

POLICY IMPLICATIONS OF ESTIMATING FOOD ELASTICITIES IN ROMANIA

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Abstract: *In Romania, the tendencies in the consumption of main food products reveal the orientation towards the Western Europe food consumption pattern. The differences between the urban and the rural areas are maintained, with a higher consumption in the urban area. The analysis of purchased and consumed quantities for five important groups of products – bread, meat, milk, fruit and vegetables – highlights the characteristic of food consumption in Romania: the relatively low share of purchased food in total consumption in certain products (vegetables, milk and meat). The evolution of the food purchases in the last decade, analyzed in conjunction with the estimated expenditure elasticities and price elasticities, suggests that the increase of cash incomes can accelerate the shift to a Western type of consumption pattern.*

Key words: *food consumption, food purchases, elasticity estimates*

INTRODUCTION

Romania's vulnerability with regard to food insecurity and poverty, in general, is given by the differences in the standards of living between the urban and rural areas [5]. The relative poverty rate by residence areas highlights the gap between the urban and the rural areas: for instance, in the year 2008 the poverty rate was 22.4% at national level, 9.1% in the urban area and 38.6% in the rural area (in the calculation of the relative poverty rate the value of self-consumption on the household is not included). As regards the share of food expenditures in total consumption expenditures of households (indicator that includes the value of self-consumption), the urban – rural gap accounts for about one-tenth of total consumption expenditures, i.e. 40.9% in the urban area and 51.9% in the rural area, in the year 2011.

MATERIALS AND METHODS

This paper analyzes the evolution of the main groups of food purchases, compared to urban and rural areas, based on data from Romanian Household Budget Survey provided by National Institut of Statistic [2], to identify implications for food policies, as suggested in [4], of the elasticity coefficients estimated using AIDS model [1].

Table 1

Estimated expenditure elasticities in first quarter of the year 2011, by area

	Total sample	Urban area	Rural area
Cereals	0.917	0.781	1.005
Meat	0.991	0.951	1.100
Milk	1.109	1.090	1.137
Fruit	1.079	1.117	1.052
Vegetables	1.121	1.172	1.069
Sweets	1.070	1.188	0.922
Alcohol	0.810	0.958	0.761

Source: [1]

The expenditures elasticities presented in Table 1, are calculated for the total sample and by residence areas for the 1st quarter of 2011. The values of elasticities calculated for the urban area are closer to the elasticities in other more developed countries [3].

RESEARCH RESULTS

In Romania, the tendencies in the consumption of main food products reveal the orientation towards the Western Europe food consumption pattern. If we reduce our analysis to five important products/ groups of products, i.e. bread, meat, milk, fruit and vegetables, we can notice an increase of the monthly average consumption per person in all products, except for bread (in which consumption has continuously decreased since 2003 up to the present moment). The differences between the urban and the rural areas are maintained, with a higher consumption in the urban area for all products, except for bread.

Another characteristic of food consumption in Romania is the relatively low share of purchased food in total consumption in certain products (vegetables, milk and meat). However, overall, the share of purchased food in food consumption is on the rise for all foodstuffs, indicating a modernization tendency of the Romanian society. In the last years, under the background of the economic crisis, the share of purchased food got stabilized at 89% for bread, 70% for meat, 67% for milk, 73% for fruit and 60% for vegetables (as 2009-2013 average). The differences between the urban and the rural areas, as regards the role of purchased food in food consumption remain high for most foodstuffs, the lowest difference being noticed in bread (Figure 1, source: [6]).

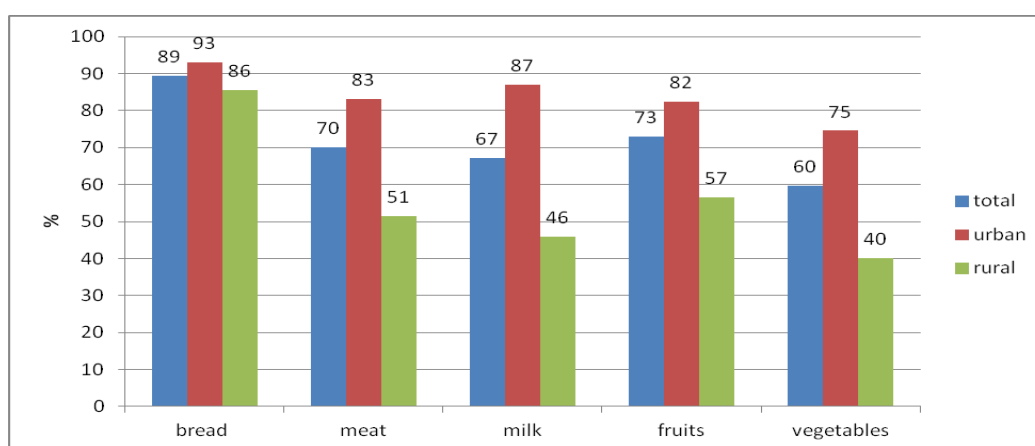


Fig 1. Shares of purchased quantities in total consumption for selected food products, by area

The maximum food consumption (as well as the consumed amounts) was noticed for all the five products in the year 2009, and afterwards the consumption (as well as the purchases) followed sinuous evolutions, resuming the tendencies manifested even before the accession to the EU. These evolutions, which meant a decrease in purchased foodstuffs in at least one of the years after 2009, by each product, took place under the background of the quasi-stagnation of the population's cash incomes in the years 2010-2011 and of the diminution of prices in certain food products, in relation to the situation of the respective agricultural year (Figure 2, source: [6]). Thus, the austerity measures in mid' 2010, i.e. cutting off the incomes of the employees paid from the state budget by 25% and VAT increase from 19% to 24% (for the food products inclusively) do not seem to have had any influence on the Romanian food pattern transformation tendencies, in the sense of a gradual getting in line with the Western European pattern.

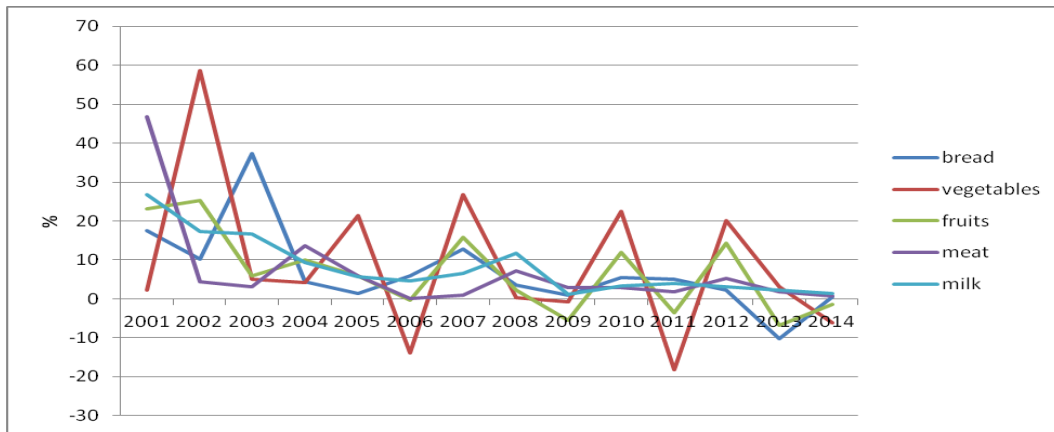


Fig 2. Dynamics of changes in price indices for selected food products (December by December)

Bread. Figure 3 (source: [6]) shows a slow diminution of the quantities of bought bread, which reached less than 8 kg per month per person after 2009, with larger quantities bought in the rural area. The share of bread in the cash expenditures for purchasing food represented about 15% in 2013, down from the previous year. VAT diminution for bread beginning with September 1, 2013 from 24 % to 9%, as a measure that tried to reach several policy objectives (including the creation of conditions for reducing tax evasion), seems to have had a temporary effect (for only one quarter of the year) on the bread purchases. The result is consistent with the expenditure elasticity value for the cereal group, which is one of the few groups with elasticity less than one. On the other hand, own price elasticity is estimated as being elastic (greater than one in absolute value).

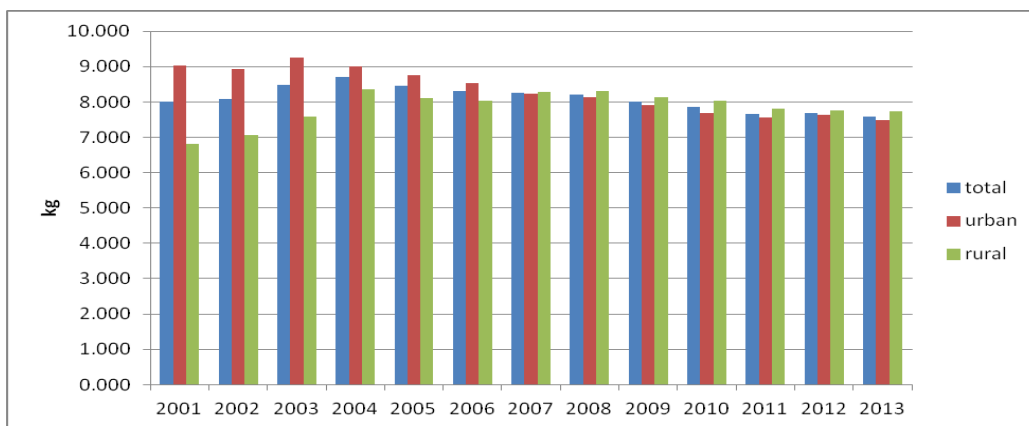


Fig 3. Dynamics of quantitative purchases for bread and loaf products, by area (monthly average per person)

Meat. With bought meat quantities of about 2.2 kg fresh meat per person per month (Figure 4, source: [6]), meat is a product that has an important share in the cash expenditures for food purchases: about 24% in 2013 for meat and meat preparations, on the rise compared to previous year. There are great differences between the average meat purchases by residence areas: the quantities bought by the persons from the rural area represent only half of the quantities bought by the persons from the urban area. A public debate in the second part of the year 2014, referring to VAT diminution for meat similar to

the VAT pattern in bread, was not finalized through a political decision, due to budgetary restrictions. The estimated elasticities for the meat group within the model, expenditure elasticity less than one and own price elasticity inelastic, suggest that a stimulation of meat consumption through VAT diminution would have long-lasting effects.

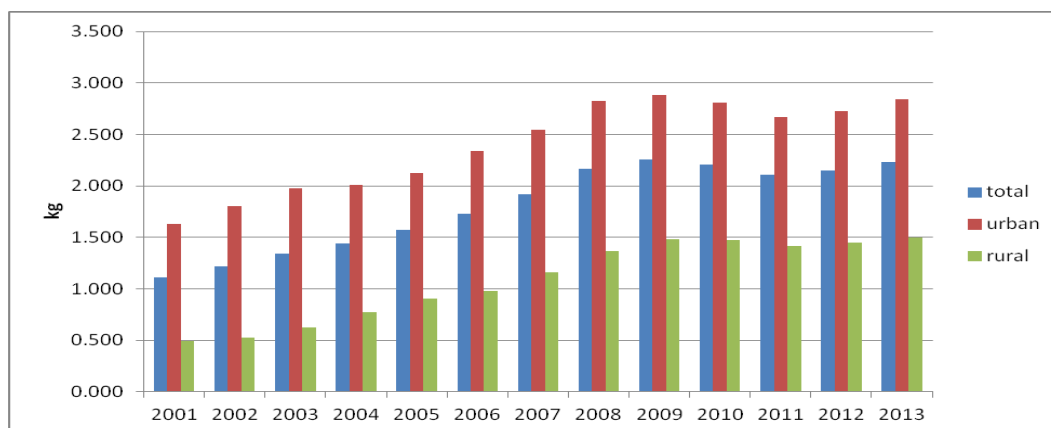


Fig 4. Dynamics of quantitative purchases for fresh meat, by area (monthly average per person)

Milk. In the case of milk and dairy products, there are also great differences between the quantities bought by the urban residents and the rural residents (Figure 5, source: [6]), in favour of the urban people who buy by one litre more than the national average of about 4 litres per person, compared to the rural people who buy by one litre less than the national average. Certain evaluations of the national scheme for milk consumption support in schools (partially funded from European funds), introduced in 2004, reveal that for rural children, mainly for the low-income categories, milk distribution through schools is quite important. The elasticities estimated for the dairy products group in the AIDS model, expenditure elasticity greater than one and own price elasticity described as inelastic, suggest that the targeted interventions can be effective, mostly those targeting the less-favoured population categories.

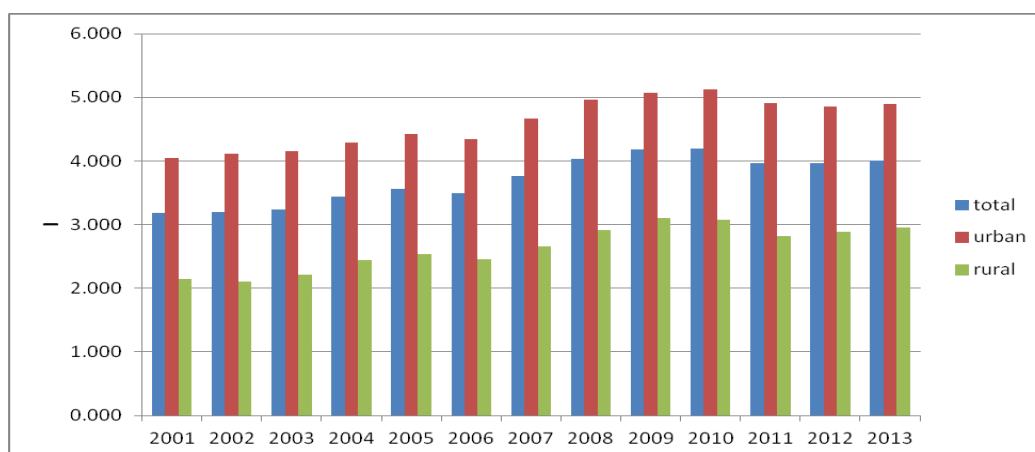


Fig 5. Dynamics of quantitative purchases for milk, by area (monthly average per person)

Fruits. The purchases of fruit, with a monthly average of about 2.5 kg per person, are also greater in the urban area (Figure 6, source: [6]). The difference is also maintained in the case of consumption, yet at a lower scale. As in the case of milk distribution in schools, there is a similar fruit scheme, with good results in certain regions of Romania. The estimated elasticities for fruit, expenditure elasticity greater than one and own price elasticity described as inelastic both in the urban area and in the rural area suggest that this scheme is appreciated in the rural area inclusively, as well as by the public perception on this intervention.

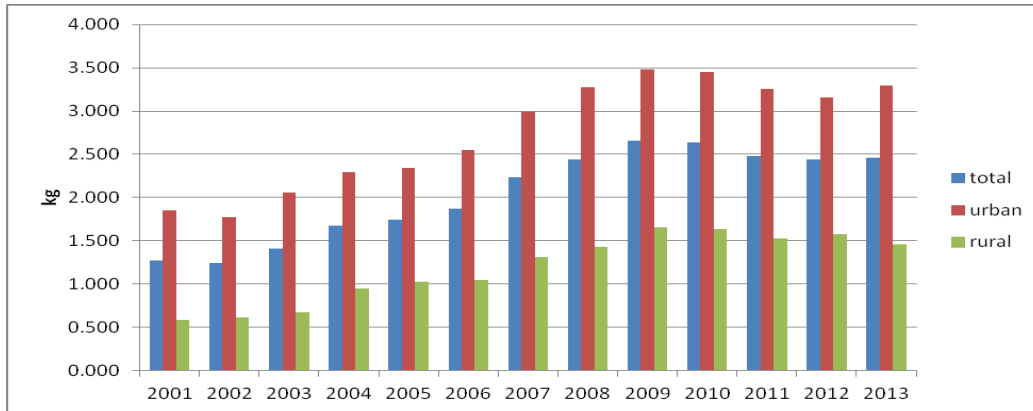


Fig 6. Dynamics of quantitative purchases for fruits, by area (monthly average per person)

Vegetables. With double quantities of vegetables bought in the urban area compared to the rural area, the national average of about 4.5 kg per person per month is low compared to the average consumption of about 7.5 kg, the consumption of vegetables by residence areas having quite similar values, although the differences between the purchases of vegetables are great by residence areas (Figure 7, source: [6]). The share of vegetables and canned vegetables in the cash food expenditures was about 6% in 2013, down from the previous year. The estimated elasticities for vegetables, expenditure elasticity greater than one and own price elasticity described as inelastic in the urban area but elastic in the rural area, suggest that the eventual measures for stimulating the purchases of vegetables in the rural area might be effective only with the diminution of consumption from own resources.

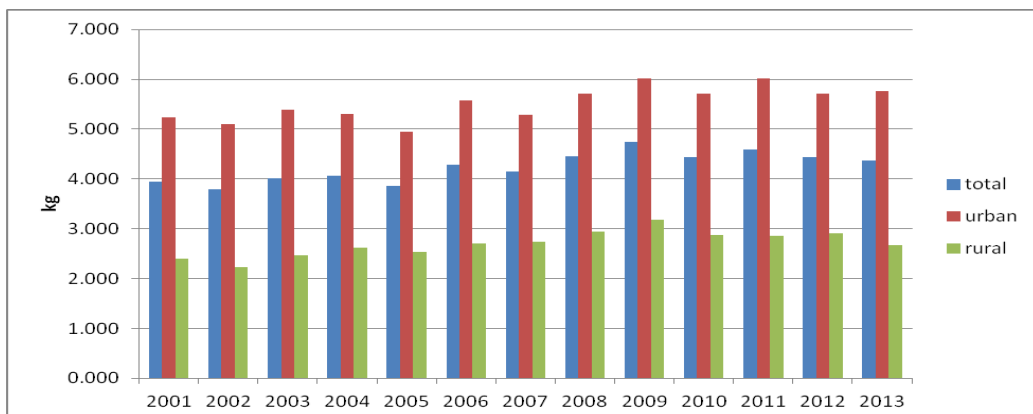


Fig 7. Dynamics of quantitative purchases for vegetables, by area (monthly average per person)

CONCLUSIONS

The evolution of the food consumption pattern in Romania in the last decade suggests that the increase of cash incomes can accelerate the shift to a Western type of consumption pattern, with less bread and more meat, as well as with a significant share of fruit in people's diet. As regards the consumption stimulation measures dedicated to a certain group of products (for instance through the differentiated VAT diminution), these seem to be effective only if they support the evolution already manifested into trend. The interventions targeted on certain key products (milk, fruit) and on certain limited population categories (school children) are important both for meeting the immediate nutrition needs and for the food education on the long term.

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REFERENCES

1. **ALEXANDRI, CECILIA, PĂUNA, BIANCA, LUCA, L.**, 2014, An estimation of food demand system in Romania – implications for population's food security, Paper presented at the 2nd International Conference 'Economic Scientific Research - Theoretical, Empirical and Practical Approaches', ESPERA 2014, Bucharest
2. **NIS**, 2012. Co-ordinates of living standard in Romania. Population income and consumption. The year 2011, National Institute of Statistics, Bucharest
3. **RIZOV, M., CUPAK, A., POKRIVCAK, J.**, 2014, Food demand patterns in the new EU member states: The case of Slovakia, Paper presented at the EAAE 2014 Congress, Ljubljana
4. **TIFFIN, R., BALCOMBE, K., SALOIS M., KEHLBACHER, A.**, 2011, Estimating Food and Drink Elasticities, University of Reading
5. **STERIU, V., OTIMAN, P.I.** (coord.), 2013, Cadrul național strategic pentru dezvoltarea durabilă a sectorului agroalimentar și a spațiului rural în perioada 2014-2020-2030, Editura Academiei Române, București
6. ***– www.insse.ro (Tempo online; BUF, ABF)