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Inequality and Inclusive Growth: Evidence from the Selected East European and CIS Countries

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Inequality and Inclusive growth: Evidence from the Selected East European and CIS countries.

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Abstract

The rise of protectionism, expansionary fiscal policies and anti- globalization leading to Brexit and similar right-wing sentiments in few other countries has perhaps been the expression of dissatisfaction towards existing growth strategies being adopted across different countries. The questions are being raised as to how the growth strategies have impacted poverty and inequalities; the two banes of the economies. The voices of discontentment have become stronger in recent years when the growth is not creating enough jobs. In view of the importance of the issue of inequality and the increasing discontentment against the rising inequality and demand for a more inclusive growth; the paper has dig deeper into the available evidence of inequality in the East European (EE) and Commonwealth of Independent States (CIS) countries to understand the status of inclusive growth.

1. Introduction

There has been a growing concern about the rising inequalities arising out of the pattern of growth and the concern picked up momentum since the global meltdown in 2008. Discontentment from existing growth outcomes became evident in many protests starting with the Occupy Wall Street Protests in 2011, which later on spread in many other countries. The current wave of rising protectionism restricting movement of goods and people, expansionary fiscal and monetary policies and anti- globalization leading to Brexit and similar nationalist sentiments in few other countries has perhaps been the expression of dissatisfaction towards existing growth strategies being adopted across different countries. Some of these growth strategies adopted by countries around the World resulted in high unemployment and huge disparities within countries and between countries. The questions are being raised as to how the growth strategies have impacted poverty and inequalities; the two banes of the economies. The voices of discontentment have become stronger in recent years when the growth is not creating enough jobs. Some of the disparities are even gradually leading to social tensions and unrest. The rise of new technology and the "gig economy" are threatening to worsen inequality by further increasing corporate concentration and reducing bargaining power for workers.

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While the root of much of the study on income inequality is found in Kuznets' (1955) paper, "Economic Growth and Income Inequality", the relationship has been tested and verified across time and countries by many studies. Even the UN's Sustainable Development Goals (SDGs) have recognized the presence of inequalities and poverty within and across countries and made it a part of the goals to be achieved by 2030 (While Target 1 aims to eliminate 'absolute poverty'; Target 10 of SDGs aspires to reduce inequality and promote inclusive growth). Literature on inclusive growth shows evidence that while the recent growth in GDP in most of the countries, especially in the emerging economies have experienced reductions in poverty but the countries have also experienced a simultaneous increase in inequalities of income and wealth. Studies (Piketty, 2014; Alvaredo F. et. al., 2018) conclude that inequalities in most part of the world have increased during the last three decades as a result of which the economies have drifted away from inclusiveness and social justice. While Basu and Stiglitz (2016) bring into focus the debate about growth and poverty and find that growth alone is not sufficient to reduce poverty because despite high growths; 14.5 percent of the population in the World in 2011 still faced poverty. They advocated the use of policies which go beyond just promoting growth. Stiglitz (2016) points out the need to adopt both domestic and international policies, which are inclusive and lead to equitable and sustainable growth to come out of global growth slowdown. The ESCAP (2017), study also highlights the growing income and wealth gaps between rich and poor due to high growth and argues for a comprehensive strategy to reverse rising economic inequality.

Equality was one of the lofty goals of Communism in Central and Eastern Europe. However after their transformation and with the spread of market economies and globalization inequality has become an important issue in most of these countries during the last two decades. With reduction in State subsidies and emergence of markets; market transitions are thought to inevitably produce spiralling inequality on the road to economic growth. These countries are however now quite diverse in nature and in their stages of development. Whereas few of the countries are advanced or upper middle income (Slovakia, Lithuania, Hungary, Poland, Romania and Russia) with a per capita GDP of more than $10000 in 2017-18; there are others (Armenia, Ukraine, Moldova, Uzbekistan, Kyrgyz Rep.) which are low middle income countries with less than $4000 GDP per capita. As the countries experience different income levels, they do also experience differences in the inequalities and inclusiveness. Inequality in these countries was much lower during the Communist era than they are at present (Milanovic; 1998, Bandelj and Muhutga; 2010, World Bank; 2005, Brainerd; 2010,), and the inequalities are higher in the CIS countries as compared to Eastern Europe (The CIS countries generally rank higher than the East European Countries in the Oxfam's overall CRI rank for 2018). The empirical studies (Jiří Večerník, 2010) for these countries since 1989 agree that inequality had increased during 1990's and has stabilized since then. The increase in inequality however has been higher in the initial stages of transition, with smaller rises (or in some cases reductions) in inequality indicators after 2000 and especially after the global crisis of 2008 (World Bank; 2005, IMF; 2014, Brainerd; 2016). Inequality however increased the most in the least successful countries (Heyns; 2005).

The importance of inequality lies in the fact that it not only plays a role in enhancing or reducing the poverty impact of growth but also deprives sections of the society 'from opportunities, services and chance for a better life' (SDGs; UNDP) and thus affects their 'well-being' and causes social tensions. Brainerd (2016, p.10) observed that 'it appears that rising inequality is one of the most important reasons for relatively high levels of unhappiness in post-socialist countries, with many viewing these disparities as unfair'. UNDP in the SDGs has also advocated that countries must empower and promote inclusive social and economic growth. Income inequality along with wealth inequality, poverty rate and median income has also been included by the World Economic Forum (WEF) as an indicator of the pillar of inclusion in its Inclusive Growth and Development Index. As a result, the paper has focussed mainly on four features of the selected economies namely- growth, poverty, inequality, and inclusiveness.

In view of the importance of the issue of inequality and the increasing discontentment against the rising inequality; the paper has dig deeper into the available evidence of inequality in the thirteen East European and CIS countries which were once the example of equality and inclusive growth. It tries to understand how the transformation of these erstwhile Socialist countries in the 1990's have impacted their distribution of income and wealth and helped in *achieving inclusive growth*. The study is organized as follows: the next section, 2 spells out the data sources used during the study and the time period. Sections 3 to 6 deals with the four features of the economies and section 7 concludes the study.

2. Data Sources and the period of study

As the study includes 13 CIS and EE countries which not only have different national currencies but also have different measurement benchmarks; especially for poverty, therefore the sources of data for the current study have been so selected that we have a uniform benchmark. Thus, the international sources are used and are: the World development indicators by World Bank, the Povcalnet database of the World Bank, Inclusive growth and development index by WEF, the World Income Inequality Database, and UN-WIDER database among others.

Many of the CIS countries came into existence after the dissolution of Soviet Union in 1991, and faced a lot of instability and some even experienced a negative growth rate in GDP and in few other economic parameters in the initial years. The period of the study is therefore taken from 1994 to 2017[2]. However, since for few of the countries the complete time series on the desirable attributes for the entire period is not available, so we have taken the averages at three time periods- 1994 to 2000; 2001 to 2008, and 2009 to 2017 for better inter- temporal comparability. The periods may also be described as the transitional phase of growth, the acceleration phase of

[2] Or the latest year for which the data is available.

growth, and the recovery phase of growth. Because of data limitations, the study has included six of the nine CIS countries and nine of the 10 countries[3] of EE except Belarus[4].

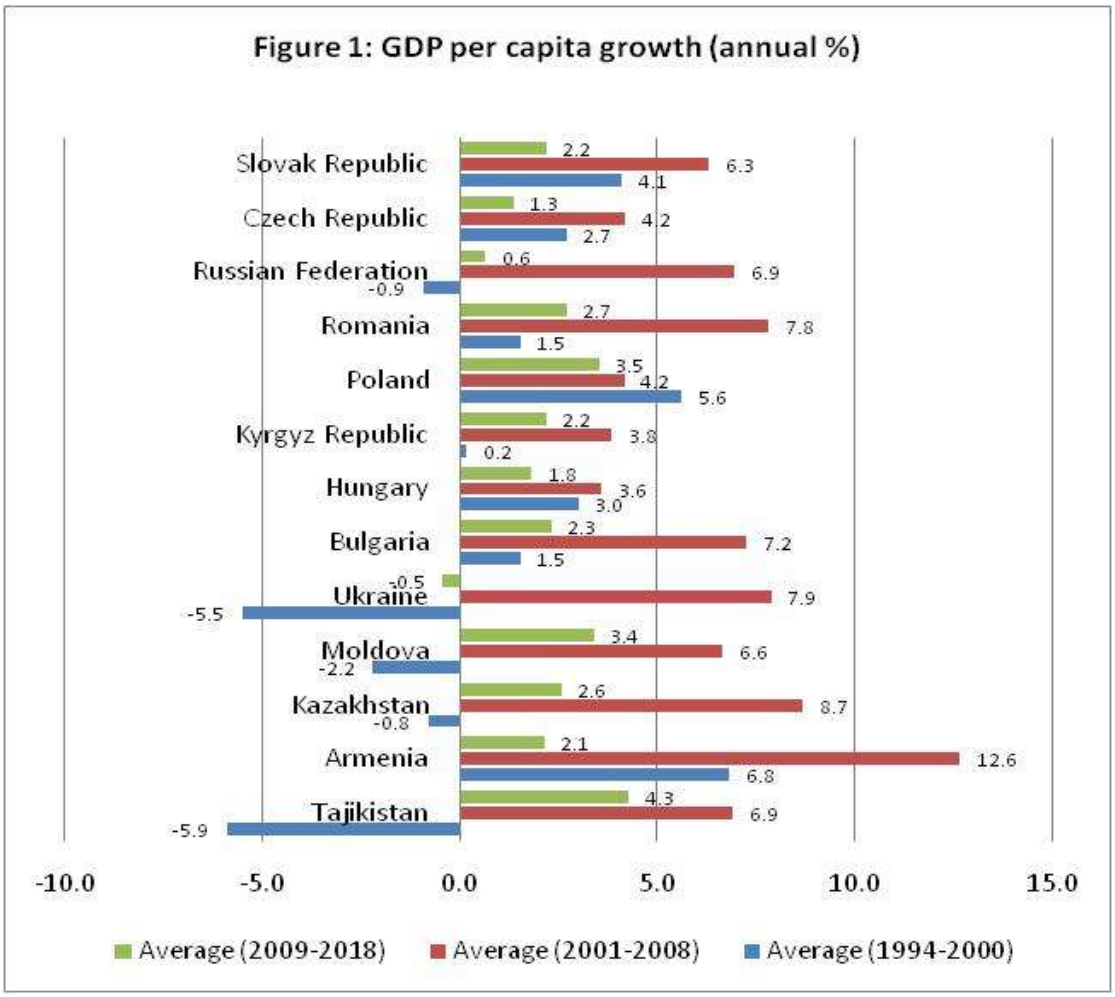
3. Growth and level of GDP in CIS and EE countries

The average level of GDP in constant US $ and the average growth in GDP per capita for the selected countries in the three periods is summarized in Figure 1 and Table 1. The countries have been classified by WEF (2017) on the basis of the average 2011-2015 $ GDP per capita into advanced countries (income>17000 $ GDP per capita), upper-middle income countries (income 6000-16999 $ GDP per capita), lower-middle income countries (income 1320-5999 $ GDP per capita) and low income countries (income <1320 $ GDP per capita). Based on this classification Czech Republic and Slovak are advanced countries, Bulgaria, Hungary, Kazakhstan, Poland, Romania and Russia are upper-middle income countries, Armenia, Kyrgyzstan, Moldova and Ukraine are lower-middle income countries, and Tajikistan is a low income country. There is thus diversity of income among the countries.

It is observed from Figure 1 that in most of the countries of CIS and EE, the beginning of their new phase staring from 1991 was a period of relative macro instability and they experienced negative GDP growth per capita. Only after 1994, the countries started to stabilize and started the phase of positive growth except Tajikistan, Kazakhstan, Moldova, Ukraine and Russia which experienced an average negative growth in GDP per capita during the early transition phase of 1994-2000. The other countries however had slow positive growth rates ranging from a low of negligible rate of 0.2% in the Kyrgyz Republic to a high of 4.8% in Slovak Republic and 6.8% in Armenia. The golden period of growth in GDP per capita for all these countries has however been 2000-08, when all the countries grew fast in the range of average growth being from 4% to 13%. However, the countries suffered the impact of global meltdown in 2008 and faced a phase of low growth in GDP per capita. But during the overall period of 1994 to 2018, some of the countries, e.g. Armenia, Poland, Slovak, Romania, Kyrgyz and Bulgaria have been able to achieve a high growth of more or equal to 4 percent per year in GDP per capita.

[3] As per UN Statistics Division

[4] Though Moldova and Russian Federation figure in both the lists of CIS and EE, we have included them in the CIS list for inter group comparisons as both of them belong to former Soviet Union. Therefore the total number of countries included is 13, which are Armenia, Bulgaria, Czech Republic, Hungary, Kazakhstan, Kyrgyzstan, Moldova, Poland, Romania, Russia, Slovak, Tajikistan, and Ukraine.



Source: Authors computations from World Bank: World Development Indicators, downloaded in July 2019

As a result of high GDP growth per capita, the countries have been able to substantially increase the absolute level of the income of its people (Table 1). Most of it has been possible because of the substantial contribution of services sector in both GDP as well as in employment. The average GDP per capita in constant US $ has more than doubled for almost all the selected countries irrespective of the income level- whether low income or advance income country. The share of the service sector in GDP as well as in total employment has increased for all countries except Kazakhstan where the share of service sector in GDP has fallen but in employment it has gone up. The share of services in GDP varies from 43% in Tajikistan; a low income country to 58% in Bulgaria; an upper middle income country. It may be noted that the share of services is generally higher in countries with higher level of income. Most of the transition countries are now converted into service led economies. The service sector is now also the major source of total employment providing more than fifty percent of the total employment in these economies, except the countries of Tajikistan, Armenia, Kazakhstan and Romania.

Table 1: Level of GDP and the contribution of the Service sector in GDP and Employment

		GDP per capita (constant 2010 US$)			**Services, value added (% of GDP)**			**Employment in services (% of total employment) (modeled ILO estimate)**		
Country	Income level by WEF	Average (1994-2000)	Average (2001-2008)	Average (2009-2018)	Average (1994-2000)	Average (2001-2008)	Average (2009-2018)	Average (1994-2000)	Average (2001-2008)	Average (2009-2018)
Tajikistan	Low income	412	582	887	31.9	38.0	43.3	24.8	27.3	31.7
Armenia	Lower middle	1183	2510	3730	-	-	48.6	43.1	44.1	47.3
Kazakhstan	Lower middle	597	755	980	53.3	40.4	50.0	37.4	42.5	48.8
Moldova	Lower middle	1210	1584	2261	41.2	51.0	54.1	38.6	43.1	51.9
Ukraine	Lower middle	1819	2680	3023	39.6	47.6	53.0	51.2	53.0	57.1
Bulgaria	Upper Middle	3839	5452	7464	55.3	53.8	57.9	49.1	56.8	62.1
Hungary	Upper Middle	9468	12654	14213	52.6	55.7	55.2	58.8	61.8	64.5
Kyrgyz Republic	Upper Middle	4000	6980	10142	33.0	51.9	54.3	47.4	49.2	58.1
Poland	Upper Middle	7325	9980	14133	52.8	56.8	56.4	47.2	53.1	57.3
Romania	Upper Middle	4848	6771	9452	41.3	46.7	51.5	29.1	35.8	43.8
Russian Federation	Upper Middle	5930	8804	11259	49.8	51.2	54.9	54.2	60.2	65.6
Czech Republic	Advanced	13867	17728	20880	52.1	54.6	54.6	52.5	55.8	59.0
Slovak Republic	Advanced	9524	13261	18090	53.3	53.5	55.9	52.5	56.1	60.1

Source: Authors compilation from data sources

4. Growth in GDP and poverty reduction

Except the low income and low middle income countries of Tajikistan, Armenia, Kyrgyz Republic, Moldova, Ukraine and other two countries of Kazakhstan and Ukraine, the remaining CIS and EE countries do not have a history of very high levels of poverty, as measured by poverty headcount ratio at international poverty line of $1.90 per day per person. It is observed that even these countries have been able to almost completely eliminate poverty from their countries due to the high growth in GDP per capita. While Tajikistan has reduced poverty from 54% before 2000 to just 4.8% in 2015, Armenia has reduced from 17% to 2%, Kyrgyz Republic from 34% to 3% and Moldova from 29% to 0.3% during the same period. This has been possible

due to high GDP per capita growth and the conscious government efforts towards this goal. Romania is the only exception where average poverty headcount ratio has increased from 3.4% before 2000 to an average of 3.8% during 2000 to 2008 and to an average of 5.7% after 2008 (Appendix Table 1). The reason for this spurt in poverty in Romania is its economic crisis and a big fall in its GDP per capita growth rate from almost average 8% during 2001-08 to just 2.7 % after the financial crisis of 2008.

Thus, from the perspective of poverty one may argue that the fruits of GDP growth per capita have been possibly shared by the entire population of the selected countries, as they have been able to almost eliminate the absolute poverty, though few developing countries among them still figure in the list of Global multidimensional poverty index (2019). It is therefore pertinent to examine whether the distribution of income has been skewed or equal among the population. This is part of the discussion in section 5.

5. Growth and Inequality in the selected countries

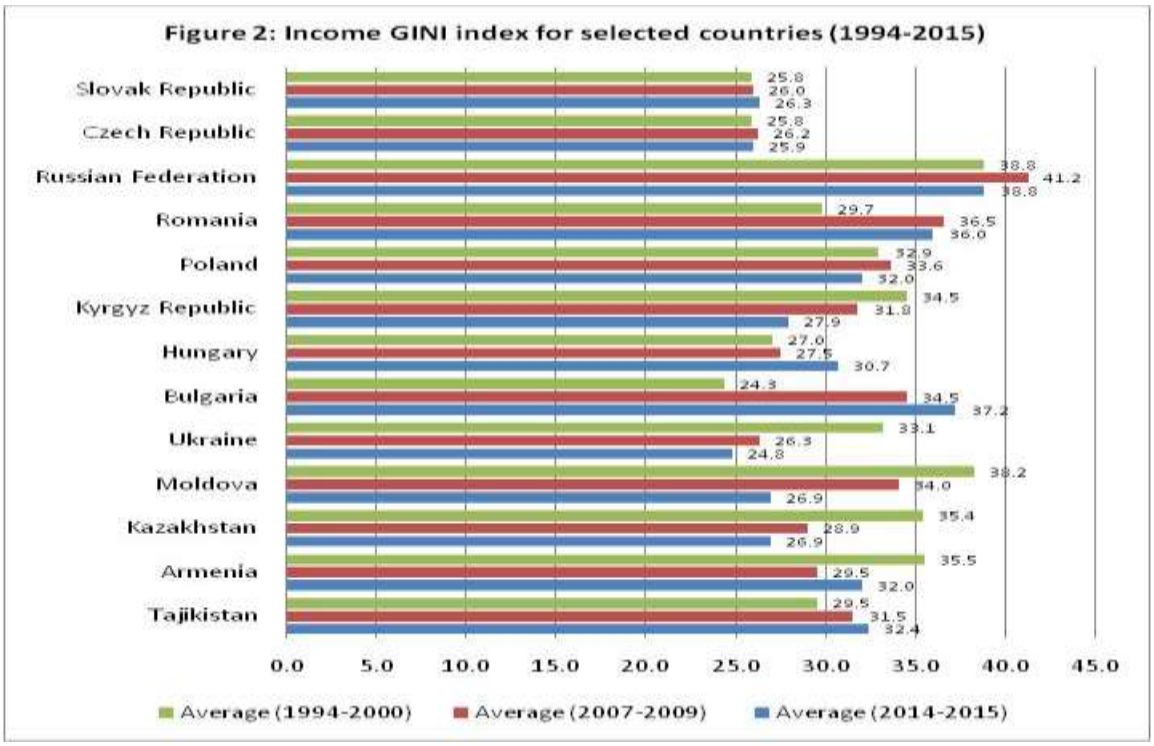
While growth of GDP per capita helps the people of the country to raise their standard of living and overcome absolute poverty, but if followed by increase in inequality then it creates both economic and social problems. Inequality in income and wealth could arise out of unequal opportunities or unequal outcome for the population and the entire process of growth could be inclusive or exclusive. Inequalities in income also indicate unequal distribution of resources, especially income, thus forcing people to enjoy different levels of amenities in life.

Inequality of income can be measured by different indicators but the most commonly used indicators are the Gini coefficient and the Palma ratio. Gini ratio gives the overall distribution and takes the value from 0 to 1, where one indicates complete equality. The Palma ratio is defined as the ratio of the richest 10% of the population's share of gross national income divided by the poorest 40%'s share. It is based on the premise that half of the income is shared by the middle income class and the remaining half by the top 10 percent richest and the bottom 40 percent poorest.

In the current paper both the indicators of income inequality, Income Gini index and Palma ratio have been computed for the selected countries and presented in Figure 2 and Figure 3. Because of data availability limitations, the Gini coefficient is computed as an average for three time periods, 1994-2000 (the earliest period for which the data is available), 2007-08 (the period around the global financial crisis of 2008) and 2014-15 (the latest years for which the data is available). The Palma ratio is, on the contrary calculated at three distinct times, 2004, 2008, and 2015. The common wisdom is that due to financial crisis, it is the poor who are more affected and leads to increased inequalities and hence the Gini index must increase. The contrary argument is that the crisis erodes the income and wealth of the rich more than the poor, thus

reducing inequalities. However, while the empirical evidence for these 13 countries individually shows a mixed trend but the overall average Gini index for them does not support the conventional wisdom and the index has slowly but consistently decreased from 31.6 in 1994-2000 to 31.3 in 2007-09 and 30.6 during the period of 2014-2015.

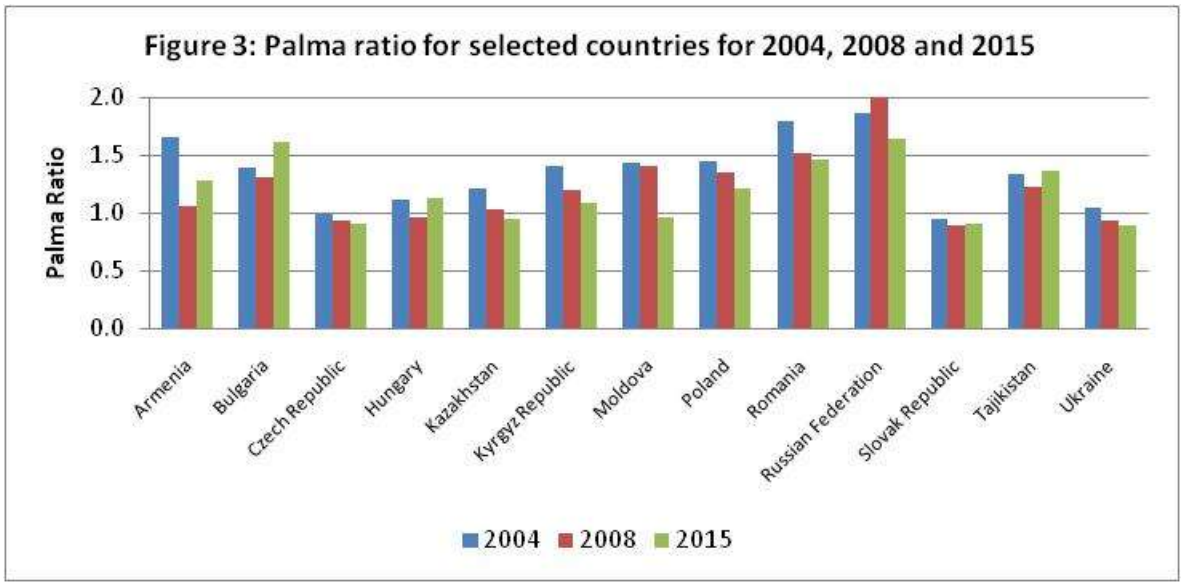
Figure 2 shows that in the early period of the transition, the Gini index was quite high, above 30, in the economies of Armenia, Kazakhstan, Moldova, Ukraine, Kyrgyz Republic and the Russian Federation. In line with the objective 10 set by SDG's in 2000, the index however has decreased over the period in all these countries except Russia where it marginally increased till 2007-09 but then declined back in 2014-15 and is at the old level of the average during 1994-2000. It is observed that the Russian Federation had the highest level of inequality of income during 2014-15 at 39 %, followed by Bulgaria, Romania, Tajikistan, Armenia and Hungary, all with more than 30% income Gini index. The figure also indicates that the inequalities of income over the period from 1994-2000 to 2014-15 have increased substantially in the countries of Tajikistan, Bulgaria, Hungary, and Romania, and marginally in Czech Republic and Slovak Republic. Some of the countries e.g. Poland, Romania, Russian Federation and Czech Republic first experienced an increase in inequalities over the period of 1994-2000 and 2007-2009 and then experienced a fall, contrary to popular wisdom. On the contrary the economies of Armenia, Kazakhstan, Moldova, Ukraine, and Kyrgyz Republic have experienced a decline in the Gini index. On the whole, it is noticed that the average income Gini coefficient has reduced over the period 2014-14 as compared to 1994-2000 for most of the countries except Romania, Hungary, Bulgaria and Tajikistan.



Source: World Bank: World development indicators and Povcalnet data base.

The results of the second inequality indicator, the Palma ratio are presented in Figure 3 and indicate that in 2015, the maximum inequality among the rich 10% and the bottom 40% is in Russian Federation, Bulgaria, and Romania, followed by Tajikistan, Armenia and Poland. Out of the 13 selected countries, Ukraine, Slovak Republic, Czech Republic, Kazakhstan and Moldova are the least unequal countries in 2015 with Palma ratio of less than one. It is also clear that most of the countries, except Bulgaria and Tajikistan have lower Palma ratio in 2015 as compared to 2004. One thus finds that though there are differences in the level and trend of inequality in income among the 13 CIS and EE countries but most of them have lower Palma ratio in 2015 as compared to 2004.

It may be pointed out, that in line with other literature cited earlier in the introduction, the present paper also finds evidence of a relatively higher average inequality of income (the Gini Index) in the 6 CIS countries as compared to the 7 EE countries in the period before 2009 but in 2014-15 both the groups of countries have converged to almost the same level of average Gini coefficient. The results for Palma ratio also support the results of income Gini index and indicate that the average Palma ratio for the 6 CIS countries has been consistently higher in the initial periods and converged to the average ratio in the EE countries in 2015. It thus points out that with growth in GDP per capita in all these countries, the distribution of income has been more skewed in favour of top 10% of the population in CIS countries than in EE countries. It is confirmed by a higher average share of income held by top 10% of the population in CIS countries (25.5%), than EE countries (23.9%).

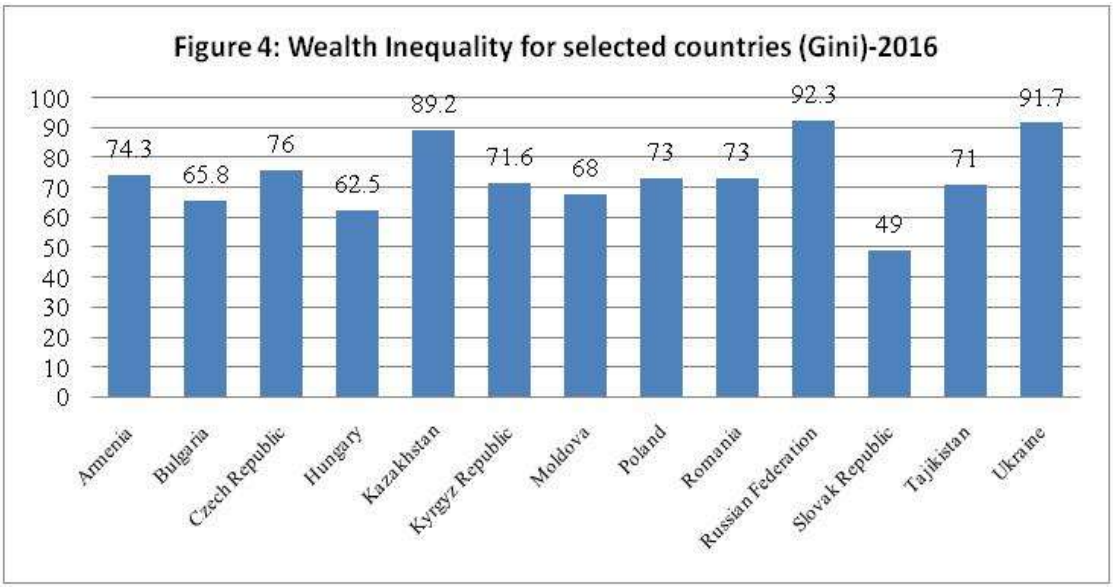


Source: World Bank: World development indicators and Povcalnet data base.

Evidence on Wealth inequality (Figure 4) though is similar in nature to income inequality (Figure 2) among the selected countries, but is much higher in magnitude. The Gini coefficient of wealth inequality is less than 70% for only four of the thirteen countries, with Slovak

Republic having the minimum wealth inequality at 49%, and Russia, Ukraine and Kazakhstan having very high wealth inequalities of around 90%.

Different governmental approaches taken towards stabilization, liberalization, privatization, and the 'tax and transfer' redistributive policies (Ivanova, 2007; Bandelj and Mahutga, 2010; Porras, 2010) have been held responsible for the different levels of income and wealth inequality in the transition economies. It is argued (Grimalda, Barlow, and Meschi, 2010) that beyond policy, some governments were more predisposed to combat rising inequality through higher rates of government effectiveness and more financial resources. Further differences have been explained through the different styles of reform, such as their speed and sequence (Aristei and Perugini, 2012; Ivanova, 2007), initial conditions prior to the transition (Porras, 2010), different models of capitalism implemented in transition economies (Izyumov and Calxon, 2009) and the institutional capacity of the state (Popov, 2009).



Source: Inclusive growth and Development Index (2017)

6. Inequality and inclusiveness in the selected CIS and EE countries

The inequalities in income are not the only concern during the process of economic growth, the awareness about social inequality has gained much importance. For an inclusive society, not only we should have equitable share in the outcome of growth but also in the process of growth. What is also important, in the concept of inclusive growth, is that everyone has the opportunity to participate in and benefit from economic growth or even in a wider perspective—economic development. It is possible only when everyone has opportunity and access to education, health, employment, and other basic infrastructure. The core of inclusive growth is that one should not focus only on economic growth and it (inclusive growth) is gradually becoming the focal point of all policies - fiscal policy, monetary policy, trade policy, labour market policy, price policy,

etc. Questions have been raised about appropriate policies, which lead to 'inclusiveness' in an economy and how these policies may be formulated to obtain the desired results. Different approaches to inclusive growth and its framework have been attempted which includes the Asian Development Bank's 'Framework of Inclusive Growth Indicators' (ADB, 2011), Inclusive Growth Framework (OECD, 2014), Fostering Inclusive Growth Framework (IMF, 2017), goals set in UN Sustainable Development Goals (SDGs) (UN (2017)) and World Economic Forum's (WEF) 'Inclusive Growth and Development Index', (WEF (2017). Out of these frameworks, 'Inclusive Growth and Development Index' by WEF is most comprehensive and ranks more than 100 countries on inclusiveness based on macro indicators - National key performance indicators and micro indicators- which includes seven pillars and fifteen sub-pillars (Figure 1, pp.5, WEF, 2017). The scores are obtained on each sub-pillars from their indicators, each converted into a scale from 1-7 (best) and aggregated finally to 7 pillars[5]. An overall inclusive index score and rank of each country (within its group of advanced and developing economies) is also provided[6].

The same framework along with UN's sustainable development (SD framework, UN) variables has been recently used by Cichowicz and Rollnik-Sadowska (2018) in 'Inclusive growth in CEE countries as a determinant of sustainable development". The authors have picked up the indicators from both the WEF framework and UN SD framework and used the factor analysis and principal component analysis to identify the factors which affect the inclusive growth of an economy. Based on the methodology they find that while Estonia, Slovenia, and the Czech Republic exhibit the highest level of inclusive growth, Bulgaria and Romania represent the lowest level of indicators measured. However, the authors also find evidence of a country scoring low on 'income inequality' i.e. having high level of income inequality and poverty but scoring high on social inclusion. They conclude that "the differences in the level of inclusive growth in all CEE countries existed in 2016. In this case, an improvement of the general situation in most of the countries was observed even though it has not always occurred in each of the key factors".

The present paper has deviated from the work of Cichowicz and Rollnik-Sadowska (2018), both in the methodology and the indicators used. While the same methodology of factor analysis has not been repeated (because the indicators used are the composite factors and aggregate of many sub-indicators), the indicators used by WEF and additionally by the World Bank in Human Development Report have been used to find out the differences in the inclusiveness of the countries. The Human Development Report (HDR), 2018 while reporting the HDI score and rank for 189 countries, also provides information on a large number of other economic, social and governance indicators. It however, does recognize that not only income inequality, but other inequalities in the economy are equally; if not more important for economic growth and

[5] The seven pillars are: Education and Skills, Basic Services and Infrastructure, Corruption and Rents, Financial Intermediation and Real Economy Investment, Asset Building and Entrepreneurship, Employment and Labor Compensation, and Fiscal Transfers.

[6] It may be mentioned that the macro ranking and score is also available in the report for 2018.

wellbeing. The HDR thus provides an index of inequalities in income along with an index of inequalities in education, index of gender inequalities, index of inequalities in life expectancy, etc. Each of the inequality index is a composite value based on few underlying components and is computed by using Atkinson inequality measure[7].

7. Results

The exercise is aimed at finding if the overall inclusive index given by WEF, which ranges from 1 to 7 (7 being the best) is affected by the inequalities in education, in gender attributes, in healthy life expectancy, in income, etc. It is found that as per the conventional wisdom, the performance of an economy on inclusive growth index is negatively related to its achievements on education inequality, gender inequality and life expectancy inequality measures, but shows a positive but insignificant relationship with inequality in income (Table 2). This could possibly be because with more inclusive growth, people get more opportunities to participate in the process of growth which may get them not only better education and health but more employment opportunities. The gap in skill of different persons may lend them with different wage income levels, leading to increasing inequalities in income.

Table 2: Pair wise Correlation matrix (2017)

Indicators of Inequality	Overall inclusion Score (1-7)
Inequality in education (%)	-0.3705
(significance Level)	(-0.2127)
Gender Inequality Index	-0.745
(significance Level)	(-0.0035)
Inequality in income (%)	0.399
(significance Level)	(0.1766)
Inequality in Life Expectancy (%)	-0.777
(significance Level)	(0.0018)
Expenditure on Health (as % of GDP in 2015)	-0.211
(significance Level)	(0.4897)
Expenditure on Education (as % of GDP in 2014)	-.4457
(significance Level)	(.1269)

Source: Author's computations

[7] Refer to Appendix 3 and Human Development Indices and Indicators 2018 Statistical Update, p.33 for details on the definition and the methodology of computing the different inequalities.

The evidence thus points out that higher GDP per capita along with low inequalities on social indicators of gender equality, education and health does take a nation towards higher level of inclusiveness.

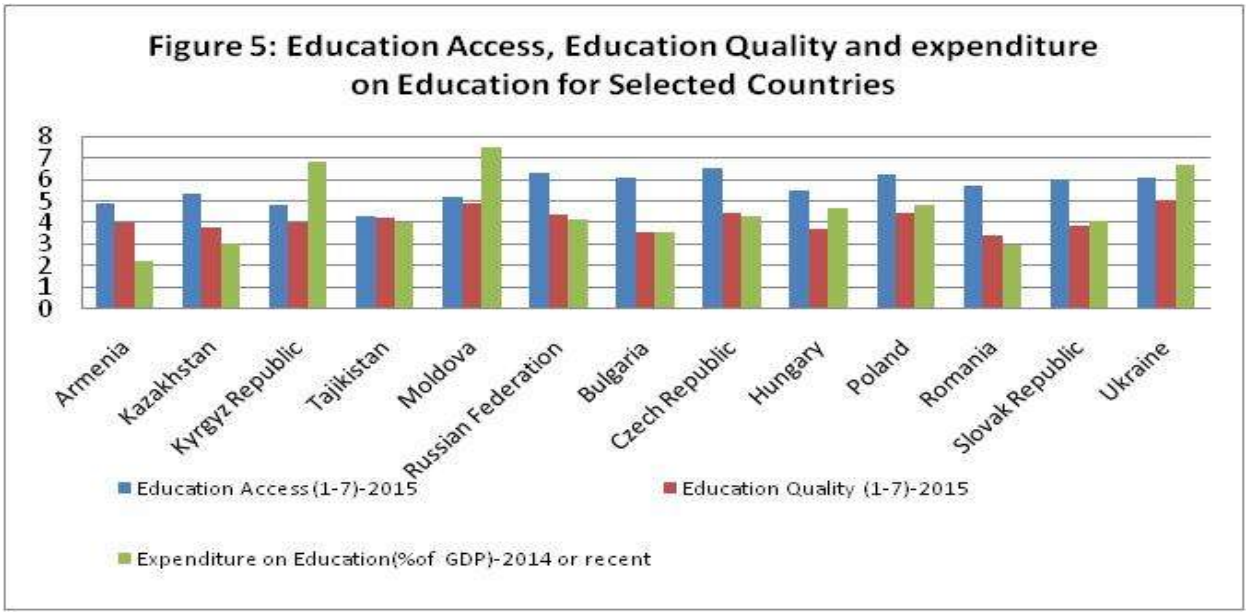
Comparing CIS and EE countries, the results show (Appendix Table 2) that there is a clear distinction between CIS and EE countries in both inequalities and the overall inclusion value. The EE countries in 2017 not only have higher average GDP per capita of $23790 as compared to average of $11515 in CIS countries but also have higher inclusion value (average of 4.5 in EE as compared to 4 in CIS countries) and lower inequalities in education, gender and life expectancy but higher inequalities in income. Surprisingly, the expenditure on health and education by low income CIS countries is higher than the richer EE countries. This could be due to low initial level of health and educational indicators, thus a need and urge to spend more to improve upon these indicators.

However, lot of differences exists within the two blocks of CIS and EE countries. Within the 6 CIS countries, including Moldova and Russian Federation, the two extremes are found in 2017, in GDP per capita and overall inclusive value with Russia and Kazakhstan both having income of more than $24000/ per capita in 2011 $PPP and a value of 4.4 in inclusiveness, but Tajikistan and Kyrgyzstan are on the other extreme with per capita income of around $3000 and a low value of just 3.5 on inclusiveness. Same is the trend on other inequalities where the 'rich' CIS countries have lower values than their 'poor' counterparts except that Russian Federation has the highest income inequalities. The other two countries, Armenia and Moldova lie in between the two extremes with GDP per capita between $ 5000-9000 with inclusiveness value around 4 and a similar pattern on other inequalities. Within 7 EE countries; except Ukraine, others have similar pattern of high GDP per capita, high inclusive value and relatively low inequality values.

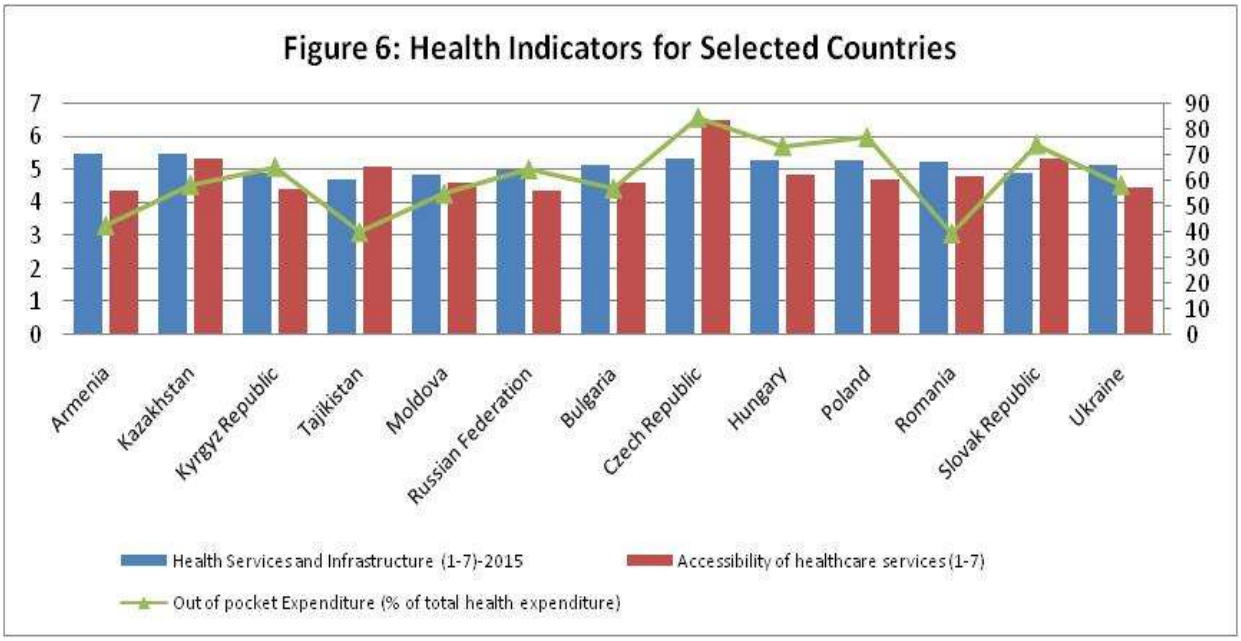
However, the variation in education access and education quality scores in the IGD Index (2017) is small within the CIS countries (Figure 5). These vary from a low of 4.3 in Tajikistan to 6.3 in Russia (7 is highest access) for education access (2015), and from just 3.8 in Kazakhstan to 4.9 in Moldova (2015) on education quality. On the contrary in EE countries, while the average education access score is higher than CIS countries (6 and 5.1 respectively), it is not much different in education quality score (4.2 and 4.1). The evidence from IGD index (2017) does show that expenditure on education has a positive impact on quality of education (correlation is 0.69) for the selected countries and countries like Kyrgyz Republic, Moldova and Ukraine who have spend more of GDP on education have higher education quality.

IGDI (2017) scores on indicators of health infrastructure and accessibility of health care services in all the 13 selected countries are high and similar but the out of pocket expenditure on health is very high (Figure 6); more than around 65% in some of the countries, e.g. Kyrgyz Republic, Russian Federation, Czech Republic, Poland and Slovak Republic indicating that people have to spend their own money on health and government support is insufficient. But it seems (Appendix Table 2) that the current level of expenditure on health does not have immediate impact on

inequalities in life expectancy. Countries with same level of expenditure on health- around 7% (Tajikistan, Czech Republic, and Hungary) have very different level of inequalities in life expectancy and the six CIS countries while spend more on health as compared to the 7 EE countries; also have higher average level of inequality in life expectancy. These results do not provide any conclusive direction for the role of health indicators on inclusive growth. So a regression analysis is attempted to find any econometric relationship between the desired variables.



Source: Inclusive Growth and Development Index (2017)



Source: Inclusive Growth and Development Index (2017)

Note: Right side scale for out of pocket expenditure (% of total health expenditure)

The regression results are obtained by a simple linear regression model to reinforce the results of the correlation analysis. The paper has used the 2017's WEF's overall inclusive value of the countries as a measure of inclusiveness, as it is the latest one which is available for all the disaggregated 7 pillars and sub-pillars. The HDI data on different inequalities is also not available beyond 2017. So, the data limitation allows us to only use the cross section analysis for the selected 13 countries for the year 2017 and obtain the regression results (Table 3).

The results in Table 3 show that GDP per capita is not a statistically significant determinant of overall inclusiveness (model 1). The variable – gender inequality index has an expected negative sign and is statistically significant in all the models; implying that any reduction in gender inequality will improve the overall inclusiveness of the economies. Another determinant of overall inclusiveness, inequality in income is also significantly but positively related to the level of inclusiveness in all the models. This relationship is somewhat puzzling and needs further research. The inequalities in education and in life expectancy are significant in model 3 and 4 respectively when these variables are taken separately in the two regressions. So, while the inequalities in education and health themselves are important and affect the population directly, but their impact on overall inclusiveness does seem to be weak. The overall results however, indicate that any reduction in the underlying inequalities of education, gender and life expectancy will lead to an increase in the overall inclusive value.

Table 3: The interrelationship between inclusiveness and inequalities in CIS and EE countries- 2017

Dependent variable: Overall inclusiveness score (2017)

	Model (1)	Model (2)	Model (3)	Model (4)
VARIABLES				
GDP per capita	-4.15e-07			
	(-0.0498)			
Inequality in education (%)	-0.0474	-0.0477	-0.0805*	
	(-1.012)	(-1.098)	(-1.927)	
Gender inequality index	-3.066**	-3.060**	-3.949***	-3.154**
	(-2.615)	(-2.804)	(-3.861)	(-2.868)
Inequality in Income (%)	0.0482*	0.0477**	0.0599***	0.0372**
	(2.178)	(2.629)	(3.348)	(2.385)
Inequality in life expectancy (%)	-0.0350	-0.0354		-0.0466**
	(-1.406)	(-1.616)		(-2.378)
Constant	4.800***	4.804***	4.680***	4.877***
	(13.64)	(14.94)	(13.80)	(15.32)
Observations	13	13	13	13
R-squared	0.853	0.853	0.805	0.831

Source: Authors Computations

8. Conclusion

There is no doubt that most of the CIS and EE countries tried to follow suitable paths in transforming from centrally planned to fully market-based economies and tried to pursue the growth objectives. The pace of long-term growth and joining the European Union by some of them were the most important focus areas to bring the standard of living in line with higher developed Western countries. The main objective of public policy makers in the first years of transformation was to bring stability and inclusive growth to the economy. To maintain the high economic growth rate and inclusiveness were the main focus areas. The results based on the available data suggest that most of the countries were initially involved in stabilization of their economies and experienced either a negative or a slow economic growth till 2000, except some of the economies like Slovakia, Poland and Armenia. It is only during the phase of 2000 to 2008 that most of these countries had high economic growth which not only helped them to reduce absolute poverty but also to provide basic infrastructure including education and health to its population. The post economic crisis period after 2008 did dent their surge of economic growth but most of these countries were by now able to almost eliminate absolute poverty with the exception of low and low middle income countries of Tajikistan, Armenia, Kyrgyz Republic and an upper middle income country- Romania. On the contrary, it is evident that the average income Gini index of all the 13 countries has just marginally reduced from 31.6 in 1994-2000 to 30.6 in 2014-15. The average Palma ratio for the group of 13 is also lower in 2015 (1.2) as compared to 2004 (1.4). The differences in inequalities between and within CIS and EE countries are attributed to differences in the governmental approaches and policies of each country, the initial economic conditions, and the presence of strong institutions (Popov, 2009).

It is also clear from the evidence that inclusiveness is hampered by inequalities in income as well as by other inequalities- education, health, gender, etc. Unless the countries take conscious measures towards reducing these social inequalities, it is very difficult for the CIS and EE countries to come up to the level of their Western Europe counterparts in inclusive growth levels.

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Appendix Table 1: Average Poverty headcount ratio at $1.90 a day (2011 PPP) (% of population)

Income level by WEF	Country	1993 to 2000	2001 to 2008	2008-15
Low income	Tajikistan	54.4%	18.9%	4.8%
Lower middle	Armenia	17.4%	7.0%	2.0%
Lower middle	Kyrgyz Republic	33.8%	17.8%	2.9%
Lower middle	Moldova	29.1%	10.5%	0.3%
Lower middle	Ukraine	4.1%	0.6%	0.1%
Upper Middle	Bulgaria	0.0%	2.0%	1.8%
Upper Middle	Hungary	0.1%	0.0%	0.3%
Upper Middle	Kazakhstan	6.4%	4.6%	0.0%
Upper Middle	Poland	1.0%	0.1%	0.0%
Upper Middle	Romania	6.4%	3.8%	5.7%
Upper Middle	Russian Federation	3.1%	0.4%	0.0%
Advanced	Czech Republic	0.1%	0.0%	0.0%
Advanced	Slovak Republic	0.5%	0.0%	0.4%
	Average for all the countries	**12%**	**5.1%**	**1.4%**

Source: Computed from Povcalnet data base, World Bank

Appendix Table 2: GDP, overall inclusion value and other inequality measures- selected countries-2017

Country	CIS/EE	Gross domestic product (GDP) per capita (2011 PPP $)	Overall Inclusion Value (1-7) Best-	Inequality in Education	Gender inequality index	Inequality in Income	Inequality in Life expectancy	Expenditure on health (% of GDP) 2015	Expenditure on Education(% of GDP)-2014 or recent
Armenia	CIS	8788	4.0	2.9	0.262	17.4	9	10.1	2.24
Kazakhstan	CIS	24056	4.4	3.2	0.197	10.3	10.1	3.9	3.06
Kyrgyz Republic	CIS	3393	3.5	5	0.392	12.2	12.1	8.2	6.78
Tajikistan	CIS	2897	3.5	6.5	0.317	13.5	20.1	6.9	4.02
Moldova	CIS/EE	5190	4.1	7.3	0.226	14	9.6	10.2	7.48
Russian Federation	CIS/EE	24766	4.4	2.2	0.257	17.7	8	5.6	4.15
Bulgaria	EE	18563	4.7	6.5	0.217	23.6	6.7	8.2	3.52
Czech Republic	EE	32606	4.8	1.6	0.124	10.8	3.6	7.3	4.27
Hungary	EE	26778	4.6	3.2	0.259	15.2	4.7	7.2	4.63
Poland	EE	27216	4.6	4.7	0.132	17.1	4.7	6.3	4.81
Romania	EE	23313	4.5	6.3	0.311	21	6.8	5	2.94
Slovak Republic	EE	30155	4.9	1.4	0.18	13.4	5.2	6.9	4.11
Ukraine	EE	7894	3.7	3.6	0.285	8.5	7.5	6.1	6.67
Average for 6 CIS countries		11515	4.0	4.5	0.3	14.2	11.5	7.5	4.6
Average for 7 EE countries		23789	4.5	3.9	0.2	15.7	5.6	6.7	4.4

Source: Human Development Indices and Indicators 2018 Statistical Update, UNDP and WEF: Inclusive Growth and Development Index, 2017.

Appendix 3: Definition of Inequalities

Inequality in education: Inequality in distribution of years of schooling based on data from household surveys estimated using the Atkinson inequality index.

Gender Inequality Index: A composite measure reflecting inequality in achievement between women and men in three dimensions: reproductive health, empowerment and the labour market.

Inequality in income: Inequality in income distribution based on data from household surveys estimated using the Atkinson inequality index.

Inequality in life expectancy: Inequality in distribution of expected length of life based on data from life tables estimated using the Atkinson inequality index.

Source: *Human Development Indices and Indicators 2018 Statistical Update*