specific approaches employed in the manufacturing process. Both elements are moulded by the host country's labour market characteristics.

Typically, corporate culture and work organization are uniform across home and host countries, but adjustments are made to accumulation strategies according to specific regulatory frameworks. As is often the case, regulations in the home country are often stringent, while subsidiaries operate in more deregulated settings, a pattern frequently observed in CEE countries. Consequently, multinational corporations (MNCs) adapt their management and production methods to accommodate the need for flexibility, often transferring labour-intensive operations to host country facilities.

At a broader level, the export-led growth model (Ban and Adăscăliței, 2022) defines Romania's socio-economic context. Moulded on the remnants of its dependent market economy (Ban, 2019), the export-led growth model defines the character of Romania's global commodity chain embeddedness. Exports are a key requirement as MNCs operate predominantly as intermediaries producing various components within larger global commodity chains. These dynamics make the country's economy particularly vulnerable to unequal appropriation of surplus value within global commodity chains. Furthermore, the perpetuation of low-complexity manufacturing with low-cost labour exposes various regions to acute stagnation, a possible symptom of the middle-income trap (Myant, 2018; Ban and Mihály, 2023) resulting from the country's low spending on R&D[6]. Therefore, labour shortage is an outcome of these circumstances, and alternative employment practices are societal responses to the structural shortcomings of Romania's export-led growth model.

Methodology

The empirical data utilised in our study is derived from multiple governmental datasets, online sources and 19 interviews with former or current employees from Maramureș and Sălaj counties. The primary data source comes from the Romanian Institute of Statistics, which offers comprehensive data on workforce structure and salary by economic activity sectors. Additionally, the open data platform "DataGov" was employed to acquire information pertaining to the number of enterprises and their respective economic activity sectors. By incorporating the aforementioned dataset into the Eurostat classification pertaining to the High-tech industry and knowledge-intensive services (2016,

[6] https://data.oecd.org/rd/gross-domestic-spending-on-r-d.htm

2020), we present a descriptive analysis of the makeup of the labour force in two geographically nearby counties located in north-west Romania, namely Maramureș and Sălaj.

Eurostat (2016, 2020) deploys a complete framework for defining the High-tech industry and knowledge-intensive services. The primary objective of this framework is to analyse and examine data related to economic indicators, employment statistics, and science, technology, and innovation (STI) metrics. Its purpose is to offer valuable insights into the manufacturing and service sectors, namely by classifying them based on their level of technical sophistication. Within this paradigm, there are two primary approaches used to characterise technical intensity: the sectoral approach and the product approach which is related to high-tech products trade data.

The sectoral approach used in our paper categorises manufacturing industries according to their level of technical intensity, principally by evaluating the ratio of research and development (R&D) investment to value added. The categorization utilised in this context conforms to the statistical classification of economic activities in the European Community (NACE) at the 2-digit level. This leads to the classification of industries into four distinct strata, namely high-technology, medium high-technology, medium low-technology, and low-technology sectors. Simultaneously, services can be classified into two categories: knowledge-intensive services (KIS) and less knowledge-intensive services (LKIS), based on the proportion of individuals with higher education at the NACE 2-digit level. The utilisation of a sectoral method forms the fundamental basis for most statistical indicators, except for high-tech trade and patent data, where this technique is not employed.

We take advantage of these manufacturing categorizations to define Maramureș and Sălaj's labour force composition. As the following sections will depict, the level of technological complexity is an indicator of labour specialization and income levels. Namely, low specialization and low-income levels are preconditions for labour shortage and migration. Furthermore, by extrapolating to the national level, the labour composition of the two counties serves as typical examples of Romania's low-complexity, low-cost, export-driven growth model.

Results

Comparing the labour force composition in Maramureș and Sălaj

The labour force composition in the two counties is defined by low-knowledge intensity in services and medium-low and low technology activities in manufacturing. The number of companies, alongside the proportion of the labour force, also reflects this trend, with most employers and employees categorized in these segments. In terms of intra-county employer positioning, Maramureș presents more diversity: while a few large employers are concentrated around the largest city, Baia Mare, noteworthy companies are also in the north near Sighetu Marmației and the east near Borșa (see figure 1). Sălaj's largest employers are more centralized in Zalău, where most of county's economic activity is located, with few larger employers located in the western regions of county (see figure 2).

Table 1 provides a comprehensive analysis of the distribution of enterprises in the year 2021 across several sectors, with a specific emphasis on high-tech industries and knowledge-intensive services, as per the classification established by Eurostat. The provided data present a comparative examination of three distinct geographical entities, namely Maramureș County, Sălaj County and, for comparison purpose, Romania in its entirety. The following statistics offer significant insights into the economic structure and technological focus of these geographical areas.

Within the services sector, it is evident that Romania exhibits the biggest proportion of enterprises engaged in this particular category, amounting to 76.2%. Maramureș and Sălaj counties have similar percentages, with Maramureș at 67.8% and Sălaj at 67%, but lower than the country's proportion. These findings suggest that a considerable proportion of enterprises in all three regions are involved in service-oriented endeavours.

Table 1. Percent of active companies per economic sectors in 2021

	Maramureș	**Sălaj**	**Romania**
Services	**67.78%**	**67.05%**	**76.15%**
Knowledge-intensive services	26.22%	26.48%	66.38%
Less Knowledge-intensive services	73.78%	73.52%	33.62%
Manufacturing industry	**12.43%**	**12.73%**	**8.49%**
High technology	0.77%	4.02%	1.60%
Medium-high technology	5.60%	3.49%	6.56%
Medium-low technology	27.81%	30.87%	27.49%
Low technology	65.82%	61.63%	64.36%
All other industries	**16.54%**	**15.79%**	**11.98%**
Energy industry	3.41%	4.17%	6.24%

	Maramureș	Sălaj	Romania
Extractive industry	3.37%	2.90%	1.50%
Construction	93.22%	92.93%	92.25%
Agriculture	**3.25%**	**4.43%**	**3.38%**
Agri-Business	100.00%	100.00%	100.00%
Total	**100.00% (n= 13,653)**	**100.00% (n= 7,433)**	**100.00% (n= 788,838)**

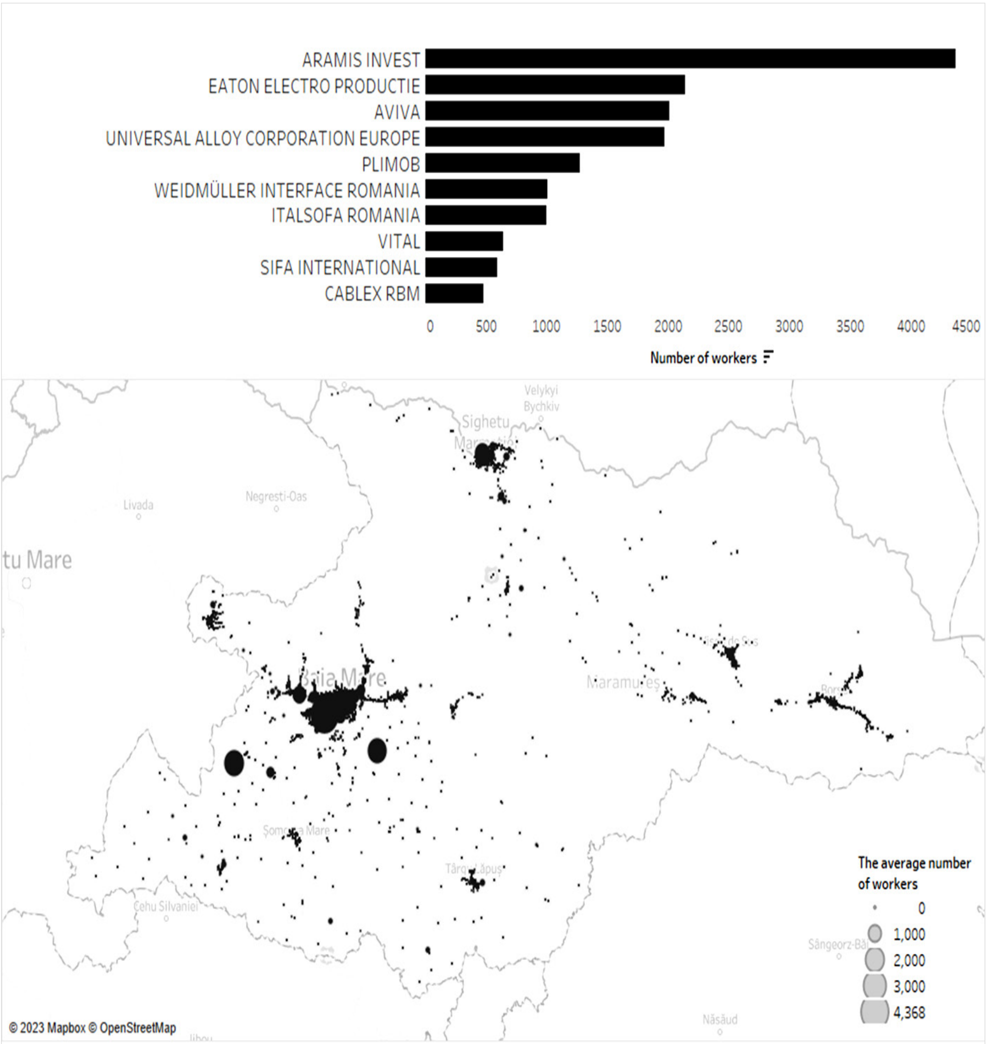
Data source: DataGov.ro – list of active firms and financial sheets, Eurostat classification based on NACE.

In the context of Romania, a significant proportion of firms, amounting to 66.4%, primarily engage in knowledge-intensive services. According to Eurostat (2016), these sectors exhibit a notable emphasis on research and innovation. In comparison, the counties of Maramureș and Sălaj demonstrate significantly lower percentages, specifically 26.2% and 26.5% respectively. This disparity highlights the more limited status of Maramureș and Sălaj counties in relation to the overall national level with regards to their participation in knowledge-intensive services.

Romania demonstrates a notable dedication to fostering innovative industries, as evidenced by its significant involvement in these sectors. However, it is observed that the Maramureș and Sălaj areas exhibit a comparatively limited presence in this particular industry. As expected, there is a significant discrepancy observed in the less knowledge-intensive services sector when comparing Romania to the two counties, namely 33.6% of enterprises may be classified under this category. However, it is noteworthy that the regions of Maramureș and Sălaj exhibit a comparatively greater proportion, with percentages of 73.8% and 73.5% respectively. This observation implies that the regions in question host firms that engage in traditional or non-technology-dependent services. This underscores the precarious situation of Maramureș and Sălaj in terms of job vulnerability, as the low-intensity service industries in these regions lack high-value employment opportunities, impeding investments in research and development and rendering them less resilient to economic changes and crises.

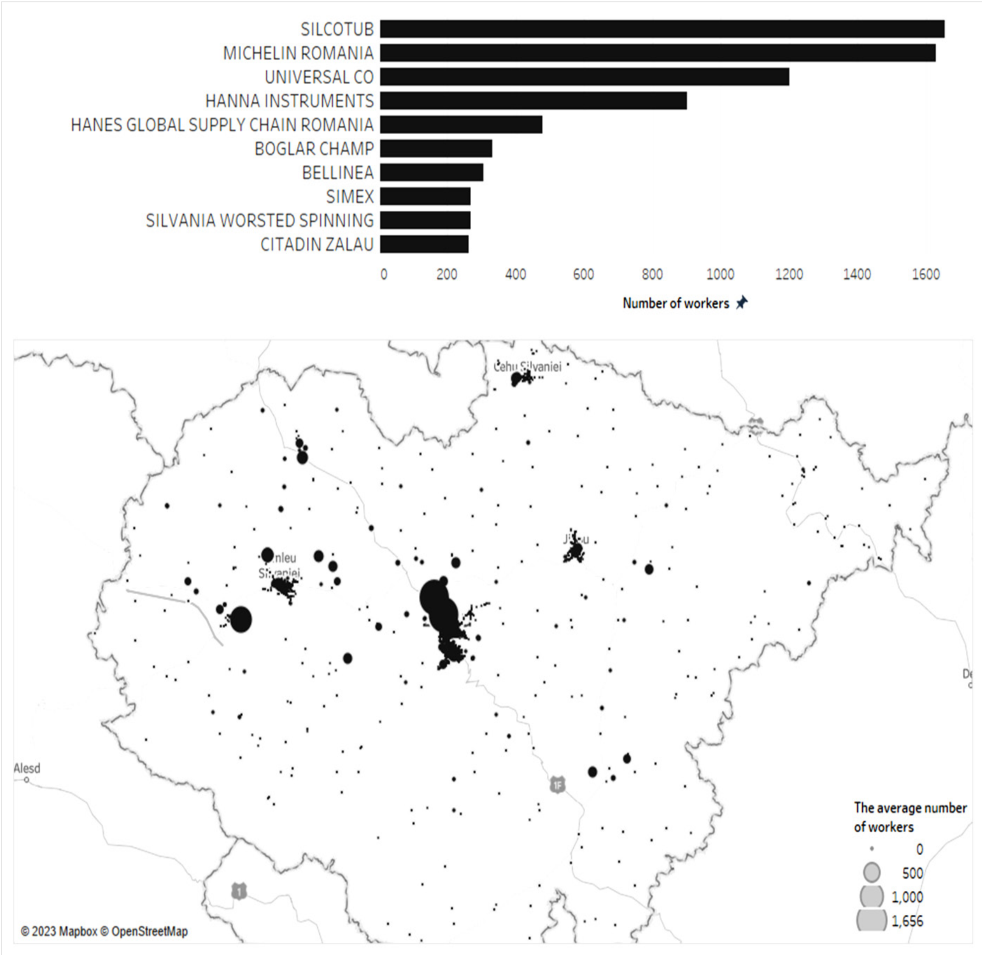
In Romania, the number of enterprises in the manufacturing industry is significantly lower compared to the services sector. This phenomenon can be attributed to the disparity in company sizes, since we assume that the manufacturing sector will have a greater proportion of larger employers in comparison to the service sector. The regions of Maramureș and Sălaj demonstrate a notably greater level of engagement in the manufacturing business, with percentages of 12.4% and 12.7% respectively, in contrast to the overall proportion of 8.5% for Romania.

Figure 1. Maramureș's largest employers by number of employees in 2021



Source: DataGov.ro – list of active firms and financial sheets. Authors computation.

Figure 2. Sălaj’s largest employers by number of employees in 2021



Source: DataGov.ro – list of active firms and financial sheets. Authors’ computation. Methodological note: Discrepancies were observed between the employee figures provided in official data and those reported by the respective businesses and mass-media sources. In the case of the major employers, we substituted the data from financial statements with information obtained from other sources. These disparities could potentially be attributable to recruitment companies.

The differentiation among various technology categories serves to underscore the complexity of the technological environment. In Romania, the proportion of enterprises classified as high-tech, distinguished by their emphasis on innovation and utilisation of modern technology, amounts to 1.6% of the total number of companies but in Maramureș, this proportion is below one percent.

Nevertheless, it is worth noting that Sălaj County exhibits a far higher percentage of 4%, suggesting a more pronounced focus on companies related to advanced technology. There are slight variations observed in the medium-high technology and medium-low technology sectors across different regions, although the low-technology sector is dominant in all locations. The relatively larger proportion of low-tech manufacturing firms in Maramureș, in comparison to Romania and Sălaj, may be attributed to the presence of small-scale wood processing enterprises scattered over the county.

The construction industry exhibits a prominent presence throughout all regions, encompassing a significant majority of enterprises, exceeding 92% in participation. This result suggests that the construction industry is a significant driver of economic activity within the region. Both the region of Salaj and, to a larger extent, Maramureș underwent a transition away from extractive sector operations in reaction to the process of deindustrialization.

Table 2 offers an extensive analysis of the labour composition in 2022. As expected, among all industries, the service sector exhibits the most substantial proportion of employees, amounting to 64% in Romania, 52% in Sălaj and 57% in Maramureș. This statistic underscores the notable prevalence of service-oriented occupations among the country's overall labour force. The distribution of employees in the knowledge-intensive services is relatively balanced across the regions. Specifically, Romania accounts for 47.4% of these services, Maramureș for 49.1%, and Sălaj for 46.9%. The data presented suggest that a significant segment of the labour force in every region is involved in knowledge-intensive positions, which demonstrates a dedication to technical advancements and inventive endeavours. However, there is a greater representation of industries that consist of jobs that do not strongly rely on advanced technology and innovation. Specifically, more than half of the employed workers are found in the service sector, which is characterised by a lower level of knowledge intensity.

The manufacturing sector holds considerable importance in Romania, representing a substantial portion of the country's workforce, with employees in this area accounting for 21.4% of the total. On the other hand, it is noteworthy that Maramureș and Sălaj exhibit comparatively greater proportions, specifically 36.3% and 26.4% respectively. The counties under consideration have a higher degree of personnel presence in the manufacturing sector, suggesting a comparatively robust manufacturing industry in relation to the national average. Maramureș stands out with a lower proportion of the labour force in the service sector and a higher proportion in the manufacturing industry, particularly in low technology industries. This deviation from the national level underscores the distinct features of the county's reindustrialisation policy, which relies on cheap and low-skilled labour.

Table 2. Distribution of employees (%) by economic sectors in 2022

	Maramureș	Sălaj	Romania
Services	**51.63%**	**56.92%**	**64.05%**
Knowledge-intensive services	49.10%	46.90%	47.37%
Less Knowledge-intensive services	50.90%	53.10%	52.63%
Manufacturing industry	**36.33%**	**26.41%**	**21.38%**
High technology	0.62%	3.76%	4.02%
Medium-high technology	14.08%	3.85%	25.16%
Medium-low technology	22.07%	43.21%	22.35%
Low technology	63.23%	49.17%	48.47%
All other industries	**9.94%**	**13.38%**	**12.16%**
Energy industry	20.15%	17.50%	24.42%
Extractive industry	6.14%	4.56%	7.02%
Construction	73.71%	77.94%	68.56%
Agriculture	**2.09%**	**3.28%**	**2.41%**
Agri-Business	100.00%	100.00%	100.00%
Total	**100.00% (N=107,324)**	**100.00% (N=49,529)**	**100.00% (N=5,209,493)**

Data source: Romanian Institute of Statistics, Eurostat classification based on NACE.

At the national level, the presence of high-technology positions constitutes approximately 4% of the overall workforce employed in manufacturing. Sălaj County, with a notable proportion of 3.8%, exhibits a similar emphasis on high-tech jobs. On the other hand, Maramureș has a comparatively smaller percentage, specifically 0.6%. In Romania, there is a notable prevalence of medium-high technology positions, accounting for 25.2% of the workforce. In contrast, the regions of Maramureș and Sălaj have much smaller proportions of employees, standing at 14.1% and 3.9% respectively. In Romania, as well as in Maramureș and Sălaj, a substantial percentage of the workforce in the manufacturing sector is employed in industries characterised by medium-low and low levels of technological advancement. Nevertheless, the disparity between the national and county levels cannot be disregarded. In Romania, 71% of employment in the manufacturing sector is concentrated in enterprises with lower levels of technological development. This trend is particularly pronounced in the regions of Maramureș and Sălaj, where the percentages rise to 85% and 92% respectively.

The construction industry serves as a substantial contributor to employment throughout all areas, employing almost two-thirds of the workforce in this sector. Despite the comparable proportion of active construction enterprises between the two counties and Romania as a whole, Sălaj and Maramureș exhibit a higher number of employees in relation to the national level. Regardless of its relatively small share of the general workforce, agriculture remains a significant contributor to all areas, particularly in Sălaj, where the proportion of employees is comparatively greater than in Maramureș and Romania in its entirety.

Table 3. Average net salary (€) by economic activity sectors in 2021

	Maramureș	Sălaj	Romania
Services	**655.2**	**612.1**	**915.5**
Knowledge-intensive services	764.2	695.7	1092.9
Less Knowledge-intensive services	478.1	486.6	604.9
Manufacturing industry	**574.3**	**587.8**	**786.5**
High technology	646.2	673.5	921.3
Medium-high technology	629.6	497.4	837.2
Medium-low technology	611.6	825.2	958.9
Low technology	517.1	472.9	661.0
All other industries	**640.1**	**806.2**	**948.6**
Energy industry	729.0	697.7	795.8
Extractive industry	570.9	1129.3	1118.4
Construction	561.4	594.2	710.4
Agriculture	**579.4**	**685.9**	**673.0**
Agri-Business	579.4	685.9	673.0
Total	**622.2**	**635.8**	**770.8**

Data source: Romanian Institute of Statistics, Eurostat classification based on NACE. Methodological note: The conversion from RON to € was conducted using the average exchange rate observed in the year 2022.

Table 3 provides an overview of the mean net income among the analysed industries for the year 2022 in Romania and specifically compares Maramureș and Sălaj County. The presented data provide significant insights into the inequalities in income and the economic performance across various regions. In Romania, the average net income within the services sector amounts to approximately €900. On the other pole, Maramureș County exhibits an average net income of €655.2, and Sălaj County exhibits an average income of €612.1. The significant difference might be ascribed to the impact of Bucharest and other magnet cities and poles of growth (Cristea et al. 2017) such as Cluj-Napoca, Timișoara, Iași, which are known for their tendency to provide employment opportunities in the service sector with higher remuneration.

Services that need a high level of knowledge and are characterised by professions that heavily rely on high-skilled labour, tend to provide the greatest earnings. Once again, Romania exhibits a prominent position in terms of average net income, amounting to €1093, compared with the two counties. Maramureș County exhibits a mean income of €764 and Sălaj County exhibits a somewhat lower average income of €696. This result shows high income disparities within the same economic sector. On the other hand, services that require less knowledge tend to lead to lower average wages. Romania currently holds higher average salaries than Sălaj or Maramureș. Nevertheless, differences between the national average and the regional average are less salient across the less knowledge-intensive services compared to knowledge-intensive services.

In the case of Maramureș and Sălaj, the manufacturing sector exhibits marginally lower mean values than the total averages, standing at €574 and €588 correspondingly. Among all industries, manufacturing highlights the lowest average net salaries for the two analysed counties. High-technology occupations tend to provide higher average wages, but only for Maramureș County. Surprisingly, the mean net salary in Sălaj and Romania exhibits a greater value within medium-low technology sectors in comparison to medium-high technology or high technology sectors. The average values of wages in manufacturing are pulled down by the very low salaries in low technology industries, which are the lowest across the entire classification of the economic sectors. As we saw in table 2, low-technology manufacturing is the dominant category in both counties, thus the approximately €500 average salaries are a symptom of the low-value added production endemic to Romania's export-led growth model (Ban and Adăscăliței, 2022).

Energy industry in Maramureș and Extractive industry in Sălaj and Romania boast the highest average salary among all types of industries. In Romania, the construction sector presents a noteworthy level of remuneration, with an average income of €710. Maramureș and Sălaj County have relatively lower income levels, with mean values of €561 and €594, correspondingly. In both counties, the wages earned by workers in the construction industry are comparable to those in the manufacturing sector. This finding, in conjunction with our previous discussion on the poor wages of individuals working in low-tech manufacturing sectors, underscores the disparity between skilled and unskilled labour and the precariousness faced by workers engaged in physically demanding or repetitive occupations. Within the realm of agriculture, it is seen that Romania, Maramureș County, and Sălaj County exhibit comparable average wages. This pattern can be attributed to the prevailing traditional practices and the inherent tendency for agricultural occupations to offer remuneration at a comparatively lower scale.

As shown throughout the section, less knowledge intensive services and low technology sectors are predominant in both counties. These circumstances are preconditions for less attractive employment possibilities which, in turn, cause regional labour shortage. As the following section will show, regional labour forces skirt unfavourable conditions by seeking alternative income opportunities. Emigration for seasonal jobs in agriculture and the combined income strategy – combining household income with seasonal and part-time employment – are the most common options.

Labour shortage, migration, and labour fragmentation

Labour shortage, hence labour fragmentation as described by Komlosy and Musić (2021), is a widespread phenomenon in the two counties. The adversity caused by the low technological complexity courtesy of low-cost, labour-intensive activities is the primary reason. Namely, the inferior positions of foreign and domestic companies in global supply chains as part of Romania's export-led growth model (Ban and Adăscăliței, 2022) contributes to labour's unfavourable position in the region. Difficulties in engaging regional labour is a recurring complaint of employers in Maramureș and Sălaj. Seasonal westward migration and various informal employment arrangement are often sought as wage labour alternatives.

A survey[7] conducted by an online marketing platform highlighted the general labour deficit of Romania and the growing number of immigrant labour in 2022. Of the 50 thousand foreign employees, approximately 10 thousand originated from Nepal and more than 7 thousand from Sri Lanka. Outward migration is listed as the reason behind the labour shortage. While this is a

[7] https://business.olx.ro/wp-content/uploads/2023/02/OLX-Jobs-Index-2023_online.pdf

reductionist assumption – as it omits unfavourable employment conditions and seasonal westward migration as the main culprit, in the studied region at least – it roughly points to the adequate reason.

In Maramureș, Sri Lankan employees are depicted as the primary solution for the county's largest employer and Romania's largest furniture exporter, Aramis. Considering that the previous survey listed furniture manufacturing as one of lowest paid sectors – with approximately €400, only above the apparel and hospitality sectors – supplementing the labour pool with foreign employees can also be considered a solution to unattractive employment opportunities for the domestic labour force. An online outlet, while emphasizing the increased employee count of Aramis, also states (as a sidenote) that the personnel increase is attributable to the approximately one thousand Sri Lankan employees:

> In the first 6 months [of 2022], Aramis hired more than one thousand, but because of labour shortages in the internal labour market, they were hired externally from non-EU countries, namely Sri Lanka (Știri din Maramureș, 2022).

In addition to its reliance on immigrant labour, Aramis serves as a prominent employer within Baia Mare and its vicinity, specifically engaging a considerable number of Roma individuals, a disadvantaged social group. All interview participants indicated that either themselves or at least one other family member have been employed or are presently employed at Aramis. Due to the unavailability of official data regarding the ethnic composition of workers engaged in furniture upholstery tasks at Aramis, a pertinent interview statement serves as an apt description:

> Out of a hundred workers, about 80-85 are only of Romani ethnicity, as a Romanian does not go to work, does not work as much as a gypsy can. I will tell you this for sure (man, 40 years, married with children, employed at Aramis).

The differentiation between Romani and Romanian ethnicities stems from the respondent's interpretation of low wage employment perspectives. His statement corresponds to the different values Romani and Romanian employees attribute to employment at Aramis: a Romani employee is more predisposed to work (although still seasonally or temporarily) for a wage a Romanian employee will not. The company capitalizes on these ethnic divides, as the following quote shows:

> At Aramis, 80% of the workforce is unskilled. If 20 workers don't come to work anymore, they send someone to the poorer areas and bring in 20 more (man, 35 years, journalist).

In Sălaj, waged labour alternatives abound mainly in rural areas. Interviewees highlighted seasonal migration to Italy, Spain, and Germany for employment in agriculture. These alternatives are popular due to the low-income jobs available on the local labour market. For instance, a county representative stated that the local administration attempted to attract employers, but the minimum waged remuneration failed to attract the necessary labour force. Similarly, as the county is highly centralized in terms of its economic activities, commuting to Zalău is the norm:

> I told you that in Sălaj, the salaries are very low, and well... Let's say you're employed in Zalău, you earn around 1400 lei (approximately €300), you need money for commuting, you need food, and you don't have much left. That's the problem, not that I'm afraid of work or anything, no (man, 42 years, rural inhabitant).

If commuting is not acceptable, westward migration for seasonal jobs is a common alternative:

> From here [village in Sălaj], people leave for work in agriculture in Germany via various agencies, and this can be everyone, Romanians, Hungarians, Roma; they emigrate for two months, and come back with how much they earn. They start in February or March, work in shifts for two months, then return home. If they want to go again, they can do so later, but the initial contract is for two months (woman, 50 years, rural inhabitant).

The combined income strategy is a common employer cost-reduction measure: rural household resources are typically supplemented by (often minimum waged) salaries, predominantly in part-time or temporary employment schemes as evidenced by Petrovici (2013). As numerous respondents stated, the region's primary job opportunities are guaranteed by the commuter networks – stretching beyond Sălaj county – linked to Zalău's tire manufacturer and pipes producer. The overall penury of the region's employment possibilities causes the labour fragmentation attributable to the low-cost, low technological complexity economic circumstances both nationally and regionally (see Ferenț, this issue).

Conclusions

Our study presents Maramureș and Sălaj county's labour force composition. Departing from a conceptual framework combining global commodity chains literature (Baglioni et al., 2022; Komlosy and Musić, 2021) with growth models (Baccaro et al., 2022), we argue that Romania's export-led growth model (Ban and Adăscăliței, 2022) based on low-complexity economic activities is responsible for regional labour fragmentation. Methodologically, we constructed indicators to reveal the two counties' economic complexity. For services sectors, these are knowledge-intensive and less knowledge-intensive services. For manufacturing, we included high, medium-high, medium-low, and low technology activities.

The data show an overwhelming tendency toward less knowledge-intensive services and medium-low and low technology manufacturing. In Maramureș, less-knowledge intensive services are prevalent – as opposed to Romania's increasing tendency toward knowledge intensive services. Manufacturing has a similar propensity toward medium-low and low technological complexity. Sălaj mirrors Maramureș's trend, except a slight increase in medium-low complexity manufacturing. In terms of employees, the main difference between the two counties is represented by Maramureș's predilection toward low-complexity activities while Sălaj is more evenly split between knowledge-intensive and less knowledge-intensive services and medium-low and low technology manufacturing.

Labour fragmentation is shown via online sources and various interviewee statements. As a result of low wages, employment prospects are deemed unattractive. Employment alternatives range from seasonal westward migration to combining household resources with part-time or temporary employment. Companies in Maramureș and Sălaj respond to labour fragmentation via immigrant labour or by hiring disadvantaged social groups. Labour force fluctuation is a typical side-effect in such circumstances. Nonetheless, Romania's inferior position in global commodity chains, manifested in its export-led growth model, creates these adverse conditions for regional labour forces.

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Cel mai mare angajator din Maramureș, producătorul de mobilă Aramis Invest a depășit 6000 de angajați și se situează pe locul 18 în topul național [Maramureș largest employer, Aramis Invest, surpassed 6000 employees and is 18th in the national ranking]. Știri din Maramureș, September 11th, 2022. https://2mnews.ro/analiza-2mnews-cel-mai-mare-angajator-din-maramures-producatorul-de-mobila-aramis-invest-a-depasit-6-000-de-angajati-si-se-situeaza-pe-locul-18-in-topul-national/ [Last accessed: 02.11.2023]

Producătorul Silcotub din Zalău, parte a grupului italian Tenaris, a finalizat anul 2022 cu afaceri de 4 miliarde de lei, plus 54%. Compania avea anul trecut 1.791 de angajaţi [Silcotub from Zalău, part of the italian Tenaris group, had a 4 billion lei business turnover, 54% higher. The company had 1791 employees]. Ziarul Fianaciar, May 5th, 2023. https://www.zf.ro/companii/producatorul-silcotub-din-zalau-parte-a-grupului-italian-tenaris-a-21904614 [Last accessed: 02.11.2023]