INCOME INEQUALITIES IN THE DEVELOPED ECONOMIES

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Abstract

Nowadays, income inequality is one of the most controversial topics among the economists. The aim of the present paper is to analyze the factors that generate the wage gaps inside a country, with a particular focus on the developed economies, and to identify the trends of income inequalities in these states during the last three decades. Our results show that, starting with the end of the XXth century, the wage inequality became an important issue for countries, especially for the United States, which had the largest income gaps from all the other developed economies.

Keywords: wage inequalities, developed economy, Gini coefficient, labour market

JEL classification: J31, J30

1. Introduction

The wages’ inequalities have represented a largely debated subject in the economic literature, especially in the context of increasing the gaps between the richest and the poorest states. This issue has increasingly become a controversial one since the income inequality was noticeable not only between states, but also inside them. However, while studies regarding the wages and the structure of labour have been constantly conducted for a long

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time, great part of the academic literature on income inequality began to emerge only in the end of the last century.

The opinions regarding this problem are very different, the analysts being focused particularly on causes and consequences of the unequal distribution of incomes. While some studies consider that it is useful to have different levels of incomes in a society, other recent researches argue that this salary stratification represents a growing social problem because wages inequalities may become an obstacle for the long term economic growth. For example, Chaudhuri and Ravallion (2007) consider that a certain level of income inequality is essential to the effective functioning of a market economy and to the incentives needed for investments and growth. However, Berg and Ostry (2011) have demonstrated that more inequality is closely correlated with less sustained growth because it may amplify the risk of financial crisis and may generate political instability, which can discourage the investments. They sustain this idea by arguing that inequality can make more difficult the governments’ decisions process during the downturn economic periods, especially for issues such as raising taxes or cutting public spending to avoid a debt crisis. Moreover, inequality may reflect poor access to financial services, for a part of population, which limits the opportunities to invest in education and entrepreneurial activities.

Considering the fact that two of the most used indicators in the international comparisons regarding the economic growth of countries are the national income per capita and the GNP per capita, it is very important to determine the revenue gaps inside these states before making these comparisons, in order to see if this indicator is relevant for analysing the wellbeing of the population. In a society, the income’s unequal distribution can be measured with the help of various indicators, such as 20:20 Ratio, Palma Ratio, Hoover Index, Theil Index or Gini Index. From all these, the most frequently used is the Gini Index. For example, we can notice that two countries with similar GNP per capita may significantly differ from the point of view of egalitarian distribution of income. Taking as examples Brazil and Hungary, we can see that even if the GNP per capita has similar values in the two states, the poverty incidence is much higher in Brazil. In Hungary, the richest 20% (fifth) of the population gets about 4 times more than the poorest fifth, while in Brazil the richest fifth of the population receives 30 times more than the poorest fifth.
Wage inequality varies depending on historical periods, on political and economic systems (for example capitalism with free market versus socialism with centralized economy), but also on each individual's ability to earn more. Some of the major causes of wage inequalities are presented in the next part of the paper, while the evolutions of these gaps in the developed states are analyzed in the last section.

2. Main Determinants of the Countries’ Income Inequalities

A comparison of the wages in a particular country should take into consideration the factors that determine the changes in the price of labour force, such as dynamics of the life costs in a certain environment, the training costs, the role played by children and women in the labour force, the labour productivity etc.

In a real capitalist production society, the wages, as well as the prices of any other factors of production, are established by the market. Therefore, when there is a high offer of the labor force, confronting with a relatively low demand, the income is established at a lower level. This is the case of the lower skilled jobs, where the high competition between the potential employees decreases the wages. On contrary, when there is a scarce labor force offer but the demand is high, the incomes increase. For example, we can take the cases of those fields that require superior knowledge, rare personal skills or involve high risks. This normal interaction between demand and offer leads to the income stratification inside the capitalist society.

In the context of globalization, many researchers have linked the income inequality to the consequences of this phenomenon. Therefore, two causes of the wage inequalities have been largely debated in the economic literature: trade and technological change. Other researches tried to emphasize the role played by multinational companies and particularly by foreign direct investments (FDI) on the wages’ inequality in the host countries. The economist R. Freeman has underlined the fact that globalization and capitalism “improved living standards for billions while concentrating billions among the few” and “lowered inequality worldwide but raised inequality within most countries” (Freeman, 2011).

Using a panel of more than 100 countries, Figini and Görg (2011) have analyzed the relationship between foreign direct investment and wage inequality. Their results are different for the OECD (developed) countries and for the non-OECD (developing) states. For developing countries the wage
inequality increases with FDI inward stock, although this effect diminishes with further increases in FDI. The results for the developed countries show that the income inequality decreases with FDI inward stock.

Meanwhile, in a study published in 2012, Herzer and Nunnenkamp have made a clear distinction between the short term consequences of the foreign direct investments on the wages and the long term ones. They summarized that, on short-term, FDI have a positive effect on the income inequality in European countries but, on a long-term, this impact is negative (Herzer, Nunnenkamp, 2012).

The issue concerning a possible linkage between wage inequality and international trade also remains a controversial subject in the economic literature. Some economists predict that the increase in the global trade would lead to a reduction of the income disparities across the trading nations. However, under certain circumstances, income distribution may worsen in richer nations but improve in poorer ones.

One of the best known models regarding the impact of international trade on income distribution is the Heckscher-Ohlin-Stolper-Samuelson model (HOSS). It shows that there is an increase in income inequality in capital abundant countries because the intensive labour industries move to developing states where labour is abundant and relatively cheap. In this way, the wage inequality in countries which are relatively abundant in unskilled labor may decrease, while in the states with relatively abundant highly qualified labor force the inequality is expected to increase. In other words, the international trade will augment the wage inequalities in the developed countries and will decrease it in the less developed ones.

Paul Krugman (2000) also estimates that trade liberalization had a significant impact on the rise of wage inequality between skilled and unskilled workers. This ascending trend is due to the increasing trade with poor countries and to the fragmentation of production means, which led to greater mobility for unskilled jobs. The same conclusion can be found at Feenstra and Hanson (2001) that analyse the international trade from the point of view of “trade in intermediate inputs” or outsourcing. They argue that this type of trade influences the labour demand not only in import-competing industries but also in the industries using the inputs. To demonstrate this, they use the example of the United States between 1979 and 1995.

Some analysts considered that the effect of trade on wage inequality is still minor compared to that of technological change. For example, Bound and
Johnson (1992) argue that trade had almost no role in America's wage inequalities observed in the end of the XXth century. Instead, they noted that these gaps were caused by the technological change and by the changes in unmeasured labour quality. A less radical perspective could be found at Katz and Autor (1999) which underline that trade globalization can explain only 5 to 15% of the increase in US revenues’ inequality, the rest being attributed to technological change.

In the developing countries trade facilitates the technology diffusion and R&D spillovers which, in turn, generate an increase in the level of the incomes (Grossman, Helpman, 1991). Meanwhile, in the case of the developed states, Krueger (1997) argues that technological innovations and automation led to the replacement of jobs for unskilled labour force by machines, fact that determined an increase in the wage inequality.

Apart from these factors that are considered to be related to the globalization phenomenon, there are also some aspects related to the internal situation of each state which can explain the revenue gaps inside countries. One of these is considered to be the tax system. Some economists argue that a progressive tax system has positive effects on the society because it leads to a more equitable distribution of income. However, this idea is vehemently rejected by the liberal researchers, especially from the Austrian School of Economics, who consider that the progressive tax system is an abusive way of equalizing incomes.

Despite the fact that there are divergent opinions among the economists and politicians regarding the reducing or exacerbating role of tax policy on wage inequality, some researchers, such as Paul Krugman (2000) or Peter Orszag and Peter Diamond (2005), have demonstrated that the tax policy from the World War II increased the differences between revenues by facilitating the access to capital only to the richest Americans at the expense of lower-income people.

Knowing that the type of the tax systems may vary between countries and, therefore, may have a different impact on the revenues, to make an accurate international comparison regarding the incomes’ gaps of the states, it is necessary to determine the Gini coefficient before and after tax deduction.

The access of the population to the educational system also influences the income inequality in a country. OECD researches have shown that a more equitable distribution of the educational opportunities usually leads to a more equitable distribution of incomes. Therefore, people with a higher level of
education have a competitive advantage on the labor market during all the phases of the economic cycle.

According to a study conducted by M. Slaughter (2009), in 1979, male college-educated workers earned on average 30% more than male high-school-educated workers. However, by 1995, this difference had risen to about 70%. The same study shows that, in 1979, within the group of male high school educated workers, those at the 90th percentile of the income distribution earned 60% more than those at the 50th percentile (Slaughter, 2009). By 1995, this 90th versus 50th percentile gap had reached 83%.

Another study, conducted between 1980 and 1990, analyses the variation of the average educational level in 282 metropolitan areas from USA, in order to determine the impact of education on the incomes (Moretti, 1998). The conclusion of the study is that an increase of a year of the education level in urban areas has led to a wage increase of 5.8% in 1980 and of 10.9% in 1990. Moretti adds to these results the idea according to which if the number of educated people in a city increases, their salaries will decrease and the revenues of the low-skilled workers will increase. A good example for this situation is the period 1910-1940 when there was a massive education of population at the high school level, which increased the supply of skilled workers and decreased their remunerations. Decreasing wages led to a period of compression and to lowering income wage inequality between skilled and unskilled workers. At that time, the upper-secondary educational system (high-school) was designed to train students in order to become skilled workers; nowadays, it is considered to be a milestone for the university admission.

Dividing the 282 areas from USA into 4 groups - those without high school, those with high school, those who started the tertiary education but dropped out and those who have graduated the university - Moretti (1998) shows that a 1% increase in the number of workers from the last group generates several outcomes: a 1.3% wage increase for those who have completed high school, a 1.1% income increase of those who graduated the university and a 2.2% rise in the salaries of those who started and abandoned the university. Therefore, an increase in the number of well-prepared people has a strong positive effect particularly on the least educated persons.

In addition to these observations, we should mention that education seems to have a positive or negative impact on wage inequalities, depending on its level. Researches show that a large number of people enrolled in the
secondary level of education is associated with lower income inequality. However, there is a negative relationship between the number of those enrolled in primary education and the income inequality and a positive relationship when the enrollment in tertiary education is considered. Moreover, Gilmore (1999) argues that individuals who have a higher level of education and training can ask for higher wages, are less likely to become unemployed, may have a greater mobility and a better chance of employment throughout the working life.

Regarding the differences between countries in terms of wage levels, Weil (2004) considers that they can be explained with the help of the number of school years, fact that results from Table 1.

<table>
<thead>
<tr>
<th>Highest level of education attained</th>
<th>Number of school years</th>
<th>Income determined according to the school years</th>
<th>Developing countries (%)</th>
<th>Developed states (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 school years</td>
<td>0</td>
<td>1</td>
<td>34,4</td>
<td>3,7</td>
</tr>
<tr>
<td>Unfinished primary school</td>
<td>4</td>
<td>1,65</td>
<td>22,6</td>
<td>11,7</td>
</tr>
<tr>
<td>Finished primary school</td>
<td>8</td>
<td>2,43</td>
<td>11,9</td>
<td>13,4</td>
</tr>
<tr>
<td>Unfinished secondary school</td>
<td>10</td>
<td>2,77</td>
<td>16,3</td>
<td>26,5</td>
</tr>
<tr>
<td>Finished secondary school</td>
<td>12</td>
<td>3,16</td>
<td>8,3</td>
<td>16,6</td>
</tr>
<tr>
<td>Unfinished university</td>
<td>14</td>
<td>3,61</td>
<td>3,5</td>
<td>15,1</td>
</tr>
<tr>
<td>Finished university</td>
<td>16</td>
<td>4,11</td>
<td>3,0</td>
<td>13,0</td>
</tr>
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</table>


The differences in level of education and their impact on the income gaps can also be analysed by gender. The economist Robert Barro (1996) has shown that, in the developed countries, women’s higher education is correlated with economic growth. However, in the developing states, while an additional school year, in case of men, generates an increase in the growth rate of 1.2% per year, in the case of women, the school years (regardless of the level to which it relates) does not significantly influence the growth rate.
(Barro, 1996). However, the level of education in the case of women is influencing some economic development indicators such as fertility, infant mortality or political freedom.

In some countries it may be found a difference between wages by gender, favouring men on the labour market. In the United States, for example, women have consistently earned lower wages than men, during time, even if this gap has narrowed in recent decades. If in 1969 a woman earned, on average, 62% of a men’s income, nowadays this percentage is close to 80% (Snell, Bohlander, 2012). Unfortunately, the closing of the wage gap between sexes has slowed down since the 1990s even if it is known that firms that do not discriminate have lower costs than firms that do it.

Understanding the sources of gender differences in incomes is vital in order to determine why the wage gap between men and women persists. The economists have pointed to a number of factors that could explain the income differences between men and women. In the United States, for example, the biggest difference in educational attainment between genders is that, although women were more likely to graduate from high school than men, they were less likely to go to university (Blau, Kahn, 2006). Moreover, men tended to concentrate in career-oriented fields of study such as engineering, law, medicine and business, which led to relatively high earnings. However, these educational differences have diminished since the 1990s.

Jacob Mincer and Solomon Polachek (1974) had a significant contribution in highlighting the role of labour market experience in explaining the gender income gap. They concluded that, on average, women have less work experience than men and this plays a very important role in differentiating the incomes. In addition to this, they mentioned that women are more tempted to choose occupations for which on-the-job training is less important. Moreover, women may avoid jobs requiring large investments in skills that are unique to a particular firm, because the returns on such investments are obtained only if they remain in the same company. To this, it may be added the fact that when looking for a job, women may also pay more attention to some other factors, such as the flexibility of the schedule, the free time, a job that does not require travelling or relocation etc., than to the salary.

The gender pay gap may decompose into two main components: one due to quantifiable gender differences and another one that cannot be explained with objective reasons, caused perhaps by discrimination. However, this last factor can be found especially in less developed or developing
countries. For example, Yang and Zax (2000) have shown that wage discriminations against women do exist in China.

Simon Kuznets noticed, in 1955, that the development level of a country is significantly influencing the income inequalities. He explained this aspect referring to the fact that the underdeveloped states do not have “middle” class: there is a sharp contrast between the large proportion of population whose average income is well below the country’s average revenue and a small group with very high relative income. Meanwhile, the developed countries are characterized by a much more gradual rise from those with low incomes to the group with the highest revenues. Moreover, in the developed countries, Kuznets (1955) showed that, in the first half of the XXth century, the percentage of those receiving the country’s average income was quite high and the top income groups obtained smaller shares than the comparable groups in underdeveloped economies. Considering all these aspects, Kuznets concluded that the income structure is more unequal in underdeveloped countries than in the more advanced ones, especially in those of Western and Northern Europe and “their economically developed descendants in the New World - the United States, Canada, Australia and New Zealand” (Kuznets, 1955). In order to see if nowadays these inequalities have remained the same, in the next part of the present study we analyse the evolution of the income inequalities in the developed states, starting with the end of the XXth century.

3. Trends in Income Inequalities in Developed Countries during the Last Three Decades

During 1980s, many OECD countries have experienced an increase in the income inequality. However, the largest gaps were noticed in the United States, where the rise in inequality occurred both between workers of different skill levels and among those within the same skill level. Together with the increasing income inequalities, people from the OECD states have also experienced stagnation or even decline of their real earnings, fact that was felt especially by the less-skilled workers.

In 2011, the Organization for Economic Cooperation and Development published a study entitled “United We Stand: Why Inequality Keeps Rising”, which presents the causes, the consequences and the political implications of the increasing differences between the richest and the poorest groups of its member states. According to this study, the average income of the richest 10% individuals is nine times higher than the poorest 10% people
in the member states, while 25 years ago it was only 7 times higher. In the United States, the situation is even worst compared to 25 years ago. The countries that traditionally are more egalitarian, like Germany, Sweden or Denmark, have nowadays a ratio of 6 to 1 between the highest and the lowest earnings, while in the 1980s this was of 5 to 1 (OECD, 2011).

Figure 1 illustrates the changes in income inequalities of the G7 states (Germany, Canada, France, Japan, United Kingdom, the United States and Italy), between 1980 and 2008. The seven countries are ranked from the lowest to the highest inequality in 1980 and the income gaps are measured with the help of “Gini” coefficient. As it is shown in this figure, France is the only G-7 country which experienced a declining inequality during the analyzed period, all other six states facing an increase in the income inequality. From all these economies, the United States had the highest level of income inequality among G-7 countries both in 1980 and in 2008, the Gini coefficient rising from 33.7 to 37.8 between 1980 and 2008.

According to the U.S. Census Bureau, the Gini coefficient for the United States is even greater than that presented by OECD, reaching 46.9 in 2008. This report also shows that the lowest Gini coefficient ever recorded in the United States was 38.6, in 1968, and since then it has been on an ascending trend (Babones, 2011).

**Figure 1: Gini coefficient for the G7 states in 1980 and 2008**

Source: OECD, United We Stand: Why Inequality Keeps Rising?, 2011, [www.oecd.org/social/inequality.htm](http://www.oecd.org/social/inequality.htm)
Even if the two reports show different results for the US, one aspect is certain: the levels of income inequality faced by America, in 2008 and in the years after that, have no resemblance anywhere in the developed world. It is believed that the rise in the income inequality in United States during the last two decades has been primarily caused by increasing dispersion of wages in each industry more than between industries. Income inequality within each industry is strongly linked to the frequency of computer usage by workers and to the percentage of those with higher education from all the employees.

Although most OECD countries did not experience an income inequality rise as high as the United States (Canada, Finland and Germany being the only member countries that have actually experienced a decline in earnings dispersion during the last ten years), many of them suffered much larger increases in unemployment. Table 2 presents the unemployment situation in 1973, 1993 and 2012 for a number of OECD countries.

<table>
<thead>
<tr>
<th></th>
<th>1973</th>
<th>1993</th>
<th>2012</th>
</tr>
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<tbody>
<tr>
<td>OECD</td>
<td>3.3</td>
<td>8</td>
<td>7.9</td>
</tr>
<tr>
<td>OECD - EU states</td>
<td>2.7</td>
<td>11</td>
<td>10.3</td>
</tr>
<tr>
<td>Australia</td>
<td>2.3</td>
<td>10.8</td>
<td>5.2</td>
</tr>
<tr>
<td>Austria</td>
<td>1</td>
<td>4.2</td>
<td>4.2</td>
</tr>
<tr>
<td>Belgium</td>
<td>2.4</td>
<td>10.3</td>
<td>7.3</td>
</tr>
<tr>
<td>Canada</td>
<td>5.5</td>
<td>11.2</td>
<td>7.4</td>
</tr>
<tr>
<td>Finland</td>
<td>2.3</td>
<td>17.7</td>
<td>7.6</td>
</tr>
<tr>
<td>France</td>
<td>2.7</td>
<td>11.5</td>
<td>10.2</td>
</tr>
<tr>
<td>Germany</td>
<td>1</td>
<td>8.8</td>
<td>5.6</td>
</tr>
<tr>
<td>Italy</td>
<td>6.2</td>
<td>10.8</td>
<td>10.3</td>
</tr>
<tr>
<td>Japan</td>
<td>1.3</td>
<td>2.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Netherlands</td>
<td>2.2</td>
<td>6.2</td>
<td>5.1</td>
</tr>
<tr>
<td>New Zealand</td>
<td>0.2</td>
<td>9.4</td>
<td>6.8</td>
</tr>
<tr>
<td>Sweden</td>
<td>2.5</td>
<td>8.2</td>
<td>7.6</td>
</tr>
<tr>
<td>UK</td>
<td>2.2</td>
<td>10.2</td>
<td>8</td>
</tr>
<tr>
<td>USA</td>
<td>4.8</td>
<td>6.7</td>
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On average, inequality increased less while unemployment increased more in Europe than it did in the United States. However, there are still significant exceptions. A particular interest presents the United Kingdom, which experienced both a rise in income inequality and in unemployment between 1973 and 1993. However, at the beginning of the XXIst century, the unemployment decreased in UK, while the inequality has still augmented. The situation of unemployment in Belgium is similar to that of the United Kingdom, but Belgium experienced a decline in inequality over the analysed period. Unemployment in the Netherlands has been low and declining in the end of the 1990s, following the same trend as income inequality. Similar situations to the Netherlands can be found in Austria and Sweden. The experience of other OECD countries has been more mixed. Many economists consider that most European countries have more labour-market rigidities than the United States, fact that could explain the mix of inequality-unemployment changes across the two groups.

In developed countries, with high incomes, the average proportion between the amount of the revenues received by the richest and the poorest persons is about 6 to 1. In developing countries, this ratio varies by region: in South Asia is 4 to 1, 6 to 1 is in East Asia, Middle East and North Africa, in Sub-Saharan Africa is 10 to 1 and 12 to 1 in Latin America. According to the studies, of the total world income, 42% goes to those who form 10% of the planet's wealthiest individuals, while only 1% goes to those who make up 10% of the poorest people.

4. Conclusions

Income inequality, which nowadays represents one of the global major issues, has various causes. Among the most cited cause of the wage inequalities in the developed countries can be mentioned the global trade, the technological change and the foreign direct investments. Apart from these factors that are considered to be consequences of globalization, there are also some determinants of the revenue gaps, related to the internal situation of each state, such as the tax system, the access of the population to the educational system and the gender discrimination. Another cause brought into discussion was the development level of a country, the developed economies being less affected by income inequalities compared to the developing ones. However, starting with the end of the XXth century, the wage gap was also felt in the developed countries, even if at a much smaller extent than in the developing
ones. From all the developed countries, the United States have experienced the highest income inequality.

Considering all the aspects mentioned in this paper, it raises the question if an unequal distribution of the incomes is good or bad for the economy of a country. On one hand, an excessive egalitarian distribution of wages may have negative consequences on the economic efficiency, fact that could have been noticed in the former socialist countries. Among the consequences of the socialist equalization of wages were the reduced initiative of workers, the poor quality and limited choice of goods and services, slowed technical progress and slowed economic growth that led to increased poverty.

On the other hand, increased wage inequality negatively affects the quality of people's lives, leading to a higher incidence of poverty, keeping down the progress of the health and educational systems and increasing criminality. Moreover, increased income inequality threatens the political stability of a country as more and more people are discontent of their economic status and it becomes harder to reach the political consensus between the population groups with high incomes and those with low incomes. The political instability represents a threat for the foreign investors and, in this way, it undermines the development potential of that country.

Taking into consideration all these aspects, we may conclude that, in a country, a certain income differentiation is necessary, but this should be based on objective, quantifiable criteria, such as work productivity, level of education, seniority at workplace etc.

5. References


