

Labor Market Developments in the Romanian Regions after the Accession to the European Union: Employment, Wages, Structural Shifts¹

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Abstract

Access to adequate workforce, in numbers and in skills, is a continuous hot issue for all businesses, no matter if they are large or small, long-time established or startups, from urban or rural areas, as well as for all types of economies in terms of territorial aggregation. The adequate and timely matching of labor demand and labor supply in the labor market is never very smooth; one may always find time and spatial delays in the national, regional and local economies.

The paper presents, a brief, sectoral analysis of the key developments of labor market in the Romanian regions during the post-accession-post-crisis period, regarding the evolutions of employment, of wages and labor market structure. The results reveal different types of evolution on the Romanian labor market, occurred both sectorally and regionally after the country's accession to the EU: endurance (quasi-maintenance of a previously established dynamic equilibrium), break (shift towards a new dynamic equilibrium, either after accommodating a shock or not), and also distinctiveness (peculiar evolutions in a certain region as compared to the other regions). Such developments would necessarily involve the thorough and careful attention of the national and/or territorial policy makers and government authorities when nationally and/or territorially implementing the EU legislation in different areas of economic and social interest and when drawing up and applying the nationally-planned and regional/local policies.

Keywords: labor market, Romanian regions, employment, wages, sectoral shifts, regional policy

JEL Classification: J21, R11, R12

Introduction and methodological issues

One of the primary goals of EU integration and, especially, of integration of Romania into the EU structures, is the *economic and social convergence* (European Commission 2010), mainly quantified through the *regional income per capita* (but also through other significant socio-economic indicators, such as employment, labor productivity, etc.– see, for instance, Tselios 2009; Miron, Tatomir and Alexe, 2013;

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Jordan, Ghizdeanu and Tapu, 2014; Chilian *et al.*, 2016, Jordan&Chilian, 2017c). The *theories of convergence and divergence* usually analyze the reasons behind the trends of diminishing or increasing the disparities between the rich and the poor regions, explaining the causes of persistent gaps. In particular, the *real convergence* studies deal with the long-term economic growth and with economic development and its factors, especially the dynamics of economic sectors with high economic and social impacts, as well as the supporting/unsupporting institutions and economic mechanisms (market structure, income distribution - Jordan&Chilian, 2017d).

Overall, the results of empirical studies on convergence in the EU provide mixed evidence (see Landesmann and Romisch, 2006; Ezcurra *et al.*, 2007; Jozwik and Ponikowski, 2014; Dobrinsky and Havlik, 2014). Some studies have generally revealed convergence of the EU member states and/or their regions, but the *pattern* and *speed of convergence* differ sharply across time intervals and regional groups (including periods of divergence or unclear evolutionary paths), such as the EU15 countries and the New Member States, and regions within these groups of countries. When examining convergence, the *impact of the latest financial crisis* upon particular countries was highly *uneven*, the pre-crisis convergence trends of the NMS continuing during and after the crisis, while the periphery countries of the EU15 diverged remarkably during these periods (Petraikos and Artelaris, 2009, 2014).

As regards Romania, key findings of different studies showed that, generally, in the pre-accession period a process of economic convergence was registered, while in the post-accession period a divergence/economic differentiation process was noticed, and growth in the inter and intra-regional disparities, deepened by the economic and financial crisis. However, during crisis Romania was among the few countries which have improved the real convergence as compared to the EU average (Jordan, Ghizdeanu and Tapu, 2014; Jordan&Chilian, 2017d).

Though it has deserved less attention, the *structural convergence/convergence of economic structures* is also important for the built up and functioning of the single economic and monetary area and for the development of the Member States and their regions. Studies have generally found a significant relationship between structural convergence and income (real) convergence, though assessments of the strength and direction of such a connection vary. Empirical studies revealed different trends in the European industries, overall, such as the increase in regional industrial concentration of both declining traditional industries and the fast-growing new and/or advanced sectors, or the increase in regional specialization, especially in manufacturing.

In the case of the NMS, a *split performance* between the Capital regions and the regions bordering the EU (regions with a mix of positive, structural and geographical initial conditions and market dynamics), and the other regions (with partially or totally collapsed industrial bases, sharp declining local demand and severely restricted efforts and policies directed at home-based growth) was revealed by some studies. The patterns of structural change looked very different in the NMS, both across periods and individual European countries, the structural changes being more distinct for *employment* than for *output* (implying large shifts in productivity), with wide-ranging shifts from agriculture and industry towards services (Havlik, 2014, Jordan&Chilian, 2017c).

Romania was one of the NMS that experienced noteworthy structural changes. The results of empirical studies generally show a *relative alignment of real convergence and structural convergence* within the national economy, but also important differences between counties due to the composition of sectoral structure (Miron, Tatomir and Alexe, 2013; Ghizdeanu *et al.*, 2015; Jordan and Chilian, 2015).

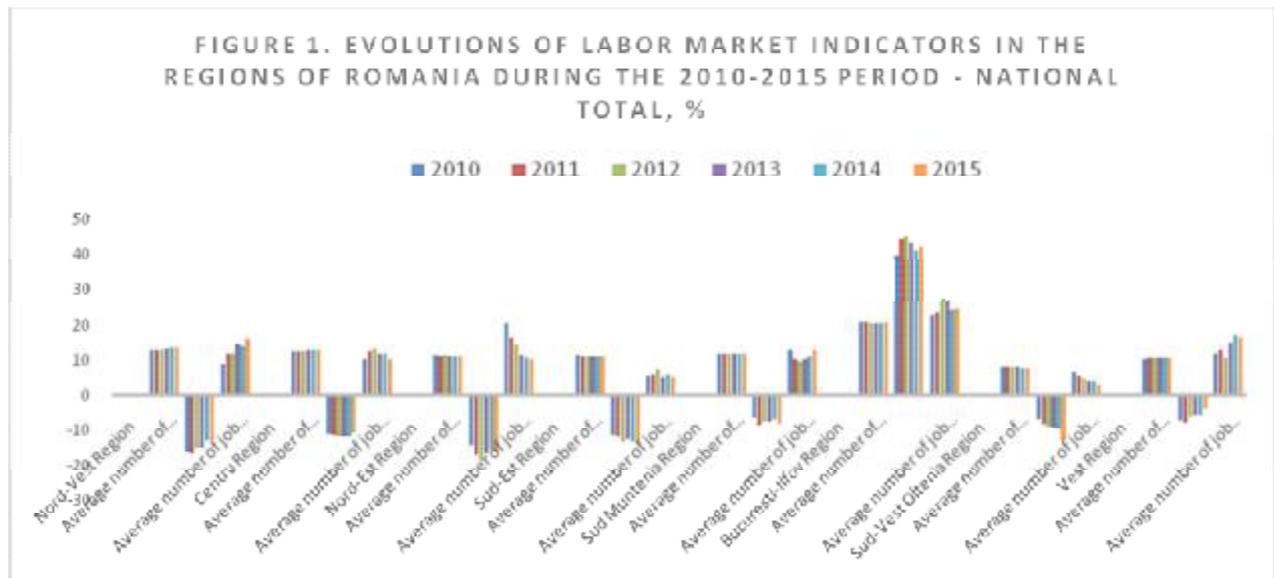
With very few exceptions, only the counties with higher levels of development recorded progresses in the post-accession period, both in terms of real convergence and the structural convergence. Also, some counties with higher development levels recorded a faster real convergence, but a slower structural convergence, which could indicate either specific geographic-economic peculiarities or the presence of sectoral structural rigidities.

In order to achieve real and/or structural convergence the *labor market* plays a key part and the overall, sectoral and territorial rigidities and frictions have different impacts on the convergence processes (Jordan&Chilian, 2017a, 2017b). Moreover, access to workforce with adequate skill level is a current and burning issue for all the public and private economic agents, irrespective of size, location and stage of business life cycle. However, the mechanisms of matching the labor demand with the labor supply do not work smoothly, but with time and spatial gaps in any national and regional/local economy even when they function properly.

Considering the above-mentioned issues, the paper presents a condensed analysis of the developments occurred during the post-accession-post-crisis period (2010-2015) on the *regional labor markets of Romania*. The analysis is carried out by the *main sectors of economic activity* for which relevant data was available from the national statistics, as follows: A. Agriculture, forestry and fishing, B. Mining and quarrying, C. Manufacturing, D. Production and distribution of electric and thermal power, natural gas, hot water and air conditioning, E. Water distribution, sanitation, waste management and decontamination activities, F. Constructions, G. Wholesale and retail trade, repairing of auto vehicles and motorcycles, H. Transport and storage, I. Hotels and restaurants, J. Information and communications, K. Finance and insurance activities, L. Real estate, M. Professional, scientific and technical activities, N. Administrative and support service activities, O. Public administration and defense, public social welfare activities, P. Education, Q. Health and social assistance, R. Entertainment, cultural and recreational activities, S. Other service activities. The data refer to the number of employees, average monthly net wages and number of job vacancies. Due to paper size limitations, we present only some synthesis results at the level of regions, by using the following indicators: *i) average number of employees – share in national and sector total, %, ii) average net monthly wage – percentage regional difference towards the national and sector total, %, and iii) number of job vacancies - share in national and sector total, %*.

Results

The *shares of regions in the average number of employees* did not vary sharply during the 2010-2015 period, but the trends differed in the regions: overall increase in Nord-Vest, Centru, and Vest, overall decline in Sud-Est, Nord-Est, Sud Muntenia and Sud-Vest Oltenia and up-and-down lower oscillations around a relatively stable share in Bucuresti-Ilfov (Figure 1).



Source: Authors' computations based on Tempo-online data.

The level of *average monthly net wage* was clearly determined during the analyzed period by the wage level in the Bucuresti-Ilfov Region, which registered the single positive (high and relatively increasing) gap towards the national overall level. All the other regions registered negative gaps, with the highest in the Nord-Est Region and the lowest in the Vest Region, but with different trends: clearly declining in the Nord-Vest and Vest regions, clearly rising in the Sud-Est and Sud-Vest Oltenia regions, and oscillating in the other regions. During the same period, the highest share in the *total number of job vacancies* was registered by the Bucuresti-Ilfov Region, but it was declining towards the end of the analyzed interval, while the shares of some Nord-Vest and Vest regions increased significantly, signaling probably faster labor market and structural developments. At the same time, the share of the Nord-Est Region has declined sharply, that of the Sud-Vest Oltenia Region has declined less pronounced, while the shares of the Centru, Sud-Est and Sud-Muntenia regions oscillated around a quite constant trend.

Breaking down the analysis by *sectors of economic activity* and the same indicators⁴, the regional differences increase significantly, coupled also with higher sectoral differences. However, by sectors, very high shares (exceeding 20%) of regions in *total average number of employees* (signaling regional and sectoral concentration) were registered in the 2010-2015 period by only few regions, as follows:

- **Sud Muntenia Region**- declining trend over the period in *Agriculture, forestry and fishing*,
- **Sud-Vest Oltenia Region**- declining trend over the period in *Mining and quarrying*, and significantly ascending trend over the period in *Production and distribution of electric and thermal power, natural gas, hot water and air conditioning*,
- **Bucuresti-Ilfov Region**, as follows:
 - significantly declining trend over the period in *Constructions*,
 - generally declining trend over the period in *Wholesale and retail trade, repairing of auto vehicles and motorcycles*,
 - generally declining trend over the period in *Transport and storage*,

⁴Due to paper size limitations, these results were not included and are available upon request.

- oscillatory ascending trend over the period in *Hotels and restaurants*,
- significantly descending trend over the period in *Information and communications* (but still exceeding 52%!),
- significantly ascending trend over the period in *Finance and insurance activities* (exceeding 45%),
- oscillatory ascending trend over the period in *Real estate* (exceeding 27%),
- oscillatory descending trend over the period in *Professional, scientific and technical activities* (still exceeding 46%),
- oscillatory descending trend over the period in *Administrative and support service activities* (still exceeding 36%),
- ascending trend over the period in *Public administration and defense, public social welfare activities*,
- oscillatory descending trend over the period in *Entertainment, cultural and recreational activities* (exceeding 27%),
- oscillatory trend over the period in *Other service activities* (exceeding 26%).

During the same period, very high **positive wage gaps as compared to total sector average** (over 30%, signaling the *likely concentration of high-income generating sectors and/or higher labor demand, but also regional labor market peculiarities*) were registered only by the **Bucuresti-Ilfov Region** in the cases of *Agriculture, forestry and fishing* (highly, but oscillatory ascending over the 2010-2015 period), *Mining and quarrying* (highly and very oscillatory ascending over the 2010-2015 period, up to double the sector total average!), *Wholesale and retail trade, repairing of auto vehicles and motorcycles* (highly and oscillatory descending over the 2010-2015 period), *Hotels and restaurants* (oscillatory descending over the 2010-2015 period), *Finance and insurance activities* (oscillatory descending over the 2010-2015 period), *Real estate* (oscillatory descending over the 2010-2015 period), *Public administration and defense, public social welfare activities* (highly oscillating over the 2010-2015 period), and *Transport and storage* (ascending over the 2010-2015 period).

At the same time, very high **negative wage gaps as compared to total sector average** (over -20%, signaling the *likely concentration of low-income generating sectors and/or lower labor demand, but also regional labor market peculiarities*) were registered during the 2010-2015 period, with very different regional trends, by the following regions:

- **Nord-Vest** - upward trend during the period in *Mining and quarrying*, highly downward trend during period in *Information and communications*, oscillatory downward trend during the period in *Finance and insurance activities*, oscillatory downward trends during the period in *Professional, scientific and technical activities*, upward trend during the period in *Transport and storage*,

- **Centru** - oscillatory trend during the period in *Wholesale and retail trade, repairing of auto vehicles and motorcycles*, oscillatory trend during the period in *Information and communications*, upward trend during the period in *Finance and insurance activities*, oscillatory upward trends during the period in *Professional, scientific and technical activities*,

- **Sud-Est** - oscillatory trend during the period in *Wholesale and retail trade, repairing of auto vehicles and motorcycles*, upward trend during the period in *Information and communications*, upward trend during the period in *Finance and insurance activities*, oscillatory downward trends during the period in *Professional, scientific and technical activities*, oscillatory trend during the period in *Administrative and support service activities*,

- **Nord-Est** - oscillatory trend during the period in *Information and communications*, upward trend during the period in *Finance and insurance activities*, oscillatory downward trend during the period in

Real estate, oscillatory downward trends during the period in *Professional, scientific and technical activities*, upward trends during the period in *Transport and storage*,

- **Sud Muntenia** - oscillatory trend during the period in the case of *Information and communications*, upward trend during the period in *Finance and insurance activities*, oscillatory trend during the period in *Administrative and support service activities*,

- **Sud-Vest Oltenia** - upward trends during the period in *Information and communications*, and *Finance and insurance activities*, oscillatory upward trend during the period in *Real estate*, oscillatory downward trends during the period in *Professional, scientific and technical activities*, oscillatory trend during the period in *Administrative and support service activities*

- **Vest** - upward trend during the period in *Finance and insurance activities*, oscillatory downward trend during the period in *Real estate*, oscillatory upward trends during the period in *Professional, scientific and technical activities*.

The highest regional, sectoral and intra-period variability might be noticed in the case of **average number of job vacancies**, revealing quite significant peculiarities of regional and/or sectoral labor market, coupled with fast changing regional and/or sectoral economic circumstances. High shares (over 20%, signaling *increased concentration of sectoral labor demand and likely favorable circumstances*) in the total average number of job vacancies were registered by the regions:

- Nord-Est (highly oscillating during the 2010-2015 period), Bucuresti-Ilfov (highly increasing during the 2010-2015 period) and Vest (highly declining during the 2010-2015 period) in the case of *Agriculture, forestry and fishing*,

- Centru (highly oscillating during the 2010-2015 period) in the case of *Mining and quarrying*,

- Vest (increasing during the 2010-2015 period) in the case of *Manufacturing*,

- Nord-Vest (very highly oscillating but increasing during the 2010-2015 period) and Sud Muntenia (very highly declining during the 2010-2015 period) in the case of *Production and distribution of electric and thermal power, natural gas, hot water and air conditioning*,

- Bucuresti-Ilfov (highly oscillatory increasing during the 2010-2015 period) in the case of *Water distribution, sanitation, waste management and decontamination activities*,

- Nord-Vest (highly increasing during the 2010-2015 period) and Nord-Est (significantly declining during the 2010-2015 period) in the case of *Constructions*,

- Bucuresti-Ilfov (oscillatory increasing during the 2010-2015 period) in the case of *Wholesale and retail trade, repairing of auto vehicles and motorcycles*,

- Bucuresti-Ilfov (highly increasing during the 2010-2015 period) and Vest oscillatory declining during the 2010-2015 period) in the case of *Transport and storage*,

- Bucuresti-Ilfov (highly oscillatory decreasing during the 2010-2015 period) in the case of *Hotels and restaurants*,

- Nord-Vest (highly oscillatory and declining during the 2010-2015 period) and Bucuresti-Ilfov (highly declining during the 2010-2015 period, but still exceeding 55%) in the case of *Information and communications*,

- Bucuresti-Ilfov (highly oscillating during the 2010-2015 period, but still exceeding 39%) in the case of *Finance and insurance activities*,

- Sud-Est (highly oscillating and declining during the 2010-2015 period) and Bucuresti-Ilfov (oscillating during the 2010-2015 period) in the case of *Real estate*,

- Bucuresti-Ilfov (highly decreasing during the 2010-2015 period) in the case of *Professional, scientific and technical activities*,

- Bucuresti-Ilfov (oscillating during the 2010-2015 period) in the case of *Administrative and support service activities*,
- Bucuresti-Ilfov (highly oscillatory but declining during the 2010-2015 period, still exceeding 37%) in the case of *Public administration and defense, public social welfare activities*,
- Centru and Nord-Est (both highly declining during the 2010-2015 period) and Vest (highly increasing during the 2010-2015 period) in the case of *Education*,
- Nord-Est (very highly declining during the 2010-2015 period) and Bucuresti-Ilfov (increasing during the 2010-2015 period) in the case of *Health and social assistance*,
- Bucuresti-Ilfov (significantly increasing during the 2010-2015 period) in the case of *Entertainment, cultural and recreational activities*,
- Nord-Vest (very highly increasing during the 2010-2015 period) and Bucuresti-Ilfov (very highly declining during the 2010-2015 period) in the case of *Other service activities*.

Conclusions

Against the background of *relatively low changes in the shares of Romanian regions in the total average number of employees* during the post-accession-post-crisis period, *relatively positive-divergent developments* of the gaps towards the national levels in the case of *total average net wage* and of the shares of regions in *total number of job vacancies* in some of the regions with negative wage gaps (Nord-Vest, Vest) may be noticed, as well as *relatively negative-divergent developments* (in Sud-Vest Oltenia Region) and *negative-parallel developments* (in the Nord-Est Region). In the case of the single Romanian region (Bucuresti-Ilfov) which has registered *positive wage gaps*, the evolutions of the above-mentioned indicators are *positive-convergent*, while in the rest of the regions the evolutions of the analyzed indicators were oscillatory. Such findings point towards a relatively higher dynamism of the labor markets of the more developed regions (București-Ilfov, Nord-Vest, Vest), especially on the *labor demand side*.

By the *main sectors of economic activity*, one may notice a high regional variety in the labor markets conditions and situations reflected by the analyzed indicators, characterized both by increases and declines in the *gaps towards the national levels regarding the average net wage*, coupled with increases and/or decreases in the *shares of regions in total number of job vacancies*. Also, in the case of some main economic sectors one may notice both increases and decreases in the *shares of some regions in total number of employees of the sector* (Manufacturing, Constructions, Hotels and restaurants, Information and communications, Transport and storage, Education, Health and social assistance). Beside the already-mentioned *overall dynamism of labor market* in certain regions, a *sectoral dynamism* is also revealed, coupled or not with the regional dynamism, both in the case of more and of less developed regions. The reverse situation is also noticeable, both in the case of more developed and less developed regions, sectoral rigidities coupled or not with the regional labor market rigidities being revealed.

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