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Some issues on the correlation between wage income and labour productivity

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Abstract

In Romania, both the business environment stakeholders and the academics consider that the path on reaching the average level of development of the European Union and implicitly the adoption of the Euro currency, can be achieved only by improving the standard of living that is the citizens' income, which can be reached only by increasing labour productivity. One of the objectives of the European Union is to reduce the disparities between regions, as confirmed by the evolution of GDP/ capita in the less prosperous Eastern Europe countries in comparison with the more developed EU Members States from Western Europe. There are a number of factors impacting the labour productivity and wage incomes, and the onset of the COVID 19 pandemic has accelerated the adoption of automation, digitalisation and remote work, which will significantly contribute to the disappearance of less skilled jobs and the consolidation of those who are highly qualified ones, the latter being less sensitive to the adoption of new technologies.

Keywords: labour productivity, wage income, automation, pandemic, increased competitiveness, European Union

1 Introduction

According to the National Bank of Romania, the relationship between the average gross wage and labour productivity marks two inextricably linked indicators. However, labour productivity is not the only factor that influences the dynamics of wage costs, the latter being also affected by the phase of the economic cycle, and how relaxed/ tightened the labour market is. According to NBR data, over the period 2009-2017 the average real wages increased by about 45%, while labour productivity increased by only 27%, urging caution in terms of wage increases.

In order to join the euro area, in addition to other core economic indicators, Romania must also reach a minimum level of real convergence of 75% of the EU average in terms of GDP per capita. Romania's per capita income gap is now much larger than the average of the top 10 eurozone Members States, when compared to the income that Portugal, Slovakia or Spain were facing with when they joined the euro area. Therefore, in the absence of a per capita income close to the European average, Romania cannot consider itself as being a developed economy, comparable to that of the euro area Members States, and it remains part of the area of developing countries. In January 2021, the average gross wage in Romania was 5,549 lei, that is an average net wage of 3,176 lei net. i.e. about 660 euros.

A key factor in getting closer to the average level of development of the euro area Member States is to increase competitiveness, i.e. productivity. However, capping the pace of wage growth in relation to the productivity rate increase leads to the continuation of the exodus of Romania's labour force to developed economies, which, in turn, leads to a slowdown in economic development.

The salary level in a company depends on several factors such as: the size of the company, the economic sector in which it operates, whether it is a national or a multinational company, the relationship between labour supply and demand in that economic sector, its position on the market and its market share, the profitability of the business field, the employee's salary history, and, last but not least, labour productivity.

The tremendous differences between wages paid within the developed countries when compared to the developing countries, such as Romania, are not caused as much by differences in productivity rate per capita as by other factors such as immigration control. If free movement of labour was total, most workers in developed countries would be replaced by workers in developing countries, who would accept lower wages. In 2019, a bus driver in Romania was paid on average net wage of about 3,000 lei net i.e. about 630 euros. In the same year, his peer in Sweden was paid at least 34,000 SEK i.e. about 3,200 euros. In other words, the Swedish driver is paid more than 5 times more than his Romanian peer, which is not related to a productivity more than 5 times higher. In order to build a truly fair society, the myth that a person is paid according to his personal worth cannot be accepted (Chang Ha, 2011). Even in those sectors of developed economies where employees are truly more productive than their peers working in the economies of the developing countries, their high(er) productivity is largely due to the system, organizational structure of companies and not to individuals themselves. The productivity of these employees is due to the fact that they live in economies with superior technologies, better organized companies, better institutions, and with a more developed infrastructure, all these being factors that have been achieved in time, over generations.

According to the data published by the OECD in 2019 and having 2010 as reference year, Romania recorded almost the highest rate of increase in labour productivity per hour among all the 43 countries reviewed, reaching in 2019 to a ratio of 140.3 compared to 2010, being the second best after Ireland (142.4), while the poorest performers were Greece (93.0), Luxembourg (100.8) and Italy (101.2). According to the data presented in the "Ziarul Financiar" newspaper Romania had the fastest increase in wage income over the period 2013-2018, as well as one of the largest increases in terms of labour productivity rates in the European Union, but the share of value added that was transferred to labour factor was small.

The business model of keeping labour costs low, especially below the level of labour productivity growth, especially in Central and Eastern European countries which was imposed by foreign investors has reached its limits. Economic growth, as a consequence of increasing labour productivity in an economy, is directly proportional to the production and consumption of resources, which inevitably affects the environment. Thus, societies need to rethink the economic model on which they rely on with a focus on sustainable and environmentally friendly growth, while improving the quality of people's lives.

2 MAIN PRODUCTIVITY CONCEPTS USED

The OECD uses the concept of labour productivity in terms of GDP per hour worked as a basic indicator for calculating labour productivity. This concept measures the efficiency of the labour factor combined with other factors of production used in the production process. Thus, labour productivity only partially reflects the capacity of workers or the intensity of their effort, and it depends on other factors such as invested capital, technological or organizational changes, economies of scale, etc.

Another concept used is total factor productivity (TFP), which refers to how efficient and intense the inputs used in the production process are. The increase in this type of productivity is the result of technological improvements and innovations adopted over time. Technological

progress is inversely proportional to the labour factor, in the sense that an increase of technological progress leads to a decrease in the amount of labour incorporated.

According to Eurostat, labour productivity measures the amount of goods made and services performed by each person that is labour factor or the output/ input ratio of labour. In the case of structural indicators, labour productivity can be measured by multiplying gross domestic product (GDP) by the number of people employed or the number of hours worked.

Productivity is influenced by several factors, among which the most important to mention are: efficiency, a factor that means the amount of goods/ services that can be obtained using a certain volume of production factors; technology, a factor that includes scientific outcomes, organizational techniques, quality of the new elements generated meaning the goods produced and services provided; decreasing real costs while maximizing profit; correlation with the current economic cycle since there are periods of productivity increase or slowdown, depending on the phases of the economic cycle. Firms tailor their capital and labour force according to fluctuations in terms of demand. Another factor is the standardization of production processes, in the sense that the comparison of different production processes may lead to finding the less efficient production processes.

Structuralism is a contemporary theory suggesting that wage growth demands drive up the inflation rate, and the pace of wage growth rising should be one percentage point above the rate of productivity growth in order to achieve an annual inflation rate of 2-3%, which is targeted by central banks.

Labour productivity may also be defined as the production obtained in relation to the labour force unit, which can consist in the number of hours worked, as well as in the number of employees. The variant that is based on the number of hours worked is the most used, being considered the most appropriate; at the opposite pole is the labour productivity related to the number of employees which is appreciated due to its simplicity, yet it does not consider the changes in the average time worked or the role of those workers who do not have the status of employees, but who can have an important contribution in the production process.

The theory of wage income efficiency (Galgóczi, 2017) considers that firms that adopt the model of paying their employees wages over the market level compared to those that believe that revenues should increase only with increasing labour productivity is a rational solution, since this model acts reversibly, first by increasing wage income leading to increased labour productivity and thus avoiding the trap of maintaining low wages.

The efficiency in using labour does not depend strictly on the material conditions of production, but also on the quality of the labour force. Nowadays, the workforce is subject to higher demands than in the past when more rudimentary production techniques were used. The technical progress determined the change of the weight of the effort from the physical side to the intellectual side, determining more accuracy in the lucrative activity. Thus, the increased qualification has become an important condition for the efficient use of human resources. The skilled workforce generates a greater amount of production in the same unit of time than in the case of the less skilled labour force. There is a strong positive correlation between the level of professional training and labour productivity. The advent and development of computers has led to improved efficiency of employees, leading to an increase in demand for highly skilled labour, which has triggered increased wages for the latter compared to low- or unskilled employees.

The impact of unequal income in relation to economic growth depends on a number of factors, including the initial level of income and the geographical distribution thereof within an area or region. Urbanization degree influences economic growth depending on the level of

development of an economy and the initial distribution of income. While high levels of income inequality can be limiting factors in long-term economic growth, increasing income gaps as well as urban agglomerations. Thus, many developing countries currently face a high share of low per capita income, but also high income, yet in a much lower share. There is no emphasis in the literature on the fact that economic growth and income inequality are not equal in an economic space and that the effects of income inequality on economic growth may differ depending on the geographical concentration of economic activity. It is important to consider both factors i.e. income inequality and urban agglomeration factors, as well as changes incurred in these factors within an economy, but also how these two factors interact with each other. In conclusion, the literature emphasizes that, in the short run, there is a positive correlation between income inequality and economic growth, but in the long run, this correlation tends to become negative. Moreover, high levels of income inequality appear to negatively affect low-income countries compared to those with high incomes. Employees working in larger cities are paid higher wages, a kind of urban wage premium (Ehrlich M., Overman H. 2020), because they make workers more productive. Larger cities also tend to attract better-educated employees who are more productive and have higher earnings. Consequently, GDP per capita is higher in these cities.

Labour productivity should not be mistaken with the total factor productivity, which excludes human impact and the physical accumulation of capital, focusing only on the contribution of new changes in technology and in business management (McKinsey Global Institute, 2021).

According to recent studies (ILO, 2020), income inequality tends to be less predominant in countries where there are a large number of employees who benefit from collective labour agreements.

3 THE IMPACT OF THE COVID19 PANDEMIC ON THE CORRELATION BETWEEN INCOME AND LABOUR PRODUCTIVITY

The onset of the COVID 19 pandemic was an incentive factor for many companies to accelerate the use of technologies such as digitalisation and automation, which has led to increased productivity by replacing employees or increasing production per employee.

Prior to the COVID 19 pandemic, productivity growth was not always correlated with wage growth. For example, in the US, the average wages increase was 19% below productivity growth as compared to year 2000. If the average wage of a US employee had increased in the same pace with the productivity, by 2020 it would have been approximately 9,000 USD/ year higher. The onset of the pandemic has triggered a dramatic drop in terms of consumption but also to an increase in savings, especially in the case of high-income households, as well as job losses, especially in the case of lower-income households.

The analyses made by specialists show that approximately 60% of the productivity increase is due to firms that have applied measures to reduce labour costs as well as other production costs, such as, for instance, via automation. Since these productivity gains are not used to generate new jobs and increase wage incomes, then there will be a growing gap between productivity and wage growth.

Trade automation and liberalization have profoundly altered the labour market in the developed economies, offering disproportionate benefits for highly qualified employees to the detriment of other employees. Technological changes have reduced the demand for low- and middle-wage employees, who work, for example, on factory assembly lines, and have increased demand for highly-skilled employees who are also better paid.

According to recent studies (McKinsey, 2020), in Europe, approximately 53 million jobs will be subject to the automation process, and a large part of the jobs that will be lost will be replaced by technology and health investments based jobs.

The outbreak of the COVID 19 pandemic has led to an increase in remote work, leading to increased productivity, by reducing costs related to office space, equipment and supplies, giving companies the opportunity to hire highly skilled workers who do not reside in the locality where the companies have their headquarters. However, remote work is not possible in all industries, such as agriculture or construction, and differs from one country to another, depending on the degree of digitalisation thereof.

With regard to the ever-increasing implementation of technology and especially of artificial intelligence (AI), it is very likely that it will significantly contribute to loss of jobs involving low or medium skill levels, but without having a major impact on jobs requiring high qualification. These technology-related professional changes are more likely to occur, especially in cities with large urban agglomerations.

Automation and use of AI in economic processes causes a major increase in labour productivity, but also a decrease in the number of employees. However, these factors do not evenly influence the industries or jobs in one industry. For example, the table below presents the jobs with the highest and lowest productivity are not likely to be affected by automation in the coming years in Europe are shown in the following table:

Jobs most likely to be influenced by automation and Artificial Intelligence	**Jobs less likely to be influenced by automation and Artificial Intelligence**
Mine, construction, manufacturing, and transportation workers	Teachers
Machine operators and assembly line workers	Medical and bioscience personnel, physicists, mathematicians, engineers
Office workers	Managers and personnel in the legislative and administrative field
Vehicle operators	Skilled agricultural workers

Source: Nedelkoska and Quintini (2018)

Highly qualified jobs imply the existence of problem-solving skills, and they are not characterized by routine tasks or require high communication skills, which makes it difficult to adopt automation. Countries such as Sweden, which have a significant share of its workforce employed in areas involving high skills, are less exposed at risk entailed by automation. Job market in northern European countries is less sensitive to automation than those in Eastern Europe, mainly due to the way the work is organized within the same economic sectors and only to a lesser extent due to the structure of the economy.

The changes generated by the automation and digitalisation trigger a tendency of polarization of the labour market, in the sense of increasing inequalities; currently one finds that a greater focus is put on investments related to increased digitalisation and less on investments related to the qualification of manpower.

4 Conclusions

Despite the fact that the GDP/ capita indicator is often used in comparing the level of development between different economic areas, given the high inequalities between the incomes of its inhabitants, GDP growth would only partially reflect the reduction of the poverty rate. The improvement of the living standard, of social welfare, the increase of the

labour productivity and implicitly of the national wealth, all of the above up determine the degree of development of an economy.

In order to converge towards the level of developed countries in the European Union, Romania should focus on economic activities that involve creativity and innovation, an increased added value in the case of exports, which determines the existence of higher wage incomes, as against the current model which focuses on economic activities related to distribution, marketing, etc. which entail the presence of a less skilled labour force, lower wages and thus remaining caught in the poverty trap.

In order to avoid the trap of low income capping and to achieve sustainable economic growth, Romania needs to focus on at least four strands of action, namely: digitalisation, innovation, mitigating climate change, developing workforce skills and social inclusion.

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