Food Security and Risk Factors: The Case of Kosovo

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Abstract
The food and nutrition security (FNS) is a multidisciplinary term that encompasses a set of the complex economic and social determinants. Variety of determining short and long term factors influenced recently on rising concerns of food insecurity. FNS is one of the biggest challenges aggravating mankind nowadays. The commodity price hikes of 2007/2008 revived once again awareness of the hunger and food insecurity. The global debate over the food security became a challenging issue in particular after the food price spikes over the recent years. Kosovo as a small European country is undergoing the complex economic, political and structural adjustments of transition process. It is a net importer of food commodities displaying a chronic trade deficit. Therefore, implications of global food price volatility are crucial in maintaining the fragile food security. At the same time, Kosovo is considered to be self-insufficient in meeting domestic demand for the key food staples. One of the driving constraints of FNS in Kosovo is high share of the food consumption (40%) in the total household expenditure.

Keywords: food security, poverty, food consumption

JEL Classification: O01, O13, F10, Q11, Q17

1. Introduction
The early 1970s instigated a period of food price instability. As the result of sudden food price shocks, that time crisis altered rapidly bringing the humanity into the edge of food scarcity (Friedmann 1993). From food crisis of the early 1970s until the 2008, the absolute number of food insecure people was consistently around 850 million. But, when food prices spiked in 2008, more than one billion people were counted as food insecure (Gaus 2012). According to the group of authors (McDonald 2010, McMichael and Schneider 2011) recently we find ourselves stalled in a global food price crisis that is driving increased hunger and food riots in several continents. A range of casual factors has been identified to explain the sudden emergence of high food prices. Group of authors (McDonald 2010, Wiebe et al 2011, Ruby 2012) have classified the main drivers of the recent price volatility into: 1) Short-term factors (such as decline in growth of agricultural production, decline in global stocks of grains, increasing energy costs spur production costs, increased demand from the emerging economies, speculation in financial markets, biofuels), and 2) Long-term factors (such as growth in population and income, decline in investment in agricultural productivity, reduced state regulatory in agricultural production and trade, removal of agricultural tariffs and resulting import surges, shift to export crops).

Despite its simple label, food security is an immensely complex issue (Hospes et al 2010). Ensuring food security is an ambitious goal that requires governments to work with markets rather against them (Blandford and Viatte 1997). Food security has been characterized as something to which each and every human being is entitled (Southgate et al 2010). Moreover, Carolan (2013) assumes that talking about food security means talking about something that essentially impacts every facet of social life, beyond the farm gate and food system. The broader understanding and definition of food security is vital, as it incorporates important
aspects that need to be considered in order to ensure food security at all levels and for all people (Hart 2009). In the years since the World Food Conference of 1974, the concept of "food security" has evolved, developed, multiplied and diversified (Maxwell 1996). According to Benson (2004) food security is concerned with access to food. Food production does not equal food security. As such, it depends not only on how much food is available, but also on the access that people have to food (Wiebe 2003). According to the recent FAO (2009) definition food security exists “…when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. The four pillars of food security are availability, access, utilization and stability. The nutritional dimension is integral to the concept of food security”.

Food security is a complex issue with multiple environmental, social, political and economic determinants. Group of authors (Barrett 2010, Ford and Rawlings 2007) consider that food security is commonly conceptualized as resting on four pillars: 1) food availability, 2) access of food, 3) utilization of food, and 4) stability of food supply. Moreover, in theory, two types of household food insecurity – chronic and transitory – can be distinguished, but in reality they are closely interwined (Von Braun et al 1992): 1) **Chronic food insecurity** – is a persistently inadequate diet caused by the continental inability of households to acquire needed food, either through market purchases or through production. Chronic food insecurity is rooted in poverty. 2) **Transitory food insecurity** – is a temporary decline in household’s access to needed food, due to factors such as instability of food prices, production, or incomes. In its worst form, transitory food security can result in famine.

There are important differences in household food security issues in rural and urban context. In urban areas, household food security is primarily function of real wage rate and of the level of employment (Von Braun et al 1992). Because rural incomes fluctuate from season to season and a multitude of risks affect income levels and consumption, poor rural households in developing countries demand access to financial services to help stabilize income and consumption and alleviate chronic and transitory food insecurity (Zeller et al 1997). Moreover, differences in calories consumption and requirements exist between rural and urban areas as well. Typically, calorie consumption is lower in urban areas, partly because of differences in activity levels (Von Braun et al 1992).

Food security and nutrition security are different but interlinked concepts. Nutrition security is an outcome of good health, a healthy environment, and good caring practices as well as household food security (IBRD 2012). Food security goes beyond the food production and distribution and that nutrition security is not necessary outcome of successfully achieving food security. Therefore, it is needed to present conceptual frameworks of the determinants of food and nutrition security and the links between food and nutrition security (Benson 2004). The extent to which individual food security results in good nutrition depends on a set of non-food factors such as sanitary conditions, water quality, infectious diseases and access to primary health care (Pinstrup-Andersen 2009).

In practice, analysts use proxy measures for different aspects of food security. Choice among indicators necessarily involves tradeoffs, so the objective necessitating measurement commonly drives the choice of indicator (Barrett 2010). Given the multiple dimension (chronic, transitory, short-term, and long-term) of food insecurity, there can be no single indicator for measuring it. Different indicators are needed to capture the various dimensions of food insecurity at the country, household and individual levels (Von Braun et al 1992).

From a food security perspective, it is important to understand the changes in food consumption patterns as different income groups can react differently to changes in food
imports and changes in food prices in international markets (Babu and Sanyal 2009). People with increasing purchasing power, often in developing countries are able to pay more for staple crops, as they become wealthier (McDonald 2010). As economic development proceeds over the time, average per capita income and expenditure exhibit an increasing trend. This typically shifts the consumption patterns of the population. The food consumption basket changes from commodities with low quality dietary content to food commodities with a higher quality dietary content (Timmer et al. 1983).

Trade liberalization is an ally in the fight against poverty: it tends to increase average incomes and provide more resources with which to tackle poverty (McCulloch et al. 2002). The supporters of trade liberalization suggest that lowering tariffs will result in food becoming more readily available and accessible to consumers. The opposing view is more concerned with the adjustment impacts on small producers who might lose their livelihoods without being able to adjust to alternative income-earning opportunities (Ford and Rawlings 2007). The net benefits of price increases and decreases for a country should be roughly symmetrical. Countries that benefit most from price decreases will lose most from price increases. The same holds at the household level within a country (Swinnen 2011).

2. Data and Methods

The most critical issues supporting this study lays on the fact that Kosovo was displaying vulnerability on the recent global food price shocks, combined with the high prevalence of poverty, sharp trade deficit of food commodities, and ongoing internal agricultural reforms. Therefore, the main objective of this paper considers the state of food insecurity in the case of Kosovo, in terms of the macro and microeconomic indicators at the national level. In this paper we aim to identify the main food security risk factors. In addition, our interest is to investigate impact of recent global food price shocks on the volatility of the domestic food prices. Here we aim to deal with the problem of horizontal price transmission from the world to the domestic market. Majority of empirical studies uses time-series econometric methods to estimate price transmission. Data used here were obtained from the Kosovo Agency of Statistics (KAS) and relevant intergovernmental institutions.

3. Results and Discussion

The food and nutrition security (FNS) is a complex problem that requires multidisciplinary approach. For the purpose of this paper, here are presented a set of comparative and descriptive analyses that aims to indicate the main constraints of FNS in the case of Kosovo. Here we use some of the main macroeconomic indicators that review the current situation of FNS indicators.

3.1 The case of Kosovo: Economic growth and development constraints

Kosovo is a young European country that in terms of regional and administrative division is divided into 7 regions and 37 municipalities. Recent population census held in 2011, reports the existence of overall 290 thousand households and over 412 thousand dwellings. Kosovo is endowed with agricultural resources, with 1.1 million hectares of land. Agricultural area consists over 52% of land share, with over 55% of total area composing the utilized agricultural area. Demographic composition of Kosovo is characterized as a very young, comparable to the other European countries. With the total population of 1.8 million inhabitants, the median age in Kosovo is 25 years, indicating the youngest population in the
Europe. The average household size is 5.9 members, showing the largest household unit in the continent. Kosovo could be characterized as a rural country where more than 63% of its population is living in rural areas.

Kosovo might be considered as consumption driven economy. Aggregated data (Figure 2) gives a clear outlook that consumption as the component of GDP has the highest contribution. Over the last decade, country achieved a significant improvement of its economic accounts. Despite the positive empirical evidence showing that between the period 2002-2012 it doubled GDP (p.c.), with an average of 2,700 euro p.c. (Figure 1), Kosovo remains one of the poorest economies in Europe. Several constraints were shaping the weak development pattern, however the most important determinants might be listed as follows: inherited weak political profile, low investment profile, underutilization of resources due to the corruption practices, high level of unemployment, dependency on migrant remittances etc. The key socio-economic constraint of Kosovo is the high level of unemployment. High degree of unemployment (35%) is particularly spread by the youngest share of active population. More than 55% of youth (age 18-25) remains unemployed with no source of income. Moreover, the long term unemployment aggravates furthermore development and welfare perspective of Kosovo.

Figure 1: Growth and development of GDP p.c. (2002-2012)

![Figure 1: Growth and development of GDP p.c. (2002-2012)](image)

Source: Own elaboration based on the data of Kosovo Agency of Statistics (KAS)

3.3 Poverty assessment in Kosovo

Kosovo went out from the devastating war in the end of 1990s with the significant share of poor population living in the edge of existence. In the year 2000, more than a half of population (50.3%) were considered as poor, with over 12% living in the extreme poverty (Figure 3). Over a decade after, concerns of poverty remain evident, despite welfare improvements made. Available poverty data from 2011, shows that a third of total population (29.2%) lives with the less 2$ per day, while more 10% cope with the extreme poverty line (1.2$ per day). Based on the data assessment (Figure 4), we couldn’t evidence a significant differences in the distribution of the poverty between the urban and areas. Similar outcome is valid also in the case of income inequality (measured by Gini index).
3.4 Household sources of income

The aggregated HBS data gives an interesting outcome concerning the main sources of income of the Kosovo households. Employment in the public sector together with the pensions and social benefits constitutes the major source of income. More than a third (36%) of income comes from the abovementioned sources (Figure 5). Such results might signal the rising burden of the public finances and raise a question of sustainability of incomes for the Kosovo households. Further analysis concerning the impact of education on the employment opportunities and level of income, were showing positive correlation between the higher degree of education and greater income earnings.

Contribution of the private sector and agriculture sector remains weak despite the great potential of both sectors. On the other hand, one of the crucial sources of income (as well as consumption) in Kosovo are migrant remittances. The share of remittances in GDP remained relatively constant over the observed period, varying from 15.4% to 12.3% (Figure 6). In comparative terms, the size of annual remittances inflow in Kosovo is equal to a third of the total governmental expenditures. Moreover, the role of remittances rises on its importance concerning the food consumption, when considering their final use. Recent survey conducted by UNDP (2012) shows that expenditure of remittances on the food related items is as high as 35% (Figure 7).
3.5 Constraints of agricultural sector

Kosovo’s agricultural sector despite its great potential to contribute in ensuring sustainable FNS (particularly in rural areas) remains underutilized. Degree of underutilization is presented here in terms of governmental support to agriculture and the trade deficit. The evident underinvestment in agricultural sector could be quantified at the level of 0.02% of GDP accounts (Figure 8). This depressing result actually makes Kosovo farmers non-competitive towards the heavily subsidized agricultural and food commodities from EU and other the surrounding countries. At the same time, constraints of agricultural sector are driven by the weak marketing approach, non-supportive crediting institutions and other market factors. Here we evidence that Kosovo faces a sharp trade deficit in trade with agricultural commodities (Figure 9). Kosovo is a net agricultural importer, which arises concerns of FS, in particular as potential transmission of the food price spikes from the global food market.

3.6 Characteristics of consumption in the Kosovo households

In terms of household consumption we could evidence that total consumption nearly doubled since the early 2003. Similar positive outcome is evident also in the individual (per capita) level. However, the large concentration of consumption in the 5-key groups conveys the worrisome signal, showing that consumption is mainly financed to fulfill the basic needs. The average share of food expenditures in total consumption during the observed period (2003-2012) varied between the lowest 35% to the highest 47%. Within the same period (Figure 10), average expenditures spent on food exceeds the share of 40% of the total consumption expenditures. Statistical evidence presented in the Figure 11, makes clear distinction on the
food consumption between the rural and urban households. Food expenditures in the rural areas tend to be greater than in urban settlements. In particular years of observation (2003 and 2012) more than a half (50%) of the rural expenditures were spent to the food consumption.

**Figure 10: Share of food in total consumption in Kosovo households (2003-2012)**

**Figure 11: Urban/rural differences in the food consumption (2003-2012)**

Source: own elaboration based on Kosovo Agency of Statistics (KAS)

### 3.7 Food price development

As the result of the recent global food price spikes here we could evidence clear signals of price transmission of the food commodities from the world into domestic market. Basically, the period of food price spikes highlighted in the Figure 12 is authentic and corresponds with the period of price shocks taking place in the global food market. In the Figure 13 are shown the price changes of the key cereal products such as flour and bread. Prices of both goods were increasing rapidly after the beginning of the global food price spikes. An interesting outcome derived from the figure below is the fact that price most significant increase of prices took place in after the 2009 when the food price volatility calmed down in the world food market.

**Figure 12: Monthly CPI development in Kosovo (2003-2011)**

**Figure 13: Price changes of key food products (2003-2011)**

Source: own elaboration based on Kosovo Agency of Statistics (KAS)

### 3.8 Trade and price transmission analyses

Preliminary assessment of the spatial price transmission in the case of Kosovo indicates the existence of the cointegration (Figure 14). Price development shown in the times series of two main food staples (wheat and maize) shows the cointegrated movement over the observed period. In order to quantify relationship between the domestic and world price we employed here simple percentage ratio analyses (Table 1). The outcome of this empirical approach (in the case of the price of wheat) shows that transmission of the world price into the domestic
market is nearly perfectly elastic (1.08). Such a result indicates that if the price of wheat in the world market increased for 10%, the domestic price will increase of the same level. Therefore, the risk of spatial price transmission is considered to be evident in the case of Kosovo. Further comprehensive empirical assessment will be conducted in the later stages of research, in order to present not only the outcomes, but as well to outline the key trade policy recommendations related this important issue for FNS.

Table 1: Spatial price transmission analysis: Ratio of percentages

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Wheat price ($US/ton)</th>
<th>Maize price ($US/ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Kosovo</td>
<td>World</td>
</tr>
<tr>
<td>Jan 2006</td>
<td>169.4</td>
<td>167.2</td>
</tr>
<tr>
<td>Dec 2012</td>
<td>367.3</td>
<td>347.9</td>
</tr>
<tr>
<td>Δ price ($US/t)</td>
<td>197.9</td>
<td>180.7</td>
</tr>
<tr>
<td>% change</td>
<td>116.8</td>
<td>108.1</td>
</tr>
</tbody>
</table>

Elasticity of transmission 1.08 0.58

Source: own elaboration based on IMF and Kosovo Agency of Statistics (KAS)

Figure 14: Price development of wheat and maize in the world market and Kosovo

Source: own elaboration based on IMF and Kosovo Agency of Statistics (KAS)

4. Conclusion

The food and nutrition security (FNS) is defined as a complex issue involving economic, social, political and environmental determinants. A set of the short and long term factors were influencing recently on the price spikes at the global level. As the result, more than a billion people were accounted to be food insecure after the recent 2007/2008 food price volatility. Sensitivity of this problem requires the global respond in utilizing available scarce food resources. FNS concerns are not anymore issue only for the developed countries, but as well as for the developed economies. Despite the hot global debate and extensive empirical research conducted recently, there is no single indicator introduced to measure the FNS. The conceptual framework of the food and nutrition security (FNS) is examined at different functional levels. Research approach is extended from the global to the individual level. It covers rural and urban context, as well as can takes chronic and/or transitional form. Nutritional aspect is part of food security that requires specific attention, contemporary studies have been integrating nutrition aspects as indivisible part of food security assessment.
Provisional results provided in the case of Kosovo in this paper were showing that country is significantly exposed to FNS risks. The set of FNS risk factors indentified here were drawing attention on specific concerns, such as: existence of high degree of the poverty prevalence, high unemployment accompanied with the low level of incomes, high share of food expenditures in total consumption, high dependency on the migrant remittances, sharp agricultural and food trade deficit. Percentage ratio time series assessment of the spatial price transmission in the case of Kosovo, were showing that world price transmission into the domestic market is nearly perfectly elastic. In order to respond to the abovementioned FNS risks there must be undertaken systematic, complex and multidisciplinary approach. The FNS policy should integrate vision of economic growth, food policy, trade policy, agricultural policy, food safety net policy, social and healthcare policy etc. All of mentioned issues we aim to assess in the later stages of our research in order to come out with appropriate policy recommendations serving that might be beneficial to design and implement comprehensive FNS for Kosovo.

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References


