

The Energy Crisis as a Factor of Aggravating Poverty in Bulgaria and Romania. State's Social Expenditures Evolution

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Abstract

The chain effects of the energy crisis that European society is currently facing will intensify with the start of the cold season, especially given the unpredictability of Russian gas supplies. In the context where almost half of the Romanian residents and a third of the Bulgarian residents declare that they cannot cope with unforeseen expenses, the doubling of energy prices compared to the previous year will affect people with low and medium incomes.

Using the EViews 12 program to correlate the evolution of natural gas and electricity prices with the housing costs borne by people with low incomes in the two states (Pearson correlation coefficient), as well as with the social expenses of Romania and Bulgaria, we notice that the number of vulnerable people can increase significantly with the increase in heating and electricity expenses, in the absence of consistent social measures from the authorities.

The objective of the research is to demonstrate that the energy crisis in Europe is a factor that can increase the risk of poverty in less developed states if the state will not allocate sufficient funds to support vulnerable people or to partially compensate their bills. This fact can cause many risks, such as poverty or labor emigration.

Keywords: energy crisis, social expenditures, poverty, Romania, Bulgaria.

JEL Classification: O13, P18, Q43

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1. Introduction

The crisis caused by the coronavirus pandemic weakened the budgets of the world's states, which had to provide support to the individuals and families who were affected by the drastic measures adopted to stop the spread of the disease: quarantine, stoppage of industrial production, technical unemployment, etc. In the beginning, European citizens also benefited from some advantages generated by these strict measures taken around the world, especially from the point of view of limiting household expenses. The most important of these cost reductions was the reduction in energy and fuel prices, caused by the drastic decrease in demand for energy products and services during the period of quarantine measures.

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The joy of final customers lasted only a few months, until the beginning of 2021, when producers and suppliers rapidly increased prices, either motivated by the sudden return of demand to the level of 2019, or by the specifically capitalist desire to recover their losses recorded in the pandemic period.

The second shock to the state budgets came immediately after the so-called economic recovery that began in 2021, when world governments, especially European ones, found themselves facing a perfect storm in the energy market (Asthana, 2021). This phenomenon, rarely seen in the market economy at such an extensive level and potentiated in Europe by the economic war waged against the Russian Federation, forced the political decision-makers to further increase the expenses for the financial support of the citizens. Otherwise, the standard of living would have been drastically affected and an economic crisis generated by the reduction in consumption would have been imminent and severe.

The present paper proposes to analyze the connection between the factors that best describe the degree of vulnerability of society and the state to the increase in prices generated by the energy crisis, which would lead to an increase in the social expenses of the authorities, as a result of the need to maintain the ceilings for the price borne of final consumers, otherwise a large part of the population would not be able to pay the bills during the winter. To calculate the degree of correlation between the variables "social expenditures (at 2010 purchasing power parity)", "housing cost overburden rate", "inability to face unexpected financial expenses" and "gas price (at 2010 purchasing power parity)", the software program EViews 12 was used.

2. Literature review

The effects of the perfect storm on the European energy market (Asthana, 2021) have been felt in all layers of European society, but especially in the vulnerable one, where the increase in expenses or the appearance of additional unforeseen expenses are the most difficult to overcome. In their case, the state is forced to intervene, through expensive policies, that are indispensable in a modern social-liberal society. The debate on the effects of social spending by the state has its roots deeply embedded in the history of the democratic world, but even today a conclusion agreed by all parties involved has not been formulated. Although research often shows that social spending has a beneficial effect even on a country's economic growth, it cannot be said to what level it should be increased (Alper and Demiral, 2016).

On the other hand, in the context in which the economic growth of the states is almost never reflected in the reduction of discrepancies between social classes, inequalities and poverty, the social expenditures of the state can function as a factor of income redistribution in the society, contributing to the economic cohesion (Şaşmaz et al, 2021).

The division of specialized literature regarding the impact of social expenditures from the state budget on the economy is not a new topic at all. Barro (1996) and Arjona et al. (2003) highlighted their possible negative effects, which would reduce the rate of economic growth. On the other hand, OECD (2015) pointed out the negative impact of social inequalities on this indicator, stating that the inequalities can only be reduced through these expenses.

Nazaruk and Pedersen (2022) argue that energy poverty affects more low-income families in the European Union (EU), who tend to live in poorly insulated and less energy-efficient houses. In their case, price increases are felt more strongly, both because of high consumption and because of low incomes, the social policies of European governments being indispensable for them.

Moreover, Scott et al. (2018) state that access to energy services is a determining factor for the phenomenon of migration, as they contribute to the well-being of the inhabitants of a region. If the citizens of a state no longer have access to these services or they are too expensive to afford, they would be driven to emigrate to improve their living conditions.

Romania's and Bulgaria's spendings on poverty reduction are still very low, although the EU encourages its increase. Consequently, social inequalities also register high values for the European area (OECD, 2021). In the case of Romania, the biggest challenge is the reduction of development discrepancies between regions, that are comparable to those recorded in South American states (OECD, 2022).

3. Research Method and Results

For the objective interpretation of the correlation values between the variables, there had been made 10 intervals (Table 1) which were applied to all the variables, thus the correlation degrees being estimated:

Table 1. Interpretation of correlation coefficient

Correlation coefficient intervals	Link interpretation
[-1.0;-0.8)	Very strong negative correlation (where -1 is the absolute reverse correlation)
[-0.8;-0.6)	Strong negative correlation
[-0.6;-0.4)	Moderate negative correlation
[-0.4;-0.2)	Weak negative correlation
[-0.2;0]	No/insignificant correlation
(0.0;0.2]	No/insignificant correlation
(0.2;0.4]	Weak correlation
(0.4;0.6]	Moderate correlation
(0.6;0.8]	Strong correlation
(0.8;1.0]	Very strong correlation (where 1 is the absolute correlation)

Source: Author's estimation

Among the variables selected for analysis, it should be mentioned that the housing cost overburden rate represents the percentage of families for which the current expenses for household utilities represent more than 40% of the recorded income, according to Eurostat database.

Also, the inability to face unexpected financial expenses variable represents the percentage of people in the analyzed states who declare that they cannot face unexpected expenses, according to Eurostat data.

Table 2. Correlation between the analyzed variables in Romania

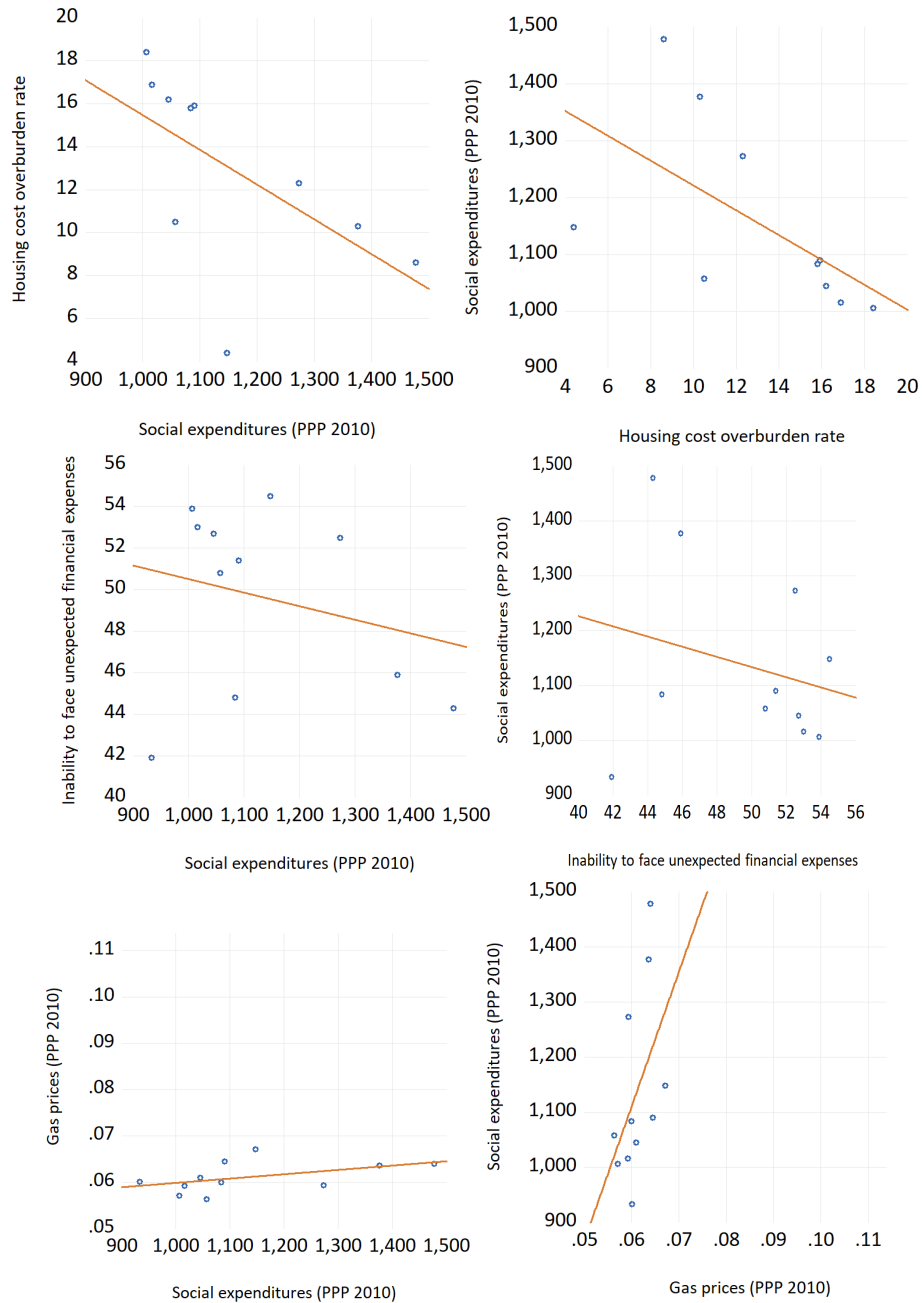
	Social expenditures (PPP 2010)	Housing cost overburden rate	Inability to face unexpected financial expenses	Gas prices for household consumers (PPP 2010)
Social expenditures (PPP 2010)	1	-0.5936	-0.6297	0.4790
Housing cost overburden rate	-0.5936	1	0.1600	-0.5778
Inability to face unexpected financial expenses	-0.6297	0.1600	1	-0.1601
Gas prices (PPP 2010)	0.4790	-0.5778	-0.1601	1

Source: Author's own research, based on Eurostat's data

The moderate negative correlation (-0.5936), almost strong, between social expenditures and housing cost overburden rate shows that the increase of the first of the indicators could combat the inability of people in Romania to ensure their housing costs. Social policies, even expensive for the state are effective in combating poverty. Moreover, a rather strong negative correlation was identified between social expenses and the inability to face unexpected financial expenses (-0.6297), which further strengthens the conclusion that the state can effectively combat poverty through social policies.

A moderate negative correlation (-0.5778) was identified between the price of natural gas and the housing cost overburden rate, because, until July 2020, the price of natural gas was regulated on the Romanian market, so the impact of increases was not felt so strongly by end consumers. On the other hand, the correlation between gas price and social spending was also moderate, but positive (0.4790), which shows that a price increase could force the state to increase its social spendings. The correlation between the price of natural gas and the inability to face unexpected financial expenses was not significant during the analyzed period.

Figure 1. Graphic of the correlation between analyzed variables for Romania



Source: Author's own research, based on Eurostat's data

Figure 1 shows the graphs made in EViews 12 for the correlations between the variables analyzed in the case of Romania.

Table 3. Correlation between the analyzed variables in Bulgaria

	Social expenditures (PPP 2010)	Housing cost overburden rate	Inability to face unexpected financial expenses	Gas prices for household consumers (PPP 2010)
Social expenditures (PPP 2010)	1	0.7241	-0.9188	-0.6256
Housing cost overburden rate	0.7241	1	-0.5173	-0.5027
Inability to face unexpected financial expenses	-0.9188	-0.5173	1	0.5387
Gas prices (PPP 2010)	-0.6256	-0.5027	0.5387	1

Source: Author's own research, based on Eurostat's data

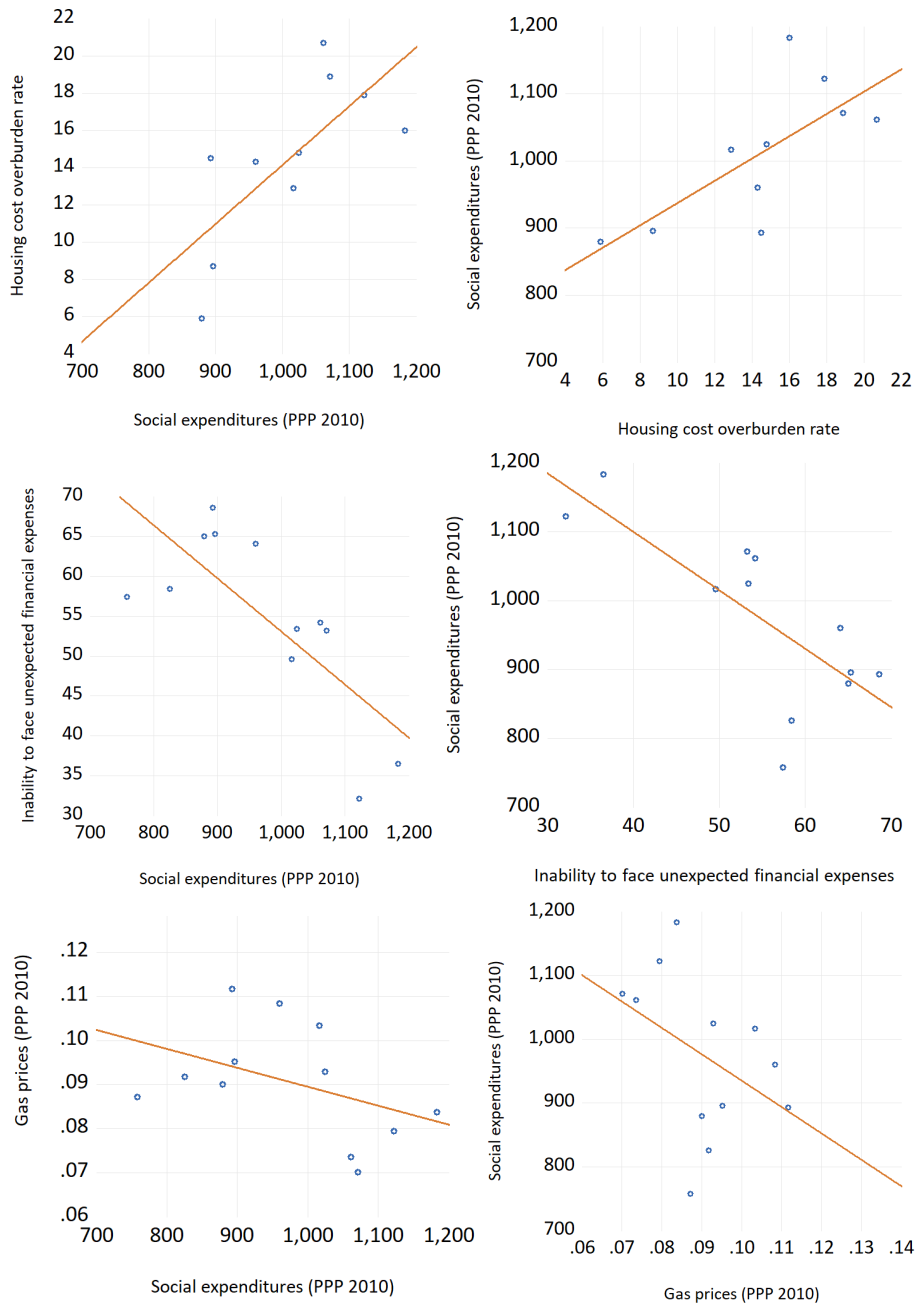
In the case of Bulgaria, the correlation between Housing cost overburden rate and social expenditures is strongly positive (0.7241), a situation that shows the inefficiency of the state's social policies in the case of this indicator. Concretely, although social expenses (relative to the purchasing power of 2010) have increased, the number of families for whom it is difficult to pay housing expenses has also increased, a context in which it is necessary to analyze social expenses by components in order to formulate a correct conclusion.

Between social expenses and the inability to face unexpected financial expenses, the strongest negative correlation was identified within the research (-0.9188), a situation that denotes that the social policies of the Bulgarian state are effective for improving the quality of life of citizens, although it is not reflected in their ability to ensure their housing expenses.

A strong negative correlation was identified between the price of natural gas and social expenses (-0.6256), and between it and the housing overburden rate a moderate negative one (-0.5027), in the context in which the energy market in Bulgaria was not completely liberalized during the analyzed period, situation similar to that found in Romania.

However, the moderate positive correlation (0.5387) between the price of natural gas for the final consumer and the inability to face unexpected financial expenses shows that bill fluctuations offer some uncertainty to consumers, hence their vulnerability to energy cost increases.

Figure 2. Graphic of the correlation between analyzed variables for Bulgaria



Source: Author's own research, based on Eurostat's data

Figure 2 shows the graphs made in EViews 12 for the correlations between the variables analyzed in the case of Romania.

3. Conclusions

Social policies are necessary in the two European states in the Black Sea region, the ability to maintain the current standard of living of Romanian and Bulgarian citizens depends on them. In the case of Romania, the social policies implemented to support the population for which housing costs represent over 40% of the net income are more effective than in the case of Bulgaria, where it is reflected much more in the fight against the inability to face unexpected financial expenses.

In the conditions in which the social expenditures of Bulgaria and Romania during the period when the energy crisis had not yet manifested itself to its true extent - especially due to the fact that the prices for the final domestic consumers were regulated - were already significant, and the efforts to combat poverty depended due to their continuing growth, maintaining the ceilings for the prices of energy products is necessary. Otherwise, the social effects would be hard for vulnerable families, who would have to look for alternatives to increase their income.

In such a context, the most likely option that would be chosen by vulnerable people would be to emigrate to better developed countries, where they would look for better-paid jobs, a situation that would further aggravate the labor shortage in their countries of origin.

On the other hand, the authorities' support of energy costs for vulnerable household consumers puts pressure on the state budget, already weakened by the effects of anti-pandemic measures and the economic implications of the Russian-Ukrainian war in the region. However, giving it up would mean, in addition to the alarming increase in the risk of poverty, the drastic reduction of consumption and a sure path to a severe economic crisis.

Moreover, in the current context, even if in the short term the risk that the natural gas needs for the EU states cannot be ensured is a low one, in the medium and long term, when the underground deposits have to be refilled while the resources available from the precedent years are less and less, this risk will increase. In such a scenario, European governments might have to get more involved in ensuring the gas supplies of their citizens, not just in ensuring affordable prices for them - ensuring energy security, not just price security. Thus, the budget expenses generated by the energy crisis will increase even more, and European governments will have to reorganize their budget allocations.

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