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Income Inequality and its Consequences within the Framework of Social Justice

Nierówności dochodów i ich konsekwencje w kontekście sprawiedliwości społecznej

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Abstract
The paper deals with important social-political issues of sustainable development. Basing on the case study of income inequality indicators in the EU the paper reveals that there is a close relationship between inequality and unemployment; furthermore it confirms that inequality has a significant impact on migration and GNI per capita. The authors detected the differences in national models of inequality regulation by grouping the countries and highlighting those in which the relationship is most clearly and explicitly manifested. A more detailed analysis of these two groups (17 countries) suggests that the relationship between inequality and GNI actually reproduces the distribution of the countries according to the GNI to tax burden ratio (in 2015 the correlation coefficients are - 0.702 and 0.718 respectively). Since there is almost no relationship between inequality and tax rates for public and corporations, apparently, the impact on public performance is formed within the processes of income redistribution. Conversely, based on the country grouping according to income distribution, GNI and tax burden, the authors revealed a pattern: the countries with low income inequality have the highest GNI rates even in case of tax burden which is significantly higher than average European values. Basing on discovered relations between income inequality and other factors, the research demonstrated the importance of the state regulation of distribution processes directed towards achieving positive social and economic consequences.

Key words: inequality, income distribution, justice, migration, human development

Streszczenie
Artykuł poświęcony jest społeczno-politycznym zagadnieniom zrównoważonego rozwoju. W oparciu o studium przypadku odnoszące się do nierówności dochodów w krajach Unii Europejskiej autorzy udowadniają, że istnieje istotna zależność pomiędzy nierównościami a bezrobociem, a co więcej potwierdzają, że nierówności mają znaczący wpływ na migrację i dochód narodowy brutto (GNI) per capita. Autorzy wskazali na różnice w przyjmowanych w poszczególnych krajach modelach odnoszących się do rozwiązań związanych z nierównościami, grupując kraje i wskazując na te, w których związek ten jest najbardziej wyraźny. Bardziej szczegółowa analiza tych dwóch grup (17 krajów) sugeruje, że związek między nierównościami a GNI jest symetryczny do podziału krajów według GNI, z uwzględnieniem wskaźnika obciążeń podatkowych (w 2015 r. współczynnik korelacji wyniósł odpowiednio - 0,702 i 0,718). Ponieważ w zasadzie nie ma związku między nierównością a stawkami podatkowymi, naj-

wyraźniej wpływ na finanse publiczne kształtuje się na bazie procesów redystrybucji dochodu. I odwrotnie, w oparciu o podział krajów według podziału dochodów, GNI i obciążeń podatkowych, autorzy wskazali na prawidłowość: kraje o niskich dochodach mają najwyższe wskaźniki GNI, nawet w przypadku obciążeń podatkowych znacznie przewyższających średnie europejskie wartości. Opierając się na udowodnionych zależnościach między nierównościami dochodów a innymi czynnikami, badania wykazały, że istotną rolę odgrywa państwowa regulacja procesów dystrybucji ukierunkowana na osiągnięcie pozytywnych konsekwencji społecznych i ekonomicznych.

Słowa kluczowe: nierówność, dystrybucja dochodu, sprawiedliwość, migracja, ludzki rozwój

Introduction

Excessive income inequality has always been among the causes of social conflict and turmoil. While motivating a person to human capital accumulation to a certain extent, high differentiation provokes the emergence of imbalances in the distribution of public goods, the possibility of maltreatment in the redistribution of property and the formation of unjustified competitive advantages in every aspect. Ultimately, high income inequality is a factor that may lead to violation of human rights, one of the main manifestations of injustice, human development challenge that constantly attracts global attention. Therefore, the experts of the World Economic Forum ranked severe income disparity fourth in the list of the top 10 global risks of highest concern in 2014 (WEF, 2014); at the same time eradicating poverty in all its forms and dimensions as an extreme manifestation of inequality became Sustainable Development Goal No. 1 on a new Agenda for humanity in general (UN, 2015).

Having its roots in the philosophical and psychological doctrines, nowadays equity research is adapted to economic relations; moreover among the signs of injustice inequality is one of the major features (Rakauskiene & Strunz, 2016). At least recent scoping socio-economic studies examining deprivation of certain public benefits are carried out in this context, and influences orientated toward smoothing past injustices commonly involve the use of government mechanisms of fiscal and monetary policies, subsidies and other means of social protection. Furthermore, the growing attention of world-class economists, including Nobel Prize-winning economist Joseph E. Stiglitz, to the matter of explaining the relation of inequality and macroeconomic instability (Stiglitz, 2012), or the impact of income inequality on the length of the economic cycle within the framework of development supported by the World Bank (Berg et al. 2012) is definitely indicative.

Thus, excessive income inequality is always connected with the principles of income distribution fairness supported in a given society. Therefore, we believe that the application of principles of social justice which is a powerful logical basis for the explanation of biased income inequality factors is an inseparable component of research regarding the distribution processes in the states that claim to be the countries with the social economy.

Given this, the purpose of this study is to provide an initial assessment of income inequality in the EU member states, define their differences, factors and effects basing on social justice approach. We have verified the practical importance of justice in economic processes by using the case study of income distribution, as the majority of relevant statistical data refers to this aspect of distributive justice and, additionally, as the motives for subsequent participation in public life are eventually formed in income distribution.

Literature Review

Studies of income inequality became a specific response to the signs of global economic crisis processes and local crises involving migration and individuals seeking better living conditions. In particular, after the thematic *Human Development Report* 2009 devoted to migration, when the whole world had still keenly experienced the effects of the financial crisis of 2008/2009, there were significant changes in the method of calculating the Human Development Index (HDI) in 2010. One of the major changes affected the method of measuring income inequality: it was supplemented by sophisticated calculations drawn on the Atkinson family of inequality measures (UNDP, 2010, p. 217-219). This method (apart from the classical decile coefficient of differentiation of incomes, the Gini coefficient, gender differences in income and poverty indicators) has surely allowed to get a better idea of the true extent of inequality and its perception, especially considering the results of monitoring of the satisfaction with certain public goods which had begun to regularly appear in *Human Development Reports* basing on the data from Gallup World Poll starting from 2010.

In addition to awareness of the close relationship between inequality factors and human development in general, the aforementioned studies on the link between inequality and macroeconomic instability, as well as duration of economic cycles (Stiglitz, 2012; Berg et al. 2012) are particularly significant in the context of macroeconomic analysis.

As for the practical implementation of justice concepts, it is beneficial for economic research is to recognize (directly or indirectly: through the study of solely extreme forms of inequality) that the existence of absolute equality is not the objective of economic development. Input / output relations that should be based on just calculation of the contribution to the result, or even on the justification of logical dependencies in determining the results basing on offsetting the weight of certain *rules* (Leventhal, 1980) are more important for economy. At the same time the papers of justice researchers very rare suggest clear mechanisms or controls of inequality. They can surely be identified through the factors that are the foundation of the studies concerning the components of income distribution inequality or equitable *distribution patterns*. Taking this fact into account, one of the papers which gives a thorough overview of the known theories of inequality, has generalized that the following factors may be as follows: *The cultural, social, and economic determinants of the perceived fairness of distribution schemes (the formation of contracts; the emergence of markets; and the evolution of agreements regulating exchange and allocation activity in various social systems)* (Cook, Hegtvedt, 1983).The idea of maintaining fairness in distribution runs like a golden thread through all of the research papers on justice or fairness, therefore the concept of *equality* is even more significant, while *justice* is a mechanism to ensure equality.

Such papers bring psychological and philosophical concepts of inequality closer to economic processes; however, they do not specify the *signal indicators* after reaching which the injustice is not just a social evil, but a destructive and powerful mechanism within economic processes. Any other attempts to measure inequality, together with well-known statistical evaluation tools for income differences, do not give a clear answer to the question about permissible limits. In this regard, we can highlight one of the latest developments that was immediately appreciated by the experts in human development and used as one of modern inequality indicators: it is Palma ratio substantiated in his relevant paper (Palma, 2011). The paper modifies the principles of income ratio definition (the ratio takes the richest 10% of the population's share of gross national income and divides it by the poorest 40% of the population's share), which, certainly, illustrates the worst displays of income differentiation much better. However, this paper does not suggest any limits of permissible inequality which could be justified because of the need to promote motivation in the social hierarchy as well.

The conceptual principles of social justice are a working scientific basis for the justification of economic appropriateness for changes or behaviour adjustments of the participants of public relations. They are quite effectively used and sufficiently presented as economic arguments in favour of reducing excessive income inequality in the justification of the *Millennium Development Goals*, particularly the first Goal: Eradicate extreme poverty and hunger (Doyle, Stiglitz, 2014). In addition to the negative personal outcomes, European science views income inequality from the standpoint of social security of the integration process (Turečková, 2015). Similarly to this approach, the other macroeconomic studies consider income mobility from the political economy perspective and rank it as a reflection of economic, political and social changes (Ouardighi, Somun-Kapetanovic, 2011). In order to look for other relations and confirm them statistically, the researchers will conduct further analysis on the case study of income inequality as one of the manifestations of social distributive justice.

Methodology and Research Method

In order to test the impact of income inequality on macroeconomic results we will use Stiglitz approach which has theoretically proved that issues of income inequality, unemployment, on the one hand, and, macroeconomic instability, recessions and recovery, on the other, are intertwined, and has noted that monetary and fiscal policy are principal regulation controls (Stiglitz, 2012).

Following this idea, we will also use the methodological principles for analysing relations between the income inequality and other socio-economic indicators suggested in similar works. Particularly, nowadays the existence of stable links between social outcomes, including income inequality, and the economic conditions of their formation and regulation (first of all, tax system efficiency) is sufficiently substantiated. So, some researchers confirmed that the overall social contributions and labour taxes lead to statistically significant improvements in income inequality (Obadić et al. 2014); the effective corporate tax rate has significant impact on unemployment levels (Zirgulis, Šarapovas, 2017); tax system can promote or suppress entrepreneurship in the country (Giriūnienė, Giriūnas, 2015), the level of welfare and economic growth (Ushakov et al. 2017; Krajewski, 2015); low tax burden can encourage investors (Šimková, 2015); and vice versa: income tax exemption has a positive influence on the social and economic development of region (Ambroziak, 2016). In turn, it is proved that the distribution of income sufficiently changes the welfare, quality of life and life satisfaction (Lisauskaitė, 2010; Diržytė et al., 2016). At last but not the least, income inequality at the same time can be both substantial reason and consequence of migration aspirations and economic changes. In general, the increased income, where GDP is used as a proxy, has a negative influence on the net migration (Simionescu et al., 2016). In turn, it is substantiated that out-migration can increase income inequalities, thus hindering economic growth, while immigration can reduce income inequalities and mitigate economic imbalances (Villani et al., 2016). Finally, we fully agree with idea about strong links between migration caused by income inequality (especially in groups of educated people), possibilities of economic growth and outcomes for tax system: the outflow of people who received the education subsidized from taxes loses the possibility of the return of this investment in the form of higher taxes paid by economically active population with higher income (Kotulic, Adamisin, 2012).

Basing on the existing methodology of estimation of links between the income inequality with conditions of its occurrence and socio-economic consequences, we will check the following hypotheses which, in their turn, are based on the assumption that state is responsible for the existence of inequality, and therefore we selected results and governmental controls with regard to possible causes and outcomes of inequality as key factors:

1. high income inequality leads to lower GNI and migration of population;
2. high income inequality is caused by insufficiently effective labour market (the main result is unemployment); gender inequalities; ensuring availability of at least secondary education that contributes to higher personal income; using tax instruments (basic index is a total tax burden which is the basis of socially equitable income redistribution) and supporting favourable financial and economic environment for employment and business in the form of property rights, financial freedom, freedom from corruption.

The factors to test these hypotheses basing on the case study of the EU Member States' statistics were selected from relevant international reports:

- ✓ *Human Development Report*, 2016 – the factors include: Inequality in income, %; Gender Inequality Index; Gross national income (GNI) per capita; Net migration rate (per 1,000 people); Population with at least some secondary education, (% ages 25 and older); Unemployment (% of labour force);
- ✓ *Index of Economic Freedom*, 2015 – the factors include: Freedom from Corruption; Property Rights; Tax Burden, % of GDP; Financial Freedom.

The first assessment stage was performed by analysing the correlation values for pair correlation coefficient.

In the second stage, by summarizing the effects of inequality in income upon gross national income per capita as the basis for the formation of other socio-economic processes, we will use the methods of graphical analysis. In order to do that we group the countries according to GNI and the level of inequality by ranking them in four groups consistent with the averages of each of the indicators:

1. group 1 – high GNI, low inequality;
2. group 2 – high GNI, high inequality;
3. group 3 – low GNI, low inequality;
4. group 4 – low GNI, high inequality.

The purpose of the analysis is to identify leaders in terms of economic success and low income inequality ratio (group 1) and the selection of the countries with the worst ratios (group 4). The study of their state income tax peculiarities will allow us to identify successful state strategies effecting public sense of social justice. As average correlation indices obtained in the first stage of analysis cannot always illustrate common trends for the EU, especially in the modern processes of strengthening differences in some aspects of social and economic policies within the Union.

The results have a significant difference from other studies in this field as they are mostly completed by the analysis of issues with the recommendations typical only for the specific case. In our research we will identify successful national models of just distribution of income which in turn will be important to improve social behaviour and to discover factors of personal decision making and aspiration to live in a certain country.

Results

The results of hypothesis testing were performed with the use of statistical data for 2015, given that at the time of the given study the latest available human development report was for 2016 and reflected data for 2015. In order to ensure data comparability we used the indices of economic freedom from the report for the same year.

As a result of hypotheses testing by correlation analysis we received the following results (see Figure 1): the data was displayed in descending order of link strength taking into account communication directions.

As the figure shows, income inequality has a strong influence on migration: in countries where inequality is higher migration growth is negative. Another consequence that was emphasized by all of the scientists mentioned above – public performance (which is an indicator of GNI per capita) – does not have a close connection with inequality.

However, we performed a similar calculation basing on data for 2014 that shows correlation between GNI and income inequality with the value of -0.407. This value obviously does not mean the presence of a significant dependence, but it should be emphasized that income inequality is only one aspect of justice, and therefore it does not exclude that the public performance may depend on it, but in a broader interpretation: not only equality in results' distribution but also fair access to employment opportunities, participation in decision-making on determining fair proportions, and other aspects that are not shown statistically, but require additional sociological surveys. Apart from that, lower degrees of correlation between GNI and income inequality, as well as its certain reduction in 2015 compared to 2014 can reflect the impact of migration factor that have already been mentioned before: as there is a high dependence of subjective assessments of social order fairness, including income distribution in the EU member states, migrants from less developed countries began

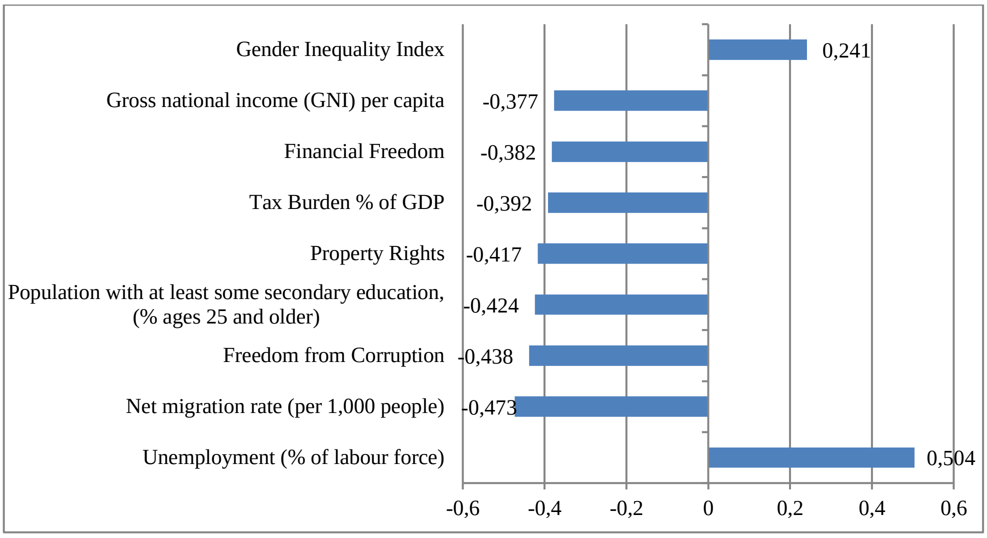

Figure 1. Correlation Coefficients of Income Inequality with Particular Indicators of Human Development and Economic Freedom

to migrate *en masse* to the EU that even resulted in prominent public outrage in our study period. Given that a significant share of the flow of immigrants accounted for Muslim refugees originating from their traditional large families, it is, in our opinion, caused the statistical discrepancy between the real standard of living and average GNI per capita, as the calculation shows entire population, not just employed or economically active population. Given these precautions and higher relationship closeness of these indicators in other periods, we believe that total impact of income inequality on social performance and migration is high.

Regarding the hypothesis about possible causes of the income inequality origin, unemployment has got obvious and significant impact on the formation of inequality. The impact of gender inequality is not quite significant within the EU; this fact can be interpreted as a sign of significant progress in reducing gender discrimination, particularly in the labour market.

Considering factors of state control over the formation of favourable environment for income distribution there several aspects which are the most effective ones, namely: levelling effects of corruption, ensuring the availability of at least some secondary education, and property rights. The impact of financial freedom and fiscal management appeared to be somewhat less in order to draw conclusions about a significant relationship. As for the latter, given the significant differences in tax systems and tax principles in the EU, we can assume that insufficient tax effect is associated with significant national differences and their perception, as well as with the impediments of results' interpretation according to tax share in GDP. However, after analysing the individual impact of Income Tax Rate (%) and Corporate Tax Rate (%), their correlation coefficients with inequality were completely insignificant: -0.1156 and - 0.0502 respectively. This means that income tax rates for both population and businesses do not influence the inequality formation processes: they largely depend on the effectiveness of government social policy in the course of tax revenue redistribution. Even though this relationship is not strong enough in terms of econometrics (-0.392), however given the greater closeness of the correlation compared to the tax rates for population and business separately, it can be considered logically existing with a technical error that occurs once again due to substantial differences between national tax systems which definitely affects the overall level of impact.

With the intention of identifying national differences that may be useful for reducing income inequality, strengthening employment motivation and, accordingly, providing higher GNI, we can use the results of our graphical distribution of the countries for four groups basing on the ratios of relevant indicators (see Figure 2). In line with the methodological approaches to this grouping that we have described above, we conducted the clustering given that in 2015 the average GNI per capita was equal to $33,084 in the EU, and the average inequality level was 16.2%.

As one can see, the countries of the first group are the most successful ones not only due to GNI ratios and low income stratification. In fact, this group included the countries with well-developed democratic tradition and social relations based on the principles of the fullest support of human development and welfare state ideas. *Within an ace of* transition into this group there were other countries with high human development, particularly Britain, France, Ireland. Differences in GNI compared to leaders are insignificant, but they do exist, and in no small measure they can be caused by a significant gap in income distribution proportions and employment motivation respectively. Among the relatively young EU members the post-communist countries, as well as those in which the decline of social productivity is clearly

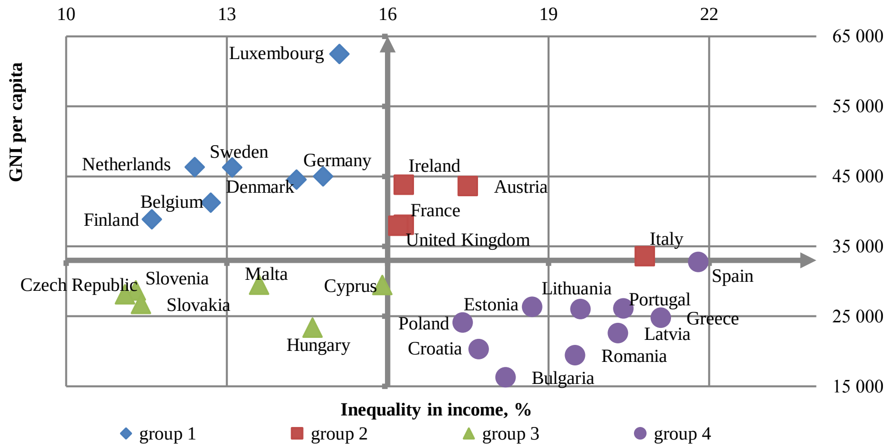

Figure 2. Grouping EU Member States According to GNI and Income Inequality Ratio

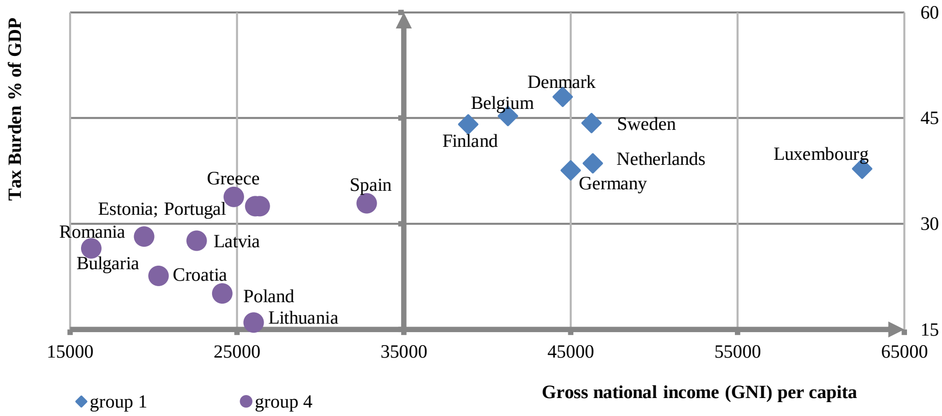

Figure 3. GNI and Tax Burden Ratio in the EU Member States with the Most Prominent Relationship Between GNI and Income Inequality (Group 1 and 4)

associated with deficient social policies that often became the object of international criticism (e.g. Greece, Bulgaria), demonstrate the worst ratios of GNI and inequality. Along with that, other recent EU member states (Slovenia, Slovakia, and Czech Republic) were able to overcome the high inequality: in this respect, Slovakia is also a leader in the EU according to other indicators of income stratification, such as Palma ratio. The marginalization of these countries from leaders in economic and social development is somehow uncertain: after all we are referring to successful EU countries which by the fact of joining EU are recognized to be strong enough economically and to ensure high social standards typical for the EU. However, basing on the case study of two countries that are relatively close in terms of development we may see significant differences in the efficiency of public policies regulating income distribution. For instance, the difference in income inequality in Bulgaria and Slovakia seems very minor: 18.2% vs. 11.4%. Nonetheless the difference appears to be within the gap in GNI per capita which is more than $ 10,000: 16,261 and 26,764 US dollars respectively.

These results once again turn us back to the need to identify the impact of state social regulatory actions upon economic results. In this regard, the most obvious actions would include support of equitable income distribution in the course of using redistributive mechanisms funded by tax revenues. The fact that fair redistribution of social income is a more effective mechanism than the preventive activities limiting excessively high returns can be easily proven by nearly zero correlation between GNI and Income Tax Rate and Corporate Tax Rate: totally in the EU it is -0.116 and -0.050, respectively. However, the relationship of inequality with Tax Burden (% of GDP) is much stronger (see Figure 1).

For further details with regard to the impact of taxes on GNI we'll use graphical analysis by means of data only for the group of countries where relationship between inequality and GNI is the most obvious, namely Group 1 and 4, a total of 17 EU member states (see Figure 3).

As one can see, the distribution of the countries according to the average GNI and the average tax burden (34.5% on average in the EU in 2015) actually follows the distribution according to the ratios of inequality and GNI, as it is shown on Figure 2, all countries in Group 1 and Group 4 appeared to be within the same distribution limits without leaving the scope of averages for the group. Small differences in graphical location compared with the countries' *success* ranking on the previous figure are caused by the fact that not only the effectiveness of tax regulation defines the economic and social development. However, the connection between the indicators is much higher than the average for the EU for those countries with clearly formed public vectors with regard to inequality perception implemented in national action programmes: the correlation coefficients of income inequality with the tax burden and GNI are (-0.680) and (-0.702) respectively. Basing on the hypotheses which we confirmed through empirical analysis of genuine EU statistics we believe that income inequality is only a fragmented indicator of social justice, even though it is one of the most important ones. After turning the correlation coefficients which we determined into the determination of relevant relationships, we can see that the negative social consequences in the form of GNI loss, emigration with its complex demographic and economic outcomes, largely depend on other social justice factors unaccounted in the pool of indicators that we analysed.

Conclusions

As we have discovered in our study justice in income distribution is an important factor in the country migration attractiveness, their workforce saturation and, in case of effective state social policy, a long-term basis for economic growth as a result of productive employment, particularly positive demographic changes due to labour migration. Our research basing on the case study of one justice aspect – income equality – suggests that it has a very close relationship with unemployment and social performance: GNI per capita which is a sufficient argument in itself to reduce its excessive displays and continuous monitoring. The given research of the income inequality differences based on country groupings according to inequality ratios, GNI and tax burden, confirms that the countries with formed trends of equitable income distribution (i.e. the distribution of income that is *fair* from society's point of view) have higher social productivity, even with relatively high tax burden. Income distribution, as one of the key features of social justice, is, therefore, evidently one of the factors that requires constant analysis together with related social and economic aspects, since the proper influence upon them can ensure sustainable economic progress and social well-being.

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