ANALYSIS

LABOUR AND SOCIAL JUSTICE

THE QUESTION OF PRODUCTIVITY

Controversies and clarification

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2020

translated from Romanian

Over the past years, a consensus has emerged in Romanian public discourse that wages in Romania are growing too rapidly in comparison to productivity. This has proven to be the strongest argument against wage growth of any kind.

This study provides detailed insight into the issue of productivity, starting at the theoretical level and extending to the relationship between productivity and wages, as one sees in Romania today.

At present, labour costs in Romania are so low that a genuine macroeconomic threat cannot realistically be envisioned. In the medium- and especially in the long-run, things can nonetheless change, which is why public debate should focus on the true problem at hand: increasing productivity, and not limiting wage growth.

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EXECUTIVE SUMMARY

Over the past few years, productivity has become a much-discussed topic in Romania, especially in conjunction with the topic of salary raises. From politicians and senior officials to journalists and social networkers, a general and very clear consensus has emerged that productivity (more specifically, labour productivity) should be objectively pegged to wage rises or, in other words, that wages in Romanian are growing too fast compared to productivity. The idea is crystal clear: since wages are paid from the added value resulting from economic activity, an excessively large increase of wages lowers investment, erodes profits and consequently threatens sustainability of business and economy over the medium and long run. In the Romanian public debate, this has probably been, as of late, the strongest argument against wage rises, with the most extreme vein pleading for no wage rises whatsoever.

This survey provides detailed insight into the issue of productivity, starting at the theoretical level and extending to the relationship between productivity and wages, as one sees in Romania today. The initial analysis is of a conceptual nature. "Productivity" as such is an extremely broad notion, where things may seem quite the opposite of what one would normally expect from the production factor (how can we explain, for instance, why labour productivity in Romania is low but is tending to rise, whereas capital productivity is high, yet is tending to fall?) or from the unit of measurement (it is often the case that physical and financial productivity display diverging trends). The concept of productivity in general is sufficiently simple for anyone to understand and sufficiently ambiguous so that it may be repeatedly misinterpreted, something which can only be prevented by an in-depth understanding of the various definitions and measurement methods.

The second step in the analysis is of a methodological nature. First of all, there are a variety of methods with which to measure labour productivity, with significant divergences between productivity estimated on the basis of per hour worked or per person, in EUR or in RON, with or without adjustments for price differences, and so on. Second of all, there is an entire range of methodological distortions that lead to under- or over-estimations of labour productivity. In the case of Romania, for instance, the low share of employees in the total gainfully employed population causes labour productivity to be underestimated when compared to other countries. Furthermore, prices play an extremely important role, and there is a strong connection between low prices and low productivity in Romania. We do not mean solely market prices, but also prices used in transfers of goods and services between branches of multinational companies. In the absence of accurate figures, there is much to suggest that, in the case of Romania, such prices result in an underestimation of productivity, with a direct consequence of this being that productivity is overestimated in other countries. Certain distortions may be avoided by means of a more thorough analysis; others (such as in the case of transfer prices) would require a complete rethinking of the way in which economic activity is measured.

The third step in the analysis delves deeper. Even though labour productivity has grown significantly and relatively constantly in Romania over the past couple of decades, it continues to remain low in comparison to West European nations and even to other countries in Central and Eastern Europe. Methodologic distortions and estimation difficulties afflicting prices only partially explain this gap, since the deeper problem is rooted in both the structure of economy and the way it works. The issues under scrutiny here are not moral or educational aspects of the labour force in Romania, however, but rather relate to the ways in which business is conducted in Romania and the way a large number of companies are managed. Romania's position along the outskirts of the European economy would suggest a need to develop low-complexity activities, leveraging low costs and capitalisation. In such an environment, a low level of added value is an objective constraint, while the fact that the labour force is the main production factor pushing labour productivity down even further.

It is true that a low level of productivity cannot generate large wages. Nevertheless, this is not the issue in Romania, where wages are much lower than productivity. Furthermore, in contrast to popular opinion, wage rises over the past decade have been accompanied by commensurate increases in labour productivity. The predominant narrative in the public arena is, however, misleading from the very outset, since the focus is on a rationale strictly relating to rates of increase, based on the primary assumption that there is a primary point of balance between the level of productivity and the level of labour costs. Disregarding the distribution of added value between labour and capital makes the public

productivity narrative extremely biased; the ulterior motive is to cap salary rises while maintaining the highest productivity-cost ratio, without any investment and organisational efforts having to be made by employers to boost productivity. Therefore, it is no accident that the topic of productivity only happens to crop up in the public debate at those times when the situation in the labour market is tending to push salaries in an upwards direction. We are then confronted with moralising criticism of wage rises, which is doubly exasperating due to the economic irrationality of this line of argument. At the current juncture, the reality appears to be different, as is obviated by a glance at the ratio between labour productivity and labour costs: labour costs are so low in Romania that wage rises do not come close to posing any real threat to economic activity at the macro level. Things may well change in the medium term and especially in the long term, which is why the public debate needs to shift attention towards the truly important issue: the need to increase productivity instead of limiting pay rises.

1

INTRODUCTION

„Romania needs to increase salaries only based on productivity, or else it will lose competitiveness." (Jaewoo Lee, International Monetary Fund[1])

"The laws of economics, stronger than any law of the Government or of the EU or of this world, dictate that there needs to be a perfect correlation between wges and labour productivity. Now, an increase can be witnessed below the rate of productivity. What is to be done? Do we give up on this balance, this economic law governing the balance between wages and labour productivity?" (Adrian Vasilescu, National Bank of Romania[2])

"Better pay is a critical issue. Believe me, I have no problem paying a better wage, but only in the context in which we need to also increase productivity. My issue is that there is a lot of political discussion about raising minimum wages — and this is all very fine and good — but I would like to see a little more discussion about what we can do in Romania to increase productivity, wouldn't you?" (Steven van Groningen, representative of an employers' association[3])

"Even Roubini, Nobel prize winner, realised that only increasing minimum wages on paper, without any correlation with labour productivity, is a mistake." (Cristian Paun, professor ASE[4])

"I believe there is no student interested in economics who did not have to answer this question: If labour productivity rises by approximately 5% per year, how much should wages increase in the economy, so that we don't shoot ourselves in the foot? (...) Why is productivity not rising? Because it is being suffocated by excessive regulation, state aid and state aid schemes and subsidies and inspections and approvals and further regulations. Aid and subsidies allocated according political criteria (otherwise, they might have helped a little) and excessive regulation for approximately everybody." (Florin Catu, current Minister of Finance[5])

"As for investments to be made in upcoming years, we should see how much competitiveness Romania still exhibits, compared to its neighbouring countries. When we look at Southeastern Europe, we see that Romania has just lost some of its competitiveness through pay rises imposed by government authorities in disregard of productivity growth in Romanian society. Currently, we are still looking to hire people, but things may change if everything continues down this path in Romania." (Christian Albrichsfeld, representative of an employers' association[6])

"Romania's labour productivity, compared to EU countries and the warnings raised by its evolution." (media headline[7])

This brief selection of quotes on the issue of productivity reflects a for the most part unanimous consensus among representatives of the Government, international financial institutions, the National Bank, employers, academia and the vast majority of the mass media. Generally speaking, whatever the topic may be, caution is always warranted and questions should be raised whenever there is such a consensus; but nonetheless, in Romania's public environment, the standpoint expressed above is frequently to be heard: it

1 Agerpres, 7 June 2019, available online at the following link: https://www.agerpres.ro/economic-intern/2019/06/07/fmi-romania-trebuie-sa-creasca-salariile-doar-pe-baza-productivitatii-altfel-pierde-competitivitate--322742.

2 România libera, 26 November 2018, available online at the following link: https://romanialibera.ro/economie/adrian-vasilescu-bnr-susti-ne-cresterile-de-salarii-762676

3 Agerpres, 18 November 2019, available online at the following link: https://www.agerpres.ro/economic-intern/2019/11/18/steven-van-groningen-un-angajat-al-bancii-nu-poate-sa-faca-foarte-mult-pentru-cresterea-productivitatii--405190

4 Republica, 13 November 2019, available online at the following link: https://republica.ro/salariul-minim-e-una-din-cele-mai-mari-iluzii. Nouriel Roubini is neither a Nobel prize winner, nor has he expressed this opinion with regard to the situation in Romania: https://www.romania-insider.com/roubini-no-risk-ro-economy-nov-2019.

5 https://florincitu.wordpress.com/2016/11/04/cresterea-productivitatii-este-ce-trebuie-sa-ne-intereseze/

6 Adevarul.ro, 26 December 2019, available online at the following link: https://adevarul.ro/economie/stiri-economice/o-multinationala-critica-majorarile-salarii-romania-tocmai-pierdut-competitivitate-inca-mai-cautam-angajam-situatia-schimba-1_5e0-4b1375163ec4271666645/index.html

7 https://cursdeguvernare.ro/productivitatea-muncii-in-romania-comparativ-cu-statele-ue-si-avertismentele-pe-care-ni-le-transmite-evolutia-ei.html.

is commonplace to talk about low productivity (and the "warnings" surrounding it), a topic which seems to quickly crop up whenever the topic of pay rises comes up. Of course, in most cases, it is labour productivity that is meant, and not productivity in general, which explains both the economic as well as moralising tone of the discussion. The immediate conclusions in this narrative is that the situation of companies and the country itself does not allow, as it were, for any rise in workers' pay, but it also implies that they do not work hard enough or produce the quality of workmanship that would warrant higher wages.

After the nebulous period which followed on the heels of the 2009-2010 crisis, criticism of any pay rises has become a constant in Romania's public environment, with reference then being made to low productivity. But the more we dwell on productivity (and there is indeed a considerable amount of dwelling with regard to this topic!...), the more we lose sight of what this concept actually means, how it is measured, what data it is based on, what the situation really is at present and about the direction in which things are heading. All of the above would appear to be self-explanatory, and the notion of productivity remains more or less a black box, which has over time evolved into what it more or less is today — nothing more than just constant buzzing in one's ear about the folly of pay rises.

This does not mean that any talk about productivity is irrelevant or futile. On the contrary, it is hard to find a topic more relevant than productivity, both in economic and social terms, but also, given all of the above, in ideological terms. Economically speaking, productivity is critical when it comes to economic growth, material efficiency or business profitability. In social terms, productivity is key when we look at the increase in people's income and at social developments in a broader sense. From an ideological perspective, this concept is currently the main mechanism wheeled out in campaigns advocating the capping of pay rises, and sets the tone in the public debate about people's earnings. To conclude: we are not arguing about whether the debate over productivity is right and proper. What we are contending, rather, is that such a debate needs to be couched in terms other than those being carted out now in the public debate in Romania.

The purpose of this study is to explore in as much depth as possible the concept of productivity, not only in theory (how it is defined, how it needs to be understood), but also methodologically (how it is measured, what information we have about it) and empirically (what can be said about this factor in Romania specifically). It is apparent that such an analysis is needed, first of all, by the general public, which is continuously privy to the debate over productivity, as noted in the foregoing. The main goal of this study is not to definitively settle this debate (nor, as we shall see in the following, is this even possible if only for objective reasons), but rather to provide our readers with a scaffold to help them better understand what is being said, what is not being said and what can actually be said, at present, about the issue of productivity in Romania. Consequently, this study aims to make a contribution to the public debate rather than the expert debate, and, with this aim in mind, seeks to keep the technical analysis at a minimum.

The first section of the study covers a number of elementary concepts: in terms framed in as general a language as possible, we look at what productivity means, how it is measured and how the notion is used in common parlance. We will see that we are not dealing with a fixed, self-explanatory concept and that the angle with which we approach it makes all the difference in the world. In the second section, we address productivity head-on, along the same lines in which it surfaces most often in the Romanian public arena, in particular labour productivity especially from a macroeconomic standpoint — what does labour productivity mean, how is it measured and how do we explain differences between countries and its evolution over time. The third section goes even further, shedding light on the connection between productivity and wages, pinpointing the key issue of distribution (how much of what product belongs to whom), in the absence of which virtually any discussion and debate over productivity (how efficient factors of production are) is slanted and obviously biased. By way of conclusion, this study emphasises the need for a more informed and discriminating debate on productivity, which needs to shift away from the question of (limiting) pay rises and in the direction of boosting productivity.

2

WHAT IS PRODUCTIVITY?

Generally speaking, business productivity is defined as the ratio between the output of an activity (production) and the resources used (whatever they may be). In other words, the task in assessing the productivity of an activity is to determine the yield produced with the input of various resources in that activity. We may also interpret this concept in terms of efficiency: productivity is the level of efficiency attained when using a given resource.

It is probably apparent that the concept of productivity is framed in as general terms as possible, especially when the type of reference resource is not specified. But even if we have a more specific type of productivity in mind — let's call it labour productivity, for instance — the term remains as ambiguous as one can get. Take, for example, labour productivity in a bottling facility. At first glance, the easiest method of measurement is the number of bottles per employee or per hour worked (we will see later the difference between these two calculation methods). Once this definition is posited, we can observe the development of productivity over time (is productivity increasing, decreasing or stagnating?) and we can compare employees with one another (who is more productive?), as well as the productivity of one factory against those of similar competitors (which factory is more productive?).

If, however, we want to go even further and compare the productivity of an employee at a bottling facility (or the productivity of the facility itself) with, let's say, the productivity of an employee in a foundry, bank or supermarket, the number of bottles is of no use, and we need to find instead a common denominator among all these types of goods and services. The solution is not complicated. Upon a cursory examination, this common denominator would appear to be the monetary value of their production. In other words, if we want to see how an employee in the bottling facility measures up to an employee in a supermarket in terms of productivity, we have to assess financial productivity (that is, expressed in money terms) which each one accounts for, and not their physical productivity (number of bottles in the case of the former, or volume of sales in the case of the latter). It goes without say that what needs to be considered is not the financial value of the goods or services manufactured by the employee or company, but the value they have actually created through their work, referred to as "added value".[8] It is apparent, however, that transformation of physical productivity into financial productivity necessitates the inclusion of additional variables that have a significant impact, such as prices.

2.1 THE IMPORTANCE OF PRICES

We can describe, citing examples, the impact of prices on productivity by using the information provided in figure 1, which compares labour productivity per hour in the real estate transaction sector with the macro economy as a whole in Romania — the IT&C sector was selected to highlight the huge difference between productivity in the real estate transaction sector and the other sectors.[9] The development of productivity in the real estate transaction sector is noteworthy not only for its constancy and the manner in which it has decoupled itself from the rest of economy, but also for several inflexion points: after constant growth in the 1990s and the beginning of the 2000s, it saw a huge leap between 2004 and 2008, peaking out in 2009-2015 and then making another ascent beginning in 2016. One can also see that there was a break at the beginning of 1990s, when productivity in real estate transactions registered growth rates somewhat higher than in the rest of economy, with these of growth rates then settling at an equilibrium at the beginning of 2000s. The remarkable difference that can be seen in 2018 of no less than RON 1320 per hour (RON 1376 for real estate transactions, RON 55.7 being the average for the economy), is nevertheless somewhat consistent, with the ratio between the two being 24.7 in 2018, and 25 in 1995 (RON 7.5 per hour, versus RON 0.3 per hour). Of course, prices almost completely explain this difference, while productivity in the real estate transaction sector closely follows the evolution of the real estate market, and we have little reason to believe that we are witnessing an increase in the material efficiency of real estate transactions. Nevertheless, if we assume that realtors have now become true professionals (in formal terms) over this period, the decrease in the number of transactions occurring without

8 Added value is calculated as the difference between production value and supplier costs (intermediate goods and services used in production). We shall return to this topic later.

9 Real estate transactions cover purchase, sale, lease and sub-lease of real estate, including on a fee or contract basis..

Figure 1
Per hour productivity of labour (added value per hour worked): real estate transactions versus total economy and IT&C

Data source: The National Institute of Statistics (INS)

the mediation of specialised economic operators or the growth of the new real estate market or business rental market (which is huge at present — the market for office space was virtually non-existent in large cities in the 1990s), we slowly begin to grasp that a part of productivity growth in the real estate transaction sector results from an increase in the volumes of this activity. At any rate, it is clear that *prices play a major role in the context of productivity, as seen in financial terms, and may push it in an upwards direction or lower it without any changes taking place in material efficiency itself.* However, even in the case of economic activities where price evolution over time is breath-taking, like in the real estate sector, we need to also take into account the potential impact of structural changes that are not related to prices and which may significantly influence productivity.

2.2 THE CAPITALIST UNDERSTANDING OF PRODUCTIVITY

To take another example, this time in theory. Let us consider an employee at the bottling facility who (hypothetically speaking) manufactures one thousand bottles at an added value of RON 0.50 per unit in one hour: is he more productive or less productive than a car factory employee whose work, on average, results in one car being manufactured every, let's say, 30 hours, in circumstances where that car has an added value of €5 thousand? Of course, stretching things a bit, we could try to measure physical productivity: *grosso modo*, for instance, calculating the number of kilograms per hour produced (if every bottle has 30 grams and the car weighs one ton, then the productivity of the two employees is relatively close — 30 kilograms for the employee producing

bottles, 33 kilograms for the one producing cars); or, diving deeper (by identifying methods to assess the physical and mental effort made by each employee, for instance. Things are not so simple, however. How do we measure the level of automation for each factory?). We could even conduct an assessment of productivity in terms of social usefulness: what is more useful to society, 30,000 bottles or one car (the 30 hours required to produce each of them)? Obviously, the answer is difficult to find, especially since usefulness needs to be determined as the result of both positive and negative factors on all sides (the car, for instance, facilitates individual transport, but causes pollution and is a major factor in urban discomfort). The comparison in financial terms is obviously much more straightforward: RON 500 per hour for the employee at the bottle factory versus RON 800 per hour for the employee at the car factory.[10] Moreover, one could even argue that the financial expression of productivity also covers the aspect of mental and physical effort, since the cost of one product would reflect the complexity of resources involved in production (including, in our case, manpower), and the component of social usefulness, since the prices would be determined by the social mechanism of the market.

While obviously debatable, the latter assumption is extremely bold when it comes to productivity, which, after all, is consistently measured in financial terms in virtually all cases. And this happens because the generally accepted definition of productivity largely depends on the general economic organisation of a society, and in a capitalist society, productivity is understood in fundamentally capitalist terms. More specifically, *productivity is equated with financial productivity in as narrow a manner as possible, which means that only what has a price expressed in monetary terms and is actually sold on the market is taken into account.* Members of households may analyse the productivity of housework. Such an exercise is ultimately pointless as far as the conventional understanding of productivity is concerned, however, since working for oneself in one's household is not acknowledged as economic activity.

The manner in which we define and assess productivity therefore depends on how we understand the output of the economic activity that is the subject to our analysis (from a physical, financial, social, etc., standpoint) and, of course, the way we ultimately understand economic activity. This observation is by no means trivial, as becomes evident when we regard productivity as it is traditionally understood by the average citizen — in particular, productivity from the macroeconomic perspective. Macroeconomic productivity takes as its point of departure gross domestic product (GDP), defined as the "main macroeconomic aggregate of national accountancy, (...) the final result of the production activity conducted by resident producing entities".[11] When discussing the "productivity of employees in Romania", for instance, we generally have in mind the yield of labour in creating GDP units — RON, EUR, USD or other currencies. We are therefore analysing productivity from a financial perspective. The crucial point to note here is that any "outcome" accounted for in terms of GDP is, by definition, derived from a market transaction expressed in monetary terms, leaving aside— once again, by definition — the economic relevance of a whole range of activities that are, in fact, eminently relevant. If, in certain respects (such as in the case of public services) exceptions may be allowed and compromises may be found, a considerable part of what we would identify as productive activity just applying common sense (such as household chores) are excluded from the very beginning from any debate on productivity. In a far-fetched scenario in which relationships between household members would suddenly be converted into market relationships (if family members supplied one another with services such as dishwashing, food preparation, house cleaning, etc., in exchange for a fee), there would be an explosion in GDP and productivity associated with it, without anything actually changing in terms of the activity itself or in the outcome of labour.

Therefore, even if everything is pure and simple in official terms (meaning in the national income accounting), there is no consensus with regard to activities considered to be productive. We are not referring here to the exclusion of relevant activities, but to the unreflected inclusion of activities whose productive relevance is highly questionable — such as production of means of destruction (weaponry) or highly polluting activities. This is not the place for a more extensive discussion about what is included and what is excluded from calculation of GDP or the relevance of this indicator in assessing social and economic development.[12] *For the time being, it is important to keep in mind that the way in which we understand productivity depends on what we consider to be productive activities and that, at present, productive activities are defined as market activities.* As a result, productivity is mostly and implicitly understood in financial terms, with all the advantages and shortcomings inherent in this approach.

Not only does the determination of what is productive and the method used to assess production influence the way in which we understand productivity. We have already seen that in macroeconomic analysis we generally use GDP as the benchmark, of which the direct equivalent at the level of individual companies is the notion of added value. Considering that the value of sales generated by companies also includes the value of sales from other companies (the former's

10 Assuming a EUR/RON exchange rate of 4.8. It should be noted that upward and downward fluctuations of the forex result in a corresponding change in productivity for the employee in the car factory.

11 The National Institute of Statistics, Anuarul statistic al României, edition 2018, soft copy, p. 101. In order to facilitate the debate, during this study, we will not differentiate between GDP and total added value. In actuality, GDP equals the total added value minus subsidies plus product taxes.

12 The debate on whether GDP is relevant as an indicator of economic activity and social development is comprehensive. Interested readers may see, for start, two recent works: Joseph E. Stiglitz, Jean-Paul Fitoussi and Martine Durand, Beyond GDP : Measuring what counts for economic and social performance, 2018, OECD and Joseph E. Stiglitz, Jean-Paul Fitoussi and Martine Durand (editors), For Good Measure: An agenda for moving beyond GDP, 2019, New York, The New Press.

suppliers), in order to calculate the value actually produced by this company (added value), we have to subtract supplier-related expenses from the revenues achieved from sales. There are significant differences between macro productivity and micro productivity, not least because physical productivity is much easier and more straightforward to calculate at a micro level, where we can differentiate much more easily between productivity in terms of material efficiency proper and as a financial return. Macroeconomically, this distinction is difficult to make in methodological and empirical terms, which is why a whole host of issues surface when conducting a realistic assessment of productivity as well as in the conclusions we may draw from such assessment.

2.3 AN EXAMPLE OF INTERPRETATION

Another element that needs to be taken into account is, of course, the type of resource whose productivity is at issue. Although the concept itself is generally associated with labour productivity, productivity may be calculated for any resource used in the production process: labour, equipment, raw materials, or energy. In theory, any of these factors may be of interest in terms of the (financial or physical) yield of a production process, however, not all these factors are equally relevant, irrespective of the context or purpose. For instance, the productivity of raw materials bears very little relevance with regard to a grocery store. On the other hand , this factor may be highly relevant in the case of a metallurgic plant. In fact, in this latter case the productivity of raw materials is especially relevant because the quality of raw materials and the production process may be improved with the aim of minimising waste and costs and increasing production volume; in cases where no variable relating to raw materials can influence them, then the productivity of raw materials may be of little relevance to assessing productivity. The productivity of equipment is not much of an indicator in a handmade tailor shop (where production volumes are not that relevant, the pace of production varies greatly and the labour force is the main factor of production); however, it may be extremely relevant in a microprocessor plant (where production is at a constant level and largely depends on the performance of capital goods). Similarly, if the focus of interest is on production efficiency, labour productivity may be extremely relevant for an activity that is less automated or not automated at all and vice versa: in a factory that is almost completely automated, labour productivity is not a relevant indicator of efficiency. On the contrary, if we are interested in the potential growth in revenue accounted for by workers engaging in a certain activity, then labour productivity becomes relevant, irrespective of the extent to which that activity is automated (why and in what manner, we shall see in the following).

Macroeconomically, the measurement of productivity is relevant to any of the resources referred to in the foregoing, subject to the proviso that interpretation may not be as simple and straightforward as at the level of an undertaking. And this not only because the benchmark GDP for the macro level is a much more complex and heterogeneous indicator than the added value of an undertaking, but because the same applies to productive resources. Nor can this be avoided if we take into account the multitude of different types of activities and economic actors making up a national economy. All these contribute to the difficulties inherent in any comparison between countries or in an analysis of productivity over time, irrespective of the type of resource at issue.

Let's take, for example, energy productivity, or the yield of energy consumption in generating GDP. In order to venture any meaningful statements about the energy productivity of the Romanian economy, we first of all need to clarify two methodological issues. First of all, energy comes in different forms (heat, electricity) and has several sources (fossil or nuclear fuels, renewable sources, etc.). Therefore, what is needed is a common denominator — a unit of measure that can be generallly applied, and more specifically, in order to be able to measure how much energy the Romanian economy consumes over a given period of time. Usually, this common denominator is the kilogram of oil equivalent, an internationally recognised unit of measure, whereby we can also calculate the level of energy productivity at the macro level. This immediately gives rise, however, to the second issue: what does the resulting figure tell us in absolute terms? The truth of the matter is that we can only assess productivity in comparative terms, with reference to historical performance or to the performance of other countries.

The first chart in Figure 2 illustrates the energy productivity of EU countries, measured in units of GDP (EUR) per kilogram of oil equivalent. The hierarchy is well-known, with Eastern European countries far surpassing Western countries, although developments over the past decade are not at all conclusive as regards East-West convergence. At first sight, we can be pleased that the energy productivity of the Romanian economy was better in 2018 than that of most Eastern European countries (€5.1 per kilogram of oil equivalent, as compared to €4.3 in the Czech Republic, for instance); the differences here are in fact slight, however, especially in comparison to the gap with the West (€ 9.4 in Germany, €18.8 in Ireland). Does the relative efficiency of each economy in transforming energy into goods and services appropriately reflect this ranking order?

Taking into account the foregoing discussion about prices, the answer would have to be "not exactly". Similar to labour productivity in the sector of real estate transactions as compared to the rest of Romanian economy, there are marked differences between the prices of goods and services produced in peripheral areas (in Romania and, more generally, in Eastern Europe) and the prices of those produced in Central (Western) Europe. This is most visible in the case of services, where wages and salaries account for a significant portion of the final cost and, implicitly, the market price, where we see very significant differences in the prices of services in Eastern compared to Western Europe, even setting aside any quantitative or qualitative differences between the two regions.[13] In order to make a more apt comparison possible,

13 There are, naturally, price differences in respect of industrial goods. However, this is a much more complex topic and it will be debated in the following sections of this study.

Figure 2
Energy productivity: a comparison of European Union countries

Data source: Eurostat

we need to adjust the prices. The standard solution is to replace the actual monetary unit (in our case, EUR) with a theoretical one, known as the purchasing power standard (PPS), which sheds light on price differences between countries. The second chart in Figure 2 reflects the situation taking such an adjustment into account, with energy productivity measured as GDP per kilogram of oil equivalent and expressed in PPS. Major differences are immediately apparent as compared to the EUR measurements: at 11.5 PPS/kg of oil equivalent, Romania ranks, in fact, third in Europe, after Ireland and Denmark and, at any rate, significantly above the EU average of 9.1 PPS/kg of oil equivalent.

In both cases (with and without price adjustment), the case of Ireland stands out as an anomaly. How is it possible for Ireland to have such a high energy productivity, far surpassing any other European country? Furthermore, how can we explain the explosive growth of energy productivity in the Irish economy between 2008 and 2018, considering that no other European country has witnessed a development even remotely similar? A significant part of the explanation is to be found in the very particular structure of the Irish economy. It has not been the case that Ireland has developed hyper-efficient economic activities in energy terms. Instead, it has created a regime of tax breaks and incentives allowing multinational companies outside of Europe to register in Ireland significant parts of their revenues earned from activities performed in other countries; in 2017, aggregate profit registered in Ireland that was actually generated in other countries exceeded USD 126 billion (or 37.7% of Ireland's GDP).[14] In other words, Ireland is a major tax haven, especially for US technology companies (such as Apple), the consequence being that Ireland receives an "artificial" GDP boost. Hence, this statistic does not truly reflect economic activity in Ireland, or at least not to the same extent as in other European countries.[15]

A partial solution to the problem is to replace GDP with the gross national income (GNI), which is derived from the difference between GDP and the total net international income. GNI will be higher than GDP if total net income from abroad is positive and vice versa. More specifically, transfers (of wages and salaries, repatriated profit, etc.) of money earned abroad decrease GNI, while transfers of money from abroad increase GNI. Generally speaking, those countries whose economies depend on direct foreign investment and/or remittance may see significant gaps between GNI and GDP, with this being especially observable in the case of tax havens — profits achieved by multinational companies in Ireland are repatriated to their shareholders in other countries, which results in GNI decreasing below GDP. As for productivity, the greater the difference between GDP and GNI, the more distorted the picture painted by use of GDP.

The third chart in Figure 2 offers a comparison between energy productivity benchmarked against GDP and then against GNI. One sees a substantial decrease in the case of Ireland and Luxembourg, as both are major tax havens. It is to be noted that adjustment with GNI is not perfect, with the distortion still remaining high in the case of Ireland.[16] Even if for the other countries the differences are minimal, it is important to understand that estimates of macroeconomic productivity may be considerably influenced by variables completely independent from what is actually produced in a national economy. The example of Ireland illustrates in a somewhat extreme manner a phenomenon that is characteristic of several countries, namely a concentration of profits in the wake of profit centres being formed (facilities invoicing the output of work performed by a multinational conglomerate of entities) or transfer prices (billing at high prices to group entities in other countries, services being supplied or goods delivered from the country where profit is intended to be concentrated). Consequently, part of the revenues reported as having been earned in Ireland are generated, in fact, by business in other countries, where productivity then appears lower than it actually is. Since productivity at the macroeconomic level, irrespective of its nature (energy, labour, capital, etc.), is measured in monetary units, there is always a risk of underestimating or overestimating actual productivity, because financial and material flows do not overlap or the actual and book values of goods and services produced in a given country do not overlap.

Leaving aside these methodological difficulties, which are still highly relevant, how do we explain significant differences between EU countries in terms of energy productivity? The explanation is of course complex; however, we can try to identify certain mechanisms in order to reveal the difficulties of comparative interpretation of productivity. For instance, one can intuitively expect that energy productivity will be less important in more industrialised countries, since industry probably consumes significantly more energy than services; on the other hand, if industrial activities are more productive than services, things may tend more toward equilibrium in terms of productivity. Furthermore, consideration should also be afforded to public and individual consumption of energy, which is higher in developed countries (more public lighting, more household appliances, etc.). This results in a very poor correlation between the share of industry and energy productivity, as one can see in the first chart in Figure 3. At the ends of the spectrum are countries like Malta, with low energy productivity and low importance of industry, or Romania, with a relatively high portion of industry and a level of energy productivity above most other European countries.

Is it a good thing or a bad thing that Romania can boast high energy productivity, while having a relatively industrialised economy? It depends. If consumption of energy matters above all else, the answer is most certainly "it is a good thing". If, on the other hand, what matters is productivity as a resource for economic and social development, the figures indicated by the charts fail to reveal any clear tendency, and may even disguise the opposite phenomenon: energy productivity is high because the economy is largely driven by industrial activities that do not require great amounts of energy, as these activities do not involve complex machinery and transformation, instead relying predominantly on

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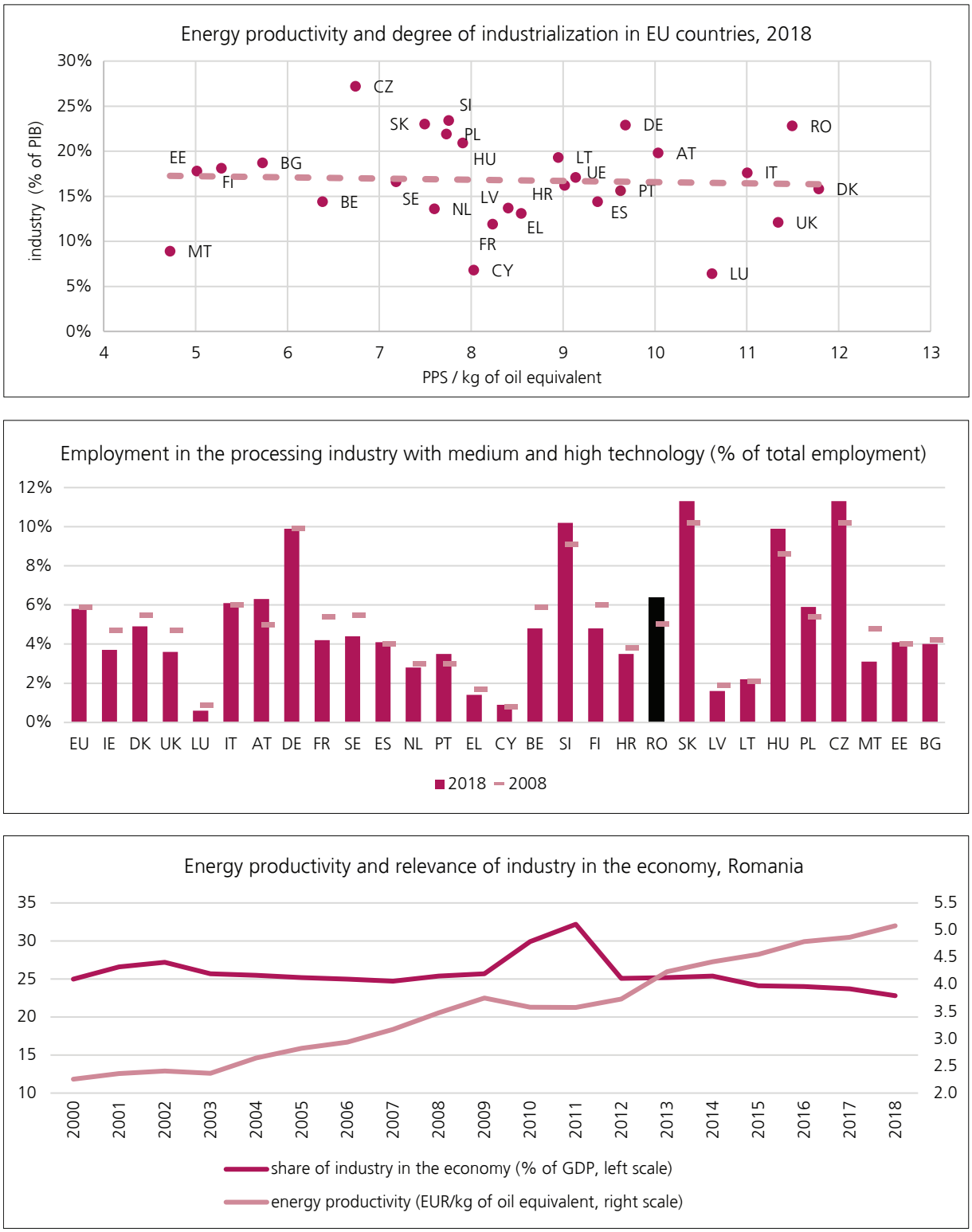
14 Please see https://missingprofits.world/.

15 Ireland is not the only tax haven in the European Union. The same may be said about Luxembourg, Cyprus, Malta and The Netherlands. Please see Thomas Tørsløv, Ludvig Wier, Gabriel Zucman, "The missing profits of nations", 2020, available online at the following link: http://gabriel-zucman.eu/files/TWZ2020.pdf. We will revert to the manner in which macro figures on productivity may be distorted by the added value transfers between countries.

16 For instance, because not all profits are repatriated, some of them being paid as remuneration to top managers, and therefore remain in the calculation of GDP and GNI.

Figure 3
Energy productivity and significance of industry to the economy



Data source: Eurostat, INS

manual processes.[17] This theory is confirmed, at least partially, by the data contained in the second chart of Figure 3, which show that, although Romania is a relatively industrialised country, the share accounted for by medium and high technology industry is low, as compared to other countries with a similar level of industrialisation (the Czech Republic, Slovakia, Slovenia, Hungary or Germany). Even if the level of complexity of Romanian industry has risen steeply over the past decade, there still are huge differences between

17 Lower public and individual consumption in Romania as compared to other EU countries also contributes to a higher level of energy productivity. This difference is associated with a poorer quality of public services and a lower standard of living.

Romanian industry, which continues to predominantly focus on branches of low complexity and capitalisation (car components, textiles, etc.), and German or Czech industry, where heavy industry (motor vehicles, industrial machinery, etc.) have a more appreciable share. We shall see later how a less complex economy is associated with a lower level of labour productivity and a lower potential for the population to earn more and develop socially in a broader sense. What is important here is to keep in mind that an interpretation of comparative figures regarding productivity cannot be solely based on these figures in and of themselves; what is required is a more comprehensive and thorough understanding of the way in which the economy is structured and operates.

The same holds true for the dynamics of productivity over time in the same country. The third chart in Figure 3 shows the evolution of energy productivity in Romania and the share of industry in the economy (as a percentage of GDP) for the period between 2000 and 2018. We can see that energy productivity grew at a fast pace between 2003 and 2004, in a period when the share of industry in the economy was stagnating. This was a period of structural changes in the economy, with real estate booming as described above, an accelerated concentration of business activities, a constant decline in heavy industry and the advance of light industry capitalised from abroad, all adding up to a positive impact on energy productivity. The crisis put a stop to this growth, a period when energy productivity dipped slightly, while the share of industry in the economy suddenly shot up. The temporary increase in the relevance of industry is explained by the strong impact of the crisis and austerity on the services sector and public budget sector in tandem with a insignificant impact of the crisis on major industrial sectors (such as the automotive industry). The drop in energy productivity between 2010 and 2012 is the consequence not only of a greater prevalence of energy-intensive activities, but also of a general contraction of the economy and the impossibility of decreasing consumption of energy on a commensurate scale (for instance, taking a food store as an example, sales may drop, but the cost of electricity for lighting remains the same). Starting in 2013-2014, we witness a speedy recovery of energy productivity, combined not only with overall economic recovery, but also with a decrease in the share accounted for by industry in the economy.

In general, one can say the following: the evolution and development of productivity is highly cyclical. At times of crisis, the usefulness of resources (virtually regardless of their nature —though raw materials may constitute an exception here) cannot be decreased at the same rate as falling demand. In times of rapid growth, productivity goes up because of the higher degree at which productive resources are used, but also because of other mechanisms, such as price increases. Hence, an explanation of variations in productivity over time, as well as differences between countries, requires an understanding of a multitude of factors. Productivity depends not only on material efficiency, but also on prices, demand, on the extent to which existing facilities are used, and on the complexity of economic activities. We are talking here about productivity in general, and not only energy productivity we have just analysed as an example. The implications for understanding the issue of labour productivity are critical.

3

LABOUR PRODUCTIVITY

Labour productivity is undoubtedly what is meant in the public discussion by use of the short term "productivity". Also, in this case as well, the general principles and rules described above apply: we are concerned here with the ratio between the output of economic activity and labour, as a resource used in the production process. Labour productivity may be calculated as physical (volume of production per labour unit) or financial expression (monetary units per labour unit), as it may be calculated at the micro (company) level, or macro (national) level. As it so happens in the case of energy productivity, there is a whole range of interpretation difficulties when it comes to comparing productivity differences between countries (or companies) or analysing the evolution and development of labour productivity over time.

3.1 THE LABOUR PRODUCTIVITY OF BUSINESSES

Before commencing a more detailed discussion of labour productivity from a macroeconomic perspective — the most salient topic in Romania's public debate — let's see how the situation sizes up at company level. As we have already seen, we can calculate labour productivity for a company either in physical terms, or in financial terms. From a physical perspective, productivity will be of a different nature from one sector of activity to another (tons of coal extracted per hour in the case of mining as opposed to code lines per hour worked in the case of software development), which is a source of difficulties afflicting comparison in the absence of financial calculations. In certain sectors, this also holds true in comparisons between companies with apparently similar activities and even within the same company, if it produces several types of goods or services. In general, companies do not publish information on physical productivity (which we can, however, approximate in certain cases), and therefore we have to confine ourselves to financial productivity.

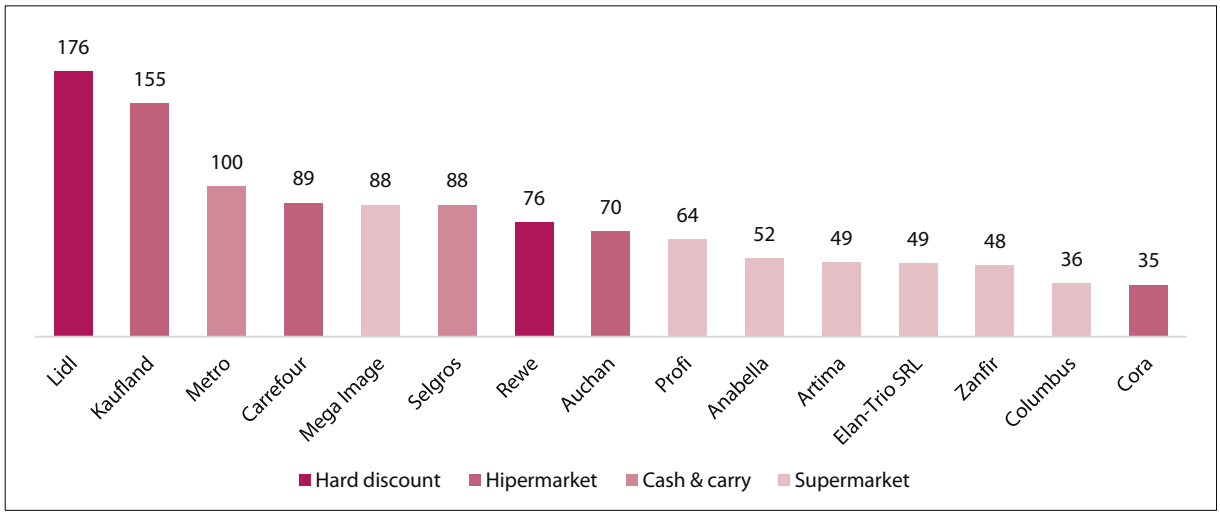
Let's consider, for example, Romania's commercial sector: we can compare financial labour productivity for the top 15 companies (Figure 4). We immediately notice huge differences between companies: Lidl and Kaufland have a productivity rate per employee about 50% higher than any other company's; Lidl's productivity is five times higher than the bottom-ranking Cora. There are multiple explanations for these differences. On the one hand, we are talking about very different business models: hypermarkets and cash & carry rely on large volumes of sales at lower prices, while supermarkets and proximity stores have a smaller physical volume of sales, but "recover" in financial terms, at least partially, because of their relatively higher prices. We say "at least partially" because Figure 4 clearly illustrates how large store chains have a productivity rate per employee that is visibly higher than supermarkets. There are two exceptions: Cora, which failed to sufficiently develop its network and is facing financial troubles, and Mega Image, which enjoys a rather dominant position in Bucharest's proximity shopping sector. The market position may, therefore, influence productivity, just as prices may. Of course, in this case we are also talking about a direct connection between material efficiency and financial productivity, whereas chains generating high productivity also stand out due to their higher labour intensity.[18]

Therefore, considering that we cannot cite major technological differences (for instance, companies with higher productivity per employee are not significantly more automated than others), differences in productivity are mainly explained by the specificity of business models and the market position of companies. In this case, the actual intensity of labour plays a rather limited role for reasons pertaining to the physical and mental abilities of the workforce, so it is difficult to believe that an employee of Lidl actually works twice as much or twice as fast as an employee at Mega Image. The main explanation for the difference in productivity needs to be searched for elsewhere. The more general conclusion is that: *labour productivity, as it is intended to mean most of the time, is not an indication of the mental and physical effort of workers.*

A second example points to additional interpretation difficulties. Let's compare two companies of major significance for the Romanian economy: Automobile Dacia and Ford Romania (information detailed in Figure 5). We are dealing with two companies operating in the same sector of activity, with similar profiles at a first glance. The financial data contained in Figure 5 distils this view, however. At least if we look to figures for the period before 2018, Dacia is a

18 For details, see a complete study on the trade sector: Stefan Guga and Marcel Spatari, *Sectorul comert in România: un bilant dupa trei decenii de transformari*, Bucharest, 2019, Friedrich Ebert Stiftung.

Figure 4
Labour productivity for the main companies operating in the food trade sector, in RON t. of added value per employee (2018)



Source: Stefan Guga and Marcel Spatari, Sectorul comert in România: un bilant dupa trei decenii de transformari, (Commerce in Romania. A look back to three decades of transformation) Bucharest, 2019, Friedrich Ebert Stiftung, p. 47.

much larger company from any and all perspectives with respect to sales (RON 24.8 billion versus RON 10.6 billion in operating revenues in 2018) and the number of employees (14.7 thousand versus 4.4 thousand), and it is significantly more profitable (RON 752 million vs. RON 176 million). We also see that Dacia's business is stable, while Ford grew fast in 2018 (and grew even further in 2019). Looking into the topic more deeply, which case is more productive? Dacia's or Ford's average employee? If we consider operating revenues per employee, we arrive at a possibly surprising picture, with Ford significantly exceeding Dacia in 2018. The explanation for this is to be found, of course, in Ford's significant increase in production and higher car prices compared to Dacia. Nevertheless, sales revenue tells us very little about the value that such companies actually generate, since car manufacturers incur very large costs with suppliers and a substantial part of their operating revenues are used to cover such external expenses. Of similarly little relevance in analysing the value actually created by the company is net profit per employee: Ford has trailed behind Dacia for some time in this particular department. Profitability is influenced by a plethora of factors, among which large investments may play a role by decreasing it (as happens to be the case with Ford over a certain period), or financial structure (liabilities), the taxation system, or HR costs.

Neither sales nor profits generally offer an adequate measures of productivity. In calculating financial productivity, consideration needs to be given to the added value accounted for by each company (the difference between operating revenues and expenses with suppliers). Here again, one notices a distinct difference between Dacia and Ford, with the former registering an aggregate added value that is significantly higher (RON 2.9 billion vs. RON 0.9 billion). In terms of staffing, there is an almost perfect balance for 2018: RON 199 thousand in added value per employee in the case of Dacia, versus RON 201 thousand in the case of Ford. Regarded over time, the situation becomes somewhat more complicated: whereas Dacia's productivity per employee tends to rise constantly on a YOY basis, Ford's productivity appears to plummet, with levels reported for 2018 settling at the bottom of the 2015-2018 period as a whole. For Dacia, standard explanations appear to hold weight: a constant improvement in production efficiency (including intensity), in the product mix (increased specialisation in the production of Duster), pricing policy, the market position, etc. In the case of Ford as well, we are not dealing with any mystery: the company hired labour on a massive scale in anticipation of a spike in production in the following period (+70% in the number of employees between 2016 and 2018), with a large share of employees not even being fully productive, and we therefore may expect a substantial recovery of productivity per employee in 2020/2021.[19] Any comparison of the financial productivity of the two companies should, therefore, take into account that one factory is fully on its feet and operating, while the other is still ramping up. Labour productivity therefore strongly depends on a wide range of factors: company maturity, degree of automation, sale prices of products and purchase prices of components, etc.

How about physical productivity? Up until 2018, Dacia had manufactured more cars than Ford, but using far more employees. The decrease in productivity witnessed in the period described above has more to do with Dacia's refocusing its production on the Duster model (which is more complex and more expensive than previous models) and with the launch of new models than with an actual decrease in activity; on the other hand, for 2018 Ford announced the end of the slump, in which the volume of its production had dropped below 20% of factory capacity. Focusing on the number of employees, in 2018 Ford Romania was still producing 23.2 cars per employee per year, as compared to only 19.1 in the case of Dacia, a substantial and no doubt surprising difference at first glance. In this case, we face

19 Ford Romania has continued to significantly increase its headcount in 2019, too.

Figure 5
Financial status and labor productivity for Automobile Dacia and Ford Romania

Data source: The National Trade Registry Office (ONRC), listafirme.ro, IHS Markit.

difficulties inherent to the calculation of physical productivity, since the structure of the activity conducted by the two factories is rather different: in addition to automobiles, engines are also manufactured in Craiova, approximately 166 thousand of which were produced in 2018; Dacia's factory in Mioveni makes automobiles, engines (452 thousand) and transmission gears (371 thousand). The comparison based on the number of automobiles manufactured vs. the number of employees is therefore irrelevant because it disregards a considerable part of the production of these two companies. If we roughly adjust the number of Dacia employees actually involved in car production (employees of Uzina de Vehicule), we arrive at a significantly higher number (33.5 in 2018), which compared to Ford sounds more realistic. Moreover, with regard to the different degree of automation at the two factories, when we discuss labour productivity from this angle we are referring more to the productivity of the two factories as such and less to the extent to which Dacia employees and Ford employees demonstrate their dedication and commitment to the manufacture of cars and parts.[20] For some time now the labour organisation for the present-day automotive industry has not allowed for such differences to be explained by such factors as workers' state of mind. Therefore, which employees work longer and harder, those at Dacia or those at Ford? It is hard to come up with an answer to this question, and it indeed becomes more or less irrelevant when we include other factors influencing productivity in the equation.[21]

3.2 LABOUR PRODUCTIVITY AT THE MACROECONOMIC LEVEL

Still, the statement that the "productivity of employees in Romania leaves much to be desired" is not a reference to productivity at the company level, but rather to productivity of the economy as a whole or, in other words, productivity at the macroeconomic level. The approach is similar to the case of energy productivity discussed in the foregoing, with the difference being that we are not examining kilograms of oil equivalent, but rather macroeconomic output (generally speaking, gross domestic product), depending on the amount of labour. The way in which the amount of labour input is measured is highly important; standard measures use persons and hours. There are significant differences between the two: since not all persons work the same number of hours, by calculating productivity per person, there is a risk that reality may be distorted. Both in Romania and in the European Union more generally, we have noticed over the past years a widening gap between the number of hours worked and the number of persons employed (Figure 6) — in the end, "flexibilisation" of employment also implies this. Consequently, if we take as reference the number of persons, and not the hours worked, we also risk generating an inaccurate evaluation of how labour productivity evolves and develops.

The data contained in Figure 7 underscores the significant differences between productivity per person and per hour. The first chart illustrates evolution of productivity per person employed in Romania, expressed in Euros and in PPS (as already elucidated in the previous section, subject to price adjustment at international level). Similarly to the case of energy productivity, we see a significant growth in productivity starting in the early 2000s (from €3.8 thousand per year in 2000 to 15.7 in 2008), followed by stagnation during the crisis at the end of the decade, with the positive trend then continuing without interruption (the estimate for 2019 is €14.4 thousand per year, almost 50% higher than 2014). In the absence of any comparison with other countries, PPS adjustment does not tell us a whole lot, however. It is worth mentioning that, even if the ratio between the two decreases over time (in 1995, productivity in EUR was 28% of productivity in PPS, as compared to 57% in 2019), the gap between productivity in EUR and productivity in PPS remains high - one indicator that Romania remains in the category of *low-cost* countries at European level.

Only as an example, since differences are not visible, the second chart in Figure 7 illustrates the curve for hourly productivity in a similar way. The third chart provides a direct comparison between productivity per person (in EUR t.) and hourly productivity (in EUR), but also the ratio between these two. This last indicator shows that we are still dealing with a significant difference between the productivity calculated per person employed and per hour worked. The ratio between the two indicators decreased in the period of fast economic growth in the early 2000s, which reflects the increase in the number of hours worked on average by each employed person.[22] There was a sudden growth surge in the crisis period (2008-2009), when business hours declined

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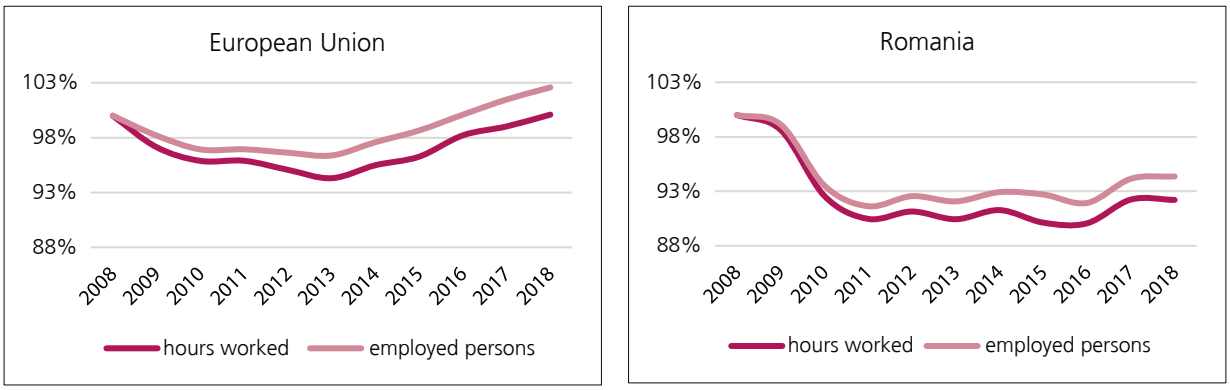
20 Mention should be made here that, in the automotive industry, physical productivity is calculated per hour, and not per employee. Hourly productivity is, in general, a much more relevant measure than productivity per worker.

21 Another issue we should take into account in order to ensure better comparability of productivity indicators between several companies or even within the same company (between several production units, for instance) is the fact that the number of employees does not necessarily reflect the volume of labour input, because the nature of contracts (full-time or part-time?) or the magnitude of overtime is not taken into consideration. If the number of hours actually worked in a company is known, productivity may be calculated as an hourly rate. In order to solve issues involving comparability when the number of hours is difficult to quantify, certain companies calculate not only equivalents of physical production (based on the example of kilograms of oil equivalent, these may be cars or tons of steel equivalent), but also of labour, most often expressed by full-time equivalents (FTE), which provides an answer to the question "How many employees would there be at the company if all employees were working full-time?" It goes without saying, in the case of "full-time equivalent" the matter of overtime is still unresolved, although it may be a critical factor in the labour productivity equation. In other words, not only the degree of maturity and technologisation or the price policy of the company significantly influence labour productivity, but also the nature of contracts, the organisation of working time and the occurrence of overtime.

22 In other words, between 2000 and 2007, the number of hours worked per person increased (which means that there was more actual work). If we assume as a reference unit an average number of business days per year of 250, the increase was from 7.4 hours per day on average to 7.5. It should be emphasised that we are referring to the hours worked by persons in employment and not by employees — as we will see below, this difference is of crucial importance when talking about productivity.

Figure 6
Persons in employment and hours worked in the EU and in Romania (2008 = 100)

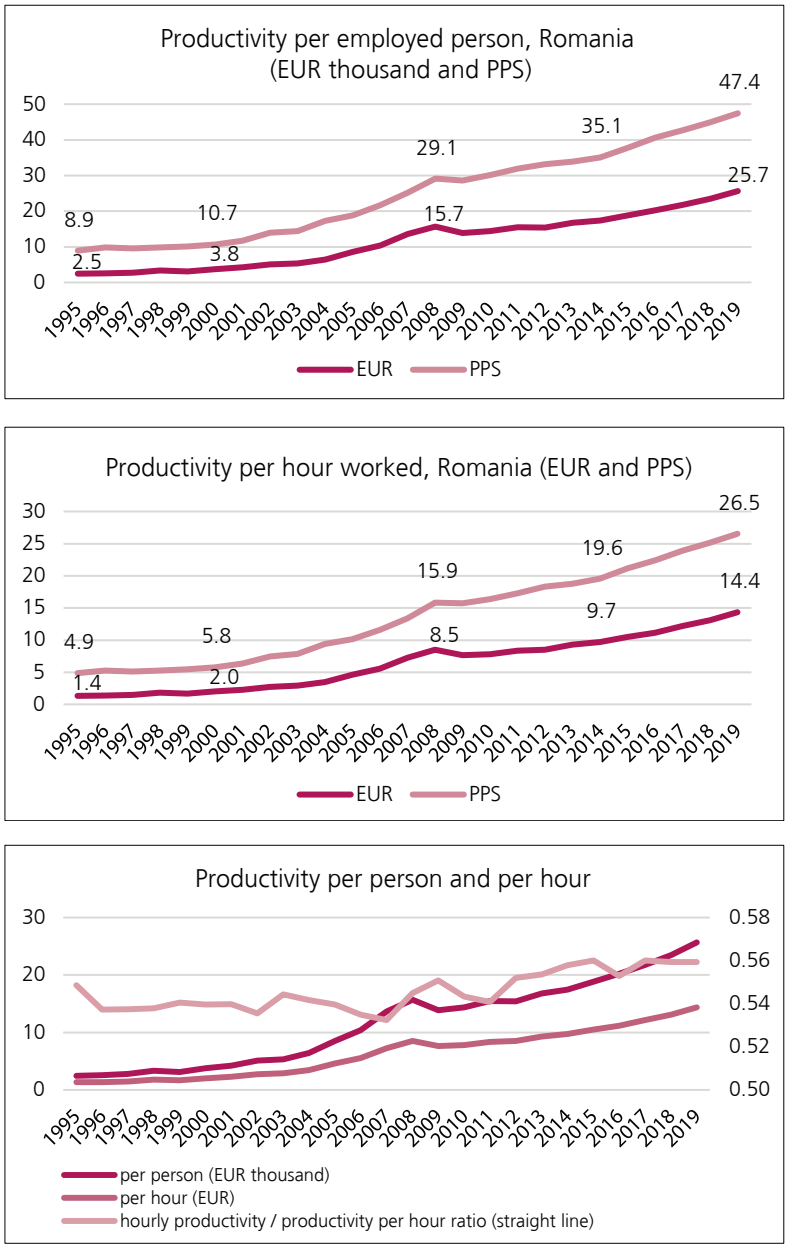


Data source: Eurostat, AMECO

faster than employment, and, starting in 2012, we have witnessed a significant increase, which is rather due to the proliferation of part-time employment, a trend which seems to have come to a halt in the late 2010s, when a shortage cheap labour cropped up again as an issue — a situation where, we can assume, more and more workers are able to opt in for full-time employment. Such developments therefore reflect the evolution and development of productivity. Productivity per hour is always the most suitable map of reality; nevertheless, we frequently refer instead to productivity per employed person, either due lack of information, or because it offers a more advantageous spin to the message which is intended to be sent — for instance, between 2011 and 2015, hourly productivity increased faster than productivity per person, therefore, for anyone who wants to counteract any wage demands, it would be more useful to refer to the latter instead of the former.

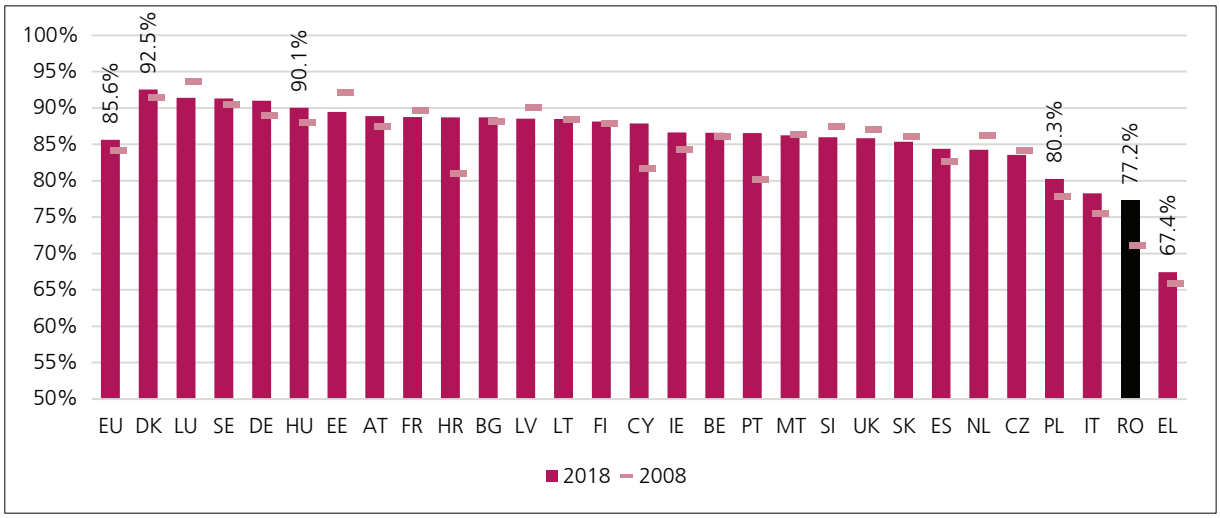
In particular in Romania, we are dealing with yet another significant issue in calculating labour productivity. As can be seen in Figure 8, unlike most other EU Member States, the share of employees in the total employed population remains relatively low in Romania, even though it witnessed a significant increase in the past decade (77.2% in 2018 as compared to 85.6% on EU average, far below countries such as Denmark or Hungary, where this share exceeds 90%). If we consider, on the one hand, that the productivity of persons working for fees instead of

Figure 7
Labour productivity per person in employment (GDP/person) and hours worked (GDP/hour)



Data source: Eurostat, AMECO

Figure 8
Share of employees among the total population in employment in EU countries (%)



Data source: Eurostat

wages or salaries (predominantly self-employed and unpaid family workers) is, for objective reasons (e.g., a dearth of means of production), much lower than the labour productivity of employees and, on the other hand, that labour productivity at the macroeconomic level is calculated on the basis of the total gainfully employed population (per employed person or per hour worked by persons in employment), one immediately realises that some of the productivity gaps between countries stem from comparisons of items that are only partially comparable. In other words, *when benchmarked against the EU average, the calculation of labour productivity is pushed down in countries where the share of employees is below the average (such as in the case of Romania, but also for Greece, Italy or Poland) and, conversely, it is pushed up in countries where the share of employees is above the average, as is the case in Western Europe countries, but also in certain Eastern countries (Hungary, Bulgaria, Slovenia and the Baltic countries).*

As we shall see in following section, the structure of the gainfully employed population also plays an important role when talking about the evolution of productivity over time and, especially, when we consider the ratio between productivity and the cost of labour. Until then, we should note that this issue is not one that can be easily resolved, as national statistics systems mainly rely on the notion of employed persons, and not of an employed person. In other words, it is virtually impossible to accurately calculate the productivity of employees and the productivity of self-employed workers, and we have to be content with productivity of the gainfully employed population. Figure 9 illustrates the European situation, with productivity being calculated in line with the coordinates specified above: per employed person and per hour worked, in EUR and with adjusted prices (in PPS). In the absence of any price adjustment, Romania is the last but for one EU country both in terms of productivity per employed person, and of hourly productivity. As can be seen in the first chart, Ireland and Luxembourg excel when it comes to productivity per employed person, largely in light of the bias generated by the tax haven status of these countries (please see the section above). For ease of comparison, we have excluded these from the analysis of productivity per hour. In the second chart, one sees a major asymmetry between Western countries (where productivity per hour expressed in EURO is above the European average) and Eastern European countries (where productivity is far below this average level). Despite considerable increases in productivity per hour in Eastern Europe after 2008, the gap separating the East from West remains significant. At €14.4 per hour, Romania only registered 34.5% of the European Union average in 2019.

At any rate, we are talking about a structural feature of Eastern European economies, which, as we can see on the third chart, only partially relates to price differences. Of course, the differences have faded significantly— hourly productivity in Romania is 63.8% of the EU average — and the States at the top of the ranking change more or less noticeably — among others, Romania climbs two positions, surpassing Greece and Latvia. Nevertheless, Eastern Europe remains considerably behind Western Europe. Finding a good explanation for this structural difference between Eastern and Western is not an easy task, as its causes are multiple and of a multifarious nature. We are dealing with factors relating to both the actual structure and the operational modes of these economies, and to how they are accounted for, but also to combinations of actual differences and distortions in national income accounting.

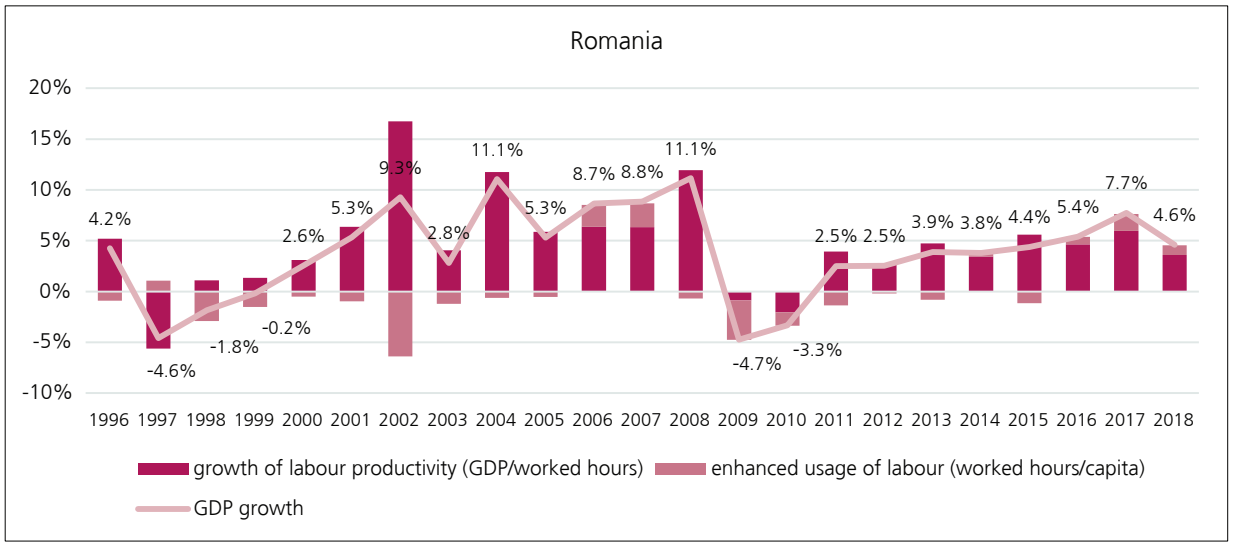
As has been shown above, such distortions are triggered by the structure of the employed population: when comparing countries in terms of productivity of the employed population, we could unknowingly be comparing very different items, since the structure of the employed population may greatly vary from one country to the other and since there are significant differences in productivity among the various categories of the employed population. In table 1, we have adjusted productivity per hour in EU countries (measured in

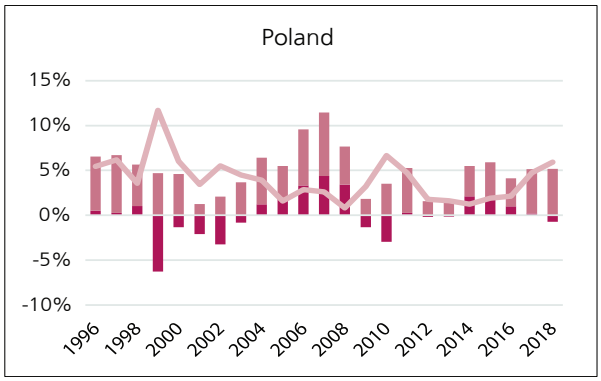
Figure 9
Productivitatea muncii: PIB per persoana ocupata si ora lucrata, arile UE

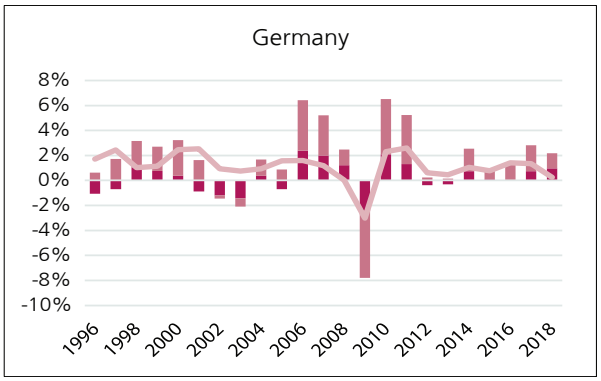
Data source: Eurostat

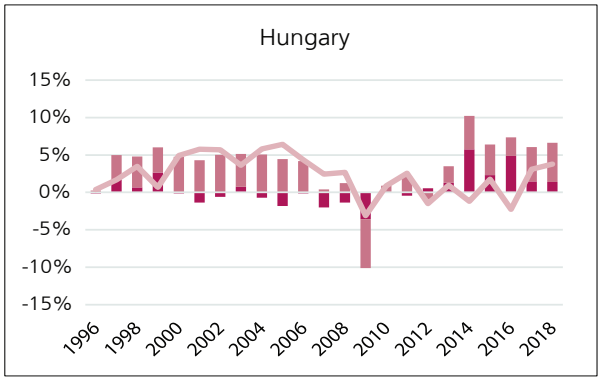
terms of PPS, which means taking into account price differences among the countries) to obtain a comparable structure of the envisaged population based on two assumptions: (1) double productivity attributable to employees, as compared to the unpaid employed population and (2) each country has Denmark's structure of the employed population (the country with the largest share of employees). Such assumptions are in part arbitrary (we know, for instance, that, on average, productivity of employees is significantly higher than productivity of self-employed persons, but we do not know by how much) and are primarily meant to facilitate calculation and use as an example. Pursuant to such assumptions, adjustment increases productivity in all countries, except for Denmark, while the extent of the increase depends on the actual share of employees in each economy (a smaller portion results in a

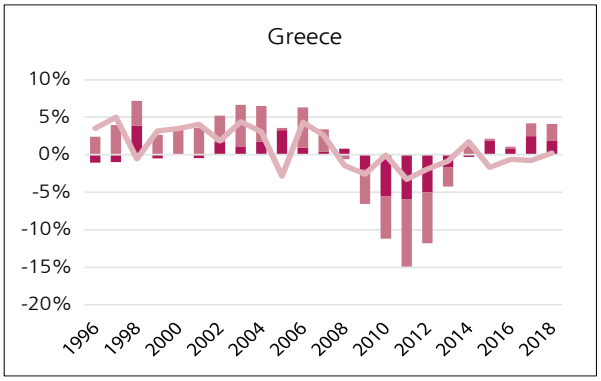
Figura 10
Contribution of productivity and use of labour to economic growth











Data source: OCDE

greater adjustment). Indeed, it is striking that adjusted productivity in the case of Greece is 15% higher than the unadjusted figure, while in Romania's case there is a 8.3% difference. Thus, Romania would range at 64.6% of the EU average, as compared to 61.7% in the case of unadjusted productivity. More accurate estimates may be possible, even in the absence of detailed data. The point here is to understand, however, that, in Romania's case, comparing productivity with other countries poses significant methodological problems.[23] As we have noted, there are also significant differences as regards the structure and operation of the Romanian economy, as compared to Western countries. Nevertheless, in Romania's case, we also face statistical and national accounting distortions which make the productivity calculation inaccurate. Either directly, or indirectly, the focus in the rest of this study is mainly on those factors which may explain differences in productivity.

23 For instance, a more accurate adjustment should take into account a higher ratio between the productivity of employees and that of self-employed workers in those countries where the share of the latter is relatively high and a smaller ratio where this share is low. In the case of Romania, for instance, a large part of the population under employment is made up of so-called unpaid family workers, the productivity of which is certainly lower than in the case of actually self-employed workers.

Table 1
Hourly labour productivity adjusted* under the assumption that the employed population is made up of employees accounting for 92.25% of the total population (the case of Denmark),

	employees (as a % of the employed population)	PPS per hour		EU = 100%	
		unadjusted	adjusted	unadjusted	adjusted
EU	85.6%	40.8	42.3	100%	100%
IE	86.7%	72.4	74.7	177.7%	176.7%
LU	91.4%	72.2	72.6	177.1%	171.8%
BE	86.6%	56.0	57.8	137.3%	136.6%
DK	92.5%	54.7	54.7	134.2%	129.4%
NL	84.3%	51.3	53.6	125.8%	126.7%
FR	88.8%	51.2	52.2	125.5%	123.4%
DE	91.0%	50.0	50.4	122.7%	119.2%
AT	88.9%	48.0	48.9	117.8%	115.7%
SE	91.3%	46.2	46.5	113.4%	110.0%
FI	88.1%	45.0	46.1	110.4%	108.9%
IT	78.3%	41.0	44.3	100.5%	104.7%
UK	85.9%	40.1	41.5	98.3%	98.2%
ES	84.4%	39.1	40.8	96.0%	96.6%
SI	86.0%	34.1	35.3	83.8%	83.6%
MT	86.3%	32.8	34.0	80.6%	80.3%
SK	85.4%	31.6	32.8	77.4%	77.6%
CZ	83.5%	30.7	32.2	75.4%	76.3%
CY	87.9%	31.0	31.7	76.0%	75.1%
EL	67.4%	26.1	30.0	64.0%	70.9%
EE	89.5%	28.6	29.1	70.2%	68.8%
LT	88.5%	26.9	27.5	66.1%	65.1%
PL	80.3%	25.7	27.5	63.1%	65.0%
PT	86.6%	26.5	27.4	65.0%	64.7%
HU	90.1%	27.0	27.3	66.2%	64.7%
RO	77.2%	25.2	27.3	61.7%	64.6%
HR	88.7%	26.4	27.0	64.9%	63.8%
LV	88.6%	24.2	24.7	59.3%	58.4%
BG	88.7%	19.2	19.6	47.0%	46.3%

Data source: Eurostat. Adjustment Syndex.
*The adjustment was made based on the assumptions of (1) double productivity of employees, as compared to the unpaid employed population and (2) each country has the same structure regarding the employed population as Denmark.

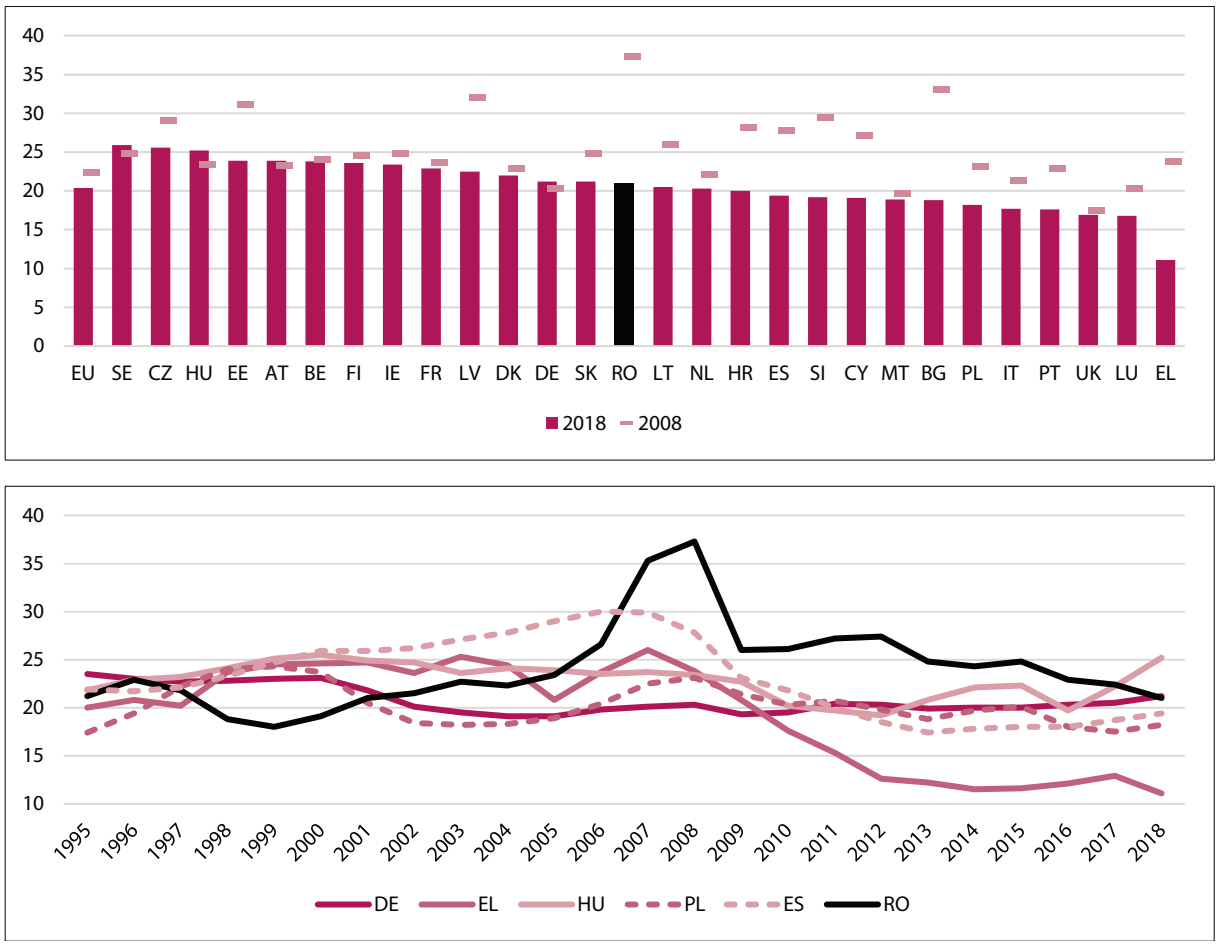
To broaden the discussion, let's return to what labour productivity means at the macroeconomic level. We know that it refers to the ratio between output of an economic activity (gross domestic product) and the resources used in that activity (labour, measured either in terms of working hours or number of workers). Relying on this definition, how can we explain economic growth (an increase in GDP)? Only two factors may contribute to an increase in GDP: either growth in labour productivity, or a rise in the volume of labour. As also happens to be the case in actual practice, these two factors are not directly interdependent, and may act simultaneously. Figure 10 illustrates the way in which these two factors contributed to economic growth in Romania, Poland, Germany, Hungary and Greece between 1996 and 2018. We should keep a few things in mind here. First of all, using both labour (labour volume: number of hours worked or number of workers), and labour productivity display cyclical dynamics, which is especially visible in times of a steep recession (the period 2009-2010 in Romania; 2009 in Germany and Hungary; 2009-2013 for Greece; Poland being a notable exception), when both of these made a negative contribution to the development of national economies. Furthermore, it is also interesting that, as the economies approach the peak of the economic cycle (2006-2007 for Romania, Poland and Germany, 2014-2018 for Hungary, 2017-2018 for Germany, 2016-2018 for Romania), the labour factor tends to increase especially because workers (re-)enter a market facing a shortage of manpower, or policies pushing certain strata of the population into the labour market (inactive persons, immigrants) on top of the pressure exerted by companies needing more labour-power. When we consider the combination of these two factors, we also notice periods of major structural change in Eastern European economies, when use of labour tapers off, while productivity soars (2000-2008 for Romania and Hungary, 1996-2003 for Poland).

The general assumption is that the main factor needed for growth of a mature economy is labour productivity, while the use of labour was expected to make a neutral or even negative contribution as the population ages and birth rates no longer keep up with mortality. As can be seen in Figure 10, reality is slightly different: if Western European countries like Germany may continue to rely on a significant inflow of immigrants, Eastern European countries could rely over time on labour reserves resulting from their massive deindustrialization in the 1990s and early 2000s.[24] At any rate, there is consensus that, in the medium and long term, increase in labour productivity is, more generally speaking, the only sustainable mechanism for economic growth and social development. The underlying assumption is indeed difficult to refute: just like any other resource, the volume of the labour force is objectively limited, and continuous growth depends on improving labour efficiency.

None of the above may have raised any serious issues up to this point, insofar as we do not, in such an analysis, assume that labour productivity actually and objectively measures the material efficiency of labour or accept the moralising narrative which claims that the level of labour productivity primarily depends on workers' level of dedication and commitment (or qualification or skills). If we do so, we make workers responsible for issues for which they are not in the least responsible.

24 The national perspective is of course extremely narrow: Eastern European policies have, in fact, created labour reserves for Western Europe.

Figure 11
Gross fixed capital formation (% of GDP)



Data source: Eurostat

Take the example of energy productivity explored in the previous section. What would happen with labour productivity if, let's say, energy efficiency suddenly doubled, with everything otherwise remaining constant? If energy resources remain the same, there are two extreme alternatives: to either maintain current GDP with half the consumption of energy, or double GDP while maintaining the same consumption of energy. Both variants result in a doubling of energy productivity. Assuming that half of the energy is used while maintaining the same GDP, in the first case we would see a decrease in the volume of labour required to generate and distribute energy, while labour productivity at the macro level would automatically go up; arithmetically, GDP remains unchanged, and the labour volume drops. In the latter case, if labour resources are infinite and there is no other change, labour productivity remain the same (the labour volume doubles, as does GDP); if labour resources are not infinite, then GDP may only increase to the extent permitted by the combination of labour resources and labour productivity. A more plausible, though also exceedingly abstract, scenario would be one in which increased energy efficiency allows goods to become cheaper, triggering greater demand, , in turn stimulating investment, which, after the depletion of available labour resources, stimulates the technological and organisational progress that is required to increase the material efficiency of labour. The actual extent to which we would see an increase in labour productivity would, however, depend on the latter. In other words, factors other than labour (such as the energy efficiency of the economy) may significantly impact the indicator known as "labour productivity".

To summarise, there are a whole range of factors influencing macroeconomic estimates of labour productivity: from statistical or accounting distortions, pricing, market circumstances (demand and use of production facilities), as well as contributions by other factors of production (energy, technology, organisation, etc.). Therefore, when we say that "Romania's labour productivity is X% lower than Germany's", we should have an exact understanding of the labour productivity we are referring to (per hour or per person? In EUR or adjusted to account for price differences? Labour productivity in general or productivity of salaried labour?, etc.), we have to take into account the fact that this indicator is, at any rate, very rough, and we have to understand that we are not refering, as it were, to how much labour or how much effort and dedication certain workers put in their work, in fact, as compared to others. A determining factor in explaining differences in productivity is the capital available for economic activities (or national economies).

Figure 12
Gross fixed capital formation by type of assets (2015 constant prices)

Data source: AMECO

3.3 THE DECISIVE ROLE OF CAPITAL

In the public arena, there are a wide range of narratives with points of tangency with the productivity narrative — meaning with a similar purpose (for instance, slowing down or stopping all pay rises) or connected to it at a theoretical level. Such a narrative, at least as popular as the one on productivity, criticises an increase in consumption as a mechanism for economic growth, implying that this would be to the detriment of greater investment. Even though not always explicit, the rationale is rather straightforward: the authorities should focus their financial and administrative resources on investment instead of pay rises, because investment brings about an increase in productivity, on which economic growth in general depends, as we have just seen in the foregoing. The connection between endowment with capital and technological development, on the one hand, and labour productivity, on the other, is paramount: from a certain point onwards, an increase in labour productivity beyond the objective biological limits of workers can only be achieved by increasing the capital intensity of manufacturing processes and technological progress.

Table 2
Gross fixed capital formation by sector (estimations at constant prices in EUR at the level of 2015)

	Manufacturing industry					Services				Other sectors			
	total	technological level				total	knowledge level		real estate transactions	total	of which		
		high	middle-high	middle-low	low		high	low			construction	agriculture	energy
1995	**11.4%**	0.4%	3.8%	3.3%	3.9%	**67.1%**	39.0%	23.5%	4.6%	**21.5%**	7.7%	3.7%	5.7%
1996	**6.6%**	0.9%	1.8%	1.5%	2.4%	**55.0%**	28.2%	19.1%	7.7%	**38.5%**	9.8%	18.2%	3.2%
1997	**10.4%**	0.9%	3.6%	2.8%	3.2%	**64.8%**	31.0%	28.1%	5.7%	**24.8%**	7.7%	6.3%	5.0%
1998	**16.9%**	1.0%	5.7%	5.0%	5.2%	**47.1%**	24.9%	15.9%	6.2%	**36.0%**	13.5%	4.4%	8.9%
1999	**16.7%**	1.0%	5.5%	4.8%	5.3%	**48.2%**	25.2%	17.1%	5.9%	**35.2%**	13.5%	3.7%	8.7%
2000	**15.1%**	1.1%	5.1%	4.3%	4.6%	**51.4%**	30.1%	14.7%	6.6%	**33.5%**	10.8%	4.9%	7.5%
2001	**16.2%**	1.1%	5.4%	4.7%	5.2%	**50.4%**	24.0%	18.0%	8.4%	**33.4%**	11.1%	3.4%	7.8%
2002	**15.8%**	1.1%	5.3%	4.5%	4.9%	**52.1%**	25.3%	15.6%	11.3%	**32.0%**	10.9%	3.3%	7.6%
2003	**15.6%**	1.1%	5.2%	4.4%	4.9%	**53.1%**	25.3%	16.0%	11.8%	**31.4%**	9.7%	3.7%	7.3%
2004	**15.6%**	1.1%	5.1%	4.4%	5.0%	**48.7%**	20.4%	17.0%	11.2%	**35.7%**	11,1%	4.6%	7.5%
2005	**16.1%**	1.1%	5.3%	4.5%	5.1%	**51.4%**	21.4%	17.1%	12.9%	**32.6%**	10.2%	3.6%	7.7%
2006	**14.5%**	1.0%	4.7%	4.1%	4.7%	**48.8%**	22.0%	16.6%	10.2%	**36.7%**	9.8%	5.1%	6.9%
2007	**14.8%**	0.9%	4.7%	4.3%	4.9%	**49.2%**	21.2%	17.0%	11.0%	**36.0%**	10.8%	3.7%	7.5%
2008	**15.9%**	0.8%	3.7%	4.9%	6.5%	**51.7%**	22.4%	17.7%	11.6%	**32.4%**	11.9%	3.4%	3.7%
2009	**15.6%**	0.9%	5.1%	4.2%	5.4%	**54.0%**	22.8%	17.4%	13.9%	**30.3%**	9.2%	3.7%	4.0%
2010	**14.2%**	1.9%	4.4%	3.8%	4.1%	**50.2%**	22.4%	12.0%	15.8%	**35.6%**	8.4%	5.6%	8.5%
2011	**15.1%**	0.9%	5.0%	4.8%	4.4%	**52.5%**	24.1%	15.2%	13.2%	**32.4%**	9.2%	4.6%	6.5%
2012	**16.4%**	1.2%	6.5%	4.6%	4.0%	**48.0%**	20.1%	13.2%	14.7%	**35.6%**	10.7%	4.4%	9.5%
2013	**12.9%**	0.8%	4.7%	3.8%	3.7%	**45.9%**	20.2%	13.2%	12.5%	**41.2%**	8.6%	7.4%	11.0%
2014	**12.9%**	0.9%	4.1%	3.5%	4.3%	**50.3%**	18.1%	18.1%	14.1%	**36.8%**	6.4%	4.9%	9.6%
2015	**12.4%**	0.9%	4.7%	3.8%	3.1%	**53.9%**	20.6%	15.4%	17.8%	**33.7%**	6.8%	4.7%	7.8%
2016	**12.6%**	0.8%	4.7%	3.0%	4.1%	**54.3%**	17.2%	13.6%	23.4%	**33.1%**	10.7%	3.5%	6.1%
HU (2016)	**31.6%**	4.1%	13.3%	7.9%	6.4%	**54.1%**	25.6%	14.5%	13.9%	**14.3%**	1.7%	3.9%	3.0%
DE (2016)	**19.7%**	3.1%	11.2%	3.1%	2.3%	**74.6%**	26.1%	17.1%	31.4%	**5.6%**	1.1%	1.4%	2.2%
EL (2016)	**14.5%**	1.0%	1.3%	8.7%	3.5%	**68.8%**	49.6%	13.5%	5.7%	**16.7%**	3.3%	6.4%	2.6%

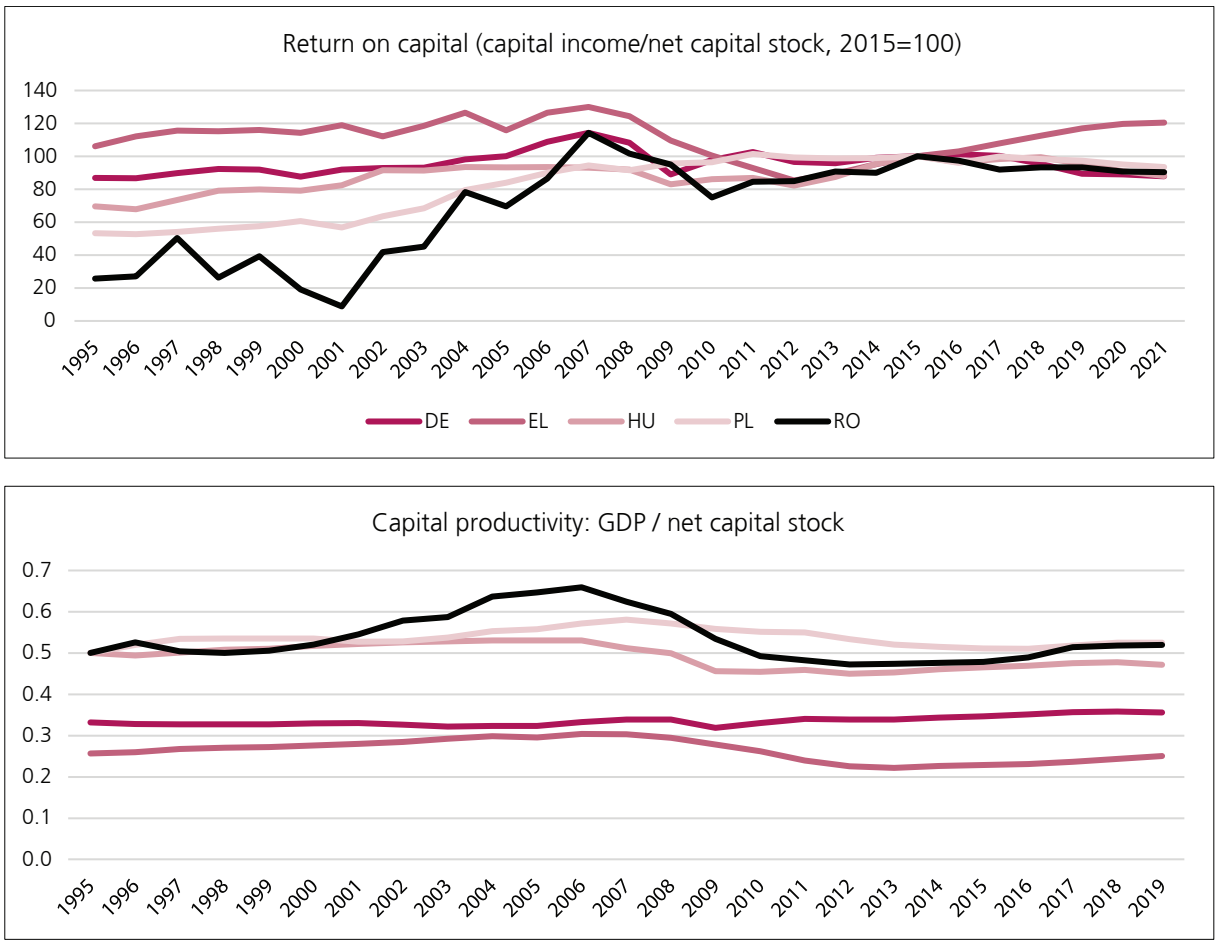
Data source: Eurostat. See also Florin Georgescu, Capitalul in România postcomunista (Capital in post-communist Romania), volume 1, 2018, Bucharest, Academia Română Publishing House, p. 243, 245.

What can be said about capital, investments and the level of technological development in Romania? Just for starters, we can analyse the share of investment activities in the national economy, the relevant indicator here being the gross formation of fixed capital, expressed as percentage of GDP (Figure 11). Just as before, in order to interpret this situation, we have to venture a comparison with other countries and look at historical trends and developments. The first chart in Figure 11 illustrates the situation in Europe in 2018 and 2008. What may come as a potential surprise to certain readers, Romania ranks in the middle of Europe and above the EU average, in terms of the volume of investment in the national economy. As compared to 2008, in most EU countries (except for Sweden, Hungary, Austria and Germany), the share of investment in GDP dropped, while consumption and/or net exports grew rapidly. We also see that the drop in the share of investments in Romania's economy was unusually steep.

The comparison between 2018 and 2008 is, however, rather misleading, as it is immediately apparent from the second chart in Figure 11, where we compare the evolution of the five countries described above (Romania, Germany, Greece, Hungary and Poland) plus Spain. All through this period (1995-2018), in Germany investment accounted for a relatively constant share of GDP, with a slight decrease as a whole and no major fluctuations. Somewhat moderate fluctuations can be seen in Poland (however, with two marked peaks at the end of 1990s and between 2007-2008) and Hungary (where there was a slight and constant decrease until recently, followed by a strong recovery starting in 2017), while in Greece the situation is also dramatic from this perspective, since investment virtually collapsed on a continuous basis starting with the crisis at the end of the 2000s. There are still two cases, Spain and Romania, exhibiting relatively similar developments: rapid increases before the crisis hit (constant in Spain, sudden and explosive growth in Romania), followed by a steep drop during the crisis, with no significant recovery in the late 2010s. The similarity between Spain and Romania and the difference compared to the other countries can be explained by massive real estate investments, which triggered huge real estate bubbles before the crisis broke in 2008-2009 (slowly, but surely, in Spain, suddenly and spectacularly in Romania). A real estate bubble means not only an increase in the volume of construction - it is also associated with a price explosion. If we keep in mind the considerations surrounding the data provided in Figure 1, we understand that the share of investment in overall GDP increases artificially to a large extent, in the wake of skyrocketing real estate prices. On the other hand, when looking at how investment impacts productivity, real estate bubbles tend not to matter too much, since we are not dealing with capital investments that could change the organisation and material efficiency of the production of goods and services one way or another.[25] The issue is a more general one: if we want to look at the impact of investment on productivity, existing macroeconomic indicators are fraught with a host of significant shortcomings, especially since standard measurements barely allow for any differentiation between investments that have an impact

25 We can at most talk about potential improvements in efficiency for construction companies, insofar as they implement technological and organisational changes to take major advantage of the unusually favourable situation existing on the market. This assumption is, however, rather debatable: first of all, the potential for technological improvement or organisational change is relatively limited in this sector; second of all, companies may react by lowering quality.

Figure 13
Return on capital and productivity in Romania



Data source: AMECO

and ones that do not have an impact on material efficiency in production (investment in real estate induced by bubble dynamics, for instance, do not).

A more detailed insight into the gross formation of fixed capital by types of assets can aid a somewhat more realistic understanding of investment dynamics. The charts in Figure 12 illustrate the situation regarding investments in equipment and in non-residential and residential construction. As regards Romania, investment in equipment accounts for a pretty sizeable share in the total volume of investment, although it has been in constant decline over the past decade. Investment in plant and equipment peaked between 2007-2008, fuelled by foreign investment in new manufacturing facilities, an explosive increase in domestic demand and new export opportunities on the heels of Romania's recent accession to the EU. In the same period, we also see investments in construction peaking out, followed by a steep drop, especially in the non-residential segment during the crisis and the years of austerity, but then experiencing a strong recovery once again in recent years. The overall structure of investment changed considerably in Romania after 2008: the share of investment in plant and equipment dropped from 44% to 29% in 2019, while the share of non-residential construction rose from 40% to 44% and that of residential construction surged from 9% to no less than 19%. If we also factor in the fact that a steady part of non-residential investment involves the construction of stores, shopping centres and other assets with a relatively low impact on productivity growth, we begin to see why the recovery of investment over the past few years has failed to push up productivity to the extent one would expect given the strong focus of the public discourse on investments in general.[26]

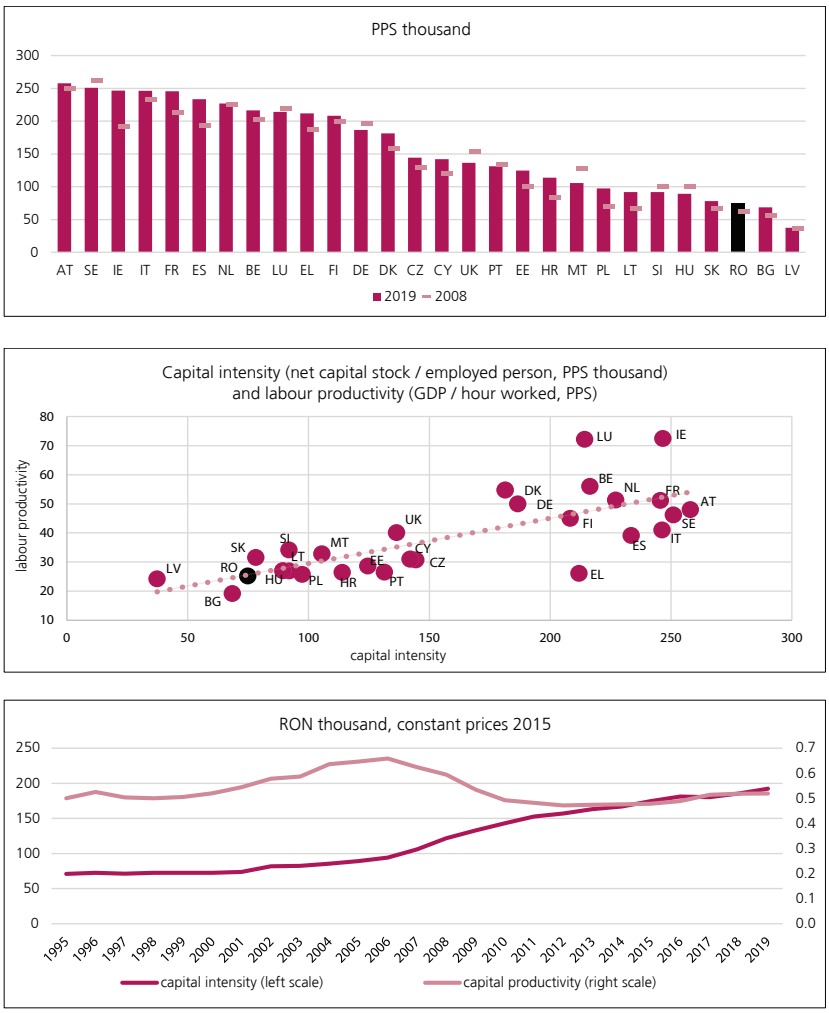
A comparison with other countries sheds even more light on the situation. Data provided in Figure 12 indicate that Romania is rather the exception when it comes to the decreasing dynamics of investment in plant and equipment, not taking into account here the peculiarly singular case of Greece, where the situation continues to be very dismal. Productive investment has rapidly risen over the past few years in both Poland and Hungary, while in Germany investment in equipment has seen a consistent upward trend, with slight disruptions during the crisis. The great value of residential investment in Germany is attributable by the much higher prices there compared to Eastern Europe. It should be noted, however, that this investment has been remarkably

26 See Florin Georgescu, *Capitalul in România postcomunista*, volume 1, 2018, Bucharest, Academia Româna Publishing House, pp. 235-244

constant, especially when compared to the major fluctuations in Greece and Romania. As a whole, what makes Romania stand out is the focus of investment on construction, much of which plays a minor role in productivity increases.

Diving even deeper, a look is warranted at investment made per sectors of activity, depending on the level of technological development (table 2). Over the long run, we see in the table not only the deindustrialisation and economic crisis of the 1990s (when investments in the manufacturing industry reached an all-time low as compared to the other sectors), but also foreign investment in the early 2000s and especially investment in the automotive industry, which continued at a high volume in the early 2010s (in 2012, for instance, 6.5% of investment went to manufacturing industry with a medium-to-high technological level, including the automotive industry). At any rate, we cannot see a trend oriented towards high technology industries, nor is this the case with services, either, where investment in sectors with a high knowledge level dropped from 30.1% of the total in 2000 to 17.2% in 2016 (despite the greater attention devoted, for instance, to the IT sector). Real estate transactions and the energy sector (perhaps) are the only areas of the economy to have registered spectacular growth in the past twenty years.

Figure 14
Capital return and productivity in Romania



Data source: AMECO

At not more than 12.6%, the share of investment in manufacturing industry in Romania out of total investment was in 2016 far below the level in Hungary and Germany, and it was even behind Greece. As is probably apparent, investment in the manufacturing industry lagged behind economic recovery in the past few years, when significant increases were seen in construction (which leaped from 6.8% in 2015 to 10.7% in 2016) and especially in real estate (from a low of 12.5% in 2013 to 23.4% in 2016). Investment in construction accounts for a large share of total investment in Romania compared to the other countries included in the comparison here. At any rate, Romania is definitely not an economy where investment is directed towards high-tech industry (the comparison with Hungary is apt in this respect). The situation is actually even worse than this data would suggest, as the analysis considers the entire automotive industry to have a medium-high technological level, without any distinction being made between the production of complex components, which indeed require the use of high technology, and the production of simple and cheap components, where production mainly relies on inexpensive manpower. The automotive industry in Romania, however, is largely specialised in manufacture of the latter.[27] As a whole, we see that not only does Romania have a worse position than other countries in terms of high-tech plant and equipment, but also that the situation is not improving: in percentage terms (but also in terms of absolute value), investment in high-tech industry is tending to decline, while the same phenomenon can be observed in the case of services with a high level of know-how requirements. On the contrary, in addition to real estate and construction, we see more investment going into services with low levels of know-how and a constant level of investment in medium and low-tech industry. In such a case, it is difficult to characterise the Romanian economy as resting on solid foundations for an increase in productivity.[28] Romania offers a clear example

27 For details, see Stefan Guga, *Industria auto incotro? Tendinte globale, perspective periferice,* 2019, Bucharest, Friedrich Ebert Stiftung.

28 Naturally, if the reference point is the tragic situation in the late 1990s, things are far better today, in terms of economic complexity and level of technological development. Nevertheless, to claim that there is

that "investment" in the wider sense does not automatically increase development potential.

How efficient is, after all, capital in generating added value in Romania? In other words, how productive is capital? First of all, we should recall that we are not discussing questions like this from a capitalist perspective, as capitalists are not that interested in the productivity of their own capital (added value generated), but in the return thereof (profit). As we can see in Figure 13, there may be rather significant discrepancies between the two. The return on capital (calculated as the ratio between revenues generated by capital and the stock of capital) increased substantially in Romania during the 2000s, an unparalleled development at the European level, while the nosedive it took during the crisis was equally and relatively strong, as compared to other countries. The crisis was followed by a period of recovery (2011-2015), with a slight dip toward the end of the period. When compared to the productivity of the capital (the ratio between GDP and the stock of capital), we can draw several very interesting conclusions. The case of Greece after 2012 abundantly illustrates the difference between the two: capital productivity remained low as compared to the 2000s, while the return quickly went up to a level comparable to the pre-crisis period. The explanation is to be found in the magnitude of the decline (relative and absolute, in the case of Greece) of total income corresponding to labour, which allowed a strong increase in capital revenues without a comparable increase in the productivity of capital — in other words, in the context of stagnant productivity, the return on capital increases due to the change in distribution of income between capital and labour. In Romania, we see a similar (or even stronger) development in the 2000s, resuming in the post-crisis years (2011-2015), followed by a slight reversal, with revenue for labour being the one statistic that outpaced productivity. We will see in the following section what this means in a broader discussion of productivity and remuneration of labour.

In the second chart in Figure 13, one can identify an apparent paradox: in Romania, the productivity of capital is consistently higher than in countries such as Germany or Hungary. We have seen in the foregoing that, in terms of labour productivity, things are precisely the opposite. How can this difference be explained? Is capital in Romania unusually efficient? Of course not. Even a cursory examination shows: economic activity in Romania is labour-intensive and relies on a low stock of capital, unlike countries such as Germany, where economic activity is highly capital-intensive. Indeed, as can be seen in the first two charts in Figure 14, Romania's economy has a very low capital intensity, almost three times lower than Germany's and four times lower than France's (the data here is expressed in PPS. When expressed in EUR, discrepancies are considerably greater). The low intensity of capital means a low level of labour productivity, as is revealed in the second chart, where the Eastern-Western European dichotomy is as pronounced as one would expect, and so are the exceptions we have detailed so far — the tax havens (Luxembourg, Ireland) and the economies gripped by crisis (particularly Greece, but also Italy and Spain). Unlike these countries, Romania is perfectly consistent with the rule: in the absence of capital, labour productivity cannot be high.

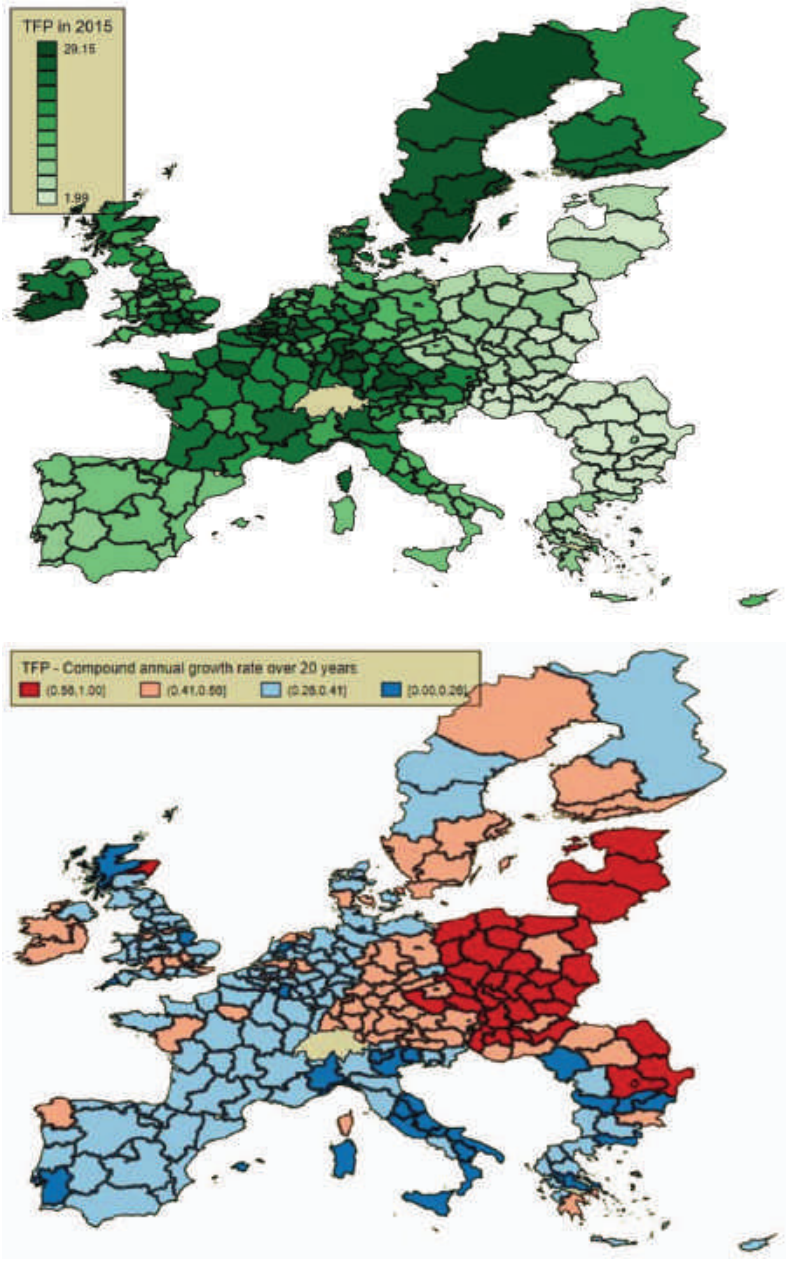
Nevertheless, the third chart in Figure 14 seems to offer grounds for optimism: beginning in 2006, capital intensity has been growing steadily in Romania, also consistent with the rule described above, namely that regarding a decrease in the productivity of capital (which, in fact, coincides with increased labour productivity). Despite this seemingly significant development, it does not change the fact that the Romanian economy is chronically undercapitalised as compared to most other EU countries. As Florin Georgescu has described in detail, this undercapitalisation is due to an economically unsustainable approach by many companies in Romania, whether we are talking about domestic or foreign capital: shareholders lend money to their own companies, instead of endowing them with capital, while fiscal optimisation is a widespread practice, in which owners shy away from risks typical of businesses, and companies are oriented towards fast profits, irrespective of the costs and consequences relating thereto.[29] Under such circumstances, it is no wonder that pressure on the labour market, which one would expect to push companies to increase their capital intensity is, in fact, counteracted by measures aimed at slowing down pay rises and ensuring low labour costs — part and parcel of these measures is also to nurture the narrative on "insufficient" productivity, which we discussed in the introduction here.[30] We shall examine this in more detail in the final chapter of this study. Before this, however, we would first like to explore how material efficiency may be inferred from an analysis of productivity. And we are well-advised to keep in mind the apparently paradoxical finding described in the foregoing: the less technologically developed capital is (like in the case of Romania), the greater the productivity of the capital.

convergence in the complexity and technological plant and equipment available in Romania and in the Visegrád countries would be an overstatement. The example of distortions in statistic measurements in the case of the automotive industry (distortions which place Romanian industry on the same level as significantly more developed industries, such as that of Hungary) is not an isolated occurrence, and scattered investment in medium and high technology cannot change the macro reality. With regard to the theory that there is a converging degree of economic complexity in Romania compared to its neighboring countries, see Cornel Ban, "Dependent development at a crossroads? Romanian capitalism and its contradictions", West European Politics, 2019, vol. 42, no. 5, p. 1041-1068. A more detailed analysis of the lack of technological development in Romania's economy is not warranted here, as significant and relevant as it may appear. For readers interested in topics such as research and development, see Ban's analysis.

29 Florin Georgescu, *Capitalul in România postcomunista*, 2018, Bucharest, Academiei Române Publishing House.

30 Of course, an associated package of measures concerns the quantitative increase of the labour force supply (by hiring workers from abroad or by "activating" inactive categories on the labour market — retired or disabled persons, etc.). The quantitative increase in the labour force supply would ease the pressure in the labour market for pay rises, and, therefore, also serve as an alternative to increased productivity by leveraging additional resources from companies (financial resources, of course, but also management resources)..

Figure 15
TFP at regional level in the European Union, 2015 (chart 1) and average annual growth of TFP, 2001-2020 (chart 2)



Source: The European Commission, Employment and social developments in Europe, Sustainable growth for all: choices for the future of Social Europe, Annual Review 2019, p. 96, 115.

3.4 MULTIFACTOR PRODUCTIVITY

So far, we have focused on labour (as well as energy and capital) productivity from a one-sided perspective, as if labour (or energy or capital) were the only production factor: we have benchmarked the output of production (GDP) against labour, energy and capital, on a separate basis, without trying to directly interconnect the factors. Whereas the purpose is to shed light on the issue of labour productivity, as it is being discussed today in the Romanian public arena, this perspective largely suits our needs, since the notion of productivity is understood as we have described in the foregoing, namely from the standpoint of only one single production factor, in the vast majority of cases. More rarely do we shift the focus to multifactor productivity, where labour and capital are interconnected in the effort to measure the contribution of each factor to the creation of economic value.[31] While this analysis predominates in the expert opinion on productivity, it is at least as approximate and incomplete as the single-factor perspective on productivity.

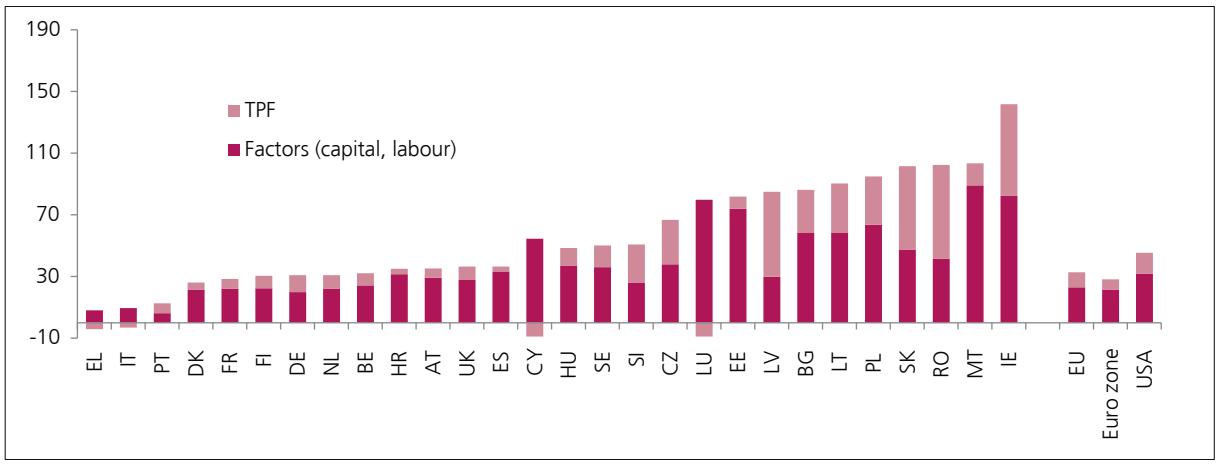
3.4.1. Estimated gains in material efficiency

The multifactor analysis of productivity is mainly aimed at determining the extent to which economic growth is influenced by an increase in the volume of resources used (in our case, workload and capital volume) and the greater efficiency with which such resources can be combined in production. Unlike single-factor analysis, which tackles, for instance, the workload and labour productivity on a separate basis, multifactor analysis relies on the determination of a mathematic relationship between GDP, labour and capital, a [relationship] which in a very simplified form looks like this: GDP = Labour x Capital x TFP, where TFP is the abbreviation of "total factor productivity".[32] Two things need to be kept in mind regarding TFP: 1) it is considered to be an indicator of efficiency in the use of resources (actually, al productivity); 2) it is measured indirectly, as an artifact or element not explained by the evolution of workload and capital volume. Obviously, the major concern with TFP is that it affords a rather unreliable measurement of productivity, since we do not know what we are actually talking about. In standard analyses, TFP actually tells us something about resource allocation (TFP increase may

31 The sources are always experts: representatives of the Ministry of Finance, of the National Bank of Romania, members of academia, etc. The reason is simple — the analysis of multi-factor productivity is more complex and difficult to interpret — which is why this approach is not very salient in the public debate in Romania.

32 The correct form of what, in specialised language, is designated as a production function of the Cobb-Douglas type is $Y=L^{\alpha}*K^{\beta}*TFP$, where Y = output (GDP or added value), L = labour, K = capital, TFP = total factor productivity. α and β are the output elasticity of labour, or capital, respectively; in other words, these are coefficients which express the contribution the volume of each factor makes to GDP growth (α tells us the contribution to growth by Y, expressed as an increase of L). It is interesting to note here that α and β are often estimated as equal to the part of total revenue relating to labour and capital (α is the salary portion, while β is 1-α) — this is only one of the ways in which productivity overlaps with distribution at the methodological level.

Figure 16
Increase of potential GDP in EU between 2001-2020 (%)

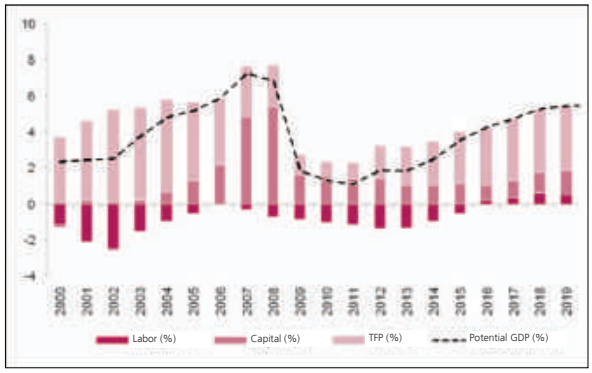


Source: The European Commission, Employment and social developments in Europe, Sustainable growth for all: choices for the future of Social Europe, Annual Review 2019, p. 95.

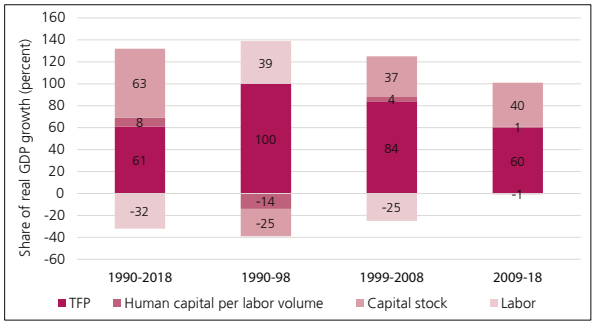
be determined by the reassignment of labour power and capital to more efficient activities) or about the increase in resource quality (TFP increase may be determined by improved skills of manpower or by the technological progress of capital).[33] The latest improvements in TFP analysis reveal, however, that the evolution and development of this indicator may be explained by factors that have nothing to do with productivity understood as material efficiency in the use of labour and capital. Status of demand, status of competition or quality of products play independent and important roles in explaining variations in TFP.[34]

As we can see in Figure 15, a comparison between TFP levels across Europe produces the same picture as the one described above, with a considerable gap appearing between Eastern and Western Europe, despite regional differences. This gap is of course reversed when we look at development over a period of two decades, with growth rates being much higher in the East than in the West, plus a relative stagnation being evident in many regions in the South of the continent (Figures 15 and 16). In theory, the explanation for the substantial differences in growth rates is that in the economically developed countries, it is relatively natural for efficiency to grow incrementally, while in Eastern Europe we have of course witnessed a process of convergence, with the increase in TFP slowing over time. At any rate, it must be noted that, despite consistently higher

Figure 17
Contribution of factors to the increase of potential GDP, Romania



Source: The National Forecast Commission, "Potential gross domestic product. Indicator assessing the economic and budgetary sustainability", 7 March 2018, p. 14.



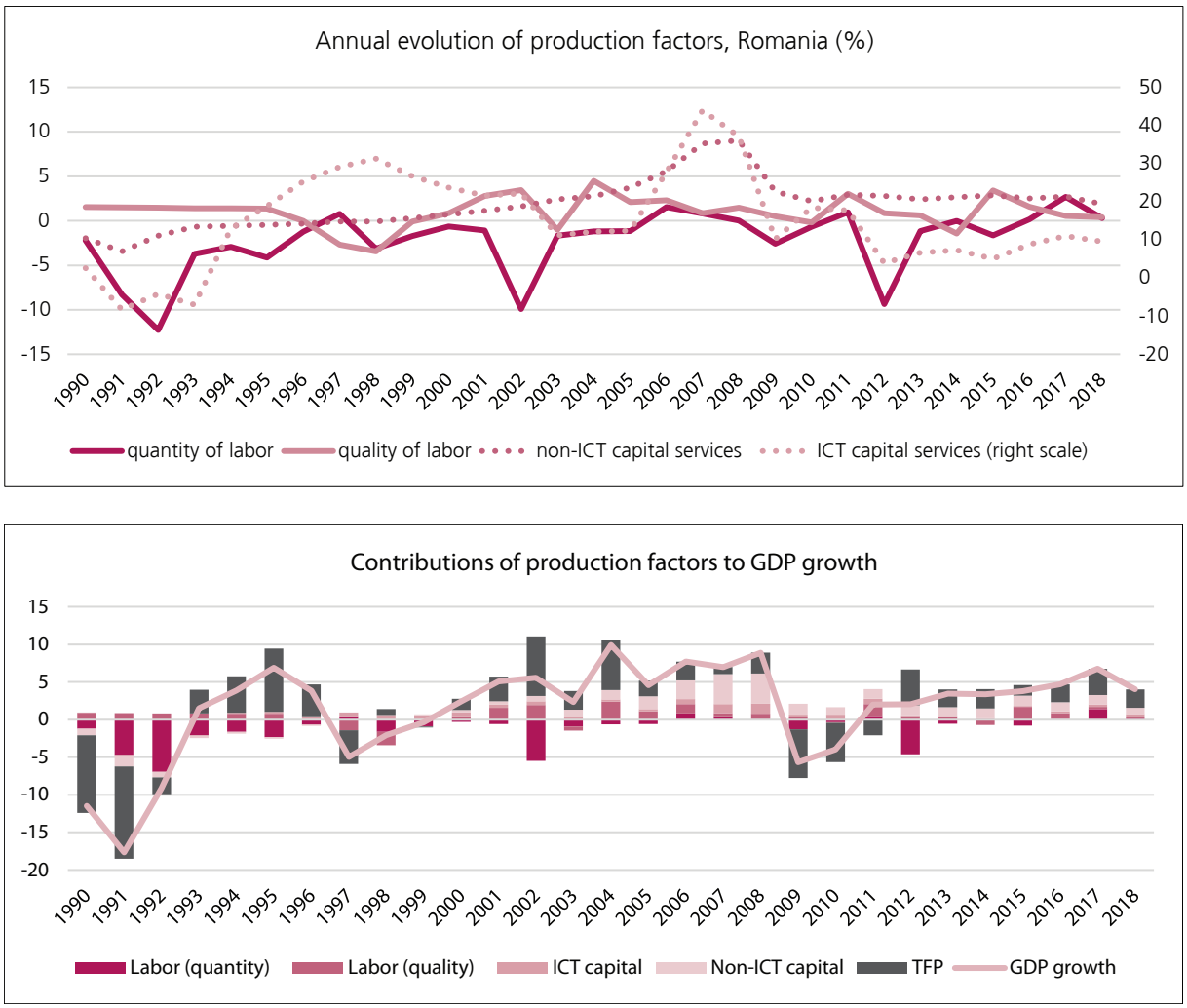
Source: The World Bank, Markets and People: Romania Country Economic Memorandum, 2020, p. 6.

growth rates for Eastern European countries, the gap to the West remains very large. In Romania, this is amplified by irregularities in the Eastern European landscape, with certain regions (West and South-West) turning in very poor performances. Thus, by breaking down economic growth into the contribution of TFP and the contribution of production factors (labour and capital), we can see that in Romania more than half of economic growth in the past twenty years is explained by TFP (and hence, in theory, by increased efficiency in the use of resources), a performance that is topped only by Latvia (Figure 16).

33 For a recent analysis at the European level applying these assumptions in relation to TFP, see The European Commission, *Employment and social developments in Europe, Sustainable growth for all: choices for the future of Social Europe. Annual Review 2019*, chapter 3..

34 This criticism is explained in detail in Ana Paula Cusolito and William F. Maloney, *Productivity revisited: shifting paradigms in analysis and policy,* 2018, World Bank. Relying on company-level data analysis, the World Bank program revisits the multifactor outlook on productivity and is gradually extended by thorough analyses at country level (including Romania, as we will see below). It has become increasingly popular even outside the Bank, being adopted by the OECD. See OECD, *Productivity and jobs in a globalized world: (how) can all regions benefit?,* 2018.

Figure 18
Evolution of production factors in Romania and breakdown of economic growth



Data source: Conference Board Total Economy Database. The data are adjusted to take into account the evolution of prices and the quality of ICT capital.
The contribution of capital is measured by the increase in capital services, and not by the evolution of capital stock.

Taking a closer look at how productivity has developed over time in Romania, we see in the first chart of Figure 17 that TFP explains most of the economic growth for each year, with labour having a predominantly negative contribution, save for the most recent period. After the period when investment peaked (2006-2008 — see the foregoing discussion on the gross formation of fixed capital), capital made a relatively modest contribution in the wake of the crisis that broke out at the end of the 2000s. Still, in a recently published analysis, the World Bank estimates that, over the long term (for the period 1990-2018), the increase in the capital stock was in fact the most significant growth factor, followed closely by the TFP increase, while labour made a fluctuating contribution (on the whole, negative, however) during this period (see the second chart in Figure 17). The 1990s differed in terms of erosion of the capital stock and, somewhat surprisingly, through a higher contribution by the workload, which reversed in the 2000s.[35] What is new in this analysis is the decoupling of human capital (skills and abilities of the labour force) from TFP, with the contribution of the former over almost three decades, however, only being modest when we take into account the ostensible transfer from the "pile-of-junk" industry of the early 90's to the supposedly high level of complexity characterising the Romanian economy today.

The attempt to separate the contribution made by human capital from the contribution accounted for by TFP is not accidental. After all, if TFP suggests anything that cannot be attributed to the increase in capital volume and workload, it is not easy at all to interpret this, with there being considerable room for speculation and assumptions of a more or less realistic nature — in the end, the assumption that TFP actually and for the most part measures gains in material efficiency in fact lacks

35 It is worth emphasising that estimation of the contribution of labour is not related to labour productivity, but rather to the workload. Additionally, this contribution is weighted with the salary portion of GDP (see footnote 32), which means that a decrease in the salary portion in GDP tends to decrease the contribution of labour (and vice versa). Regarding this, see OECD, *Measuring productivity. OECD Manual: measurement of aggregate and industry-level productivity growth*, 2001, p. 46.

foundation. [36] This is no secret, so the issue is thus to find a reliable alternative to explain what is in fact behind an indicator as amorphous as this. We have already seen that there are analyses in which the evolution of labour quality (human capital in Figure 17) is separate from TFP. Among the most thorough attempts to determine what is behind TFP is the think-tank of The Conference Board, which regularly publishes a database containing a breakdown of economic growth into five components: the quantity and quality of labour, capital relating to information and communication technology (ICT) separated from remaining capital and what remains from TFP. As compared to the World Bank data, this approach offers substantial improvements. First of all, as strictly relates to labour quality, there are comparable factors at the global level. Second of all, capital is not measured as stock, but in terms of capital services; in other words, the contribution of capital is measured in much more realistic terms, as the quantity of services supplied by the production stock, with it being a given that the stock of capital as such is not permanent or fully involved in economic activity. Thirdly, ICT capital services are separated out, as they play a role sufficiently important so as to warrant special attention. Furthermore, adjustments are made as regards the contribution thereof in order to factor in the rapid and substantial improvement in the quality and increase in their relevance to economic activity — in the absence of such adjustments, the actual contribution of ICT capital services would be significantly underestimated and some contributions by capital, particularly labour, would be erroneously attributed to TFP.[37]

Figure 19 illustrates the dynamics of production factors and their contribution to the growth of GDP in Romania between 1990-2018, according to data from The Conference Board. There is a steep increase in ICT capital services (hardware and computer equipment, telecommunication equipment, computer software) since as early as the 1990s, which continued throughout virtually this entire period; the only interval where growth rates remained below 10% was the post-crisis period in the early 2010s. Thus, ICT capital follows the more general rule underlying the evolution and development of capital in Romania: the peak in the growth cycle was reached between 2006-2008. Even if the development of ICT and non-ICT capital services was positive in the past decade, it was much lower than in the economic boom years of the late 2000s (hovering around 3% for non-ICT capital and below 10% for ICT capital). Over the past three decades, the workload dropped continuously, except for the years of economic boom (2006-2008, 2016-2018) when the issue of labour shortage quickly crops up. On the other hand, except for the recession years, the quality of labour seems to have shown a positive trend, with the greatest increases being witnessed in post-recession periods, before the years of boisterous growth. In other words, we can see that, after periods of crises, the quality of labour increases, whereas after the growth potential is depleted, there is an increase in the workload — in general, the dynamics seem to be confirmed by trends in the labour market.

The extent to which these factors contribute to economic growth cannot however be inferred from their procentual development. As we can see in the second chart of Figure 18, the contribution of ICT capital remains low throughout the period 1990-2018 and even between 2006-2008, when the accumulation of non-ICT capital was the main growth factor. In fact, ICT capital services continue to weigh very little as compared to capital as a whole and would have weighed even less in the absence of the adjustments on which the data contained in Figure 18 are based. On the other hand, the contribution of labour to economic growth remains as described above: negative overall with respect to the workload, save for the periods of economic boom; positive overall with respect to labour quality, except for the periods of recession and boom.

A comparison with other countries (Figure 19) confirms the relatively small contribution made by ICT capital to economic growth. In Eastern Europe, we would note that in Hungary the post-crisis increase largely resulted from the increase in workload, while in Poland non-ICT capital remained at a comparatively high level. Just as in the case of Romania, a labour shortage has surfaced recently, however, with this phenomenon materialising after more or less extended periods of workload increases (Hungary - between 2013-2017, Poland - between 2014-2016), while in Romania the only year when the increase in workload was significant was 2017. On the other hand, in Romania, we can see a more considerable contribution having been made by an improvement in labour quality, which may be evidence of a slight inclination favouring the Visegrád countries in terms of complexity of economic activity (on this, see footnote 28). At any rate, in Eastern Europe, economic booms would appear to quickly drain labour resources, which does not seem to be the case in countries like Germany, where the contribution of workload is greater than that of capital or TFP. Here again, we can see

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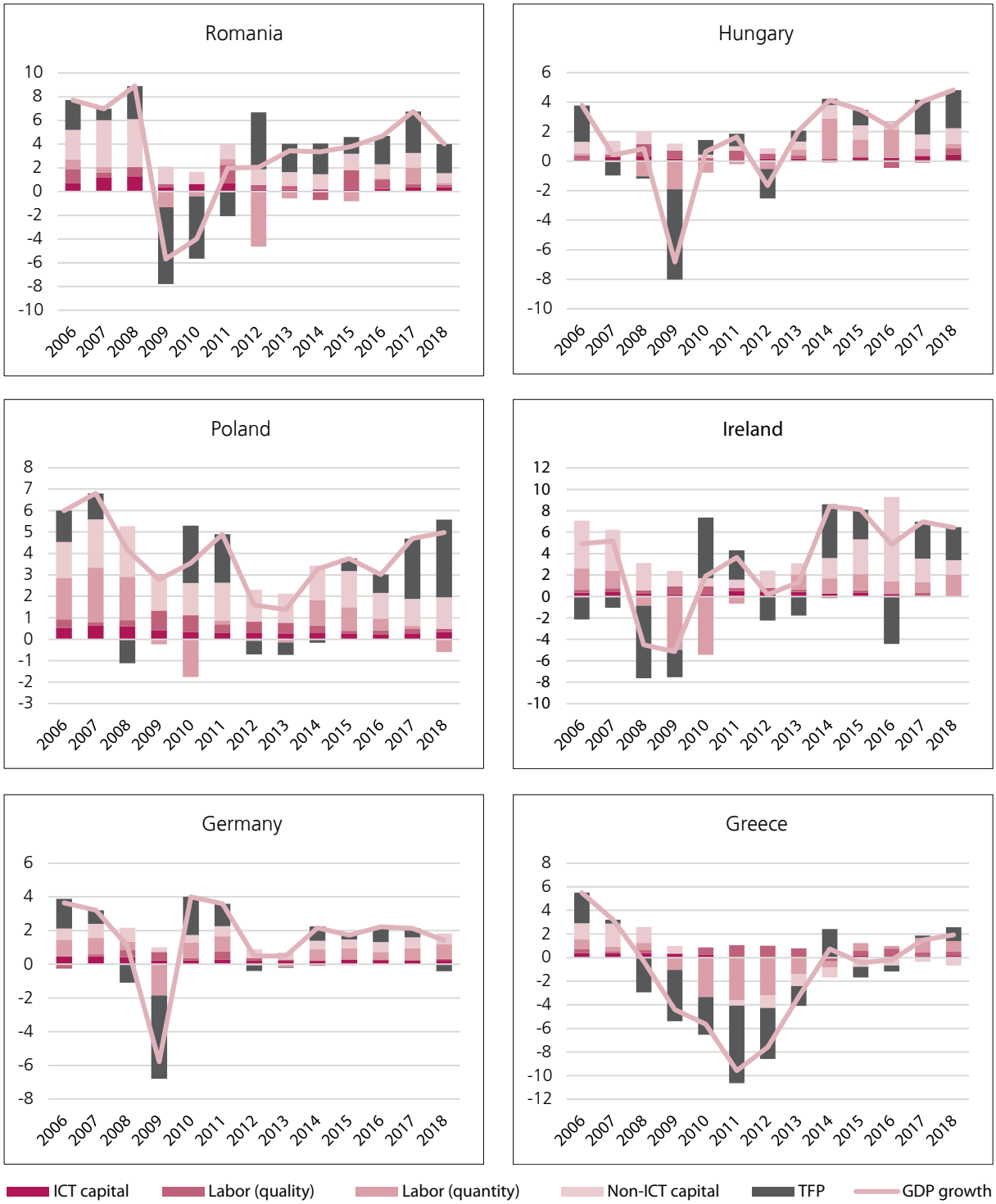
36 Moreover, in the past decades, the evolution of TFP did not seem to keep up with technological development: despite the substantial technological progress mainly due to the development of computer technology, the evolution of TFP has remained relatively modest in economically developed countries. This apparent puzzle surrounding productivity has given rise to an entire literature seeking to explain what is, in fact, behind TFP development.

37 The need to replace capital stock with capital services and adjustment of this to factor in differences in quality is supported by the OECD: "TFP increase is measured as residue, i.e. that part of the GDP growth which may not be explained by the increase in the workload or capital volume. Traditionally, TFP growth is seen as an indicator of technological progress; however, in practice, we have to be cautious with such interpretations. A certain part of the technological change is, in fact, contained in the evolution of capital volume, e.g. design and quality improvements from one variant of the asset to the next, their effects being attributed to that factor [particularly, to capital]. The indicator of capital services (...) [needs to] take into account the productivity differences between assets, while the price indices of ICT assets need to be adjusted for quality changes. Consequently, TFP measures only the disembodied technological change: the synergy of production factors, management improvement, marks, organisational change and knowledge in general". *OECD Compendium of Productivity Indicators*, 2017, p. 154. It should be mentioned that, even with this alternative, TFP continues to be extremely difficult to interpret.

Figure 19
Breakdown of economic growth and evolution of production factors in a comparative perspective



Data source: Conference Board Total Economy Database. The data are adjusted taking into account the evolution of prices and the quality of ICT capital. The contribution made by capital is measured by the increase in capital services, and not by the evolution of stocks.

a connection between different cases: the depletion of labour resources in Eastern Europe is directly connected to the increased workload in Western Europe, which largely depends on East-West migration flows. Even in Ireland, we notice a significant contribution being made by the increase in workload. However, exceptional contributions are made here by TFP and non-ICT capital. As explained above, these are only of a statistical nature — a consequence of the tax haven role played by this country. Finally, in Greece, we see collapse in almost every area: the workload dropped dramatically between 2009-2014, capital services saw a negative balance all throughout the 2010s, and the same applies to the efficiency theoretically measured by TFP evolution. Setting aside the exceptional case of Ireland, it is worth noting that, even in this detailed variant of the analysis of factors' contribution to economic growth, TFP continues to play a decisive role especially in Eastern Europe, which could again lead one to conclude that we

are dealing with an increase in material efficiency and implicitly with convergence in productivity with Western countries.[38]

Expert appraisals of productivity are usually limited to an analysis of TFP. Without breaking down this indicator into directly measurable concepts, it is natural for such analyses to resort to speculation (most frequently, TFP increase is held to be determined by an increase in production efficiency due to technological progress, changes in labour organisation, etc.). A series of recent analyses conducted mainly by World Bank experts, however, challenge this marked tradition in economic analysis, emphasising that a TFP analysis will lead to a diagnosis of efficiency that is inherently erroneous.[39] According to these experts, the evolution of TFP is influenced not only by losses or gains in efficiency, but also by a company's leverage on the market, the quality of products, the status of demand and other factors which influence the use of facilities, price policy and the extent to which companies may use the resources available to them. The standard measure of TFP — based on revenues, just like most macroeconomic variables — includes all these factors, and suggests an increased material efficiency (or productivity) where there may be none, with the current explanation citing factors such as rents which increase corporate revenues in the absence of significant improvements in productivity.[40] Ideally, the analysis of productivity should always differentiate between physical productivity and financial productivity. However, as already discussed above, this is problematic at the macro level.

3.4.2. Company-level obstacles

The solution found by World Bank experts is to reanalyse the dynamics of productivity starting with company-level data. The aim is to break down these dynamics into two separate processes: changes within companies (as a result of technological and organisational progress) and reallocation of resources from low productivity to high productivity companies (thereby also taking into account the structural transformation of national economies through re-specialisation into more productive activities and survival only of the high productivity sector of the overall market). Such an analysis is considered to constitute a genuine change of paradigm in the analysis of productivity, but it depends on the creation of data sets which are publicly unavailable. Research along these lines is still rather rare, however. Nevertheless, Romania is one of the countries in relation to which the World Bank has looked at the issue of productivity using these new theoretical and methodological tools.[41]

At first, the conclusions drawn by the analysis of the situation in Romania conducted by the World Bank are not surprising: companies with the highest productivity "are older, larger, have a high capital intensity and pay greater salaries than the rest". Concurrently, the same companies "do not become more efficient over time, but rely on mark-up increases, which suggests that their market leverage deriving from rents or differences in terms of product quality or demand" are factors which allow them to maintain their head start, "rather than the ability to invest in new technologies". In other words, "as a whole, improving the [operational] productivity inside the companies has little contribution to increasing the productivity [in the overall economy], which suggests that there is room for improvement of companies' capabilities (quality of management, technological facilities and so on)."[42] More specifically, the most productive companies in Romania are not the most efficient, their success being attributed rather to market factors which allow them to charge high mark-ups. Furthermore, if we carve out the effect of mark-up, in manufacturing industry one can even identify a decrease in technical efficiency over the past decade.[43]

This situation is compensated for by improvements in the case of less productive companies and the reallocation of resources to more productive companies in the manufacturing industry, but not to services as well. On the whole, however, we are left with the image of stagnant or even negative dynamics in connection with operational productivity (of material efficiency) and with respect to the largest companies and a diagnosis of "potential deterioration of managerial skills, of the innovation ability or, more generally, of internal capabilities [of the companies]."[44] This is not the first time this

38 Although this is true to a certain extent, the concept of convergence is misleading for at least two reasons. First of all, we are talking about a very slow process, convergence itself remaining a very distant time horizon (in fact, it is purely hypothetical), which should quench the implicit optimism of those who point first to the existence of a converging trend. Second of all, the major assumption in any discourse about convergence is that, over time, Eastern European countries can easily replicate the Western economic model. However, if we keep in mind that we are not dealing with isolated cases, but with strongly interconnected countries and economies, and, furthermore, that economic and political inequalities characterise relationships between them, we begin to realise that the idea of convergence is inherently illusory.

39 Ana Paula Cusolito and William F. Maloney, *Productivity revisited: shifting paradigms in analysis and policy*, 2018, World Bank, p. xxi, 116. This also applies to the analysis of labour productivity in financial terms.

40 Revisiting the hypothetical example at the beginning of this study, let's say that the bottling company acquires a dominant position on the market, which allows it to triple the added value per bottle sold (from RON la 0.5 to RON 1.5). In this case, labour productivity per hour would increase from RON 500 to RON 1500, exceeding that of an employee in the automotive factory (which, in the reference example, was RON 800 per hour). Let's assume that this would be the only change, without any new hiring or investment in the bottling factory in order to profit much more from this new situation. In other words, even if the workload and capital volume remain the same and without any change in the flowchart or in the actual course of the manufacturing process, the productivity of that company triples and reaches a level comparable to that of a much more technologically advanced industry.

41 See Mariana Iooty, Jorge Pena, Donato De Rosa, "Productivity growth in Romania: a firm-level analysis", World Bank, Policy Research Working Paper 9043, October 2019. The analysis was republished and integrated in a more extensive study: The World Bank, *Markets and People: Romania country economic memorandum*, 2020.

42 The World Bank, *Markets and people: Romania country economic memorandum,* 2020, p. 24.

43 The World Bank, *Markets and people: Romania country economic memorandum*, 2020, p. 25. The analysis focuses on the period between 2011 and 2017.

44 The World Bank, *Markets and people: Romania country economic memorandum*, 2020, p. 33-34.

diagnosis has been made, and it is, after all, one of the main messages in Florin Georgescu's work, *Capitalul in România postcomunista*: the behaviour of a huge number of companies in Romania is oriented towards short-term, risk-free and investment-free gains, aimed at increasing physical productivity, mainly relying on the circumstantial operation of resources that will eventually be depleted (cheap manpower, favourable market contexts, etc.).[45]

Although World Bank experts emphasise severe problems like this in relation to company management, it is surprising to find that, when it comes to public policy recommendations, they are satisfied to list the usual culprits, which seem to have remained the same since the 1990s: state-owned undertakings and overly restrictive regulations.[46] This emphasis is completely bizarre, not only because of the results produced by analysis preceding such recommendations, but also in view of the fact that "the strategic peaks of the economy" have not been owned by the State for a long time, with the most important sectors in the economy being controlled by private capital and especially by foreign capital.[47] As for regulation, it remains to be seen what impact on productivity at the macro level there would be through granting lawyers or architects the right to practice their profession (an issue which World Bank experts focus on), in a context where in certain sectors of the manufacturing industry (textiles, manufacture of means of transport) leading companies tend to lose their ability to make customers pay higher mark-ups. This, say the authors of the report, happens despite their integration in global value chains, which theoretically exposes companies to foreign competition and forces them to improve their performance. In reality, however, it is precisely this integration in global value chains that could limit companies' ability to independently decide their price policies, to invest in new technologies, or to have a management oriented towards medium- and long-term performance; all these have a direct impact on productivity.

3.5 PRODUCTIVITY IN CONDITIONS OF ECONOMIC DEPENDENCE

As we highlighted in the first section of this study, one way in which we can assess the level of productivity in a certain country at a certain point in time is by making a comparison either with the situation in the past, or with the situation of other countries. The assumption underlying the analysis above is that, when comparing productivity between countries, cases are independent, and there are no strong mechanisms connecting, for example, the level and evolution of productivity in Romania with the level and evolution of productivity in Germany. Consequently, it does not appear to be a problem to take the country with the highest labour productivity (if we exclude Ireland and Luxembourg, this is Denmark) and pretend that the other countries should tend, over time, to reach the same level, which they could indeed achieve if they resolved a few internal issues. The idea underlying the public debate over productivity in Romania is approximately the following: eventually, productivity in Romania should first reach Germany's level, and only then can we talk about other things, like salaries and wages. We have seen above that there is an entire plethora of factors able to explain productivity gaps between various countries (from prices to the capitalisation level), [factors] which relate to the organisation and operation of economic activities at national level. However, in the European Union, national economies are deeply interconnected, sufficiently so as to make the organisation and operation of an economy such as Romania's depend on the organisation and operation of an economy such as Germany's. The impact on productivity (and on the manner in which we should regard the matter of productivity) is considerable. We illustrate this below taking the example of two mechanisms: economic specialisation and accounting distortion.

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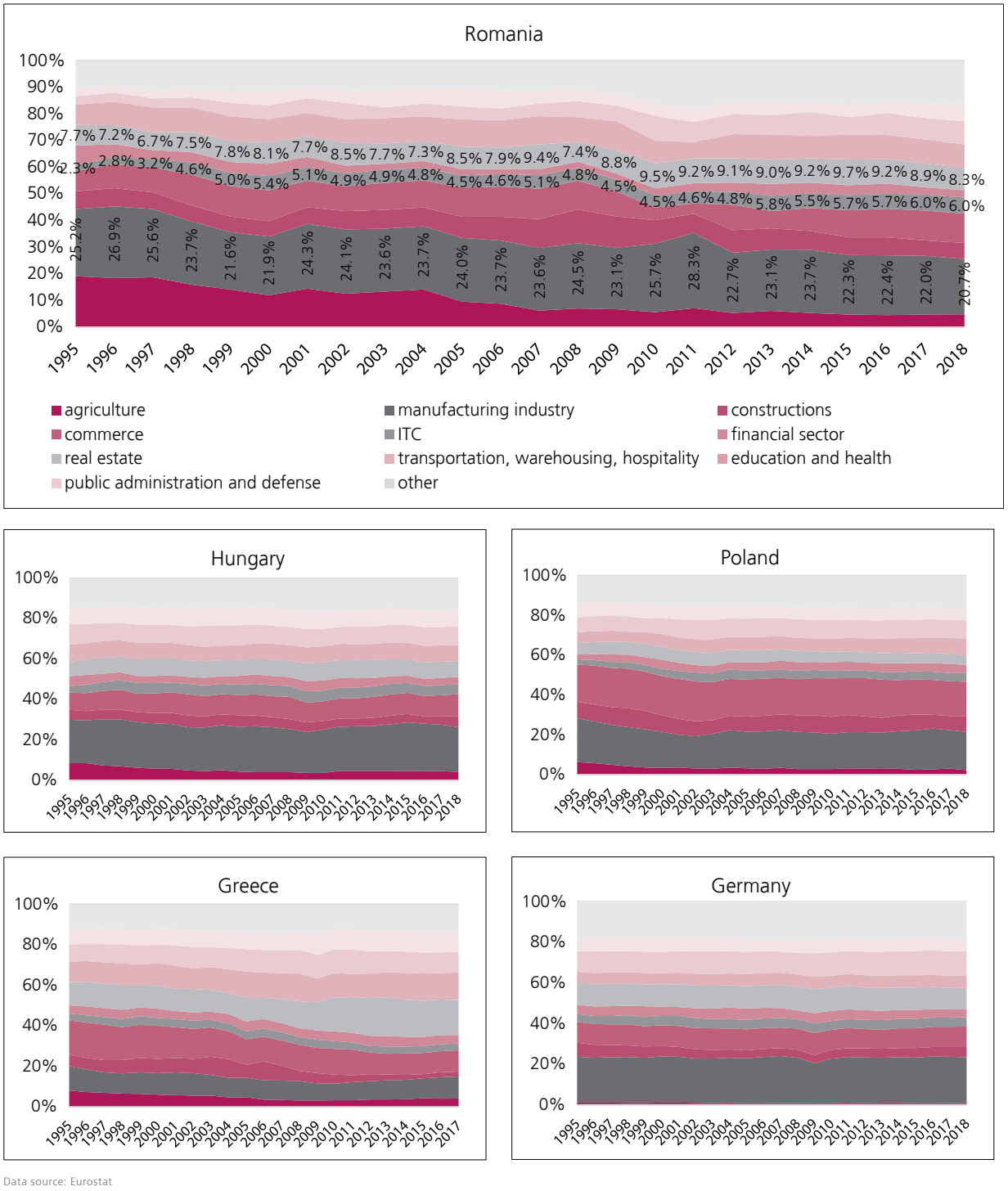
45 Florin Georgescu, *Capitalul in România postcomunista*, 2018, Bucharest, Academiei Române Publishing House. Contrary to the stereotypes in the public environment, Georgescu shows that we cannot clearly differentiate between foreign capital and domestic capital when it comes to this business orientation.

46 Of course, World Bank experts also devote attention to the matter of education and training of the labour force. While emphasising that the issue of underfunding of the educational system is huge, the accent (visible in the executive summary of the report) is on soft reforms, relating to the organisation and content of the educational process. It is also noteworthy that, although the report repeatedly refers to the lack, or unsuitability, of skills, the poll data quoted in the same report show that most companies are not interested in improving the professional abilities of their employees, "the main reasons (...) being that the companies believe that the current level of skills, abilities and competences matches the current needs (84%) and that employers manage to recruit people with a high skill level, in line with their requirements (78%)." World Bank, Markets and people: Romania country economic memorandum, 2020, p. 19. More generally speaking, the recommendations relating to the World Bank report seem to derive more from an ideological commitment than from the outcome of the analysis. Nevertheless, the theoretical and methodological assumptions of the analysis also have an influence: since some of the increase in productivity depends on the reallocation of resources from less productive companies to more productive ones, it is as predictable as possible that the recommendations would concern the facilitation and expediting of the said reallocation process (which includes economically and socially complicated events, such as company closures, layoffs, salary decreases, etc.). Since reality never matches the theoretical model of neoclassic economics underlying this entire exercise, it is not surprising that, irrespective of the analysis, the conclusions are always the same: a need for deregulation in order to facilitate the purest operation of the market possible. In the field of labour relationships, we refer to this as "flexibilisation" in relation to layoffs and business hours, fragmentation of collective bargaining, and so on. It is truly remarkable that, although the analysis of productivity has undergone a supposed change of paradigm, the recommendations made by the World Bank and OECD have remained the same. It is also remarkable that, despite the "flexibilisation" of the early 2010s, all analyses reveal that companies' behaviour continue to run counter to the need to increase productivity, understood in material terms. In relation to the need for "structural reforms" along the lines of de-regulation and flexibilisation, see also OECD, Productivity and jobs in a globalized world: (how) can all regions benefit?, 2018, Chapter 4.

47 With regard to strategic peaks of the economy, see Perry Anderson and Wang Chaohua, *Two Revolutions. Russia and China in the 20th and 21st centuries*, Cluj, Tact Publishing House, 2016, p. 74-75. With regard to the domination of foreign capital, see PIAROM and Ziarul Financiar, *Capitalul privat românesc*, 4th edition, 2019.

Figure 20
Added value by sectors of activity



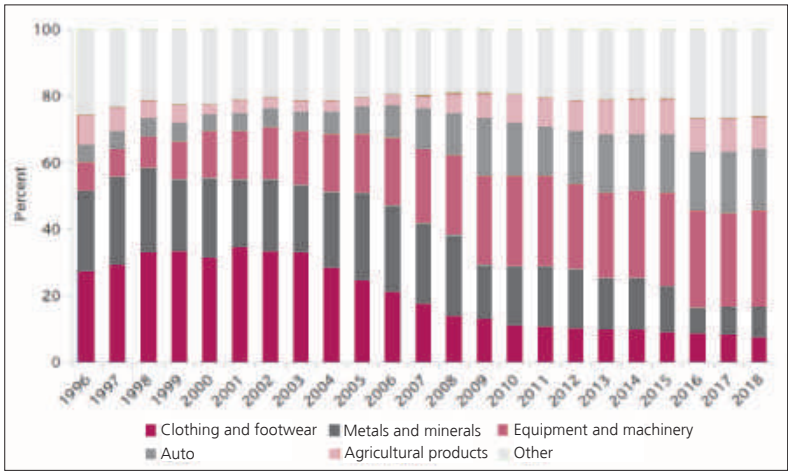
Data source: Eurostat

3.5.1. European integration and transformation of the Romanian economy

Romania's accession to the European Union has been accompanied by a strengthening of economic relationships with EU countries in two ways: firstly, by a substantial increase in foreign direct investment and by means of a massive increase in foreign capital contributions to economic activity in Romania; secondly, by business integration, which facilitated exports (access of Romanian companies to foreign markets), but also imports (access of foreign companies to the Romanian market). Under the umbrella of these two factors, the Romanian economy underwent (and, to a certain extent, is still undergoing) a profound structural change. As it can be seen in the first chart of Figure 20, particularly starting from 2004 (when the negotiations over EU accession ended), the share of agriculture in the economy has dropped dramatically, from over 14% down to under 5% at present.[48]

48 Of course, in many respects (decrease in the share of agriculture and industry in the economy in favour of services), we are dealing with longer-term trends, already visible since before 2004. However, in

Figure 21
Export structure by type of goods



Source: The World Bank, Markets and People: Romania Country Economic Memorandum, 2020, p. 4.

Table 3
The share of the automotive industry in added value in the competitive economy

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
SK	4.1%	5.2%	5.1%	5.4%	6.0%	7.1%	7.8%	8.5%	8.2%	8.2%
CZ	5.2%	5.2%	6.2%	6.6%	6.4%	6.7%	7.7%	7.8%	8.5%	8.2%
HU	6.1%	5.0%	6.2%	6.4%	5.4%	6.8%	7.3%	7.6%	7.9%	7.2%
RO	2.5%	2.8%	3.3%	2.7%	3.9%	4.2%	4.6%	5.3%	5.7%	6.4%
DE	4.6%	3.6%	5.1%	5.5%	5.5%	5.5%	5.8%	6.1%	6.4%	6.0%
SE	3.0%	1.5%	2.7%	2.7%	2.5%	2.3%	2.4%	3.3%	3.2%	3.6%
PL	2.5%	2.5%	2.7%	2.9%	2.8%	3.1%	3.0%	3.2%	3.3%	3.3%
SI	2.4%	2.4%	2.7%	2.8%	2.7%	2.7%	2.7%	2.8%	2.7%	3.1%
ES	1.6%	1.5%	1.7%	1.8%	1.8%	2.0%	2.3%	2.2%	2.3%	2.3%
FR	1.8%	1.3%	1.6%	1.5%	1.4%	1.5%	1.7%	1.9%	1.9%	2.0%
IT	1.3%	1.3%	1.6%	1.5%	1.3%	1.4%	1.4%	1.6%	1.7%	2.0%
UK	1.2%	0.8%	1.2%	1.3%	1.3%	1.5%	1.8%	1.9%	1.6%	1.6%

Data source: Eurostat.

Even though the financial sector seems to lower its share in the economy during an economic boom, its role remains highly important: parallel to the privatisation of most large commercial banks and the launch of new products (particularly mortgage loans), sectors such as construction and real estate have been boosted, acquiring considerable weight in the national economy as a whole (recall that real estate transactions are more important to the Romanian economy than Hungary's or Poland's). The IT&C sector also grew rapidly, from 2-3% of overall added value in the 1990s to 6% in the late 2010s. Apart from the strong cyclic dynamics, the trade sector maintained its significant share in the economy thanks to the major contribution made by multinational corporations, which have completely transformed wholesale and retail.[49] In the manufacturing industry, the impact is less marked taking into account its share in the economy, from which perspective we can see that Romania continues to be undergoing a process of de-industrialisation (the share of industry in 2018 was 20.7%, as compared to 24.5% in 2008 and 26.9% in 1996). Behind this macro reality, however, an overhaul of industrial activity is at work: under the overriding influence of foreign capital, Romanian manufacturing industry has become predominantly oriented towards export in the context of transnational procurement chains, shifting its specialisation, over time, from textiles and metallurgy to sectors such as the automotive industry or the manufacture of plant and machinery (Figure 21).

There is no doubt about it: in terms of the new analysis paradigm referred to above, this structural transformation of the economy constitutes a major process of resource reassignment from low productivity towards higher productivity activities. After all, for Eastern European countries such as Romania, this is what the theory of economic impact in connection with European economic integration posits: on the one hand, direct foreign investments would (re)capitalise the economy, make a major contribution of managerial know-how and, consequently, set the foundation for strong and sustainable growth in productivity; on the other hand, the opening of the market would expose companies in Romania to stronger competitive pressures, forcing them to become more productive, otherwise pushing them out of the market. Here we recall that the World Bank analysis detailed above shows that this indeed happened in manufacturing industry, without the new leading companies having invested in technologies and management practices to support productivity growth beyond the initial stage of forcing less productive companies and industries out of the market. Thus, there is a danger that, once these initial resources are depleted, productivity growth will drop down to a level of relative stagnation. We refer to this as a so-called "trap of average revenues": after a time of accelerated growth in productivity, for structural reasons, it reaches a plateau, arresting what has thus far appeared to be a process of rapid convergence when compared to countries with high levels of productivity (as well as salaries and wages and socio-economic development in more general terms).[50] On the whole, it is much easier to understand the causes of this

certain regards, this transformation received a strong boost in 2004, a development more readily easily visible in select sectors (agriculture, construction) and less visible in others (manufacturing industry).

49 See Stefan Guga and Marcel Spatari, *Sectorul comert in România: un bilant dupa trei decenii de transformari*, Bucuresti, 2019, Friedrich Ebert Stiftung.

50 It is not surprising that in Romania, too, there is more and more talk about the average revenues trap, with experts turning more and more often to the media to warn about this risk. See, for instance, "Lazea, National Bank of Romania: România, in capcana venitului mediu", available online at the following link: https://www.digi24.ro/stiri/economie/romania-la-bilant/lazea-bnr-romania-in-capcana-venitului-mediu-945819. .

phenomenon than to identify policies with which to avoid or surmount the same: lack of capital and (managerial or other) knowledge and specialisation in activities with low capital complexity and intensity (and, therefore, with high labour intensity), whose contribution to added value is limited. A temporary solution would be to increase the degree of complexity for already existing activities (where there is potential for such). However, the average revenues trap may only be avoided or surmounted by a new structural transformation of the economy — particularly by re-specialisation, which eliminates or even abandons a large portion of existing economic activities.

3.5.2. Economic specialisation and transfers of added value from the margins to the centre

Specialisation of the economy may restrict the growing potential of productivity, if it entails (1) activities that are inherently less complex and bring low added value or (2) less complex and lower added-value products. Even if not immediately obvious, the difference between the two is important: in the former case, from one point forward, productivity growth may only be supported by refocusing the entire activity, while in the latter, the activity may continue — however, a transition to other products will be necessary.

We may exemplify these two mechanisms through the paradigmatic case of the automotive industry. We use the term paradigmatic not only because what is of interest to us is highly visible here, but also because, in Romania, the automotive industry has become, in the past decade, the leading branch of the manufacturing industry.[51] As it may be seen in Table 3, the share accounted for by the automotive industry in the Romanian economy has substantially grown over the past decade (from 2.5% to 6.4% of the added value in the competitive economy); the same happened in other EU Member States in Central and Eastern Europe, even if in Romania the same development started relatively late (in the late 2000s, the main reasons consisting of the later's accession to the EU and greater geographical distance to the Western countries). In addition to the unusually great importance of the automotive industry to Eastern European economies, one will note, in Table 3, that the share of the automotive industry in the economy did not drop in Western European countries, which, at a first glance, suggests that growth in Eastern Europe is not entirely due to the relocation of economic activities from Western to Eastern Europe. In fact, we are of course discussing here a huge relocation of manufacturing facilities from Western to Eastern Europe; it is remarkable, however, that this is not readily visible in terms of added value. In countries such as Germany, the share of the automotive industry even experienced significant growth (from 4.6% in 2008 to 6% in 2017).[52] This was made possible by the market (greater export demand outside the EU, particularly in China; greater demand for more expensive goods, such as premium automobiles in general and SUVs in particular) and the geographical reorganisation of production, by relocating to Eastern Europe small added-value operations (with low complexity, labour-intensive).[53]

At a glance, we can identify such a specialisation by Eastern Europe in Figure 22. From all points of view (turnover, added value, employment), Eastern European automotive industries are significantly more specialised in manufacturing parts than Western ones. In Romania, 69.6% of turnover, 82.2% of added value and no less than 89.1% of employment in the automotive industry are concentrated on the manufacturing of parts, while in Germany we only see 17.1%, 22.7%, and 31.7%, respectively. Just as the prevailing business model in the automotive industry in past decades involved car manufacturers outsourcing relatively low added-value manufacturing processes while keeping exclusively final, high added-value operations (pressing, car body, coating, assembling, as well as manufacturing high-technology subassemblies, such as engines or gearboxes), automotive industries in Western Europe reorganised their procurement chains by relocating the manufacturing of parts to Eastern Europe while keeping their high added-value processes (manufacturing cars, engines and gearboxes) in the West.[54] As a consequence, Western automotive industries were able to minimise their costs and increase their productivity by relocating some of their production to Eastern Europe. As part of the same process, Eastern European automotive industries have seen a period of unprecedented growth (in the volume of activity and productivity), a growth which is, however, objectively restricted by this specialisation.

Going even deeper, we are not only dealing with a complete specialisation of Eastern European countries in the manufacture of parts versus a specialisation by Western countries in car manufacturing. In the end, the production of parts has not simply disappeared from the West, and Eastern European countries are also manufacturing cars themselves. Another mechanism relevant to productivity dynamics is the specialisation of car-part industries in Eastern Europe in low added-value and low capital-intensity goods (while vice versa, keeping in the West capital-intensive and high added-value processes). Table 4 offers insight into the value of exports by types of car parts for Germany (by far the leading

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51 See Stefan Guga, *Industria auto incotro? Tendinte globale, perspective periferice*, 2019, Bucharest, Friedrich Ebert Stiftung.

52 If we considered production volumes (or if we included in our analysis countries where the automotive industry contracted significantly, such as Belgium), the situation would be different. For more details, see Stefan Guga, *Industria auto incotro? Tendinte globale, perspective periferice*, 2019, Bucharest, Friedrich Ebert Stiftung.

53 Capital and working funds released by the relocation of small added-value activities from Western to Eastern Europe were invested in higher added value and productivity-related processes and products, thus maintaining and even increasing the overall productivity of the automotive sector in the West.

54 Mention must be made that, in the data in Figure 22, most engine and transmission production is included in the category "vehicles and other". The reason is simple: car manufacturers have not outsourced such processes, and their main object of activity (according to the NACE code) consists of car manufacturing (in this case, manufacturing these subassemblies is not accounted for in the category of parts).

European country in the automotive industry), Spain (beneficiary of a previous wave of geographical restructuring in the automotive industry), the Czech Republic, Hungary and Romania (three Eastern European countries important on the European automotive map). We can see that the parts-manufacturing industry in Germany especially exports high-technology products, such as transmissions, while things are quite different in the other countries. At the other end of the spectrum, the very opposite of transmissions, we have the cable industry, where manufacturing is predominantly manual, capital investment is limited, prices are low and added value low. [55] We see that Romania is highly specialised in cable manufacturing and is, in this sector, the leading European manufacturer. Such specialisation not only does not help increase productivity, but may even be an obstacle to it.[56]

Finally, where there are significant differences among products of the same industry, we can also discern wide gaps between Eastern and Western Europe. The clearest example in this regard are the automobiles themselves: Eastern European countries have specialised in manufacturing smaller and cheaper cars, while Western countries (and especially Germany) have focused ever more on manufacturing larger cars, in the premium segments. In the first chart in Figure 23, it is apparent that the value of automobile exports from Germany, Spain and the United Kingdom is significantly greater than that of any European car-manufacturing country. One factor is, of course, the much higher volume of automobiles manufactured in these

Figure 22
Structure of the automotive industry in car manufacturing countries, 2017

Data source: Eurostat.

Table 4
Value of auto component exports

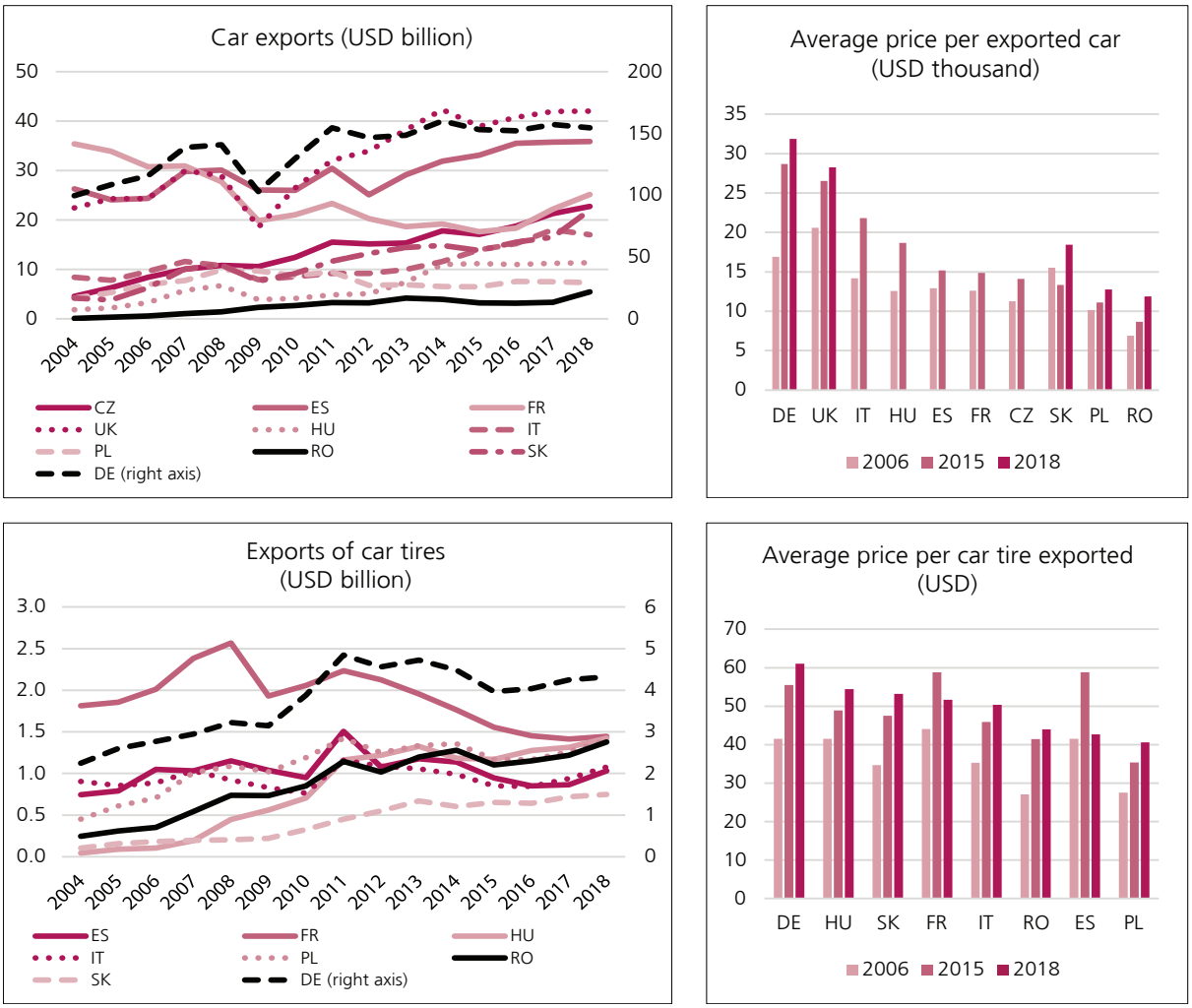
	EUR billion				
	DE	ES	CZ	HU	RO
Gearboxes and parts	14.11	0.61	0.81	0.45	1.84
Car body parts	11.85	1.19	4.52	1.27	1.01
Tires	4.67	1.56	1.44	1.43	1.39
Axles	4.24	0.32	0.33	0.21	0.15
Brakes	4.08	0.85	1.56	0.37	0.27
Suspensions	3.19	0.71	0.54	0.10	0.14
Steering wheels and direction parts	2.99	0.25	0.65	0.65	0.81
Clutches and parts	2.45	0.18	0.14	0.77	0.02
Wheels	2.23	0.27	0.48	0.32	0.08
Start and engine parts	1.71	0.55	0.26	0.56	0.13
Exhaust parts	1.62	0.16	1.13	0.06	0.05
Cables	1.34	0.55	0.91	0.69	2.49
Airbags	1.33	0.18	0.10	0.18	0.76
Lighting parts	0.99	0.12	0.25	0.33	0.11
Radiators	0.74	0.26	0.47	0.03	0.12
Seatbelts	0.40	0.01	0.33	0.30	0.52
Seats	0.33	0.05	0.64	0.02	0.01
Windshields and associated elements	0.09	0.07	0.07	0.05	0.05

Data source: Eurostat.

55 The numbers relating to exports underestimate the gap between Germany and the other countries for the simple reason that a consistent section of part manufacturing in Germany is not intended for export, but is used in domestic car manufacturing.

56 "Certain forms of integration in the global value chains may, in fact, push down economic performance and labour productivity. Integration through specialisation in labour intensive processes tends to decrease productivity and GDP. The most plausible explanation is that such specialisation frequently involves activities with low added value. Furthermore, such activities have low potential for innovation and are often disconnected from the rest of the economy. "OECD, *Productivity and jobs in a globalized world: (how) can all regions benefit?*, 2018, p. 125. The paradigmatic case is that of the textile industry. However, the same may also be said of many activities which have developed as part of the structural transformation of the Romanian economy described above (a transformation in which the textile industry strongly contracted).

Figure 23
Value and prices of car and tire exports



Data source: UN Comtrade

countries. A second factor is to be found in the considerable difference between the price of automobiles exported by Germany or the United Kingdom and the price of those exported by Eastern countries.[57] The relevance of price differences should not be ignored: in 2018, Germany exported 10 times more automobiles than Romania, however, the aggregate value of its exports was more than 28 times higher (the average price of a car exported by Germany was 2.8 times higher than that of a car exported by Romania).

The case of automobiles is far from being singular. A similar phenomenon can also be witnessed in industries where the differences between products are less visible to the general public, such as tire manufacturing (see the last two charts in Figure 23). Here, too, there are considerable differences between the East and the West with respect to export prices: in 2018, Germany exported 2.3 times more tires than Romania. Differences in prices rendered the value of its exports 3.1 times higher, however (the average price of tires exported by Germany was 35% higher than Romania's). How can we explain these price differences? As already described, one initial major factor is the specialisation of Eastern European countries in products at the bottom of the range, i.e. products that are cheaper, less complex and have a low added value. A second factor relates, however, to the fact that very many exports from Eastern European countries to Western Europe do not actually reach the market, as they are intra-group exports with internally fixed prices set by multinational corporations with operations both in Eastern and in Western Europe.

In the context of an economy with massive amounts of foreign capital, transfer pricing policies of multinational corporations certainly have a more or less significant macro impact, thereby also hampering a realistic comparison of levels and development of productivity between the countries of origin and destination of capital. *One plausible assumption is that productivity in Romania is underestimated, with a directly corresponding overestimation on the other side of the equation resulting for countries like Germany or France.* If and to what extent this happens in reality is impossible to estimate in the absence of detailed information, to which only public authorities have access.

57 Strictly looking at automobiles, Spain and Hungary constitute significant exceptions to this rule.

IMPACT OF TRANSFER PRICES ON PRODUCTIVITY

The integration of an economy in the global manufacturing chain from a position of inferiority exposes that particular economy not only to a somewhat forced specialisation in low-added value activities or products, but also makes it vulnerable in the face of influence of transfer prices on the added value and, by default, on productivity.

By definition, transfer prices are prices that national or multinational corporations establish for their transactions with entities of the same group, also referred to as affiliated parties. Given that such prices may impact the return and therefore the level of taxes payable by the companies in those groups, the laws of EU countries have enacted regulations to govern the transfer prices.[58] In Romania, the law stipulates that transfer prices should be fixed in observance of market value principles, which means that the "financial indicator of the transaction/value of the transaction (margin/outcome/price) falls under the scope of the comparison range"[59] — therefore, the market value is validated by the tax authority based on comparable items it may acquire from the market. In fact, companies have a very wide degree of flexibility as regards transfer prices: depending on the industry, great price differences may be found between "comparable" products or services, and certain companies may be so dominant that they dictate the very "market" prices against which they would subsequently compare their own prices. Transfer pricing files usually describe how corporations set the prices of their intra-group transactions, but do not necessarily answer the question as to whether the method applied is fair or if profits are correctly distributed among group entities.

The values at which transfer prices are set have a direct impact not only on companies' return, but also on their productivity (and, by extrapolation, on the economy). Transfer prices may negatively (or positively) impact productivity in two ways: (1) at the level of sale prices for goods and services, (2) at the level of purchase prices for goods and services. Let's take for example a steel company which sells its products through a distribution centre located outside Romania. If a ton of steel wire were sold on the market for RON 2500 per ton, it is obvious that the Romanian plant would have to sell to the European distribution unit at a lower price in order to be able to cover the operational costs and to include a certain profit for the distribution centre. But what would this fair price be? Let's say that, in order to manufacture one ton of steel wire, the Romanian plant would have external costs (raw materials, energy, outside services, etc.) of RON 1800 per ton, and as a whole, the plant has 250 employees and a production level of 8000 tons per month. If the plant sold its production to the distribution centre at RON 2100 per ton, allowing the latter to yield a margin of RON 400 per ton (2500 being the market price minus 2100 being the internal price), the added

Table 5
Dependence of productivity indicators on transfer pricing: scenarios

Assumptions: **the product price when sold on the market: RON 2500 / ton** **external costs for the factory: RON 1800 / ton** **monthly output: 8000 tons** **number of employees: 250**	**Scenario 1**	**Scenario 2**	**Scenario 3**	**Scenario 4**	**Scenario 5**
Transfer price when selling the finished product	1900	2000	2100	2200	2300
Difference vs. Scenario 3	*-10%*	*-5%*		*5%*	*10%*
Mark-up of the distribution centre	600	500	400	300	200
Added value per month for the factory, in RON million per month	0.8	1.6	2.4	3.2	4.0
Financial productivity per employee, RON/month	3200	6400	9600	12800	16000
Difference vs. Scenario 3	*-67%*	*-33%*		*33%*	*67%*

Assumptions: **the product price when sold on the market: RON 2500 / ton** **product price upon intra-group transfer: RON 2100 / ton** **external costs for the factory: RON 1800 / ton** **monthly output: 8000 tons** **number of employees: 250**	**Scenario 1**	**Scenario 2**	**Scenario 3**	**Scenario 4**	**Scenario 5**
Variation of procurement costs inside the group, as RON/t impact	100	50	0	50	100
Financial productivity per employee	6400	8000	9600	11200	12800
Difference vs. Scenario 3	*-33%*	*-17%*		*17%*	*33%*

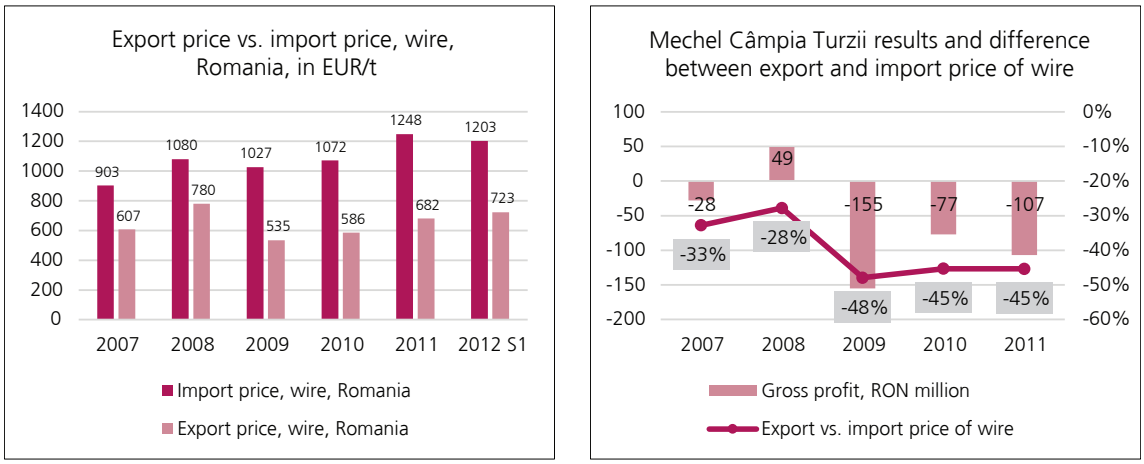
58 In Romania, law governing transfer prices includes the Fiscal Code, the Fiscal Procedure Code and Order no. 44/2016 on the content of transfer pricing files.

59 Order no. 442/2016 of the Minister of Finance on the value of transactions, the timeframes for preparing, the content and conditions for requesting transfer pricing files and the transfer pricing adjustment/estimating procedure, Art. 8.

value of the Romanian plant would be RON 2.4 million per month (2100 minus 1800 per ton, multiplied by 8000), and labour productivity would be RON 9600 per employee per month (2.4 million divided by 250). What would happen if the transfer price to the distribution centre decreased or increased by 5%? The productivity of Romanian plant employees would decrease or increase by one-third. And if transfer prices varied by 10%, labour productivity would vary by no less than two-thirds (see Table 5). Consequently, relatively small fluctuations in transfer prices could trigger extremely substantial variations in productivity, as it is registered in the companies' accounts and in national accounts. We are dealing in this case with "apparent" productivity because, if we do not know how value is distributed along the production and distribution chain, we cannot consider the productivity resulting from the financial data of the Romanian company to realistically reflect the value created by employees (or by capital, energy, etc.) here. Furthermore, we need to also keep in mind that transfer pricing influences the added value not only of production sold in intra-group (downstream) transactions, but also of the raw materials procured by the Romanian entity from intra-group suppliers located in other countries (upstream), while the mechanism is the same: small variations in transfer prices may trigger substantial fluctuations in apparent productivity (see example 2 in Table 5).

We have to emphasise that the fluctuation in added value (and, respectively, productivity) in transfer pricing also depends on the weight thereof in turnover: the smaller the weight (namely, the larger the external costs), the more substantial the impact on variation in transfer pricing. If, let's say, the added value accounts for no more than 5% of turnover for a plant (which may occur in the case of automobile factories having outsourced the manufacturing of most parts), an increase in the sales price by 1% may increase the added value and labour productivity by even 20%, and vice versa. When there are strong pressures to increase wages and salaries, the companies with this structure of business (a smaller portion of added value in their turnover) may take advantage of the variation in transfer pricing to adjust apparent productivity and limit pay rises.

Figure 24
Export and import prices of wire and results of Mechel Mechel Câmpia Turzii



Data source: Eurostat, Mechel reports, Syndex

The examples above are not merely theoretical. Although it is difficult to prove that multinational corporations charge unfair transfer pricing, detrimental to Romanian entities, in the relatively recent past, there have been cases involving serious suspicions in this regard. In 2012, the Russian steel group Mechel withdrew from Romania, and sold its factories located in Târgoviste, Câmpia Turzii and Braila. In addition to the intense controversy surrounding the fact that these factories were first pushed to the brink of bankruptcy and then sold to affiliates of Mechel Group[60], what is of interest to us here is the impact of transfer pricing on one of the group entities. In 2011, 80% of the sales of Mechel Câmpia Turzii were intra-group, while the plant was the only manufacturer and, consequently, the only exporter of steel wire in Romania. From 2009 until 2011, the plant incurred considerable losses which could, at a first sight, be attributed to the effects of the economic crisis. Nevertheless, upon analysing the public data on Romania's foreign trade, one finds that, starting in 2009, the difference between import prices and export prices of steel wire greatly increased. Since Mechel Câmpia Turzii was the only manufacturer (and the only exporter) of this product in Romania, export prices reflected the prices charged by this company for intra-group transfers, while import prices could be regarded as "market" prices. A simple analysis of the data contained in Figure 24 reveals that the decrease in transfer prices may easily be inferred: in 2009, prices of import wire dropped by 5%, while export prices (and therefore the prices charged by Mechel Câmpia Turzii) decreased by 31.5%. If, until 2008, the gap between export and import prices could be explained by the quality differences between imported and exported wire (presuming that imported wire was better and therefore more expensive

60 For more details on the Mechel case, see "ROMÂNIA FURATA. Cazul Mechel – cum au ajuns rusii sa controleze mare parte din siderurgia romaneasca", https://www.digi24.ro/special/campanii-digi24/romania-furata/romania-furata-cazul-mechel-cum-au-ajuns-rusii-sa-controleze-mare-parte-din-siderurgia-romaneasca-343777

than the wire manufactured in the Romanian factory), starting in 2009, export prices became 45% lower than import prices, suggesting a significant downwards correction of transfer prices, as compared to the market. Although we cannot definitively say that Mechel was using unfair transfer prices, public data strongly suggests this was the case. Even if this example seems outdated, it illustrates a method for inferring (admittedly, indirectly) that certain companies use unfair transfer pricing. Naturally, the impact is not always disastrous, as was the case with Mechel. However, such decisions by multinational groups may impact added value, productivity, returns and ultimately the sustainability of Romanian companies. As already indicated, although there are regulations governing transfer pricing, national authorities do not have sufficient capacities to carefully control and influence the policies of multinational corporations in this regard (in addition to the lobby and influence of multinationals in the political environment, transfer pricing controls are also a very difficult task in technical terms).

Furthermore, we should also have regard to the fact that the transfer of added value (and therefore of productivity) between countries may be performed not only by transfer prices on goods and services sold or of raw materials purchased intra-group, but also through a whole variety of royalties and corporate services, the price of which is more or less set arbitrarily: licenses, rights to use trademarks, patents, consulting, financial or research & development services, and so on. In other words, in addition to the prices of goods and services strictly pertaining to operational flows, multinationals have a whole array of solutions and tools with which to manage added value transfers between subsidiaries, namely by means of various non-material operational costs.

In the end, added value is used to pay wages and salaries (to workers, but also to top management), and that is why the management of multinational corporations may be rather tempted to transfer a significant portion of the added value created in countries where their production facilities are located to the countries where their capital originates, where such added value is then consumed in the form of wages and salaries (or dividends). When this happens, the productivity appearing in the financial data (hence, "apparent") is pushed down for the entity from which the added value was transferred and pushed up for the entity which received the transfer.

Although it is likely that this impact is not negligible, it is more likely that even if the figures were adjusted to accommodate the impact of transfer prices, the general landscape (more accurately, the productivity discrepancy compared to Western countries) would largely remain the same, nor does it materially change if adjustments are made for other accounting distortions — we have seen in the foregoing (Table 1) the impact that the employment structure has when calculating labour productivity. In the aggregate, all these distortions would most likely significantly bring Romania's labour productivity closer to that of Western countries, without, however, closing the gaps. As seen in the foregoing, the explanation for these gaps is complex, and we are facing not only a distortion of the manner in which productivity is measured, but also the actual way in which Romania's economy is organised and operates. Specialisation in the production of goods and services with low complexity and low added value (including as a result of integration in the lower tiers of transnational value chains), low capital intensity, limited investments in medium- and high-technology sectors, the adverse behaviour of companies (explained by their desire for short-term profit, failing to take risks or the lack of managerial skills) are among the prominent factors underlying the productivity gaps between Romania and Western countries.

Such issues are undoubtedly structural and constitute major challenges for public policies. They have virtually nothing to do with the effort and dedication of workers. Without a doubt, certain characteristics of the labour force, such as the level of education, health condition and standard of living in more general terms all play a role. It is absurd to expect a maximum effort, commitment and dedication from a labour force with a low standard of living, while permanently searching for ways to make up for the increasingly poor quality of public services and every day witnessing authorities who seem to desire nothing more than to keep the *status quo* when it comes to the organisation and operation of the economy (specialisation in *low-cost* goods and services, etc.) and a public environment absorbed by a discourse fixated on productivity as the sine qua non, and which serves as a pretext to limit pay rises and avoid any real understanding of the actual mechanisms that determine the situation and development of productivity over time.

4

PRODUCTIVITY AND WAGES

The bias in the discourse on productivity is obvious if we take into account that the discussion over productivity itself is rather skewed, the main issue being, in fact, wages and especially pay rises. The intensity of the public debate over productivity — insofar as we can call it a debate, is in fact a discourse as univocal as one could possible imagine. And it also has remarkably cyclical aspect: almost no one seems to be interested in the topic outside times of accelerated pay rises (2007-2008, 2016-2019), when the discussion tends to gravitate toward the need to stem pay rises, rather than, e.g. promoting an increase in productivity. If things were the other way around — namely, if the main focus were to incentivise an increase in productivity and not to put a stop to pay rises — criticism in the public discourse on productivity would largely dwell on what we have stated above. This is not the case, however, and consequently we need to tackle what seems to be the most burning issue head on: the relationship between productivity and wages.

Although homogenous in terms of its message, the public discourse on productivity and wages emanates from two separate sources. On the one hand, there is a populist discourse, the main driver of which is a moralising criticism of pay rises. This is extremely widespread, benefiting as it were from a strong and permanently reserved presence in the mass media. Its plausibility is, on the surface anyway, based on common sense: after all, one cannot increase salaries in excess of what is produced. On the other hand, there is a more specialised, technical discourse, propagated by representatives of public authorities (the Government, the National Bank, etc.) and by expert institutions (universities, professional associations, etc.). Apparently, the arguments are somewhat more sophisticated in this case: an incongruity between wages and productivity is detrimental to competitiveness (foreign investors would no longer be attracted, export products would become more expensive), it is not sustainable (because one may not raise salaries in excess of what one produces), or would threaten medium- and long-term economic growth (because, for instance, budget investments would be decreased in favour of pay rises, companies would no longer be interested in investing, because of excessive wage costs and, consequently, the low capital yield).

In theory, all these arguments seem plausible and in line with common sense, which underscores that the technical discussion among experts also takes place mainly in the public limelight, offering a starting point for the moralising tone of the discourse — but also involvinf an issue which recurs on a regular basis: whenever a fresh new view is needed, an expert is carted in before the camera or they are asked to provide a written analysis in order to re-tell with an air of authority what everybody already knows and strongly believes. This may also be the reason behind the relative superficiality of the "expert" discourse on productivity in Romania: the most vocal experts in the public arena do not express an opinion based on any scientific authority on the topic at hand, instead merely relying on their authority as fair and just experts. The outcome is invariably the same and entirely predictable: a string of clichés citing purportedly ironclad laws of economics, clichés whose rhetorical force mainly derives from the moralising predisposition of the audience which, in its turn, is further fed by experts showcasing their authority, etc.

Prêt-à-porter clichés are not in and of themselves false, however, and we have to check whether we are faced with one of those rare situations where "simple truths" actually happen to be true. The matter is, however, a little more complex, because the relationship between productivity and wages cannot be approached strictly from the perspective of productivity — we also need to factor in the matter of distribution (that is, the distribution of revenues between capital and labour). In spite of all appearances, in fact, productivity and wages has been a topic of in the Romania public arena mainly as it concerns distribution, and only on a secondary note productivity — in other words, the issue at stake for supporters of the dominant discourse is the stability of distribution and not an increase in productivity. Furthermore, and even more importantly, if we ignore the matter of distribution, there is a good chance that we will misunderstand the issue of productivity and its relationship to wages. Similar to the above, we are dealing with two sources of confusion: a formal one, deriving, for instance, from the distortions of statistical indicators; and a substantive one, deriving from relevant social and economic mechanisms being ignored.[61] From both standpoints, what one often hears in the public discussion in Romania is about as misleading as possible.

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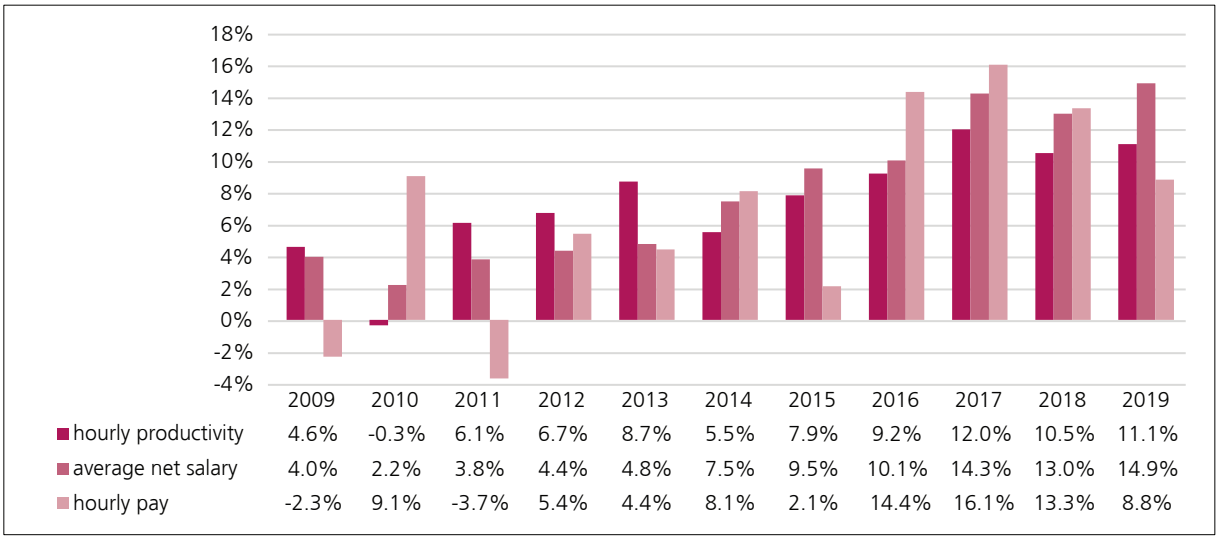
61 With respect to formal distortions, we have already seen that distribution plays a role in the assessment of multifactor productivity (see footnote 32).

Figure 25
Increase in labour productivity, average net salary and hourly remuneration for salary and wage work (% as compared to the previous year)



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
hourly productivity	4.6%	-0.3%	6.1%	6.7%	8.7%	5.5%	7.9%	9.2%	12.0%	10.5%	11.1%
average net salary	4.0%	2.2%	3.8%	4.4%	4.8%	7.5%	9.5%	10.1%	14.3%	13.0%	14.9%
hourly pay	-2.3%	9.1%	-3.7%	5.4%	4.4%	8.1%	2.1%	14.4%	16.1%	13.3%	8.8%

Data source: INS, the National Forecast Commission. Numbers are not adjusted to accommodate price variations.

4.1 PAY RISES AND PRODUCTIVITY GROWTH

The main argument against pay rises over the past years has been simple: wages grow faster (or more) than productivity. This is a very efficient criticism because, at a first glance, it makes sense both in economic terms (the expert discourse), and from a moral standpoint (the populist discourse). The logic is simple: considering that productivity refers to the creation of added value and that, from this amount, wages and salaries are paid, investments are covered and profits made, if wages grow faster than productivity (in other words, if the share corresponding to wages in total added value increases), mathematically speaking, the share of investments and profits in added value would decrease by a commensurate amount.[62] This outcome seems to be carved in stone both logically and economically (as we are regularly reminded, "the law of economics [is] stronger than any law of any Government, the EU or anything else in this world"): any pay rise topping the increase in productivity is, in fact, detrimental to the economy in general because it comes at the expense of investment, which ensures medium- and long-term sustainability and economic growth, as well as of profit, which makes business attractive to investors. At the level of common sense, there are absolutely no difficulties understanding this: one cannot earn more than one produces.[63]

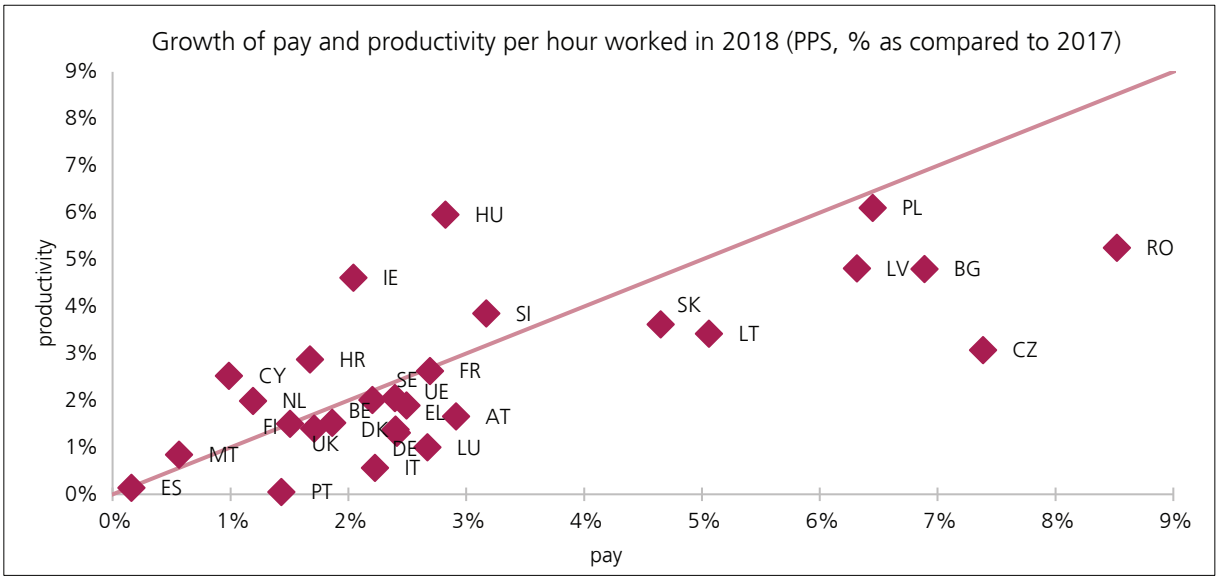
4.1.1. Comparison of rates of increase

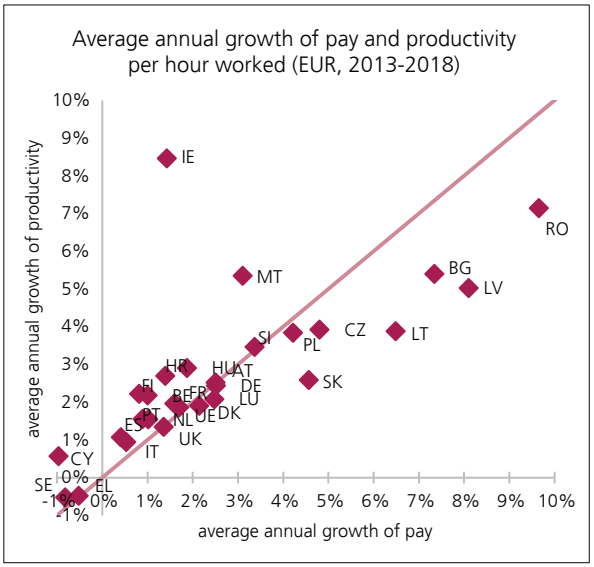
Let's see what this is all about in detail. Figure 25 illustrates the rates of increase for labour productivity per hour, the net average wage and the hourly wage paid to Romanian employees over 2009-2019. We have included in this comparison two indicators for remuneration in order to illustrate a significant distortion: if we are interested in a comparison between productivity and salaries in the meaning that is detailed above, wages and salaries actually earned by employees are not the appropriate comparator. As it may be seen in Figure 25, rates of increase for hourly remuneration and of net average salary may vary quite significantly, and this may occur for various reasons: the net average wage is expressed per person and does not include social contributions or income tax or the number of hours of work (an increase in the average number of hours worked by a person may trigger a stronger increase in net wages than in the hourly pay). Similarly, a change in the taxation system may lead to major deltas, as even happened in 2015 (CAS was decreased by 5% for employers) and 2019 (when a major change in labour taxation took place — the so-called transfer of contributions from employers to employees). Coming back to our topic, this is our first important observation: in comparing the development of productivity and of wages, we should not look at the development of wages in and of themselves, but to the development of overall pay for employees, which includes, in addition to net salaries, contributions and taxes

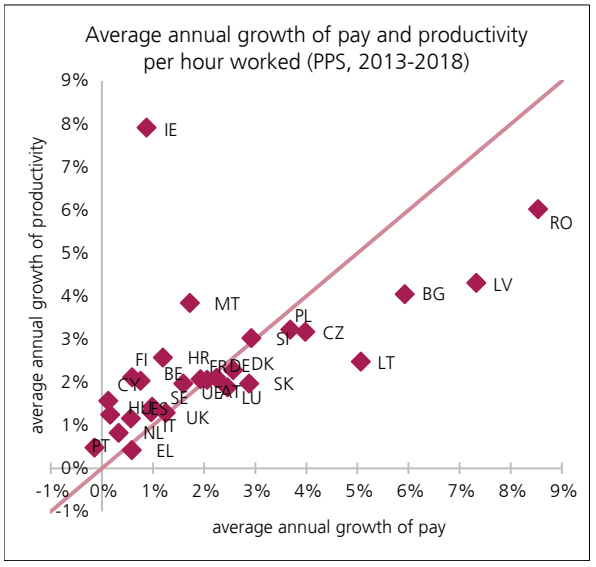
62 One vital issue here, which we will examine in some detail, is the rationale couched strictly in terms of rates and shares of increase, and not in absolute terms. Therefore we lose sight, from the very beginning, of an issue (perfectly plausible, as we shall see below) where profits or investments increase in absolute terms and decrease in relative terms.

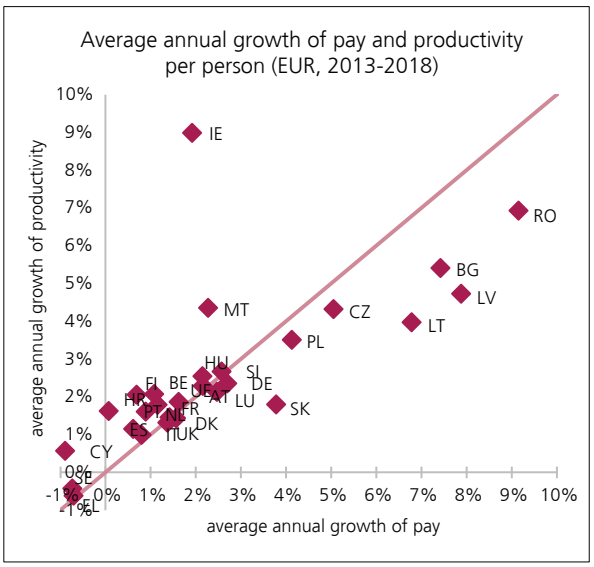
63 It should be noted that there are two risks accompanying the same criticism of wage and salary increases, and largely deriving from it: criticism of economic growth based on consumption and the criticism of wage and salary policy in the public sector. While not a subject of this study, it is worth mentioning that the elementary logic behind this criticism remains the same. On the one hand, economic growth mainly based on consumption requires faster growth and consumption that exceeds the increase in investment or net exports (and, implicitly, the increase in the share of consumption as a percentage of GDP), the argument being that, in fact, the increase in consumption occurs at the expense of an increase in investment and exports (which are the only factors able to ensure the sustainability and growth of economic activity in the long term). On the other hand, an increase in wages and salaries in the public sector would offer, as an alternative, the possibility to channel funds towards public investment (the only investment able to ensure sustainability, etc., etc.). In both cases, we are dealing with extremely superficial arguments which largely ignore the reality and complexity of economic mechanisms.

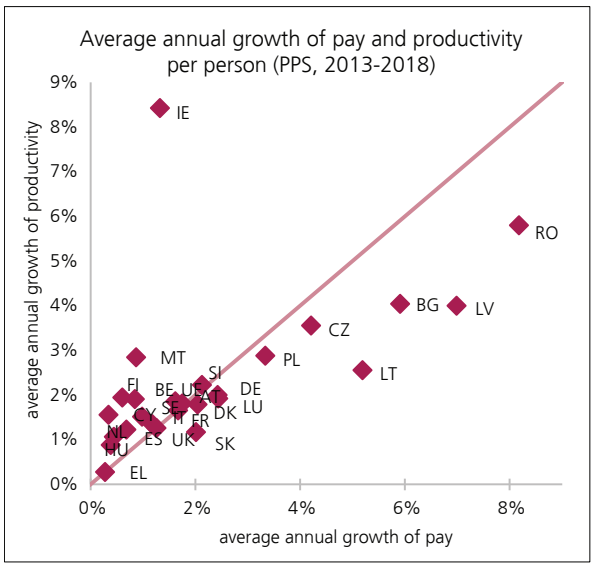
Figure 26
Evolution of productivity and remuneration for labour in EU countries











Data source: AMECO, Eurostat.

payable in relation to wages (paid both by employees and employers). In order to avoid distortions pertaining to changes in working hours, we should look, first of all, at pay per hour, and not per person. We can see in Figure 25 that otherwise the distortion could be of considerable magnitude. In 2015 and 2019, for instance, the increase in net average wage is significantly higher than the increase in productivity, while the increase in hourly pay is actually considerably lower than the figure for productivity. In other words, even if we continue to hear that "wages" were growing faster than productivity between 2017-2019, we may notice a slowdown in the accelerating rise in wages (and, therefore, of labour costs) down to a level below the increase in productivity — a context in which the "laws of economics" should not matter too much.

A second consideration that may be derived from Figure 25 when productivity and pay (not wages) are compared is that there are significant variations from one period to the next, even over short terms. Productivity may suddenly collapse upon the outbreak of a crisis (as happened with the coronavirus pandemic of 2020), just as it may rapidly soar once a crisis ends. Furthermore, pay may dramatically decrease over a very brief period, as happened in 2011 (and as will probably happen again in 2020), under the impact of austerity and legislative changes. It may also witness high rates of increase after a period of steep fall (as was seen in 2012 or 2016). We shall return later to the arithmetic confusion triggered by the so-called base effect (evolution over time may seem smaller or greater, depending on how small or great the calculation base is). For the time being, it is important to emphasise that short-term dynamics may be misleading, since it may be influenced by circumstantial factors which bear no relevance of concern to us — it is a mistake, for instance, to draw up public policies governing the revenue of the population, having a long-term impact, based on a comparison of the rates of increase for productivity and pay in a single year. If we take a longer-term trend into account, we again are faced with the issue of the comparator, with the easiest solution being to look at what is happening in Romania in comparison to other countries.

The first chart in Figure 26 compares EU Member States in terms of pay increase (the horizontal axis) and the productivity increase (the vertical axis) in 2018.[64] The countries ranking above the dotted line have experienced a higher increase in pay than productivity and vice versa. We can see that Romania saw the fastest increase in pay and also one of the strongest increases in productivity. Furthermore, we can see that pay amounts grew faster than productivity in very many countries (the largest discrepancy here is not to be found in Romania, but rather in the Czech Republic), with the significant exceptions of Hungary and Ireland. As already seen above, such a comparison may be influenced by circumstantial factors.[65] The four charts contained in Figure 26 compare EU countries in terms of average annual increases of pay and productivity, offering as examples differences between data per person and per hour, expressed in EUR and in PPS. We see that, as a rule, there are no major differences between the four charts, or at least not in Romania's case (there are, however, significant differences to be found in countries such as Malta, Bulgaria, Slovakia, Sweden or Portugal). Unlike the first chart, which only shows the situation in 2018, we also see that Ireland appears, in the longer term, to be an exception because of the spectacular increase in productivity there, especially in 2015. Thus, Eastern Europe's productivity and pay saw significantly higher rates of increase in the long term than in Western Europe (2018 was, however, an exceptional year for Poland and the Czech Republic). Irrespective of the calculation method used, we see that the rate of increase with regard to employees' pay in Romania is indeed higher than the rate of increase in productivity. At the same time, productivity in Romania saw the highest rate of increase after Ireland, and considerably higher than in all other Eastern countries and far higher than for Western European countries. As a whole, when compared to Romania, the distance to the balance line of the two rates of increase (the dotted line in each chart) is greater when it comes to the wages paid in Lithuania and Latvia and, in certain cases, even in Slovakia.

4.1.2. Distribution of added value between labour and capital

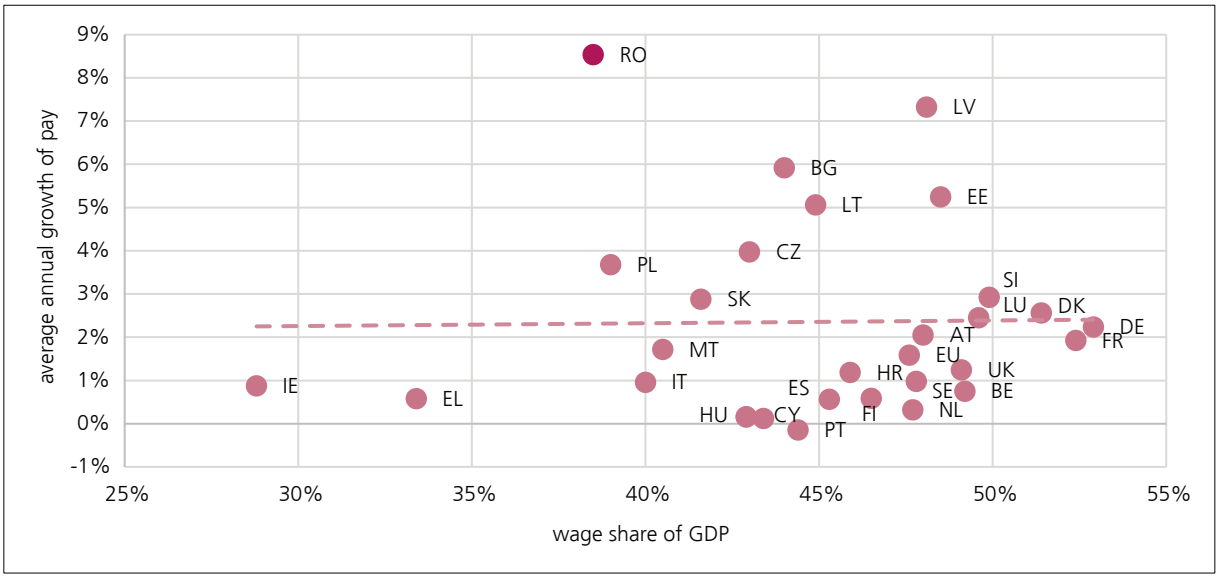
How relevant, however, is this comparison of the two rates of increase among these countries? Naturally, it reveals to a certain extent significant actual trends, such as the major discrepancy between Eastern and Western Europe. On the other hand, it skirts the question of context differences and very different implications which one type of dynamics or another could take from one country to the next. In order to show how important such context differences may be, we should first recall that productivity refers to added value, a part of which is distributed to employees in the form of pay. We can therefore calculate the share accounted for by employee's pay as a percentage of total added value (or the salary portion of GDP) for each and every country. In mathematical terms, a faster increase in pay than for productivity involves an increase in the wage portion in the added value (or in GDP). How important is such an increase in the wage portion? As usual, we gain some insight into the matter when we carry out a comparison with other countries and, at the time, of dynamics. Figure 27 shows a comparison between EU Member States, ordered (vertically) according to the salary portion of GDP in 2018 (horizontally) and average annual increase in pay for the period 2013-2018.[66] We see

64 We are talking about productivity and remuneration per hour, in PPS, therefore taking into account price differences between countries. The data for 2018 were the latest data available at the time of this study.

65 In 2015, labour productivity in Ireland increased by no less than 33.3%, while labour remuneration increased by only 1.5%. If we drew this chart for 2015, Ireland would have indeed been a complete exception, and the comparison would have been virtually meaningless. With regard to the special case of Ireland, see the discussion in section one above.

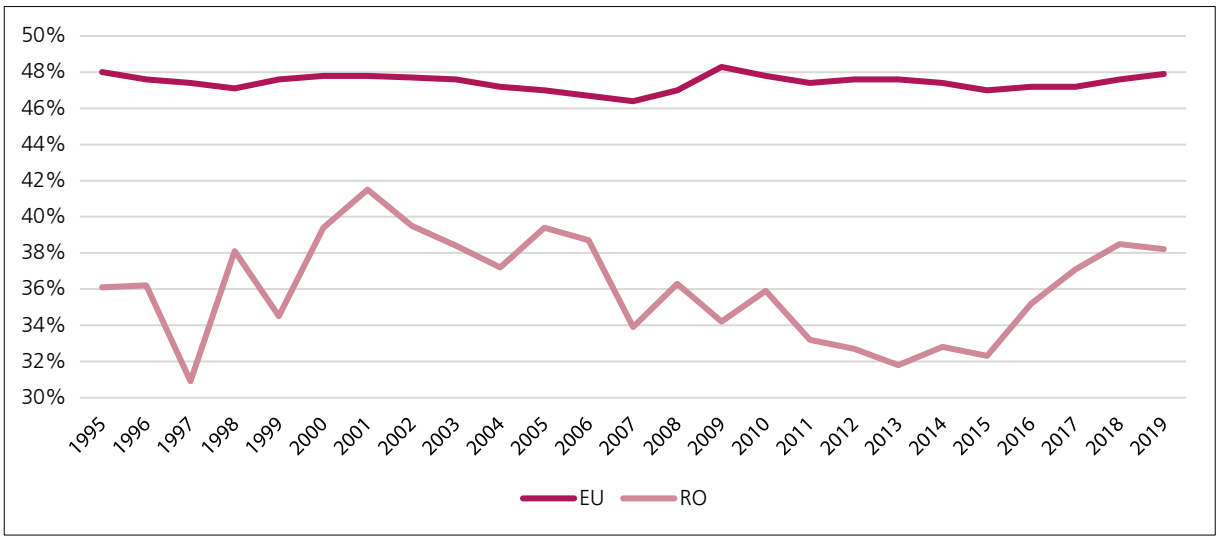
66 Since we are strictly interested in employee remuneration, it is not wise to adjust the wage portion to factor in the remuneration of freelance workers.

Figure 27
Average annual increase in hourly remuneration (2013-2018, PPS) and the wage portion of GDP in 2018



Data source: Eurostat

Figure 28
Wage share in GDP (share of employee remuneration in GDP)

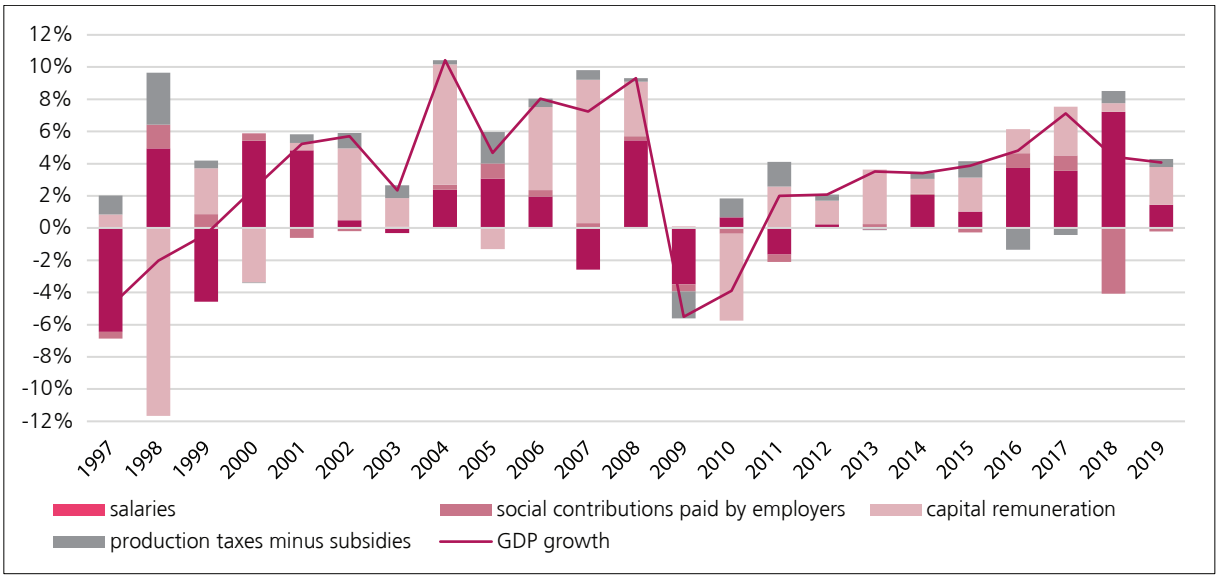


Data source: Eurostat

that, first of all, the wage portion in Romania is very low, and the only countries behind it are Ireland (a tax haven) and Greece (struggling through a deep crisis). In other words, even if pay increases faster than productivity, the share of the added value granted to employees remains very low, and it is rather difficult to argue that employees in Romania receive too much as compared to overall added value. From this standpoint, it is apparent, in fact, that Romania is worse off than countries such as Latvia or Bulgaria, where pay rates grow more slowly, but the wage share is significantly larger. Furthermore, it is difficult to assert that salaries are growing too fast in Romania (where there is a gap in favour of employee pay increases, while, however, the wage portion is very small) when compared to countries such as Germany (where employee pay is growing at the same pace as productivity, but the wage portion is considerably larger than in Romania).

Again, *even if one can say that employees' pay is growing faster than productivity, the fact that pay levels remain low as compared to added value negates any notion that employees receive or will receive too much for what they produce.* Figure 28 illustrates this even more clearly. First of all, we notice a major gap between the wage portion in Romania, which over the past two and a half decades has only exceeded 40% in 2001, and the EU average, which ranges around 47-48%. Moreover, we see that the wage portion in Romania exhibits significant fluctuations over time, whereas the EU average is rather stable. Indeed, the wage portion grew in Romania between 2016-2018 by more than 6

Figure 29
GDP increase by revenue components



Data source: Eurostat

percentage points (from 32.3% in 2015 to 38.5% in 2018). However, it remains lower than in the mid-2000s. The increase in recent years is hence exceptional only if we look at the short term; in the long term, it seems to constitute a mere reclaiming of ground lost in previous years. The fact that the share of salaries stopped growing in 2019 suggests that we are not dealing with a structural transformation where employee pay is out of proportion with regard to added value (on the contrary, in fact, it remains chronically undersized). *The fluctuations in the wage portion indicate that, in fact, the increase in the remuneration of capital (and not of labour) rose too steeply as compared to the evolution of productivity.*

The rationale strictly based on rates of increase is, consequently, strongly misleading, since we ignore the effect of very different calculation bases. There is another similar source of confusion: even if employees' pay grows stronger than labour productivity and automatically decreases the share of profits and/or investments in added value, it may well be accompanied by an increase thereof in absolute terms, so we are talking about a drop in the profit rate and not necessarily about a lower profit. Figure 29 reveals that capital remuneration has not actually declined, except for the years of crisis or structural change (1998, 2000, 2005 and 2010), and has even increased in recent times, with the gap between the increase in employees' pay and the increase in productivity widening. Of course, we could state that what matters to capitalists is not the amount of profit, but profitability (or profit rate), and an increase in the remuneration of capital that is below the increase in added value (or productivity) will probably be accompanied by a decrease in the profit rate.[67] Here, too, we cannot ignore the calculation base and long-term evolution: just as the salary share is and has remained small, the capital share is and has remained large. Again, the only justification for the compulsive opposition to wages growing faster than productivity seems to be prejudice or bias, and not necessarily the "laws of economics".

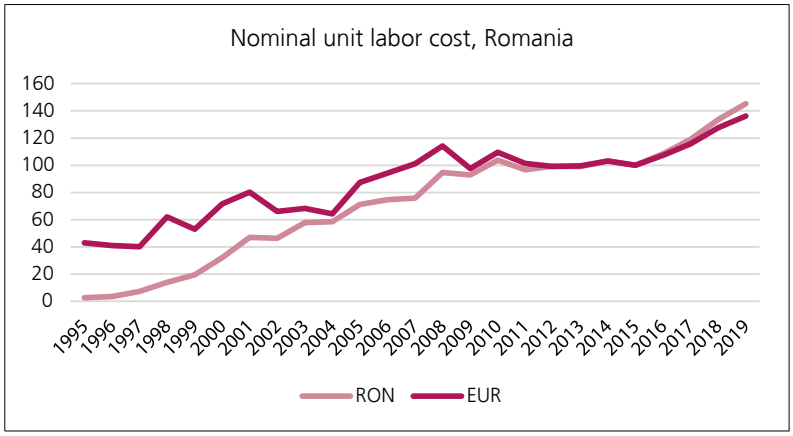
4.1.3. Per-unit cost of the labour force

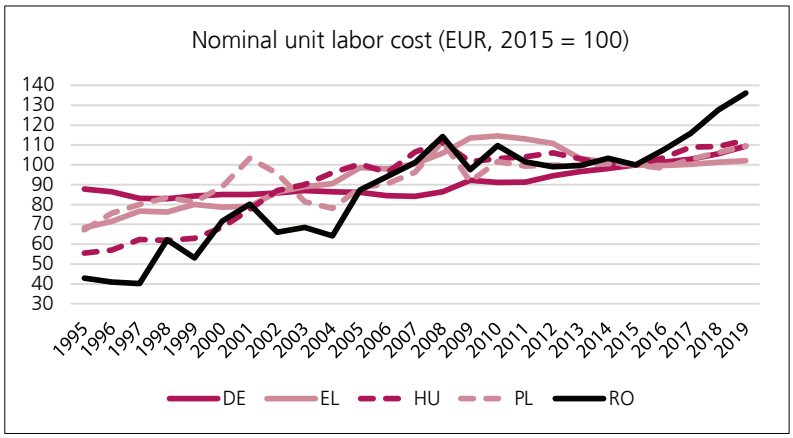
The expert discourse goes rather far in avoiding a direct debate on the considerations discussed above. Most often, this takes place effortlessly (and without any awareness or intention thereof), since the economic knowledge mechanism only includes ready-made indicators that do not allow for any rationale in terms other than shares and rates of increase. The best example in this respect is the set of indicators for the per-unit cost of labour: the nominal per-unit cost and the real per-unit cost. Both are calculated as a ratio between labour costs and labour productivity, with labour costs being equivalent to pay per employee, and productivity a measure of GDP per employed person. The nominal per-unit cost is the ratio between labour costs unadjusted for the evolution of prices and productivity adjusted for the evolution of prices, while the real per-unit cost takes into account both variables adjusted; the nominal per-unit cost is by far the most frequently used variant. Finally, the per-unit cost of the labour force is seen as an indicator of competitiveness (more accurately, of cost competitiveness) at the international level: an increase in the per-unit cost of the labour force indicates a loss of competitiveness and vice versa. Naturally, an increase in the per-unit cost of the labour force actually means employees' pay is rising faster than the increase in productivity — the per-unit cost of the labour force is merely a synthetic expression of the relationship between pay and productivity.

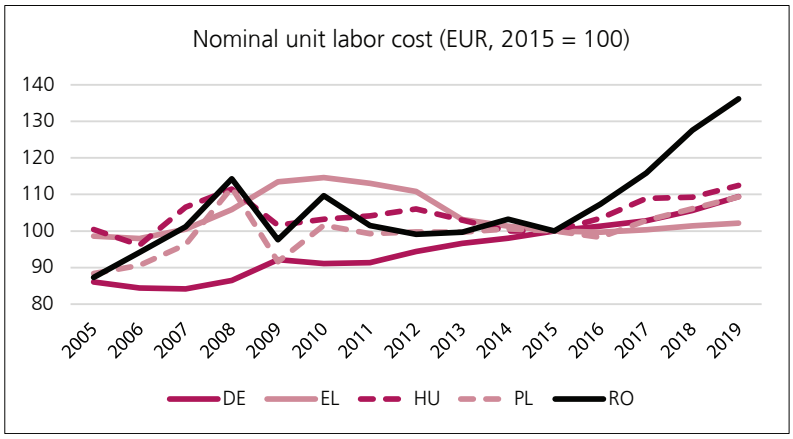
The per-unit labour cost is generally reported as an index, and allows one to calculate rates of increase and to monitor

67 Macro data show, however, that capital return remained relatively constant (see Figure 13).

Figure 30
Nominal per-unit labour cost (2015=100)







Data source: AMECO

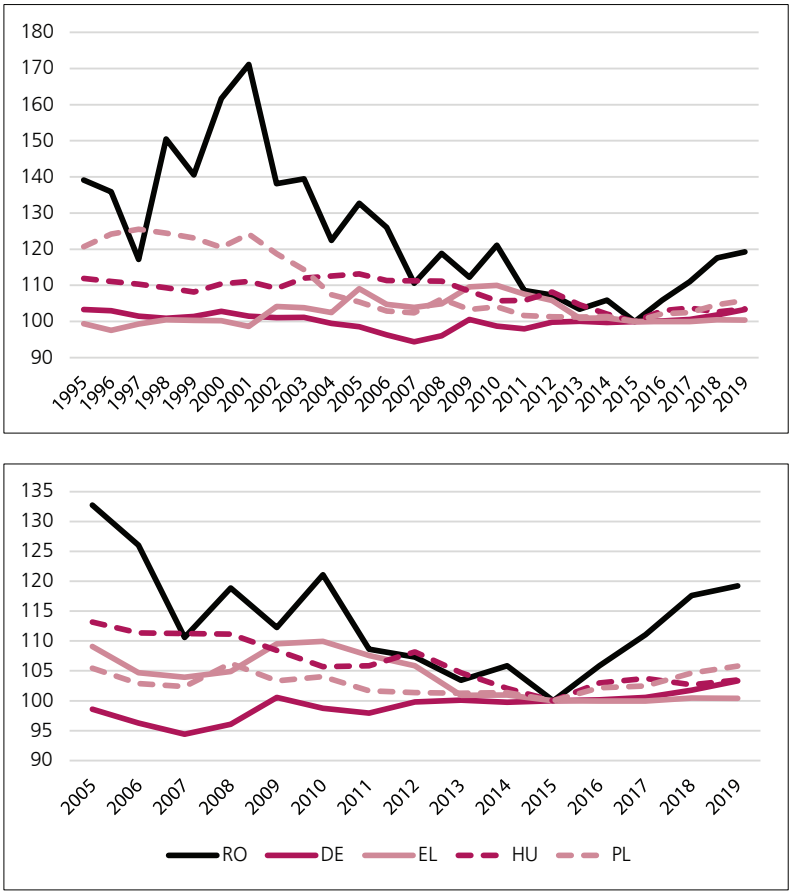
evolution over time. However, it does not allow a comparison of absolute levels. The first chart in Figure 30 illustrates the evolution of the nominal per-unit cost of the labour force in Romania in RON and EUR. One will note, first of all, that over the past two and a half decades, the nominal per-unit cost of the labour force has constantly increased, with the notable exception of the 2010-2015 period. As was to be expected from the analysis above, starting in 2016 the nominal per-unit cost grew steadily, similarly to in the previous economic boom period (2004-2008). One will also notice a discrepancy between the nominal per-unit costs in RON and EUR, deriving from the evolution of the exchange rate. The appreciation of the RON between 2005-2007, for instance, resulted in a stronger increase in the nominal per-unit cost calculated in EUR than in RON, while during 2017-2019, the devaluation of the RON led to a weaker increase in the per-unit cost in EUR than in RON. In theory, RON depreciation compensates, at least partially, for the increase in wage costs.

The other two charts in Figure 30 illustrate the evolution of nominal per-unit labour costs in Romania as compared to Germany, Greece, Hungary and Poland. Here again it should be noted that we are dealing with an index and, as a consequence, are not comparing absolute levels, but rather evolutions: for instance, we cannot say anything about how competitive Romania was in 2019 in terms of labour costs as compared to other countries; however, we can say that, between 2015 and 2019, the gap between pay increases and productivity increases was larger in Romania than in the other four countries (and that, in theory, the cost-based competitiveness of Romania decreased relatively). In recent years, Romania would appear exceptional only from the perspective of the extent to which per-unit costs increased, which after all did indeed increase considerably (even though more slowly) in Hungary, Poland and Germany. One also finds that the previous economic boom (between 2007-2008) led to an increase in per-unit costs in all countries, with the notable exception of Germany, and only returned to 2008 levels in the most recent years in Eastern European countries. The crisis in Greece is again very noticeable: per-unit costs stagnated for half a decade at a relatively low level. At any rate, these charts seem to lend legitimacy to concerns regarding pay rises in Romania and their impact on cost and competitiveness at international level.

Although this is the most frequently form used, the nominal form of the per-unit labour cost includes, by design, a significant distortion: since the numerator (employee's pay) is calculated in current prices (namely, without any adjustment for price evolution), while the denominator (productivity) is calculated in constant prices (including an adjustment for price evolution), in those cases where inflation is more or less significant, the nominal

indicator will tend to overestimate the increase in per-unit labour costs (because the increase in pay is overestimated).[68] Indeed, as may be seen in Figure 31, in Romania's case, the evolution of the real per-unit costs (while also adjusting the employee's pay, not only the productivity) differs greatly from that of nominal costs. First of all, it can be seen that the increase in real per-unit costs after 2015 is relatively more moderate, and the level it reached was actually equivalent to that reported in 2006-2008. Second of all, in line with other data detailed above (see, in particular, Figure 25), the increase in per-unit labour costs definitely slowed down in 2019, due to the influence of pay's cycle of increase, while the rate of increase for productivity remained constant.[69]

Figure 31
Actual unit costs for the labour force, 1995-2019 and 2005-2019 (2015=100)



Data source: AMECO

However, all these objections are only of a limited nature. In the end, the evolution of real per-unit labour costs seems to reflect a similar trend, even though less pronounced than the one for the evolution of nominal costs: the cost increase in Romania in recent years is somewhat exceptional in the European landscape, suggesting (once again, in theory) a loss of competitiveness at international level, i.e. Romania is becoming a more and more expensive production site, when one takes into account what it actually produces. However welcome, the analyses conducted by advocates of pay rises who use this indicator to emphasise the lack of actual impact on competitiveness of pay rises are invariably proved wrong as time passes by — more specifically, it is only a matter of time until real per-unit labour costs exceeds the 2010 level.[70] The problem is the very limited relevance of per-unit labour costs as such, irrespective of whether these are calculated in nominal or real form, when it comes to measuring competitiveness at an international level. Although the above is acknowledged by organisations such as the OECD and by experts at the international level, nominal per-unit labour costs stubbornly persist as a factor cited in the expert discourse in Romania, the best example here being the analyses produced by the National Bank of Romania.[71]

There are several reasons why per-unit labour costs are not an indicator of relevance to measuring competitiveness at international level. First of all, cost-based competitiveness does not merely refer to the labour force, but also to other factors (the cost of capital or of intermediate goods and services may play a key role). Second of all, competitiveness is not limited to costs, as demand for certain goods and services

68 Moreover, this is valid for any inflation rate. However, in the case of stronger price increases, the distortion could be significant. In Romania's case, we should draw attention to the huge difference between the evolution of nominal unit costs and that of real unit costs in the 2000s. Mention should also be made of the fact that an optimal macroeconomic evolution requires a certain price increase (for instance, the National Bank target for 2020 is 2.5%).

69 It should also be apparent that, as a rule, such calculations refer to remuneration and productivity per person, not per hour. Hourly calculations (which in the end are what truly matter) indicate an even more significant slow-down.

70 For a very rare moment in which the discourse on productivity was challenged in the Romanian public discussion, see Marius Marinas, "Marius Marinas, ASE: Why accuse non-sustainability, when in the business sectors Romania ranks to 67% of productivity and 44% of salary costs, when compared to the EU average?", Ziarul Financiar, available online at the following link: https://www.zf.ro/opinii/marius-marinas-ase-de-ce-sa-acuzam-de-nesustenabilitate-cand-in-sectoarele-de-business-romania-este-la-67-din-productivitate-si-la-44-costuri-salariale-relativ-la-media-ue-17955429. This challenge is however limited to the relevance of nominal per-unit costs relating to the labour force and the slower evolution of real per-unit costs, while the passage of time has already diminished their relevance.

71 For a recent example, see the Report on Inflation, published by the National Bank of Romania in February 2020. About the limited relevance of unit costs relating to the labour force, see OECD, *OECD Compendium of Productivity Indicators*, 2017, p. 12, pp. 72-78. For a criticique as comprehensive as it is brief, see Merjin Knibb, "A critique of nominal and real macro per-unit labour costs as an indicator of competitiveness", available online at the following link: http://www.worldeconomicsassociation.org/newsletterarticles/ulc/. Knibb's criticism emphasises the fact that the relevance of these indicators is questionable first of all at the macroeconomic level, and not necessarily also at company level.

does not depend on the evolution of costs (and of prices). Furthermore, integration in transnational manufacturing chains often means that the labour force in a certain country makes a relatively low contribution to the overall costs of a finished good (which means that labour cost variations do not have an impact as significant as one would expect). Furthermore, per-unit labour costs may be influenced by pay rises in sectors (such as the public one) completely unrelated to international-level competitiveness, since they produce goods and services not traded outside national boundaries (or simply not traded at all). Structural changes in the economy may also influence per-unit labour costs, in the absence of any actual change in costs or labour productivity at the corporate level: the growing shares in the economy that are occupied by sectors where, for objective reasons (because, for instance, they involve labour-intensive activities), per-unit labour costs are relatively high (for instance, construction, but also the car cable industry) results in an increase in macroeconomic per-unit costs (and vice versa: a decrease in the share accounted for by such sectors results in a decrease in per-unit costs). Finally, it has been empirically demonstrated that, in fact, there is a correlation between economic growth and an increase in per-unit labour costs (more specifically, those countries with the best macroeconomic performances also displayed the biggest increases in per-unit labour costs).[72] Apparently, the rationale that labour cost increases negatively impact competitiveness is much too simplistic due to a whole variety of factors detailed in the previous section (technology of plant and equipment, capital intensity, etc.). All these reservations and caveats apply to the major issue at the focus of discussion in the foregoing: the rationale in terms of shares and rates of increase is inherently misleading, in lieu of any analysis of differences in time and space comparing absolute levels of wages and productivity.

4.2 PAY AND LABOUR PRODUCTIVITY

We have seen that the rationale in terms of indices and rates of increase may conceal significant facts. As a general rule, to say that any increase in employees' pay rising faster than the increase in productivity causes an imbalance and negatively affects economic activity obviously requires assumption of an initial balance point between the level of pay and the level of productivity. The comparison between salary portions in the GDP of EU countries has offered an initial indication of how absurd this assumption is —actually, if salaries grew at the same pace as productivity in each country, then salary shares would never change, and Romania would stay at 38.5%, while, for instance, Germany would remain at 52.7%. We have shown how certain factors may superficially appear to distort the alleged original balance when, in fact, this could not be further from the truth.[73] Moreover, just as the level of productivity depends to a certain extent on companies' market leverage and a country's place in the international division of labour (being, in other words, a function of power relationships and not a self-adjusting balancing mechanism), the distribution of added value between labour and capital depends, for instance, on the leverage of workers in (individual and collective) bargaining and/or on applicable laws and regulations.[74]

4.2.1. Low-cost Romania

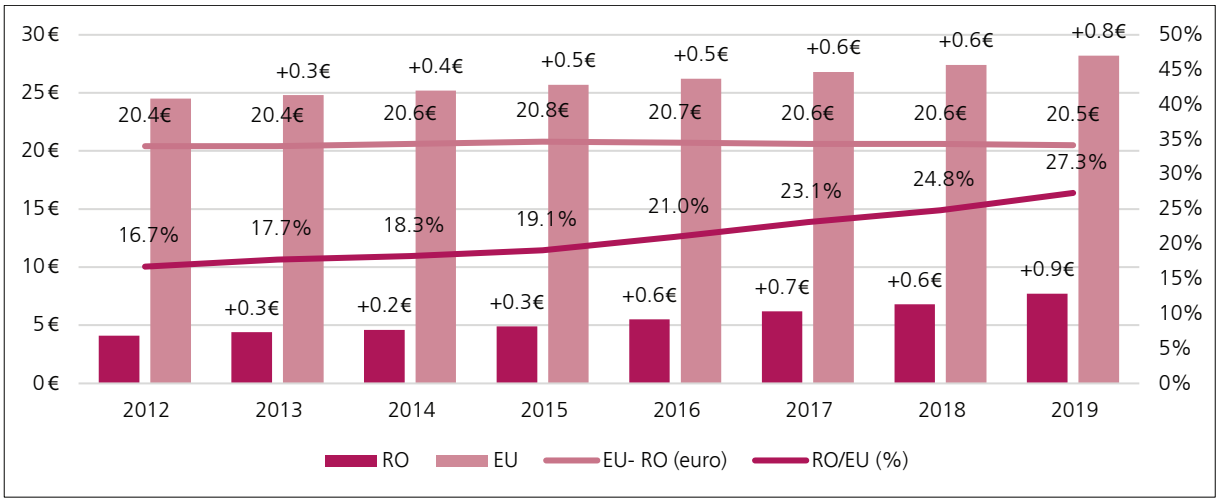
In order to gain a clearer picture of pay and labour productivity, we need to look at their absolute levels. Only then can we venture an interpretation of shares and rates of increase. We have seen in previous sections how things stand in connection with productivity. We therefore merely need to focus on the remuneration (or cost) of labour. Figure 32 provides a comparison between average per-hour labour costs in Romania and in the European Union between 2012-2019. During this period, costs in Romania increased from €4.1 to €7.7 per hour worked (65.9% total growth, 8.8% average annual growth), while the EU average increased from €24.5 to €27.4 per hour (11.8% total growth, 1.9% average annual growth). In line with the much higher percentage increase, the ratio between hourly costs in Romania and the EU average grew consistently, from 16.7% in 2012 to 27.3% in 2019. Taking a look at these data, it would appear rather drastic to express a concern about the competitiveness of the Romanian economy in the low-cost sector, especially when we consider that the difference in absolute terms between the EU average and Romania actually rose slightly, from €20.4 to €20.5. In other words, despite very different rates of increase, the difference in absolute terms indicates that, in fact, in Romania, labour became cheaper compared to the EU average. This is not some kind of anomaly, but rather a Europe-wide reality: labour in Eastern Europe remains very cheap, despite the superficial impression created by percentage increases. In Figure 33, we see that even with the apparently spectacular increases in recent years, per-hour pay of employees in Romania is less than 30% of the EU average (Poland and Hungary are below 35%), while in 2019 Germany ranked close to 140% of the EU average, an increase from below 130% in the early 2010s. It should also be kept in mind that this is a structural gap, involving the long term, and the high

72 For an analysis of this apparent paradox, see Jesus Felipe, "A note on competitiveness, unit labour costs and growth: is "Kaldor's paradox" a figment of interpretation?", CAMA Working Paper Series, May 2005 and Jesus Felipe and Utsav Kumar, "Unit labour costs in the Eurozone", Working Paper no. 651, Levy Economics Institute of Bard College.

73 In the case of Romania, the change in the structure of population in employment is a significant factor of importance when discussing the increase in the wage portion of GDP in recent years. Between 2015 and 2018, the share of employees among the total gainfully employed population increased from 60% to 65%, arithmetically accelerating the increase of the wage portion of GDP.

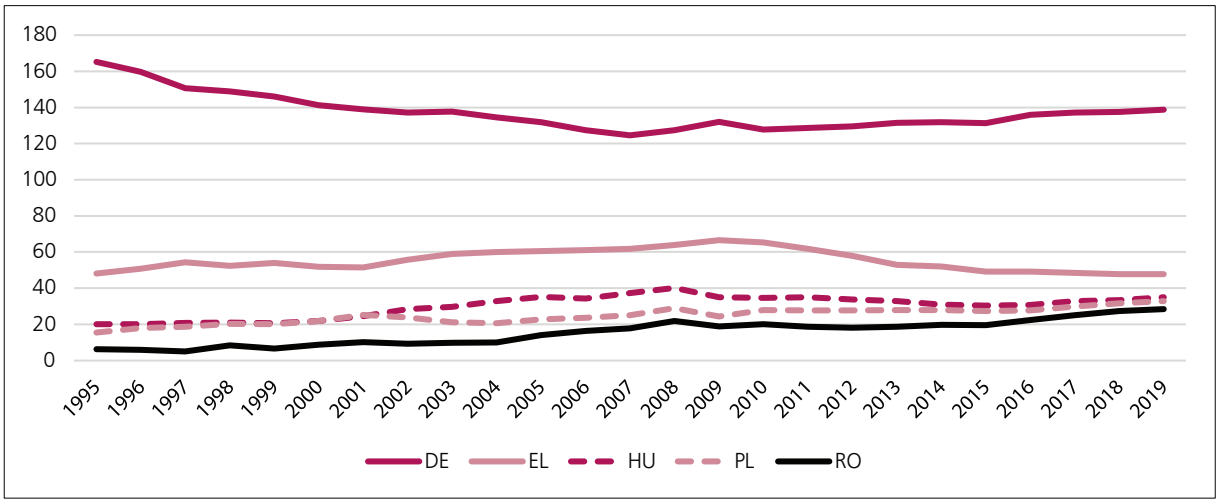
74 Another relevant item in the analysis of productivity is that simple national income accounting does not tell us anything about the dynamics behind the numbers. The analysis of statistical data always needs to be supplemented by historical and institutional analyses. Of course, this is not the case with regard to the public discourse in Romania, which, both from a formal and from a substantial standpoint, remains mired at an extremely primitive level. See OECD, *Measuring productivity. OECD Manual: measurement of aggregate and industry-level productivity growth*, 2001, pp. 120-121.

Figure 32
Average cost of labour per hour in Romania and the European Union



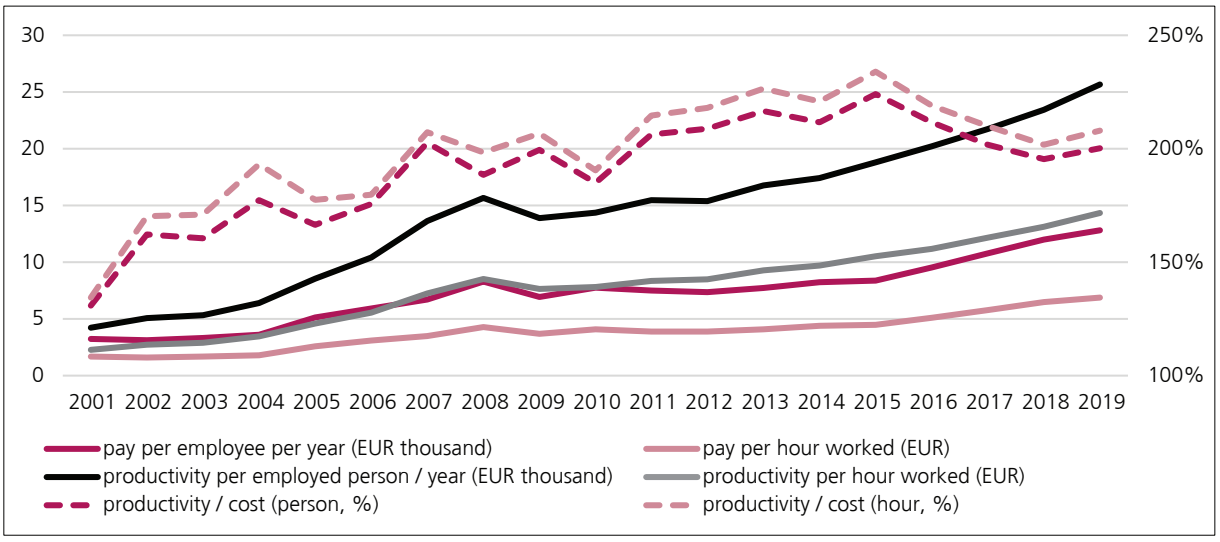
Data source: Eurostat

Figure 33
Hourly remuneration of employees (EUR, EU average = 100)



Data source: Eurostat

Figure 34
Remuneration and productivity of labour in Romania (euro)



Data source: Eurostat

rates of increase in Eastern Europe will need to continue for many years to come in order for there to even be a remote possibility of actual convergence between Eastern and Western Europe.

Still, it is worthwhile looking at how labour costs developed when compared to productivity. We can see again in Figure 34 minor (but not insignificant) differences between the calculations per hour and per person, as well as the fact that not only pay saw some substantial rates of increase, but also productivity. What is novel is the ratio between productivity and costs (the logic is the reverse to calculation of per-unit labour costs[75]). As a matter of principle, the greater the ratio between labour productivity and pay, the cheaper the labour force when compared to what it produces. It can be seen that this ratio increased, as a whole, between 2001 and 2015, with more or less important disruptions, reaching a historical peak (234% of the hourly ratio in 2015) in the post-crisis period, when economic growth was soaring and the pressure on labour costs was continuing at a high level: austerity, labour law and the other measures adopted after the crisis broke out still had a direct impact, weakening employees' negotiating leverage and reigning in pay rises, while the government took steps to significantly reduce labour costs — for instance, the 5% decrease in social security contributions (CAS) payable by the employer. A relatively steep drop was to be seen (as compared to the other periods of visible decrease shown in Figure 34) in the ratio between productivity and costs, dropping to 202% in 2018, followed by an increase up to 208% in 2019.

Table 6
Labour productivity in EU Member States, 2018 (EU average = 100)

	per person in employment				per hour worked			
	EUR		PPS		EUR		PPS	
	productivity	cost	productivity	cost	productivity	cost	productivity	cost
EU	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
DK	151.0	149.6	116.6	114.1	176.9	172.2	137.7	131.2
BE	143.5	151.5	129.3	136.5	151.8	165.0	133.3	148.5
FR	125.9	131.1	115.3	120.2	137.3	146.4	125.9	134.2
NL	124.3	126.8	110.4	112.7	141.6	146.0	125.9	130.0
DE	112.1	117.1	104.9	109.6	131.6	137.6	123.2	128.7
AT	129.2	126.1	116.7	114.0	130.7	130.4	118.2	117.7
SE	138.7	123.6	112.0	99.6	139.2	120.3	112.8	97.0
FI	134.1	124.6	108.3	100.7	136.8	126.6	110.5	102.1
IT	104.7	98.6	106.3	100.1	99.1	97.5	100.7	99.2
UK	112.1	116.2	100.3	103.7	109.9	110.1	98.3	98.3
ES	91.2	85.9	99.6	93.9	87.8	83.1	95.9	91.1
SI	67.4	74.2	82.1	90.4	68.8	74.7	83.8	91.1
MT	79.1	65.2	94.0	77.4	68.1	56.5	80.4	67.1
CY	75.1	65.7	85.4	74.7	67.7	59.1	77.0	67.1
CZ	57.7	51.6	82.6	74.0	52.4	46.4	75.5	66.7
SK	55.8	47.8	76.5	65.6	53.4	46.4	73.3	63.7
EE	60.3	58.6	77.1	75.0	54.3	51.1	69.5	65.4
LT	49.3	44.8	75.8	68.9	42.7	37.6	65.6	57.8
PT	62.4	57.7	74.7	69.1	54.5	48.5	65.3	58.2
HU	43.1	35.6	69.0	57.0	41.2	33.3	65.1	53.2
HR	46.5	43.7	72.0	67.6	41.9	38.0	64.9	58.6
EL	65.9	58.4	80.5	71.4	52.6	47.7	64.3	58.6
RO	35.3	32.2	68.7	62.3	32.2	27.4	62.8	52.7
PL	45.6	40.1	76.6	67.5	37.2	31.6	62.5	53.6
LV	48.7	47.2	68.6	66.6	41.8	39.2	58.9	55.3
BG	24.0	25.4	47.1	50.1	23.8	24.1	46.8	47.3

Data source: Eurostat. Countries are ranked depending on their hourly productivity expressed in PPS.
The table provides no information regarding Ireland and Luxembourg.

What can be said, therefore, is that the ratio between productivity and costs has indeed dropped over the past few years; however, this drop seems to have stopped at a level which is higher than ten years ago, which means that, in the longer term (the past 20 years, for instance) productivity increased faster than pay. Still, when talking about competitiveness and the risk of economic activity being restricted because of too steep increases in wages, we have to see how the situation in Romania compares to that of other countries. Table 6 shows levels of productivity and labour costs per person and per hour in EUR and in PPS (with and without adjustments to accommodate price differences) for 2018. Since we are interested in this situation from the perspective of competitiveness, it may be relevant to look to hourly productivity and costs expressed in EUR. To obtain deeper insight into the differences between countries, however, we ought to also take into account price differences and compare productivity and costs per hour expressed in PPS. It can be seen that, at 62.8%, productivity in Romania in 2018 hovered at the EU average, approximately half the level of those countries displaying the highest productivity (Denmark, Belgium, France, the Netherlands and Germany). As regards costs, we can see that Romania was among the most inexpensive countries, being surpassed in this respect only by Bulgaria: at 52.7% of the EU average, labour costs in Romania were 2.5 times less than in the most expensive countries in 2018 (the same five countries listed above). Can we, though, infer a point of balance in the relationship between productivity and costs from this table? Of course not: the EU average is obviously more than merely an arbitrary landmark, only allowing us to compare countries with each other but not to find a purported market balance.[76] For instance, in order for the ratio between Romania and Germany to be the same in the case of the pay as in the case of productivity, the hourly pay in Romania should increase from 52.7% to somewhere around 66% of the EU average

75 The comparison with per-unit labour costs is not a direct one, because, in the case of nominal per-unit labour costs, productivity (the denominator) is adjusted to accommodate price increase. A fairer comparison would be with real per-unit costs. However, we are not dealing with an actual reversal of the ratio in this case, either.

76 There is no direct relationship between the EU average regarding productivity and the EU average with respect to costs. Thus, we see countries where the gap to the EU average is greater for productivity than for remuneration (Belgium, France, The Netherlands, Germany, Slovenia), which tells us that the situation in these countries is relatively worse in terms of the ratio between costs and productivity, although, relying solely on the data in the table, we cannot tell what this actually means.

(an increase of almost 25%).[77] If we take the EU average as a reference point instead of Germany's, then labour costs in Romania should increase from 52.7% to 62.8% (productivity) in order to strike a balance. As already indicated, an operation of this type is as about as arbitrary as one can get. The relationship between productivity and salaries is never in a market balance, but rather always influenced by a whole variety of economic and social factors, one being more complex than the next, from technological equipment to trade union leverage: we have seen, for instance, that the level of technology is not at all good in Romania, and this pushes down productivity. The same happens with trade union leverage, which has the effect of pushing down employees' pay. At least from these two perspectives, the situation is the other way round in countries like Germany.

4.2.2. Adjusting productivity to labour costs

It is worth dwelling a moment, however, on the concept of balance point, a key concept in the public productivity discourse in Romania. Once again, in lieu of assuming an original balance point, any and all criticism in terms of weighting and rates of increase would be pointless. Above and beyond this, we have calculated the ratio between productivity and labour cost, which one could also refer to as an adjustment of productivity to salaries. We have pointed out the cases where discrepancies between the employed population and the wage-earning population may cause an underestimation of productivity, which always needs to be taken into account in Romania's case. In Table 6, for instance, productivity for Romania is certainly underestimated by a considerable amount, whereas pay calculated for employees is not. Using the data published by the National Institute of Statistics, we may, however, calculate the ratio between pay and productivity per hour strictly in the case of employees (as illustrated by the data contained in the first chart of Figure 35).[78] One can see that the productivity of wage-earning labour increased between 2010 and 2019 from RON 33.9 up to RON 64.5 per hour (an overall growth of 90.3% and an average annual growth of 7.4%), while pay increased from RON 16.5 to RON 32.7 per hour (an overall growth of 98% and an average annual growth of 7.8%). The ratio between productivity and pay (productivity adjusted to wages) increased from 205% in 2010 to 226% in 2015, then dropping to 197% in 2018, a level which was then also maintained in 2019.[79] Such numbers should be interpreted as follows: in 2010, the yield for each RON spent on employee pay was 205%, while in 2015 the yield was 226% and in 2018 it was 197%. More precisely, each RON in the pay of employees corresponds on average to RON 2.05 of added value in 2010, that is, RON 2.26 in 2015 and RON 1.97 in 2018. Overall, we can see that wage growth has not been accompanied by an absolute decrease of capital income, which has in fact increased from RON 17.3 per hour in 2010 to RON 31.7 per hour in 2019. The actual rationale underlying the opposition to pay rises in recent years seems to be maintaining a productivity/cost ratio above 220%, which was the case in the period between 2012-2015. In other words, what is often being criticised is the fact that, from every RON of added value related to a product, employees received as pay RON 0.51 in 2019, as opposed to RON 0.44 in 2015.

What can be said regarding these figures? Is 220% the optimum and 200% too little? Indeed, from the perspective of capital, anything is too little, and to employees, considering the low standard of living that most of them have, 200% is too much. However, there is no purely objective landmark to help us with any well-founded answer to this question. Since this is about competitiveness, we may rephrase the question as follows: To what extent is the ratio of 200-220% achieved in Romania comparatively better (better for capital, since this is what is cited when opposing pay rises) than in European countries? In order to obtain an answer, we need to redo the math using the data available at European level, [data] that are not comparable to those in the first chart in Figure 35.[80] In the second chart, we look at productivity adjusted to salaries in EU countries in 2019 and 2008, which actually shows how many Euros of added value are generated by spending one Euro on an employee's pay. We may see that this ratio is very small in Greece, where for each Euro spent on an employee's pay, the outcome in terms of added value is only €1.13. This is not due to the fact that workers in Greece are lazy, but to the fact that Greece continues to struggle through a deep crisis which destroyed most of its economy, and what remains is probably running on overdrive; besides, we may notice the collapse of adjusted productivity between 2008 and 2019. Apart from this exceptional case, we can see that the European ranking is a bit different when looked at from the perspective of unadjusted productivity. More specifically, we see how productive the low-cost countries in Eastern Europe are, in fact: Romania, Lithuania, Slovakia, Estonia, Bulgaria, Latvia, the Czech Republic, Hungary and Poland have turned in productivity rates topping the EU average of 1.34. The major gap is, however, between the two countries ranking first, Romania and Lithuania, and the others. At €1.78 in added value for each Euro spent on employee pay, Romania has no worries when it comes to competitiveness as a function of labour costs. On the contrary, it is much more competitive than the vast majority of EU countries.[81]

77 Germany is considered to be a shining example, not only because it serves as a model in terms of competitiveness, but also because it is one of the countries where in recent years wages have increased at the same pace as productivity (Figure 26). Therefore, one could argue (erroneously, of course) that, with respect to Germany, we are dealing with a balance that has been found through optimal operation of the market mechanism.

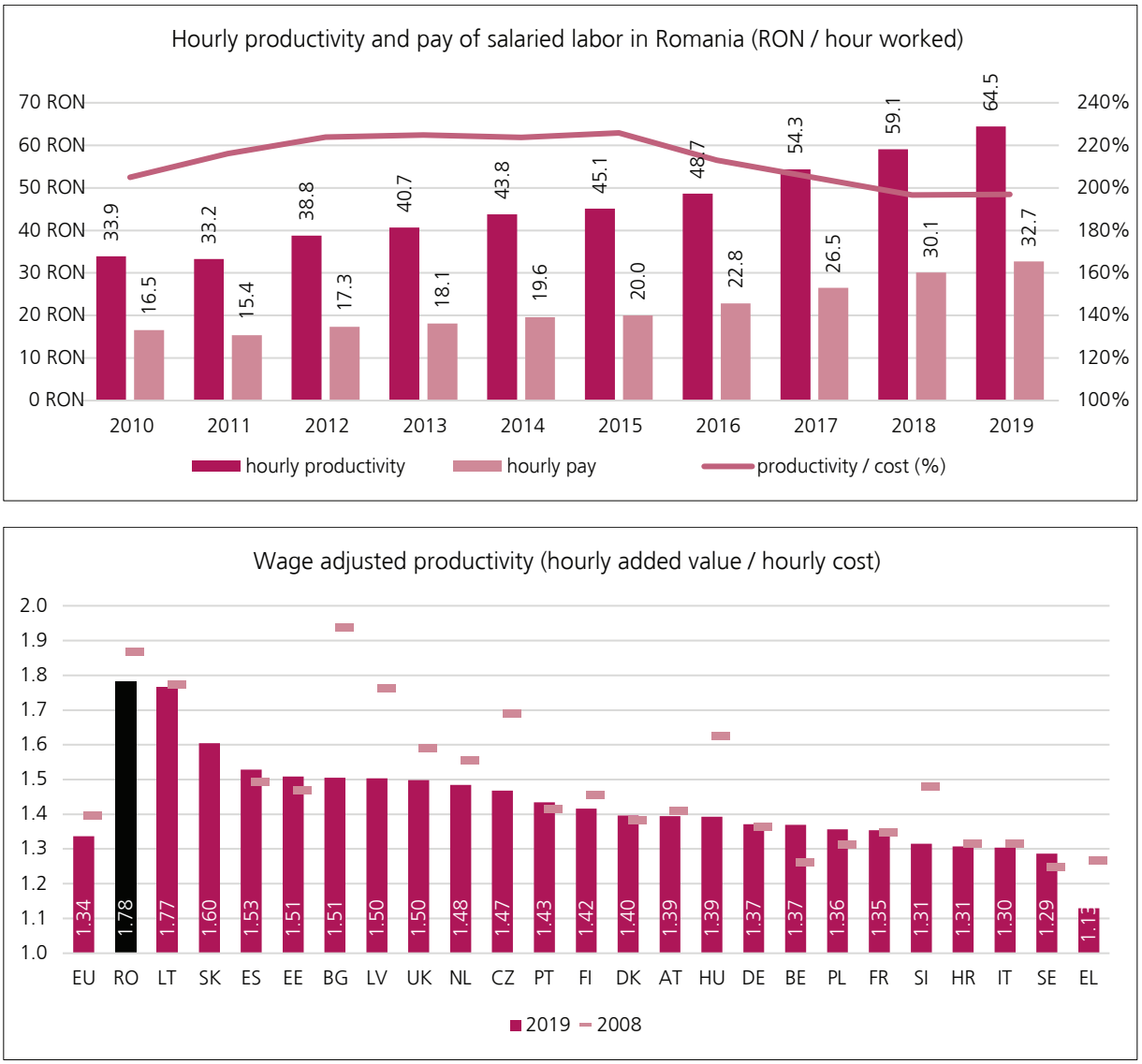
78 Unfortunately, a comparison between countries is virtually impossible, since data published by Eurostat do not allow us to calculate the productivity of employees.

79 The numbers are not comparable with those contained in Figure 34 (calculations based on data expressed in EUR and another data source).

80 Please see the two footnotes above.

81 The annex illustrates the data (apparent labour productivity, average hourly costs per employee and productivity adjusted to wages) at the sectoral level. There are significant inconsistencies between sectors, which may not be explained in the absence of a suitable.

Figure 35
Adjusting productivity to labour costs



Data source: AMECO, Eurostat, INS. Productivity per hour is calculated as the ratio between gross added value in Euros (without financial intermediation services indirectly measured — FISIM) and the total number of hours worked. The hourly cost is the average for competitive economies. The data contained in the two graphs is not directly comparable. In order to avoid any distortions brought about by the status of tax havens maintained by some EU countries, we have excluded Ireland, Luxembourg, Malta and Cyprus.

For the purpose of gaining a clearer picture on just how threatening, in fact, recent pay rises are to Romania's *low-cost* country status, we can conjure up an utterly absurd scenario: if labour productivity per hour stagnated and wages continued to increase, by how much should the hourly pay of labour increase so that the productivity adjusted to wages could reach the level of the other EU countries (excluding the tax havens and Lithuania)? The answers are to be found in Figure 36: in the context of a total stagnation of productivity, employees' pay should rise from 11.1% to 38.5%, depending on the country taken as reference point (in other words, depending on where we believe that the balance point should be — if we are talking about the EU average, for instance, the increase should be one-third). Admittedly, 11-39% is not a phenomenal increase, considering that the per-hour remuneration of labour has increased in Romania by more than 90% over the past decade. The assumption of a stagnation in productivity is, however, completely absurd. A more realistic exercise would be to seek answers to another question: how many years are necessary for productivity adjusted to wages in Romania to reach the same level as in other EU Member States, considering that the average annual

understanding of the structure of economy, including in what concerns capital and technology endowment, corporate behaviour, context of the labour market and other factors. We should also note the distortions inherent in any attempt to measure the productivity of activities which do not involve sale in a market. The best example is public services (healthcare, education, etc.), for which the added value at the cost level is estimated — the immediate and automatic consequence is that productivity grows automatically with remuneration. This stratagem is necessary not because these activities are not productive (another absurdity repeated *ad infinitum* in the Romanian public discussion), but because the manner in which productivity indicators are designed is inherently skewed. For an overview that aids in understanding productivity in market terms (and economic activity in terms of added value and GDP), see Joseph E. Stiglitz, Amartya Sen, Jean-Paul Fitoussi, "Report by the commission on the measurement of economic performance and social progress", 2009, available online at the following link: https://ec.europa.eu/eurostat/documents/118025/118123/Fitoussi+Commission+report.

Figure 36
How much should remuneration per hour of labour increase in Romania, without any growth in productivity, in order to reach the same level of productivity adjusted to wages as in the other EU countries?

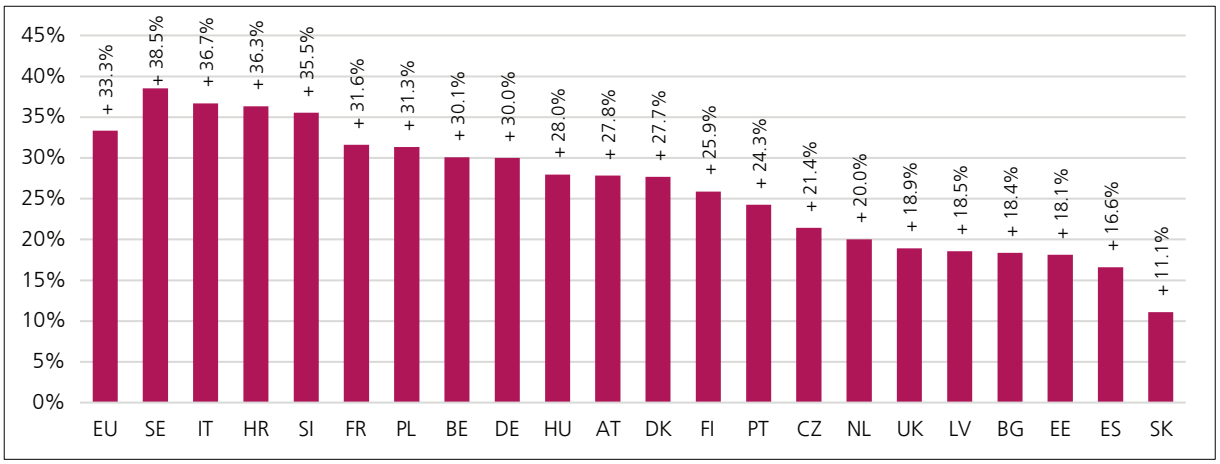
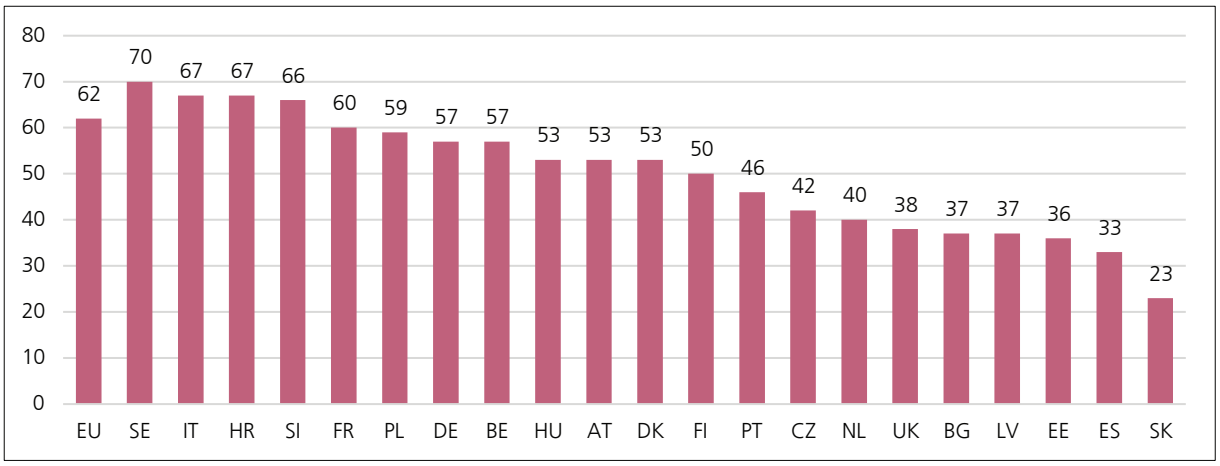


Figure 37
How many years are necessary for productivity adjusted to wages to reach, in Romania, the same level as in other EU Member States, considering that average annual rates of increase continue to be equivalent to those existing in 2010-2019?



Calculations based on the data in Figure 34. We have excluded the outlyers (Greece and Lithuania).

rates of increase continue to be equivalent to those registered in 2010-2019 (we have seen above that we are dealing with an average increase in productivity of 7.4% and an average increase in pay of 7.9%)? Well, it would require 23 years for productivity adjusted to wages in Romania to decline to the present level of Slovakia and no less than 70 years to reach the level of Sweden (and 62 years to reach the current average for the EU as a whole — Figure 37): hence, the discrepancy between the increase in employees' pay and the increase in productivity would continue for decades, at a level equal to the average of the past ten years. Even though this scenario has nothing to do with reality, either (it is extremely difficult to believe that the Romanian economy could achieve such a performance considering the obstacles against constant increases in productivity, discussed above in this study), it helps us gain some idea of how questionable the recent criticism of pay rises ultimately is.[82]

Indeed, as we are constantly reminded, over the past years, employees' pay grew faster than productivity. We are not told, however, that the difference between growth rates is in fact very small — and this because productivity also soared over a short space of time. We are not told that there are inconsistencies between wages and pay (or the total costs borne by the employer) and that, from the standpoint of pay, the process stopped and even reversed in 2019 — in other words, in 2019, productivity grew faster than pay. We are not told that an increase in pay that exceeds the increase in productivity does not involve giving up on profit, being, in fact, perfectly comparable with its increase — as is even the case in Romania. We are not told that the rationale strictly in

82 A key assumption in this scenario is that productivity adjusted to wages would not change in the other countries. Nevertheless, we have seen above (Figure 26) that in many countries employee remuneration tends to grow faster than productivity, which leads to a decrease in productivity adjusted to wages. In other words, we are dealing with an optimistic scenario, as the gap separating Romania from many other EU Member States is, from this standpoint, even more difficult to surmount. It is also worth mentioning that this entire perspective on remuneration and wages disregards significant distortions in the way productivity is reported in dependent economies such as Romania's (such as, for instance, added value transfers within multinational companies) - distortions that generally result in an underestimation of actual productivity.

terms of growth rates is misleading by default, and this not necessarily by chance, with the purpose and intent of opposition to pay rises being, in fact, to maintain the current distribution of added value between capital and labour — despite the fact that this distribution in Romania is highly unfavourable for labour (and favourable for capital). We are not told that the fundamental assumption underlying this rationale consists of the existence of a balance point and that this assumption is absurd in actual practice and untrustworthy in theory — the selection of any balance point is arbitrary, and if we look to other EU countries or to the more distant past, we must conclude that in Romania salaries increase too slowly compared to productivity. We are not told that, despite the pay rises that we have seen over the past years, in Romania the cost of labour continues to be extremely low when compared to the European average, and the gap in absolute terms has not narrowed at all — higher rates of increase mean in fact less in absolute terms, since the starting point is very low. We are not told that, if we adjust productivity to labour costs, the labour force in Romania is among the most productive in the European Union, and that the gaps compared to Western countries and even to our neighbours are huge — huge in the sense that, for each Euro spent on labour, the gain in added value is much greater in Romania than in most EU Member States. Finally, we are never told that there is zero play between wages and productivity— in other words, that pay rises may, in fact, incentivise productivity (by motivating employees, by attracting skilled employees, by incentivising demand for consumption or, very importantly, by incentivising companies to invest in increasing their efficiency, thereby minimising the impact of pay rises) — and that maintaining the status quo where the level of productivity is disproportionately high as compared to employee pay is also an issue in terms of sustainability and fostering medium- and long-term economic growth.

5

CONCLUSIONS

Can wages in Romania be increased in an economically sustainable manner? The experience of recent years tells us that they can, and since these have been paralleled by similarly large increases in productivity, to say that pay rises in fact pose an existential risk is grossly exaggerated. As regards cost-based competitiveness, Romania's reserves are huge: labour costs continue to be so low in Romania when compared to other European countries that even the ostensibly spectacular pay rises over the past years have not had any palpable impact on cost gaps compared to Western countries. Furthermore, wages continue to be low even when compared to the current level of productivity, and there is a certain margin to increase wages even with no increase in productivity — as stated, a scenario where productivity would stagnate is absurd in Romania's case at present (of course, in the absence of an economic crisis). If wages and productivity continued to increase at the average pace of the past decade, sustainability and competitiveness could not genuinely be threatened for many years to come. Contrary to almost everything we hear in the Romanian public debate, the question "how can we make wages increase in sync with productivity?" is biased, disregards the common good, and caters to the parochial interests of those actors taking advantage of cheap labour in Romania.

In the short term and maybe even in the medium term, the sustainability of pay rises will not pose any problems. However, in the long term, the increase in productivity (and wages) cannot be maintained without a substantial change in the organisation and operation of Romania's economy. The solution incessantly called for in the public discussion involves an element which matters very little in the productivity equation — the commitment and dedication of workers (allegedly, "laziness" and lack of discipline significantly lower productivity). A somewhat more relevant measure would be to increase the skills and abilities of the labour force, with such measures being more appealing because they put pressure on the usual "culprits" (the government and, of course, workers themselves) and fall more or less under the scope of the same logic of supply: if we create suitable conditions (cheap and skilled labour), investment comes naturally and the market automatically solves the issue of productivity. At the macro level, improving the skills of the labour force is however faced with significant obstacles. In view of the massive underfinancing of the public education system, the first question to be asked is "where would the money come from?" It is not an easy to find an answer here given the fiscal straits of the Romanian State, which is largely due to the policies that keep costs down to incentivise investment.[83] Even in the optimistic scenario where the necessary funds are earmarked and allocated, recent history contradicts the notion that more skilled labour necessarily leads to more complex (and more productive) investments. As we have seen, in reality, most employers are not interested in this; data cited by the World Bank suggest that, in fact, skills are not such a burning issue, as companies are above all interested in a cheap workforce, not in an "as-skilled-as-possible" workforce. After all, what we have seen in the public arena in recent years is a permanent and ongoing campaign to limit wage costs, and not one encouraging investments in the education system; on the contrary, permanent pressure with a view to reducing activity in the public sector can only result in a further weakening of public services like education or health. A high level of productivity is of course difficult to achieve when the population has low levels of education, healthcare and standard of living, even though this is what the dominant discourse in Romania's public environment implicitly calls for.

Labour is (and may not be) the decisive factor based on which to increase productivity. The threat that increases in productivity will be throttled is not related to the lack of commitment and skills by the labour force, but in chronic undercapitalisation, the low level of technology, the poor quality of management, company owners' unwillingness to take risks and their penchant for short-term gains. This is more than evident in employers' reaction under the pressure of changes in the labour market in recent years. The shortage of cheap labour and increased staffing costs have not moved companies to make substantial efforts (investment, managerial steps) to increase productivity (by increasing the degree of automation, for instance, or by developing more complex or higher quality products). Conversely, employers have massively committed their resources to increasing the labour supply (by facilitating immigration and "activating" certain categories of population) and limiting their pay rises, topics which have an extremely high profile in the public environment. Although capital (not labour) organises and

83 See Cornel Ban and Alexandra Rusu, "Pauperitatea fiscala a României. Ce o explica si ce se (mai) poate face", 2019, Bucharest, Friedrich Ebert Stiftung.

guides economic activity, employers in Romania are much more interested in keeping wages low than in increasing the productivity of their businesses. Surprisingly enough, this attitude has been and continues to be fostered and encouraged by the government, under the increasingly bizarre pretext of ensuring the potential for future development.

The economic strategy of the Romanian government to increase productivity has mainly focused over the past two decades on attracting foreign capital. To a certain extent, expectations have been confirmed, although it is doubtful how substantial this progress really is — for instance, how important productivity was to a shift from manufacturing clothes to manufacturing car cables in the manufacturing industry. The price that is being paid is that Romania is now spiralling in a vicious circle of an economic dependency where cost-based competitiveness prevails. On the whole, the government has never acted to alter this mindset since the early 2000s. Economic activity continues to be incentivised by attempts to decrease costs, with a very limited interest being shown in the quality of investments and in the more comprehensive effect they have on the economy and society. To take an example: in the past decade, state aid has relied on purely quantitative criteria, significantly facilitating the development of industries such as car cables, where productivity is low and long-term development potential is very limited.[84] Despite seeming to be a positive exception, the case of the IT sector (in theory, a complex sector, with major added value and a high potential for productivity increasing over time) is in reality very similar. The exemption from income tax on wages and salaries in the IT sector was meant to ensure low labour costs by means of a regressive taxation system, producing a number of privileges for employees who were earning the highest wages, but the general impact in the economy has been relatively limited. At the end of the day, most multinational corporations in the IT sector operating in Romania work according to the same simple principles: a decrease in labour cost is the main objective, and, in transnational production chains, Romania is regarded (including in the IT sector) as a low-cost production site, where activities with low added value are located (that is, activities with low levels of productivity).

The crisis triggered by the Coronavirus pandemic will surely cause major changes. A forecast recently published by the International Monetary Fund forecasts real GDP to plunge no less than 5% in 2020 (as compared to +4.1% in 2019) and an increase in unemployment up to 10.1% (as compared to 3.9% in 2019).[85] Although for 2021, a recovery is forecasted (+3.9% economic growth, 6% unemployment), it is pretty clear that we will not return to pre-pandemic levels any time soon.[86] If we consider the crisis which occurred a decade ago, we can only conjecture how things will develop, in terms of productivity and wages. The collapse of demand and decrease in the degree to which production facilities are used means that productivity will significantly slow down its pace of growth and may even drop at the macro level (since we can expect production to drop further than employment). Employers faced with problems will stop investing, lay off personnel and halt pay rises. The labour shortage — a major topic in past years — will disappear, thus easing the pressure for pay rises. Consequently, employers who take advantage of the crisis (either because demand does not drop, or because the crisis eliminates competition — this is the case with large retailers of primary goods or companies specialising in e-commerce, for instance) will take advantage of the new situation in the labour market in order to also prevent pay rises. While it is too soon to know for certain, for political, ideological and structural reasons, the state's reaction will probably be similar to that in 2010/2011: austerity measures alleviating the pressure on employers at the expense of substantial intensification of negative effects of the crisis on workers. The slight recovery in recent years with regard to the wage portion of GDP will most probably see an end in order to ensure a high level of income for capital (see the previous evolution in Figure 12); per-unit labour costs will drop and productivity adjusted for wages will increase. All this translates into poorer standards of living for the population.

The debate on productivity and wages will probably vanish all of a sudden from the public arena, since the bias and ulterior motives accompanying it will become a dead letter when companies are able to meet their needs for cheap labour once again. Still, if we look at the past decade, even a slow recovery of the economy will eventually once again put the public spotlight on the relationship between productivity and salaries. This is inevitable, since all concerns outlined in this study constitute structural characteristics of the Romanian economy. Just as the public discourse on productivity and wages first surfaced in the post-1989 era in conjunction with the economic boom of the late 2000s and was then revived with the economic boom of the late 2010s, we may expect it to resurge after the end of the crisis triggered by the Coronavirus pandemic. In other words: if we are first interested in the common good and not in private interests, the question underlying any current or future debate on the matter of productivity may not be "how to cause salaries to grow in sync with productivity?", but rather "how can we ensure an increase in productivity so as to ensure a decent standard of living for the population of Romania?" In theory, we should not spend too much time looking for solutions: productivity may no (longer) grow significantly in the context of undercapitalisation, technological under-development and peripheral economic specialisation, plus the need to improve the status of labour (cheap, skilled, healthy, motivated and content workers is a fantasy). The actual problem is how all these can be achieved in practice; this should, in fact, be the topic that is at the heart of the public debate.

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84 See Stefan Guga, *Industria auto incotro? Tendinte globale, perspective periferice*, 2019, Bucharest, Friedrich Ebert Stiftung.

85 International Monetary Fund, World Economic *Outlook. Chapter 1: The Great Lockdown*, April 2020, p. 20.

86 The European Commission estimates for Romania a GDP decrease of 6% in 2020, followed by a 4.2% increase in 2021, with unemployment soaring up to 6.5%. In April, the National Forecast Commission estimated, for 2020, a much lower slowing down of the economy (-1.9%) and a slight increase in unemployment (up to 4.4%). See the European Commission, European economic forecast, 2020, spring edition. The National Commission for Strategy and Forecast, Proiectia principalilor indicatori macroeconomici, April 2020.

ANNEX. PRODUCTIVITY ADJUSTED FOR WAGES AT THE SECTORAL LEVEL

Table A.1. Apparent (productivity) of labor (EUR thousand per month per employee)

	FR	DE	ES	CZ	SK	HU	PL	EL	RO	BG
competitive economy, excl. financial sector	5.23	4.87	3.44	2.31	1.97	1.96	1.95	1.76	1.38	1.14
manufacturing industry	6.45	6.66	4.82	2.53	2.34	2.66	2.21	2.99	1.28	1.17
high-technology industry	9.70	9.23	7.57	2.78		4.40	2.73	4.45	1.73	1.84
low-technology industry		4.40	3.78	1.89		1.50	1.83	2.18	0.84	0.80
beverage industry	11.89	6.83	6.98	4.37	2.79	2.46	4.86	4.33	3.01	1.63
textile industry	4.16	4.49	3.15	1.83	1.33	0.90	1.33	2.23	1.02	0.86
chemical industry	9.63	10.37	8.29	4.90	3.19	8.90	3.69	4.32	1.95	2.53
pharmaceutical industry	10.58	10.88	9.09	3.92	2.49	6.64	4.16	4.90	2.93	
metallurgy	6.50	6.66	7.00	2.34	3.83	3.39	2.88	6.08	2.12	3.49
motor vehicles	7.27	10.04	5.95	3.95	3.38	3.92	2.89	1.63	1.92	0.88
construction	4.55	3.95	2.80	1.49	1.18	1.37	1.37	1.64	1.03	0.91
high-technology services		6.13	5.43	3.55	3.05	2.66	2.68	3.00	2.24	1.97
commerce	4.48	3.95	2.88	2.03	1.54	1.56	1.57	1.36	1.38	0.94
information and communications	8.36	7.82	6.18	4.20	3.47	2.98	3.05	3.23	2.57	2.20
administrative and support services	3.15	2.83	2.11	1.38	1.36	1.24	1.39	1.08	0.91	0.71
ITC services	8.51	8.31	6.17	4.22	3.68	3.12	2.92	3.85	2.63	2.33

Table A.2. Average costs per employee (EUR thousand per year)

	BG	RO	PL	HU	SK	EL	CZ	ES	DE	FR
competitive economy, excl. financial sector	0.64	0.78	1.14	1.16	1.35	1.46	1.53	2.52	3.36	4.13
manufacturing industry	0.58	0.81	1.17	1.29	1.49	1.93	1.56	3.09	4.75	4.84
high-technology industry	0.84	1.08	1.47	1.73		2.89	1.66	4.33	5.88	7.07
low-technology industry	0.46	0.62	0.98	0.92		1.59	1.27	2.49	3.13	
beverage industry	0.73	1.16	1.67	1.31	1.48	2.86	1.82	3.48	4.35	5.43
textile industry	0.51	0.66	0.86	0.69	1.05	1.68	1.25	2.31	3.38	3.69
chemical industry	0.80	0.99	1.44	1.79	1.65	2.58	1.75	3.97	6.48	6.25
pharmaceutical industry		1.22	1.74	2.38	1.63	3.07	1.78	4.58	6.46	7.08
metallurgy	0.90	1.08	1.40	1.70	2.02	2.77	1.66	3.91	5.13	5.07
motor vehicles	0.55	1.18	1.41	1.65	1.85	1.84	1.83	3.61	6.61	5.13
construction	0.53	0.59	0.97	0.82	1.11	1.34	1.38	2.69	3.07	4.18
high-technology services	1.33	1.43	1.78	1.84	2.19	2.52	2.46	3.63	4.24	
commerce	0.56	0.67	0.98	0.96	1.16	1.46	1.45	2.27	2.73	3.68
information and communications	1.48	1.59	2.02	2.00	2.52	2.56	2.76	3.92	5.19	5.87
administrative and support services	0.52	0.67	1.06	0.93	0.93	1.00	1.08	1.73	1.98	2.67
ITC services	1.54	1.63	2.01	2.05	2.57	3.01	2.73	3.89	5.67	6.07

Table A.3. Productivity adjusted for wages (%)

	RO	BG	PL	HU	CZ	SK	DE	ES	FR	EL
competitive economy, excl. financial sector	178.7	179.5	171.1	168.8	151.0	145.2	144.8	136.8	126.6	120.6
manufacturing industry	158.9	201.3	189.4	205.3	162.3	156.9	140.1	155.8	133.3	155.7
high-technology industry	159.9	218.3	187.0	253.4	166.9		157.0	174.7	137.3	153.6
low-technology industry	136.8	175.1	186.1	163.8	149.1		140.7	151.6		137.2
beverage industry	260.3	221.4	291.2	187.4	240.9	188.2	157.0	200.9	219.2	151.3
textile industry	153.4	168.9	154.0	130.4	147.0	126.8	132.7	136.1	112.5	132.8
chemical industry	196.7	313.9	256.0	496.9	279.9	193.8	160.1	208.9	154.1	167.0
pharmaceutical industry	240.4		238.2	279.5	220.3	152.6	168.4	198.8	149.4	159.7
metallurgy	197.1	390.1	206.0	199.8	141.2	189.9	129.6	179.2	128.4	220.0
motor vehicles	161.4	159.5	205.8	237.5	215.7	183.1	152.1	165.0	141.7	88.0
construction	175.3	173.4	141.5	168.4	108.9	105.5	128.9	104.2	108.9	122.7
high-technology services	156.3	148.3	150.4	144.3	144.4	139.0	144.5	149.3		119.0
commerce	207.1	168.2	160.2	162.5	139.4	133.1	144.8	126.7	122.0	93.0
information and communications	161.3	149.1	151.3	149.5	152.0	137.6	150.6	157.7	142.4	126.4
administrative and support services	137.0	137.2	130.9	133.2	127.4	145.3	143.1	122.4	118.2	108.3
ITC services	161.7	150.3	145.5	152.1	154.5	143.3	146.5	158.5	140.3	128.1

Data source: Eurostat. The data are not perfectly comparable with the data contained in Figure 35.

LIST OF FIGURES AND TABLES

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THE QUESTION OF PRODUCTIVITY

Controversies and clarification

It is true that a low level of productivity cannot generate large wages. Nevertheless, this is not the issue in Romania, where wages remain disproportionately low in comparison to productivity. Furthermore, in contrast to popular opinion, wage rises over the past decade have been accompanied by commensurate increases in labour productivity. The predominant narrative in the public arena is misleading from the very outset, since it reasons strictly in terms of rates of growth and is based on the primary assumption of an initial point of equilibrium between productivity and labour costs.

Ignoring the role of the distribution of value-added between labour and capital makes the public productivity narrative extremely biased; the actual goal is to cap salary rises while maintaining the highest productivity-cost ratio possible, without employers having to go through the trouble of investing and making organisational efforts to boost productivity. It is therefore no accident that the topic of productivity only happens to crop up in the public debate at those times when the situation in the labour market is tends push salaries upwards. We are confronted with a moralising criticism of wage rises compounded by a denunciation of their presupposed economic irrationality.

For the moment, reality appears to be different, as is obviated by a glance at the ratio between labour productivity and labour costs: labour costs are so low in Romania that wage rises do not even come close to posing any real threat to economic activity at the macro level. Things may well change in the medium term and especially in the long term, which is why the public debate needs to shift attention towards the truly important issue: the need to increase productivity instead of limiting pay rises.

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