

HUMAN CAPITAL IN ROMANIA - BETWEEN CAPITALISATION AND DISSIPATION - A RETROSPECTIVE APPROACH OVER THE LAST CENTURY

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Abstract

A century of human capital evolution in Romania, from the labour market perspective, meant the transition from the strictly quantitative approach, namely from the labour force / labour resources (due to the emergence of the unemployment phenomenon, but also the industrial relations development) to the integrative human capital one (tangible and intangible) in which skills (professional and those so called „soft”) and lifelong learning are associated with technology transfer while decent and efficient employment becomes conditionality to company efficiency. The labour market was developed as the most regulated market, highly dependent on the business environment and labour demand in number and/or skills. Being related to technological transfer human capital becomes a factor of performance and development through its three dimensions: quantitative (indicators that quantify employment and labour), qualitative (the efficiency of labour as production factor and the comparative advantages of education) and behavioural (aspects of industrial relations), in both micro and macroeconomic approach. The paper aims to present the evolution and main peculiarities of the human capital in Modern Romania during the last 100 years, focussed on economy profile - competitive / market oriented (1918- 1947 and after 1989) or centralized (1948-1989). How much we gain and lost in preserving, valuing and efficient allocation of the most valuable asset of a nation? Finally, looking forward to economic, social and societal challenges we are designing some benchmarks and select few relevant policy recommendations for responsible and accountable management of this wealth of the nation.

Keywords: human capital, labour market, education for labour market, efficiency, wealth of a country.

1. Introduction – Conceptual development of human capital in Romania

At the end of the nineteenth century and the beginning of the twentieth, the workforce was strictly considered a classic production factor, predominantly structured according to the Taylorist system and valued us such. From the perspective of human capital and of the labour market performances, Romania has experienced an accelerated process of integration in Europe. International Labour Organisation (ILO) work regulation directives created the framework for countries' labour market modernisation and its equilibrium and it was also in the concerns of the decision-makers after Modern Romania settlement in the new borders (after December 1918). The need for matching the educational system with the labour demand was mentioned for the first time in 1921: *"adapting the schools to the local needs of the work element, depending on culture, age, gender, and profession, which alone accommodates and produces results, enlightening the working mass so that it can respond to the economic and social needs of time"* (BMOS1920-1921, p.410).

From the labour market perspective, a century of human production factor evolution, meant the transition from the strictly quantitative approach,

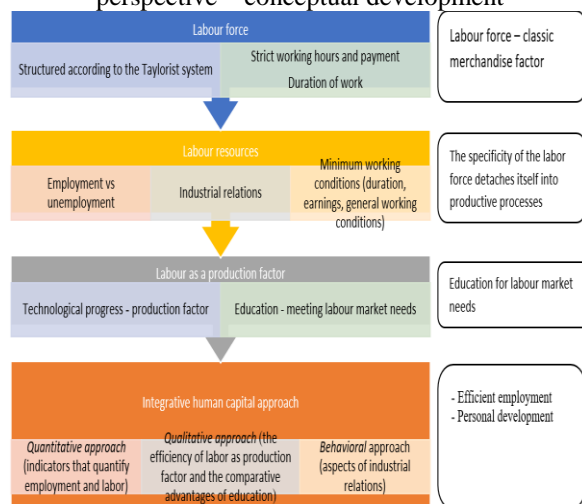
namely from the labour force concept to the integrative one i.e human capital (tangible and intangible). From quantitative approach – i.e number of employed persons and unemployed as main determinants of the labour supply demand, we are considering in the present also skills (professional and those so-called „soft”) and adaptability potential - lifelong learning. Because competitiveness is the main conditionality for a sustainable company development, from the human capital perspective, the technological transfer is associated not only with matched employment but also with decent and efficient employment. The human capital becomes a factor of performance and potential for development through its three dimensions: *quantitative* (indicators that quantify employment status and labour force), *qualitative* (the efficiency of labour as production factor, i.e productivity and the comparative advantages of education i.e skills mismatch) and *behavioural* (aspects of industrial relations i.e work conditions, social dialogue etc), at both micro and macroeconomic approach.

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Figure 1 Human capital from the labour market perspective – conceptual development



Source: Author's conception

In Romania, the statistics of labour resources were recorded starting with the 1927 edition of the Statistical Yearbook and included indicators that could characterize the labour market at that time (number of collective agreements, number of the participating employees and the activity of public placement offices). Other sources of data for labour statistics were the Labour Bulletins (published by the Ministry of Labour since April 1920). Some data series are incomplete or discontinued because of various conjunctural facts (the World Wars), factors involved in the evolution of official statistics at national and European level (changes in methodologies for calculating indicators, coverage and definitions), as well as the ability to highlight new aspects belonging to the universe of labour (quantitative expression of labour emerged in different periods).

Nowadays, the indicators that measure human capital and the labour market are diversified, reflecting to a greater extent the attributes of the human factor of production - active and inactive population, unemployment, placement, collective labour agreements, international migration, employed population by activities of the national economy, earnings and graduates of all levels of education. Population and Housing Censuses are also important data sources. There have been organised seven Censuses since the Great Union. Censuses have made an important contribution to shaping the human capital development chart by producing data on the active and inactive population by gender, age group, level of education, socio-professional categories, occupational groups and activities of the national economy.

The recording of the labour market data in the various sources presented above was made according to a reasonable logic of the international regulations imposed by the ILO, which Romania ratified and transposed into national legislation, through its own legislative framework.

During the last century, the labour market functioning in Romania, the human capital activation and efficient capitalisation were strongly influenced by the property on land and assets and of the production modernisation process but maintaining significant and increasing market segmentation. The performance of companies is assessed, among other things, by the volume of exports, the efficiency of production factors and to some extent on the ownership of capital. Foreign direct investment, labor productivity and the export of high-tech products were and still are some of the major factors in strengthening an efficient business model in emerging and less developed countries.

Foreign investments in Romania have been an important source of economic and social development with a strong influence on the political life of our country. Over time, foreign direct investment has been an efficient way to offset the domestic deficit of financial resources and to support the economic growth. It played a significant role in terms of introduction of recent technologies and knowledge as background for productivity gain, competitiveness increase, job creation boosting, the promotion of modern management systems, etc.

Globalization and the creation of single market on regional level, such as the EU, play a key role in the dynamics of the component national economies, increase interdependence, generate both positive externalities (i.e. trade intensification) and negative (higher vulnerability on crises periods with negative effects on social, financial and economic sectors). From this perspective, the paper also highlights some significant elements related to the employment and human capital capitalisation in foreign-owned firms.

2. Main pillars in the development of human capital

2.1. Romania's labour force potential between 1918 and 1947

2.1.1. Establishing the unique labor market of Modern Romania, at the beginning of the XX century

The Great Union in 1918 brought along an active population of about 10.5 million inhabitants, unevenly distributed in the territory.

The characteristics of the organization of the labour market and the structure of employment in each province are summarized as follows:

- In **Bessarabia** there were the so-called "Zemstvele" of crafts, implemented by the Russian administration (BMOS, 1923). They ceased to function at the time of the Great Union, which led to chaos in the Bessarabia working life. Thus, in 1923, the Law of Enlargement in Bessarabia of the Law on the Organization of Crafts, Credit and Labour Insurance of 1912, in force in the Old Kingdom, was adopted. Regarding the structure of the professions, the population of Bessarabia had

- the following characteristic: 75.7% farmers, 7% workers in industry and manufacturing, 6.3% workers in trade and 11% other activities (BMOS, 1919, p.28);
- b) In 1900, the structure of occupation by economic branch in **Banat** was as follows: 71.7% agriculture, 11.8% industry, 3.7% gold and 12.8% other activities. Other information presented in the same Statistical Bulletin shows that, in Banat, the agricultural workers were the best paid, out of all the Romanian lands north of the Carpathians (BMOS, 1919, p.28);
- c) **Transylvania** was also a specialized in agriculture territory, with 71.4% of the active population working in the sector. The following activities were important: industry (11.9%), servitors (3.8%) and trade (2.1%);
- d) In **Crișana-Maramureș**, 70% of the total active population of 820.6 thousand persons worked in agriculture, 11.8% in industry, 3.9% were servants and 2.9% in trade and credit;
- e) Since 1914, the economy of the **Old Kingdom** was predominantly agrarian, being dependent on the import of industrial products and technologies. Participation in economic life, or "collective effort" (Gusti D., 1938), was characterized at that time by two indicators: the active population and the passive population. The table below shows the structure of the population in terms of participation in economic life, according to the 1930 Population and Housing Census.

Table 1 Active population and activity rates by residence area and territories, according to the Population and Housing Census 1930

Territory	Active population (thou)			Activity rates (%)		
	Total	Rural	Urban	Total	Rural	Urban
Romania	18052.9	4420.7	3632.2	58.4	60.5	50.2
	Of which, in %:					
Bessarabia	15.6	89.1	10.9	57.6	58.9	48.6
Oltenia	9.0	88.9	11.1	62.5	63.9	53.1
Transylvania	17.9	86.2	13.8	58.6	60.1	50.5
Banat	5.6	84.4	15.6	62.2	64.0	54.1
Crișana	7.9	83.1	16.9	59.9	62.1	51.1
Dobrogea	4.3	80.1	19.9	55.2	58.1	46.0
Moldavia	13.2	79.5	20.5	57.2	60.1	48.2
Bucovina	4.8	76.3	23.7	59.2	61.6	52.8
Muntenia	21.8	76.0	24.0	57.1	59.4	50.5

Source: Gusti D. (1938) Romania's Encyclopaedia, vol. III, p. 41, p. 45 and p. 1055

The active population had a significantly higher share in rural areas than urban ones (60.5% vs. 50.2%). The explanation may come from the almost exclusive occupation of rural people in the agricultural sector. Agriculture was, in those years, the most developed economic sector and absorbed a significant amount of labour resources. Agricultural exploitation was carried out on small-scale units, but also on a large scale, attracting a large workforce. Territorial analysis shows that the provinces with the highest degree of rural development were Bessarabia, Oltenia and Transylvania. In Moldavia, Bucovina and Muntenia, the active population exceeded 20% in urban areas,

while in Bessarabia and Oltenia, only one in ten active people were living in urban areas. From the point of view of the human potential, the richest province was Muntenia, with 22.3% of the total population and 21.8% of the active population of unified Romania. However, the highest rate of activity was recorded in other provinces: Oltenia (62.5%) and Banat (62.2%).

Regarding the structure of employment by economic sector, in Romania 78.2% of the active population worked in agriculture and 7.2% in industry, these being the most developed sectors of the economy.

In Muntenia, workers in transport activities were more numerous than in the rest of the country. Most of the trade workers were in Bucovina and Muntenia. The highest developed economic sectors were agriculture, mining, transport, metallurgy, food and textile industries.

Industry was the second important branch in all provinces, with an employment rate ranging from 3.2% in Bessarabia to 11.2% in Banat. Public institutions were the third important economic sector, given the legislative and administrative development that Romania continued in that period.

Romania's economic development after the Great Union was primarily based on industry, by encouraging the exploitation of national resources. Following the increased interest in oil extraction, Romania was the first country to produce crude oil, in 1875 with 275 tonnes and in 1858 with 475 tonnes. In 1937, it was ranked no. 6 in the top oil producers, but with a ratio between domestic consumption and production of only 22.5%, the difference being reflected in exports (Lupu M.A. et al, 1974). Thus, although Romania was the leading producer, it was just a supplier of raw materials, fuel for the capitalist countries and the chemical industry failed to grow to the extent of expectations based on the high availability of the primary resource on the national territory.

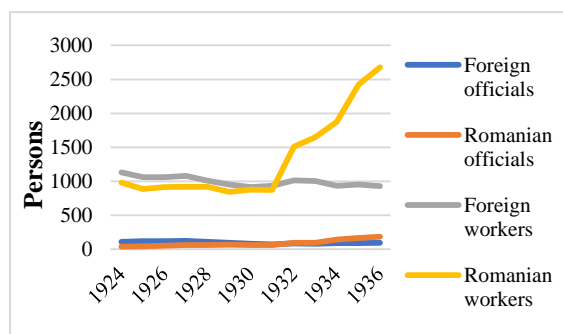
Foreign capital exceeded 2/3 in the wood industry, 3/4 in the metallurgical industry and over 90% in the sugar, oil, gas, electricity and water industries.

These developments are associated with massive immigration flows after the Great Union i.e. the settlement of over 500 thousand foreigners (about 3% of total population), especially in large cities, which deepened the segmentation of the labour market between the sedentary population and the newcomers. The majority of Romanians spent their lives in rural areas, being employed in agriculture, while in urban areas the foreign bourgeoisie increased. Foreign capital also grew in small-scale firms in the trade and services sector. Over 90% of the enterprises were controlled by foreign capital while the labour force was a national majority (Gusti D., 1938, vol. III, p. 227).

In the statistical data sources, labour force was not identified for enterprises with foreign capital in the analysed period. However, considering that most large enterprises were based on foreign capital, the figure below shows the number of the Romanian and foreign

labour force in the mining and metallurgical holdings in Transylvania during 1924-1936.

Figure 2 Number of the Romanian and foreign labour force in the mining and metallurgical holdings, in Transylvania area, 1924-1936



Source: Authors' calculation based on data provided by Gusti D. (1938 Romania's Encyclopaedia, vol. III, p. 708)

According to the same source, the Romanization process in the mentioned industries was accomplished by promoting national engineers in leading positions. Nevertheless, through the still dominant positions of foreign capital in the main industrial branches and against the backdrop of protectionist laws, Romania's economic development was far from its real potential. These realities have decisively influenced the structure and economic potential of Romania on property forms, with direct impact on the involved labour force. Although, as mentioned before, statistical sources do not provide information about the labour force in firms controlled by foreign capital, it is well known the tendency to violate the rights of workers and the restraint of rights and freedoms. The cultural differences between employers and employees, the lack of information on the actions of foreign entrepreneurs and the difficulties encountered by the latter on the labour market have led to the conclusion that there was a need for reform of social relation.

In the 1920s, major changes took place, the new labour market systems were implemented in Romania, including the establishment of employment offices and the legislation of collective labour agreements. At the same time, following the recommendations of the ILO, the prevention of unemployment was also in discussion.

2.1.2. Labour force potential - between activation on the labour market and migration

In international context, Romania ranked the first in 1930 in terms of **activity rate**, being one of the most dynamic countries in Europe. Thus, our country surpassed states such as: Russia, Bulgaria, France, Germany, Switzerland, England, Hungary and Norway. Many of these states had a more advanced economic status than Romania, but they had a much smaller share of the active population. Romania had an activity rate of 58.4% as against Switzerland 47.6%, Hungary 46.0%, Japan 45.3% and United States of America 39.8%. (Statistical Bulletin of Romania, 1938, p. 112).

International migration also represented a particularly important aspect in Romanian society at that time. To avoid imbalances between demand and supply on the labour market, it was adopted the 1925 Migration Act (Gusti D., 1938, Romania's Encyclopaedia, Vol. I, p.595). In the explanatory memorandum of this law, the issue of migration from each historic province was presented, showing that this phenomena was not so intense in the years before Great Union. A single article in the Law of Passports from 1912 was enough to regulate the migration flows in the Old Kingdom (Labour Bulletin, 1925, p. 220), which was then a country of destination and origin for workers of Balkan origin who migrated on the short term (Gusti D., 1938, Romania's Encyclopaedia of Romania, Vol. III, p.77).

The Migration Act from 1925 provided protection measures for the transport and shelter of migrants in the country of destination, especially in the context of massive repatriations at the time. After 1926, both emigration and immigration recorded significant decreases because of the post-war restrictions imposed by all states. Another important aspect was that the balance of international migration in Romania was negative until 1930, and from 1931 to 1937 the number of immigrants exceeded the one of migrants. Regarding the migration of the repatriated people, Romania was an immigration country, the number of persons repatriated to our country being 7.8 times higher in 1926 and even 10 times higher in 1935 and 1936. In the years following the economic crisis, efforts were made to ease the national labour market by placing unemployed Romanian workers in the industries in France. Dimitrie Gusti believes that this placement would have been unfavourable to the labour market because it would have officially recognized Romania's inability to use its labour resources. A measure taken by the Romanian state during this period was of active social inclusion of native persons by stimulating employment in enterprises. Many of the foreigners looking for low-skilled jobs have been repatriated. Those with key positions in enterprises or specialists have been maintained. At the same time, the state began to take measures in the education system, supplementing the number of professional schools and introducing merit scholarships abroad (Gusti D., 1938, Romania's Encyclopaedia, Vol. III, p. 78).

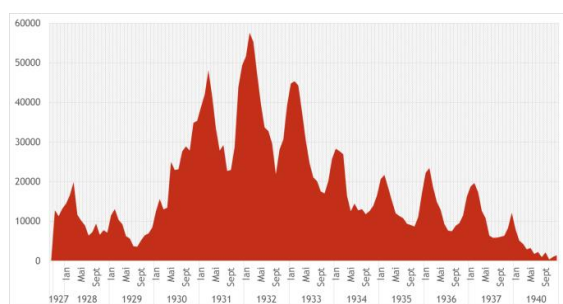
2.1.3. Labour market imbalances during interwar economic crisis

Due to the process of industrialization during 1920s and 1930s, comparing with other European countries, Romania was not much affected by the economic crisis of 1929-1933. It was mainly affected by the economic development cycle, faster in the early 20s, and then, starting with 1927, on a slower curve of growth, with some industries which have entered a period of stagnation. However, this evolution, which is inherent in the development of Romanian economy, overlaps with the effects of the economic crisis. From the labour market perspective, signs of disequilibria

were registered starting with 1927 when, because of the stagnation in some industrial branches, the number of placements sharply dropped compared to the previous period.

The total number of unemployed in 1927 picks up around 20 thousand persons and decrease until late 1929. During crisis, the unemployment problem became more intense, being registered the largest number of unemployed in the period (49.4 thousands in 1931) (Gusti D., 1938, Romania's Encyclopaedia, Vol. III, p. 61), with an increase in the number recorded in the autumn and winter months. Subsequently, it decreased from 39.2 thousand in 1932, to 17 thousand in 1935 and 12.1 thousand in 1937.

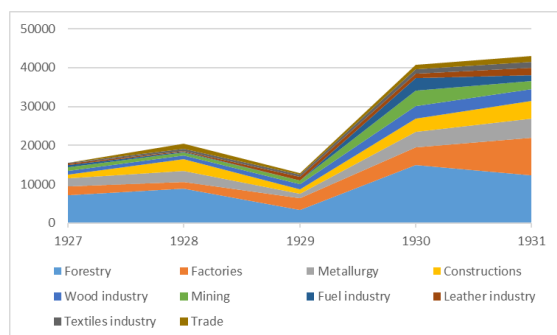
Figure 3 Evolution of the number of registered unemployed, 1927-1940



Source: Gusti D. (1938) Romania's Encyclopaedia, Vol. III, p. 77 for period 1922-1937 and Labour Bulletin 1941, p. 116 for year 1940

On industries, the situation is different. The unemployment incidence was higher in forestry in the beginning. Afterwards, several economic activities were affected more and more: metallurgy, mining, fuel industry and trade. Factories were strongly affected starting with 1929, as well as constructions.

Figure 4 Registered unemployed persons, by main economic sectors, 1927-1931



Source: Banu G. (1931) Unemployment in Romania

2.1.4. Labour relations development

The increase in the number of employees due to industrialization at the beginning of the 20th century led to the need to regulate the employment relationships between employers and workers through the collective labour contracts. Its implementation was considered a remarkable success of the workers' movement. For two

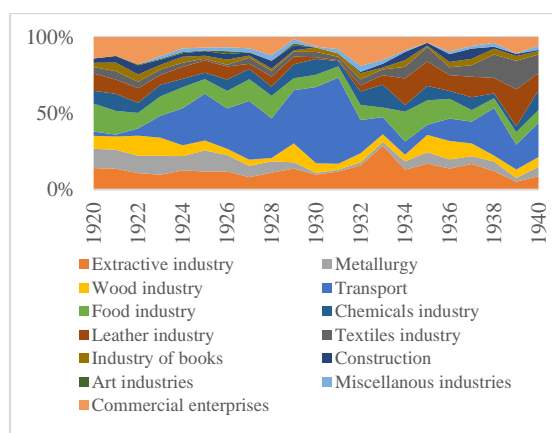
decades, the contractual arrangements between the employers and the employees were based on negotiation process at the company level.

A short historical overview underlines the main steps in social dialogue development:

- a) In Romania, the first written source of the collective labour contract was the Orleanu Law of 1909. This law suppresses the right to associate and to strike for employees in public enterprises from industrial, economic or commercial sectors. In 1912, it was adopted the Law on the Organization of Crafts, Credit and Labour Insurances, which regulated the apprenticeship contract, the employers' regime, the craftsmen, the workers, the factory workers and the workers, the guilds, corporations, insurance against illness, accidents, old age insurance and invalidity insurance from sickness, contributions, working day length. This law abrogates the Law on the Organization of Crafts of March 5, 1902.
- b) The achievement of the Great Union demanded by itself a modernization of the "relations between capital and the employees", for the integration of Romania in Europe (BMOS, April 1920-March 1921). Countries such as France, England, Germany, Hungary, Belgium, the Netherlands, Switzerland, Spain, Portugal and Turkey were already covered by the labour contract, and Romania needed to align with this trend. In 1920, the Labour Disputes Act was adopted. This was the first law applied on the entire territory of Romania and **opens the series of legislative projects that will compose the Labour Code**. The law introduced the compulsory conciliation or arbitration procedure for strikes or labour disputes. Arbitration decisions often materialized in collective labour agreements. Subsequently, the 1929 Labour Contract Law regulated the following types of contracts: the apprenticeship agreement (between the apprentice and the employer with a maximum of 4 years), the individual labour contract (between the employee and the employer, with special provisions regarding individual work contracts of industrial and commercial officials), team contract (between several employees and a single entrepreneur), collective labour agreement (between one or more group entrepreneurs or associations thereof and, on the other hand, professional associations or employee groups).

Data provided by the 1941 Labour Bulletin show that in 1920 most collective agreements were concluded in the food industry, i.e. 18.3% of their total, but almost three quarters of the participants were in the extractive industry. Since 1922, commercial companies have been leading in the agreement of these contracts, but almost half of the participants were in the metallurgical industry.

Figure 5 Structure by industry of the number of collective labour contracts, 1920-1940



Source: Authors' calculation, based on data provided by Labour Bulletin 1941, p. 101

In 1930, the coverage of collective labour contracts at national level was insignificant, of only 0.4%, but the breakdown by industry was high differentiated. Thus, in extractive industry, 46.1% of the active persons were under collective agreements. In other industries, the percentages were much lower: 6.3% in the chemicals industry, 4.3% in the transport industry and 3.7% in the food industry. The scarcity of information and statistical data doesn't allow a wider picture of the industrial relation development in the period, but we can underline the emerging initiatives to modernise the work conditions and to develop some good working relations on company level. Also, the strikes and other collective or individual conflicts registered at courts or mediated, and the legislative framework proved the social partners involvement in labour market modernising.

With the outbreak of the World War II, the issue of labor organization in peacetime compared to wartime work was tackled. In peacetime, three aspects were concerned: tradable production, competitiveness and specialization of the workforce. In wartime, the first two aspects were in some respects irrelevant because all efforts were mainly for war industry development. The working time was regulated according to "war needs", the work payment was associated with subsistence wage, all efforts were oriented to fuel the war industry in several forms: establishing quantitative limits for imported and exported goods and taking part in compulsory, requisitioned labour.

2.2. Human capital valuation in the centralized economy 1948-1989

2.2.1. Labour market reorganisation

After the World War II, under the centralised economy period (of the socialist regime), the unemployment disappeared. It was assumed that all people are social responsible to graduate at least the compulsory education and after that to be employed during lifetime. The full employment was considered

as a success of the centralised economy, but employment efficiency measured by overemployment remains as a forbidden discussion issue. Data on unemployment, job vacancies were no more available, therefore interrupted and will resume in the period after 1990.

The main peculiarity of the period was the higher rate of activity in the rural area compared to the urban one. In 1956, for example, 64.3% of rural residents and 49.7% of the urban ones were active in the labour market. Ten years later, due to high industrialisation process and internal migration from rural to urban areas, the rural activity rate dropped to 57.9% and in 1977, it declined by 6.8 percentage points (census data). The activity rate in urban area remains as average under 50%, partially explained by the increasing of compulsory initial education period (from 8 to 10 and, for a brief period before 1989 events, to 12 years)

Of the two categories of population by participation in the economic activity, the inactive population showed the highest volatility among the residence environments in the three censuses of this period. In 1956, nearly two-thirds (60.9%) of inactive people were distributed in rural areas, and in 1977 their proportion dropped to 55.2%. This change can be explained not only by internal mobility to urban areas and old cities development, but also by the urbanization of Romania, through changing the rural localities in small cities. The share of active (employed) persons in urban areas increased from 35.0% in 1966 to 42.4% in 1977.

Table 2. Categories of population by participation in economic activity, by residence area, according to the Population and Housing Censuses 1956, 1966, 1977 and 1992 (%)

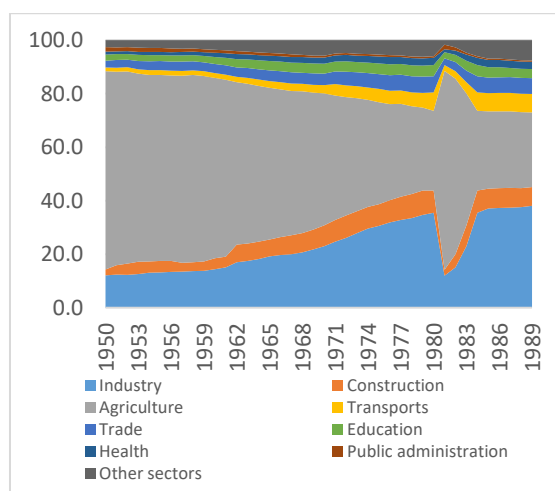
Year	Total population		Active population		Inactive population		Activity rates	
	% of total category		% of total category		% of total category		% of total population	
	R	U	R	U	R	U	R	U
1956	68.7	31.3	74.0	26.0	60.9	39.1	64.3	49.7
1966	60.9	39.1	65.0	35.0	56.1	43.9	57.9	48.6
1977	56.4	43.6	57.6	42.4	55.2	44.8	51.1	48.7
1992	45.7	54.3	44.1	55.9	47.0	53.0	44.3	47.2

Source: Authors' calculation, based on data provided by Population and Housing Censuses 1956, 1966, 1977 and 1992. The activity rates were computed as the share of active population in total population.

Between 1950 and 1989, the structure of employment in the main activities of the national economy has some peculiarities. It is important to underline that the rate activities at that time were considered as the shares of active population in total population.

Most branches (industry, agriculture, transport, education and health) recorded the highest rate of activity at the end of the period. The public sector experienced a peak in employment at the beginning of the period, and the minimum was reached after 1985. Trade and construction peaked at the end of the 1970s.

Figure 6. Employed population structure, by sectors of national economy, 1950-1989 (%)



Source: Romanian Statistical Yearbooks, 1962-1990

In agriculture, the mechanisation of the working methods, by technological transfer, has partially released the workforce, being oriented to processing, construction and transport industries. At the same time, the education system was focused on vocational training and technical domains, ensuring the necessary graduates (employees) according to the specific emerging activities. This was an example of good practice in adapting the education system to the needs of the labour market, so necessary for the extensive process of industrialisation and for the proper valuing and capitalisation of domestic human capital.

The deepened process of industrialization is seconded by the capital centralisation, by the firm's dimension increasing. If in 1950 most of the enterprises (73%) were small and medium, of less than 500 workers, in 1968 highest share was of the large enterprises of over 1000 workers (39.0%). At the same time, the concentration of the labour force has increased. In 1950, there were 1136 enterprises with 549.3 thousand workers, and in 1968 there were 1104 enterprises with over 2.4 times employees (1335.5 thousand workers) (General Directorate of Statistics, 1969, p. VII).

Romania's economic growth and the engagement of a large production capacity due to industrialization led to the need of an increasing number of employees on newly created jobs. Official statistics (General Directorate of Statistics, 1969, p. X) show that 3.9% of the total number of employees hired for the first time between 1961 and 1967 were graduates of higher education, 10.3% were graduates of secondary schools (technical schools and technical schools of foremen or other medium-sized schools), 18.3% were graduates of professional apprenticeship schools and the remaining 67.5% had elementary school. Economic development and labour force allocation were reflected in the five-year plans, giving prerequisites for expanding the most efficient economic sectors, depending on existing natural and labour resources (Romania's Geographical

Encyclopaedia, 1982, p. 107). The annual growth rate of the employed population was of 0.48% in the period 1965-1975, and of 0.56% in 1970-1975, based mainly on the employment policy promoted at that time focused on increasing women participation on the labour market. During the third five-year plan (1976-1980), this growth rate decreased to 0.5% because of the drop in the share of the active population in the total population from 47.8% in 1975 to 46.6% in 1980. This may be approached positively because it directly reflects the intense process of automation of the main economic sectors but also negatively through the aging of the population.

The effort to industrialize and diversify the processing activities, although mainly based on extensive growth, has also resulted in sustained increases in labor productivity. The average annual growth rate of the industrial workers' productivity was of 8.5% in 1951-1968, of 7.9% in 1961-1968 and of 8.2% in 1966-1968 (General Directorate of Statistics, 1969, p. XII),

2.2.2. Education for labour market

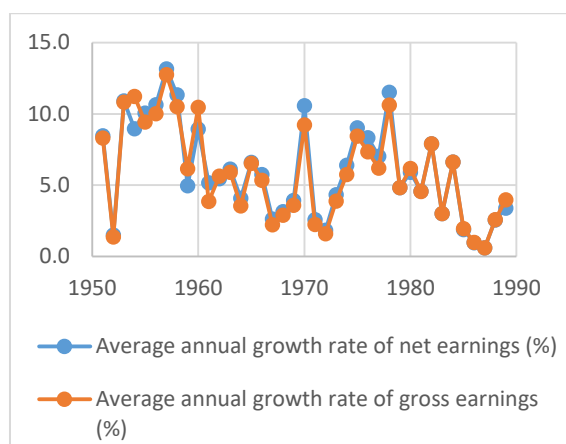
As stated previously, the industrialization of Romania increased demand for specialized workers, diversified range of professions for economic development, including increased demand for trainers and teachers to prepare the workforce needed. Therefore, the education system was centered mainly on education for the labor market, the evolution of the students enrolled in fields of science and levels of education being constantly adapted to the development requirements specified in the five-year plans.

Starting with 1950, the data on the education system in Romania and the number of graduates of all levels of education were available. The development of formal education and the gradual increase of the average number of years spent in school had significant potential benefit on the labour market, where the demand for qualified staff was growing. During the whole period 1949-1989, the most graduates were those of lower secondary education, with an increase from 55.6 thousand in 1949 to a maximum of 526.7 thousand in 1979. Upper secondary education gradually developed, the number of graduates increasing from 100.1 thousand in 1967 to 170 thousand in 1978 and 200.9 thousand to 1986. Education statistics show that tertiary and upper secondary education have had about the same level until 1971, when the number of university graduates became more numerous.

2.2.3. Wage policy

The official data show an inconsistent evolution of the average annual growth rate of earnings, both net and gross.

Figure 7. Average annual growth rates of net and gross earnings, 1951-1990 (%)



Source: Authors' calculation, based on National Institute of Statistics, Earnings – annual series

The highest annual growth rates were registered in 1957 (13.2% for net earnings and 12.8% for gross earnings), while the lowest rates were registered in 1987 (0.6%) for both types of earnings.

The efforts for industrialization were seconded by wage austerity and inefficient wage policies. The full employment policy was not correlated with economic development and technological transfer, registering many situations of lack of correlation with the efficiency indicators of the human factor allocation. Labor remuneration was mainly aimed at maintaining a minimum standard of living, rather low compared to the level in other countries of the communist bloc (CAER/Comecon- Council of Mutual Economic Assistance). Decoupling wages from job content and work performance was more pronounced in the 80s when the effort to reimburse the loan from the International Monetary Fund for industrialization was emphasized.

Moreover, the wage and salary scales (both vertically on the level of education and horizontally on the professions) were administratively established. Individual performance was poorly remunerated, and only apparently was determined by technological criteria, productivity, quality of work, etc. The practice of exception in work payment favored some categories of employees, the differentiation criteria being mainly those related to the political attachment and preservation of the interests of the elite of the communist leadership, both at company level and at national level.

Increasing in-work-poverty, precarious working conditions and scarcity of consumer goods on the market has fueled discontent (lower performance at workplace) and intensification of emigration (official for some ethnicities - Germans, Jews) and illegal for Romanians. Wage policy pushed up labor inequities, increasing income gap by developing and maintaining a rich communist elite and at subsistence level of the most employees, with social polarisation. In fact, during this period, the labour market was rigid,

practically did not work on efficient allocation principles, and was mainly based on the quantitative principle of labour participation.

In the last decade of the analyzed period, labor remuneration reform allowed employee participation in the ownership by distribution of “companies’ shares”. Basically, it was a hidden form of taking over of a part of individual labour incomes, available to companies for financing current activity.

2.2.4. Industrial relations development

By the nationalization of enterprises in all productive sectors, industrialization policy, centralized planning of economic activity and, last but not least, the collectivization of agriculture, state ownership was quasi-total and industrial relations were managed by the state through trade unions, which partially did not have any functional role in regulating imbalances and at alleviating the inequities created on the labour market. Also, the social dialogue was formal, trade unions being another appendix to (unique) communist party.

Complete leverage of the market economy was missing, such as the demand and supply law, or free competition on the labour market. Against the backdrop of high social discontent (generated by both inadequate earnings and improperly working conditions and deprivation of social rights), lack of interest in performance, since 1987 there have been brutal social strikes interrupted by the police state and later culminated in a general discontent that led to the events of December 1989.

2.3. Human capital – a multidimensional production factor during 1990-2018

2.3.1. A general overview

From the perspective of labour market developments, the period 1990-2018 is characterized by several pillars:

- a) Preaccession period – up to 2007 – labour market deeply reform to accommodate with competitiveness and performed industrial relation development. Most relevant evolutions are considered the following:
 - Association of privatisation, economic restructuring and reform, labor force reallocation with layoffs, respectively the boost of unemployment between 1991-1992; in generally in 1990 around 20 percent of the employment was considered overemployment, as result of full employment policy during the communist regime;
 - The sharp decline in real wage earnings between 1993-1995, because of reduced demand for labour (companies’ reorganization was seconded by the loss of external markets and exports decreasing) and hyperinflation; asymptotic and poor performance of labour;
 - Chronic emigration (about 150 thousand people in the first two years after the 1989 event) and increased migration for work flows;
 - Steadily devaluation of human capital by

education performance decreasing, increasing skills mismatch and incapacity to regulate through the TVET system or lifelong learning;

- Labour market inadequate reform and delayed industrial relation consistent reorganisation; lower performance of supporting mechanisms and policies for managing imbalances;

- Unionism level decreasing and imbalanced negotiation power of the social partners

- Preparing for European integration, which included a negotiation chapter dedicated to social policies and employment;

- Reform of labour market specific indicators and methodologies of official statistics surveys, according to the requirements of the EU;

b) Post-accession period, characterised by crisis managing and continuing labour market reform for better responds to economic challenges – economic relunch and increasing performances, including sustainable development measures and quality of work and active social inclusion. Some initiatives are continuing the last period efforts for labour market efficient redesign and consolidation and others are related to different forms of efficiency:

1. Developing the model of human capital management; awareness and operationalization of the shift from labour force / labour resources to human capital - after 2000, including the transition from POSDRU (2007-2013) to POCU (2014-2020);
2. Managing the employment crisis following the 2008-2009 financial crisis, whose effects are still obvious on the labour market;
3. Ongoing wage and associated fiscal reform – redesign the wage scale, social contributions, etc.;
4. A spatial development of the labour market, adapting both the new challenges of labor mobility for workers and models of local business development.

2.3.2. Main developments of labour market indicators

After 100 years from the Great Union, Romania, with a resident population of 19.6 million inhabitants on 1 January 2017, shows heterogeneity of the **active population** at the territorial level, much more pronounced. Although it is the smallest in size, Bucharest-Ilfov region has the highest population density among all development regions (1256 inhabitants/km²) and the active population registered in the second quarter of 2017 was almost 60% of the resident population aged 15 and over. At the opposite end, the West Region has the lowest density of 56 inhabitants/km², with a population of 1.8 million inhabitants, and a 49.7% activity rate. The highest rate of activity of people aged 15 years and over was recorded in the North-East region. Rates with an activity rate below the national level of 56.6% were Centre, South East and West.

The qualitative aspects of human capital and the reconciliation of the professional and competence profile with the demand on the labour market are highlighted by the **structure of employment** on education levels, labour productivity and the skills mismatch.

In 2004, 72.9% of people with higher education were working in the secondary sector, while in industry and construction only 23.9%. The share of people with higher education in the service sector declined in the year of accession to the EU (2007) and three years later it falls again to 74.6%, to reach 78.2% in 2016. This means that people with higher education are more likely to be employed in the tertiary sector of the economy. The share of people with secondary education in the primary sector has continuously increased between 2004 and 2013 and after that, in 2016 decreased by 2.8 percentage points compared to 2013. These persons are distributed evenly between the other two sectors, in 2016 working in the secondary sector 36.4% and, respectively 46.5% in services. People with a low level of education are working mainly in the agricultural sector due to the supply of low-skilled jobs. Fewer people with primary education work in the tertiary sector (12.6% in 2004 and 12.1% in 2010, the trend in recent years is rising to 17.2% in 2016), but more and more work in the secondary (14.4% in 2004, 14.8% in 2007, 15.3% in 2013 and 21.6% in 2016). This unfavourable dynamics of educational level profile in employment is mainly a result of the local economic destruction i.e. the effect of both factors - the (cheaper) import annihilates the opportunities for small domestic businesses development and because of labor migration for workers (especially for financial advantages).

The skills mismatch in formal education as against the labour market demand is highlighted by the structural employment deficit, the dynamics of vacancies vs. the unemployment rate and the demand for training for new qualifications and competences, including those integrated in the "soft skills" category. This demand has changed substantially, asymmetry through educational supply has been deepened, both as a quantitative and qualitative deficit. Moreover, the deficit on the labour market is chronicised for some strategic professions (health care specialists, engineers in high-tech industries, IT specialists etc) and is struggled by the annual migrant's contingents (graduates or young or middle-aged people already on the labour market), the stock of people outside the Romanian labour market surpassing 4 million workers.

The labour productivity per employed person was 2.9 times higher in 2014 (60.4 thousand lei / person) than in 2004 (23.6 thousand lei / person). (National Institute of Statistics, Statistical Yearbook 2017), but remains at second lowest level in EU. The activities of the national economy where labour productivity stagnated during this period are agriculture, forestry and fishing, public administration and defence, social security in the public sector, education and health. Real estate activities were the most efficient as their

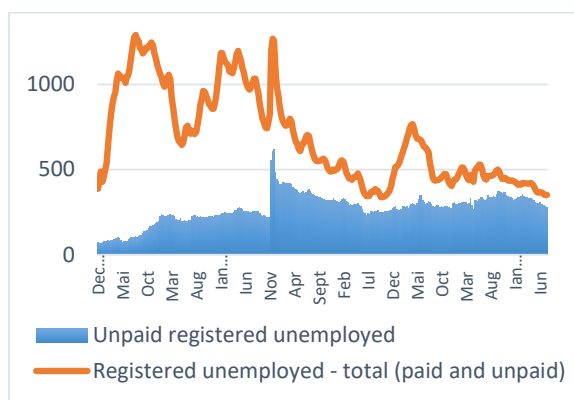
productivity increased 6.4 times in 2014 compared to 2004 and by 125.7 times compared to 1995. Other activities with important evolution of labour productivity are the cultural ones, the repairs of the goods in household and other services, professional, scientific and technical activities; administrative and support service activities.

To summarise for the whole analysed period, agriculture remains the lowest productive activity. Public administration and cultural activities undermined average productivity by 1998, and then outweighs average productivity per person employed level. Since 2010, trade's productivity remained significantly lower than the national average level. Moreover, low-skilled jobs have become more and more automated; the need for cognitive abilities and craft skills has decreased, while the demand for digital and communication competences is constantly expanding.

2.3.3. Labour market imbalances

The labor market imbalance, measured by the unemployment rate, ignored during the communist period, has been a preoccupation for political decision-makers after the transition to a market economy. The maximum number of unemployed persons (paid and unpaid) was registered in March 1994 – almost 1.3 million people. In June 2008 only 337.1 thousand people were registered as unemployed.

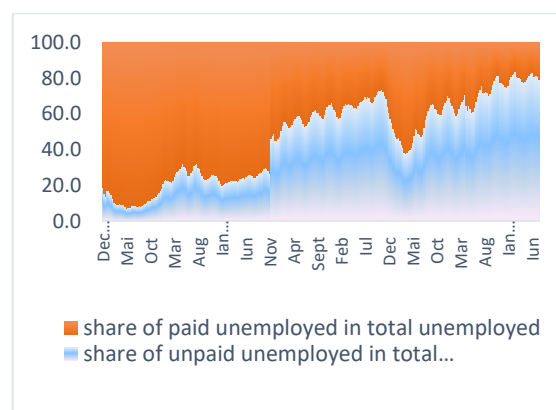
Figure 8. Unemployed persons, 1991 - 2017 (thousand)



Source: NIS, Tempo online, SOM101A

The legal framework of unemployment was reflected in the distribution of paid and unpaid unemployed persons

Figure 9. Share of paid and unpaid unemployed in total unemployed, 1991 - 2017 (%)

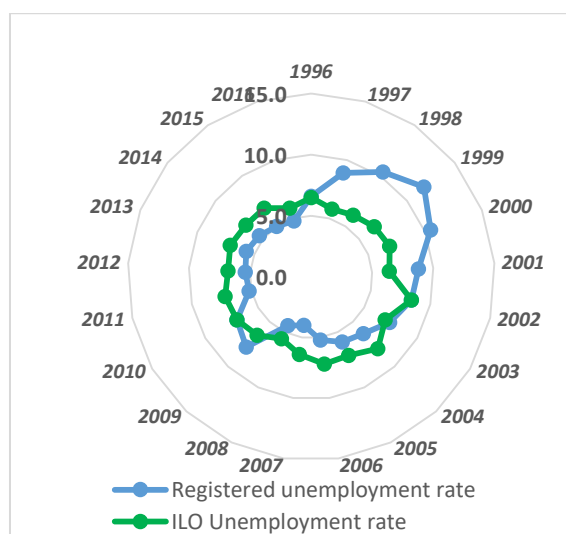


Source: Author's calculation, based on data provided by NIS, Tempo online, SOM101A

Meanwhile at the beginning of the period there were paid around 80-90% of the total unemployed persons, the same share of about 80% was represented by unpaid unemployed people in the year 2017. The proportion of paid and unpaid in total has been overturned starting with the year 2002, when the dedicated law has restricted the access at payment for unemployed people.

Currently two unemployment rates are registered in the official statistics. One is the registered unemployment rate and the other refers to the definition of unemployment according to ILO and is provided by Labour Force Survey (ILO Unemployment rate). Since 2004, the Labor Force Survey has highlighted a higher rate of ILO unemployed than those officially registered. The largest difference between the two rates was 2.4 percentage points in 2007 and respectively 266.5 thousand unemployed. There were two exceptions to these gaps; in the years 2002 and 2010, the registered unemployment rate was at the same level as the ILO unemployment rate.

Figure 10. Share of paid and unpaid unemployed in total unemployed, 1991 - 2017 (%)



Source: NIS, Tempo online, SOM103A and AMG157A

The evolution of unemployment does not capture:

- the human capital, which, being unable to be employed in decent jobs in Romania (good working conditions and supportive payment), is being used in other markets (as EU workers or labor migrants in non-Eu area). Their employment model is primarily multiannual and in many cases, they become permanent immigrants in host countries;
- people involuntarily leaving the labor market who have not found re-employment solutions after long-term unemployment

All these potentially active persons are present in Romania and, together with NEETs, are important resources of unused human capital

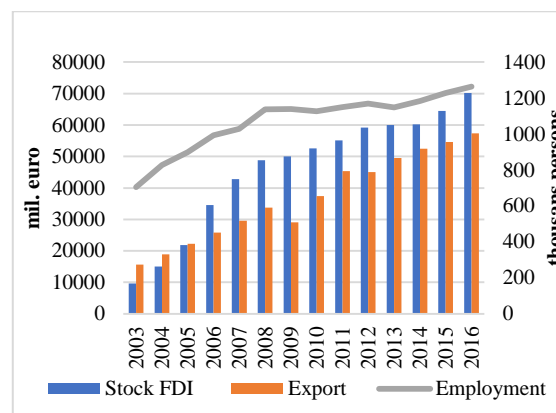
2.3.4. Employment and jobs' quality in FDI sector

As Romania's integration into international structures (NATO, EU) increased the interest of foreign investors for our country, the stable framework created, and the opportunities offered by geographical location, the low cost of labour and the availability of primary resources are the main conditions which led to an increased role of foreign capital in Romania.

In general, the presence of foreign firms has a positive impact on the economy, notably through its influence on foreign trade activity. The degree of similarity between the areas of interest of foreign capital in Romania at the beginning of the nineteenth century and the beginning of the 21st century is quite important for the historical perspective of its role in valuing human capital. According to the statistical data, 50% of the foreign capital is interested in industrial sectors, of which the processing industry, especially processing of crude oil, rubber and plastics, hold a high share. Foreign capital being well integrated in economic value chains are mainly focused on export activity- export of manufactured goods for final consumption or export of intermediate products for production.

The main push factor for FDI inflows in Romania was and remained the lower labour cost as against in the origin country of the capital.

Figure 11. FDI stock, total export of Romania and employment in FDI companies (2003-2016)

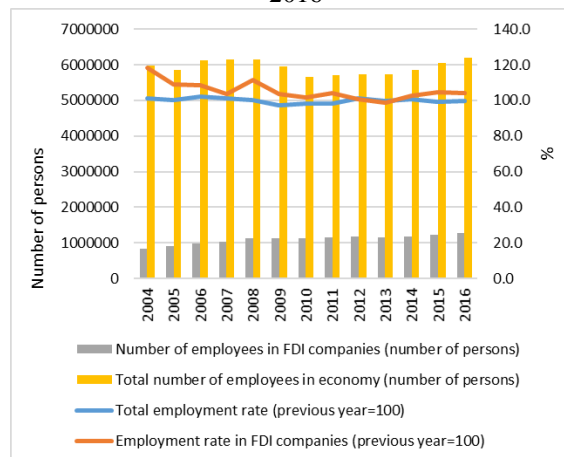


Source: INS, NBR

Some specialists in labour market consider the FDI firms as an opportunity, an alternative solution to higher unemployment or labour migration. The comparative advantages in FDI firms (higher wages and better working conditions) were not able to reduce or reverse the labour mobility flows, which underlined the limited potential of this employment option. However, the employment growth, higher productivity and relatively better incomes of domestic workers in firms with FDI should not be ignored.

FDI firms are using superior technology, have access to larger product markets than companies with Romanian capital, are well integrated into the value chain of production, etc. Data recorded an increase of the employment in the foreign trade companies by 30% in 2016 compared to the year before the accession of Romania to the EU (2006). Nowadays, FDI companies perform about 80% of Romania's total export of goods, based on an average of 25% of total employment.

Figure 12. Evolution of total employment and employment in FDI companies in Romania, 2004-2016



Source: INS, NBR

Capitalization of human capital in FDI companies is therefore not only employment in quantitative terms, but primarily high-quality employment. The evolution of the employment rate in FDI companies is higher than the dynamics of the total employment rate in the period 2003-2016, the number of employees in FDI firms increasing from about 12% of the total number of employees in the economy in 2003 to over 20% in 2016. As for FDI distribution on industries, investors are oriented towards productive branches with high growth potential and profitability.

3. General comments and results

Every period has its own specificities regarding the labour market and human capital evolution. Therefore, we identified some specific pros and cons policies, according to the general framework of both types of economy: market oriented (1918-1947 and after 1989) and centralized one (1948-1989).

1. Market oriented economy in 1918-1947

Pros:

- Romania's membership in ILO conducted to modernisation of labour market policies and regulations;
- Romania had a developed economy, in which the population was employed, and the work was equally diversified and specialized in professions, the education system being adapted to the labour market needs.
- Protectionist policy produces effects on different areas: labour force, industrial production, resources, and especially external trade. The protectionism allowed: national resources to develop and create added value through goods and services for the benefits of Romanian citizens first of all, as well as for export; increasing the share of Romanian capital in certain economic activities considered strategically important. To some extent also support the native experts to be employed in technical and top staff position.

Cons:

- Massive immigration after the Great Union deepened the segmentation of the labour market; in rural areas people were employed mostly in agriculture, while in urban areas the foreign bourgeoisie developed;
- Compared with other European countries in the interwar period the national labor market is characterized by a small number of employees, and a low dynamic of institutional reform, even if there was a principled alignment to organizational requirements of the labor market, according to ILO recommendations. Practical business application of measures to reform the labor market has been sporadic and / or delayed. Compared with other European countries in the interwar period the national labor market is characterized by a small number of employees, and a low dynamic of institutional reform, even if there was a principled alignment to organizational requirements of the labor market,

according to ILO recommendations. Practical business application of measures to reform the labor market has been sporadic and / or delayed. Protective policy was a common practice of the interwar period that led to unequal development of national labor markets, restricted labor movement and delayed industrial relations modernization. Foreign firms promote their own employment models, tailored to specific requirements, not always adapted to the ILO's modernization recommendations (Vasile, 1995)

- The Romanian economic nationalism, manifested in the interwar period, was characterized by: trade protectionism, substitution of imports (with tendencies towards economic autarchy); controlling and restricting external economic relations;

2. Centralized economy 1948-1989:

Pros:

- It was assumed that all people who graduate a form of formal education enter the labour market, the full employment was considered.
- Industrialisation and urbanization increased activity rate and diversified jobs, based on technical progress.
- Rational use of labour force in the context of efforts to mechanize production processes with effects on increasing labour productivity.
- Development and diversification of production and external trade, creating and preserving specific external markets, trading partners and goods.

Cons:

- The labor market was rigid, strictly regulated by the administrative allocation of labor force, which led to over-employment in some industries, and the inadequate (egalitarian) pay policy reduced the quality of work and did not stimulate performance.;
- There was a lack in applying the international regulations specific to the labour market, which were transposed in national legislation or some regulations were only formal (trade unions activity);
- The efforts for industrialization were followed by a period of wage austerity, mitigating the dynamics of the efficiency of the use of labour factor and an intensification of legal emigration for some ethnic groups and illegal emigration for Romanians. In addition, wage policy was accentuating the social polarization, with the development of a category of regime favours.
- The nationalization of enterprises in all productive sectors, centralized planning of economic activity, and the collectivization of agriculture – all led to the impossibility to support free business initiative or cooperation with foreign companies from outside of Comecon.

3. Market oriented economy during 1990-2018

Pros:

- Labour market deeply reform and consolidation, managing the supporting mechanisms and policies for managing imbalances;
- Reconsider industrial relations, social partners' reorganisation and social dialogue development and

consolidation;

- EU accession, which brought along important well-known advantages for national economy the labour market opening for Romanian workers;
- Re-opening of the national economy to both FDI and external trade relations strengtening with EU trade market, with all the benefits provided by them: access through imports to technology with higher performances, high-qualified jobs, new directions for industrial restructuring with new products and services development, access to new external markets (including extra-EU ones) and diversifying external trade partners, increased productivity at national level, etc.

Cons:

- The economic reform from early '90s was associated with layoffs, respectively the increase of unemployment;
- The sharp decline in real wage earnings between 1993-1995, due to reduced demand for labour and hyperinflation; asymptotic and poor performance of labour;
- Chronic external mobility for work, associated with low efficient policies for returning migrants;
- Devaluation of human capital because of skills and qualification mismatch; increasing gaps on skills and competences between (new) jobs demand and labour supply (graduates);
- Long-term effects on the labour market of the 2008-2009 crisis, i.e. structural and qualitative employment crisis.
- Employment chronic deficits of specialists in health care system and high level of migration flows of the graduates from upper secondary and university education;
- A very high trade market integration with EU area and increased vulnerability of export in the crisis period.
- The dependency of national exports on companies with foreign capital.
- Preference for imports into domestic consumption of goods and imports' pressure on similar or substitute national products, even with lower price but not enough developed in terms of marketing and sometimes quality, with negative impact on national companies' development.

4. Conclusions

From the information presented in this paper, it can be concluded that each period in the historical path

has brought its contribution to the evolution of the human capital and the labour market. Further evolutions may follow in the context of the new global challenges of digitalization, competences development in response to technological transfer in the business environment and day-by-day life of individuals. E-employment and multi-year labour mobility and the shaped model of labor - leisure time sharing are current realities that bind to labour relation modernization and of labor market redesign for a higher level human capital capitalisation. The needs of the labour market shall be met by structural reform and increasing performance in education, through decent employment, and additional on-the job-training in enterprises for special competences, etc. The discrepancies between the education supply (graduates) and the labour market demand are ultimately materialized through loss of human capital and of potential business added value. Moreover, because of jobs skill mismatch and/or uncorrelated wages with payment expectation of the potential new entrants, the inactivity after graduation increase the NEETs level. This became the most important imbalance in the labor market in Romania along with the in-work-poverty increasing trend and the promotion of less-favored wage policies for higher productivity.

The historical evidence shows the high potential of human capital lost mainly by labour mobility and more recently by increased NEETs contingents. Human capital is the most important potential asset of Romania and policy-makers should focuss political priorities to both education and decent jobs. Also, the completion and application of policy instruments, the methodologies for monitoring the insertion of the graduates shall be a priority at national level.

Nowadays, to face the future, there is a need for a more in-depth analysis of the skills that Romanian employers consider important for the success of their companies and therefore for better fitting of the educational and training supply to those requirements, for periodical upgrading of the occupational and vocational training standards and of the curriculum.

The trade relations and quality of the goods offered by Romanian capital on external market stimulate the human capital in terms of performances. To increase companies' competitiveness level, investments for technological renewal must be made in all industries and labour force is the main driver for value added growth. A close permanent correlation between educational and the labour markets could redesign the labour supply to respond in more flexible way to modern life main challenges: inclusiveness, digitalisation, quality of life.

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