



Agriculture

Romania's huge potential is still waiting to be unlocked

'Advances in medicine and agriculture have saved vastly more lives than have been lost in all the wars in history'

Carl Sagan

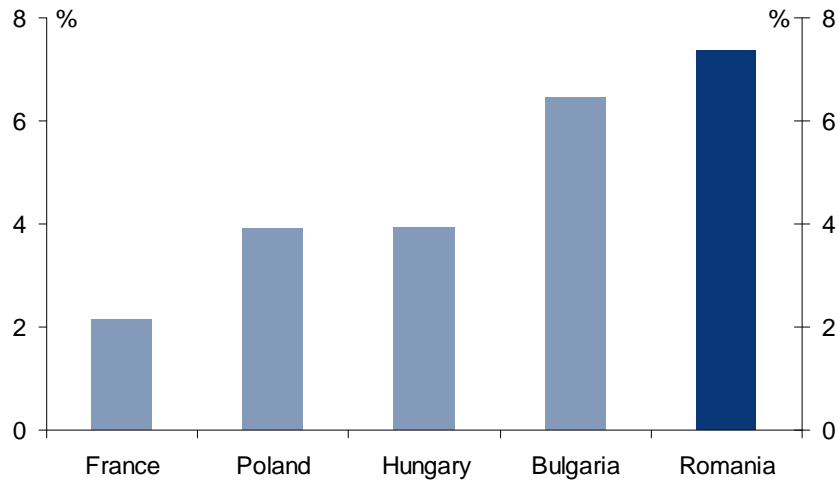
Dr. Lucian Anghel
Chief Economist – BCR



- Although on a downward trend in the last 20 years, agriculture in Romania still has a much higher share in GDP compared to peer CEE or Eurozone countries (around 7% of GDP in Romania, 4% in Poland and Hungary, 2% in France).
- Agriculture provided little support to economic growth in the last 10 years, due to extremely high dependence on weather conditions and the poor equipment base of the local holdings.
- Romania ranks fifth in the EU27 by total arable land area; in 2010, Romania was among the world's top 10 corn producers with more than 9mn tons – weather conditions were favorable.
- Should productivity in agriculture converge towards Eurozone standards, Romania could double its agricultural output, triple its exports of food products and feed up 4 countries like Romania.
- Subsistence farms are commonplace in Romania, the land ownership is atomized; the main weaknesses of subsistence and semi-subsistence farms remains the limited investment capacity and poor orientation to consumer markets.
- Increasing the quality of agricultural training is of paramount importance for steady progress by Romanian agriculture in the years ahead; only 1% of holdings benefit from full agricultural training and the bulk of them rely only on practical experience.
- The absorption of EU funds remains an opportunity mainly for large players, while subsistence farms have the alternative of merging their land plots into large agricultural holdings to be able to access EU funds, government support schemes, banking products and other opportunities of the market economy.

High profile of agriculture in GDP especially in Romania and Bulgaria

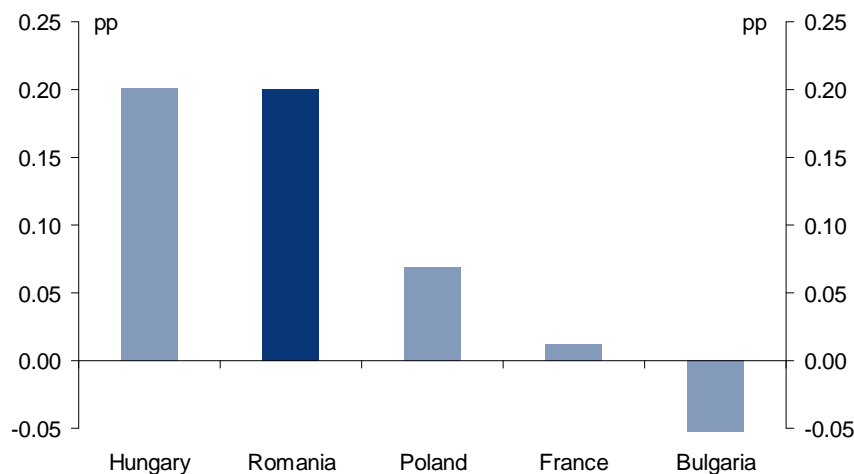
High profile of agriculture within GDP



Source: Eurostat

- Although declining in the last 20 years, agriculture in Romania still has a much higher share in GDP compared to peer countries in the region, especially Poland and Hungary.

Contribution of agriculture to GDP – yearly average 2001-2010 –

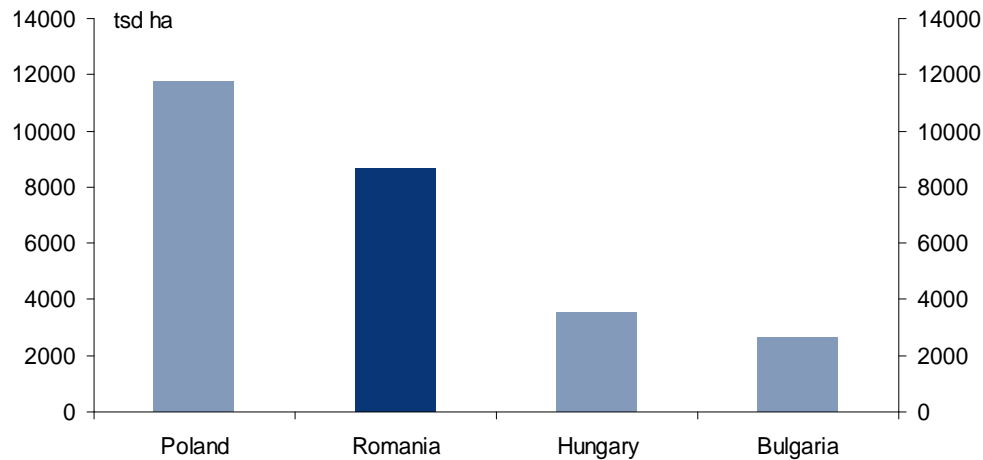


Source: Eurostat

- Despite its high visibility, agriculture provided little support to overall economic growth in the last 10 years; high dependence on weather conditions drastically limited its contribution to GDP formation in Romania.

There is significant discrepancy between potential ...

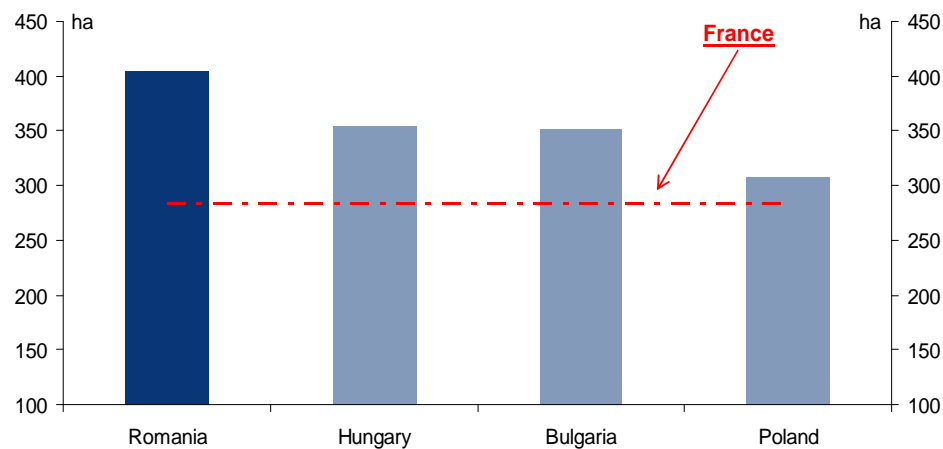
Arable land



Source: Eurostat

- Romania ranks fifth in the EU27 by total arable land area; in 2010, Romania was among the world's top 10 corn producers with more than 9mn tons – weather conditions were favorable.

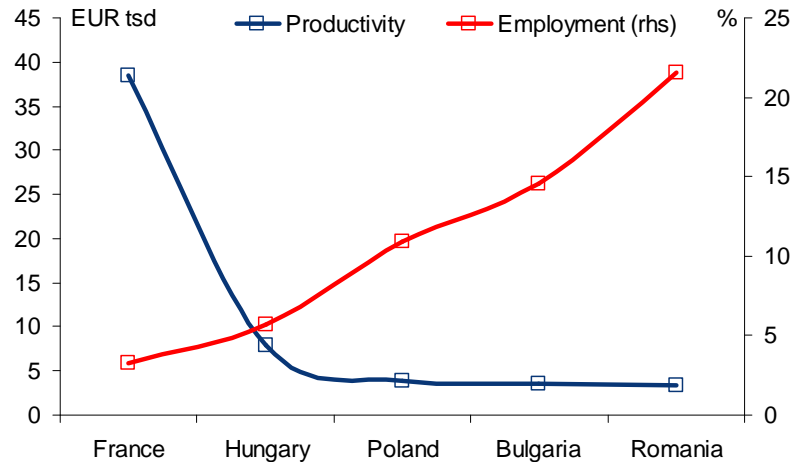
Arable land per 1000 inhabitants



Source: Eurostat

- If productivity in Romania were similar to that in France, maize production would stand at around 20mn tons (2.6x) and the wheat crop at about 15mn tons (2.8x).

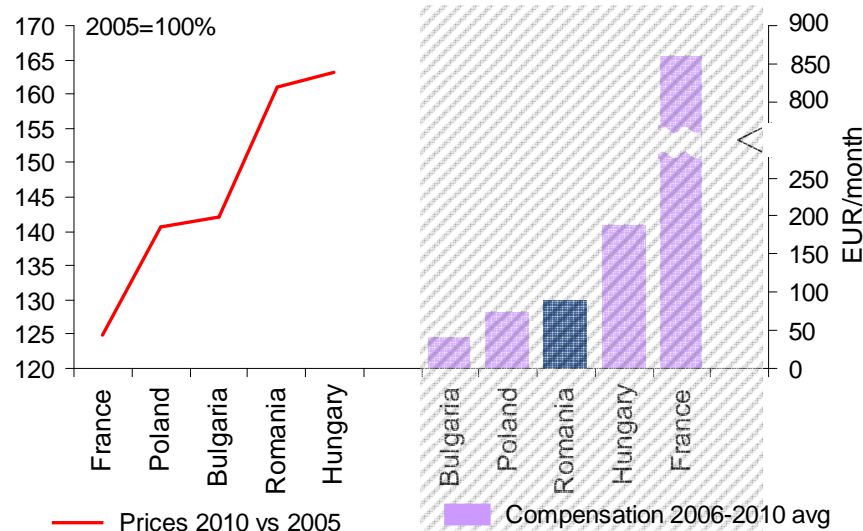
Productivity vs. employment in agriculture



Source: Eurostat

- High employment and low productivity are the main features of Romanian agriculture at present; more than 2mn people work in agriculture in Romania, which is 2.5 times more than in France.

Prices and compensation per employee

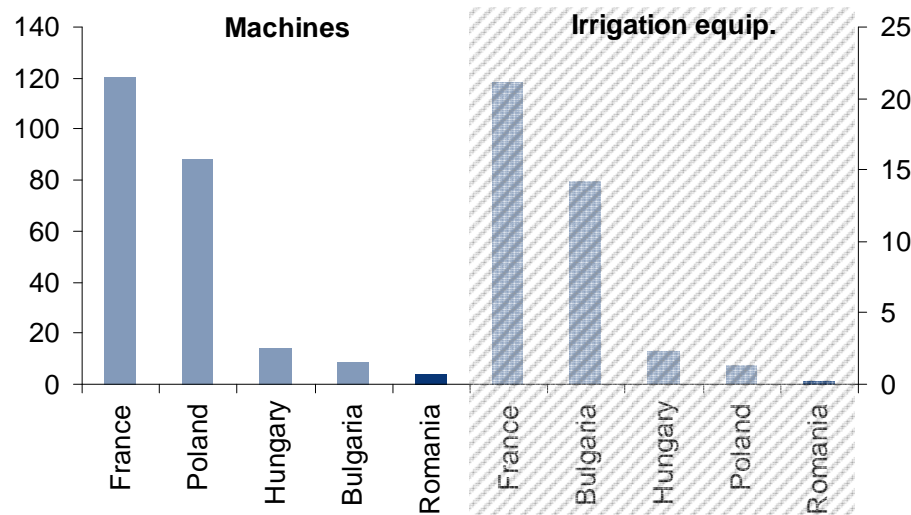


Source: Eurostat

- Production prices for cereals have seen one of the steepest increases in Romania since 2005, generating substantial pressure on inflation; total compensation per capita is 2 times higher in Romania than in Bulgaria; this is quite something, considering that only 10% is salaried employment.

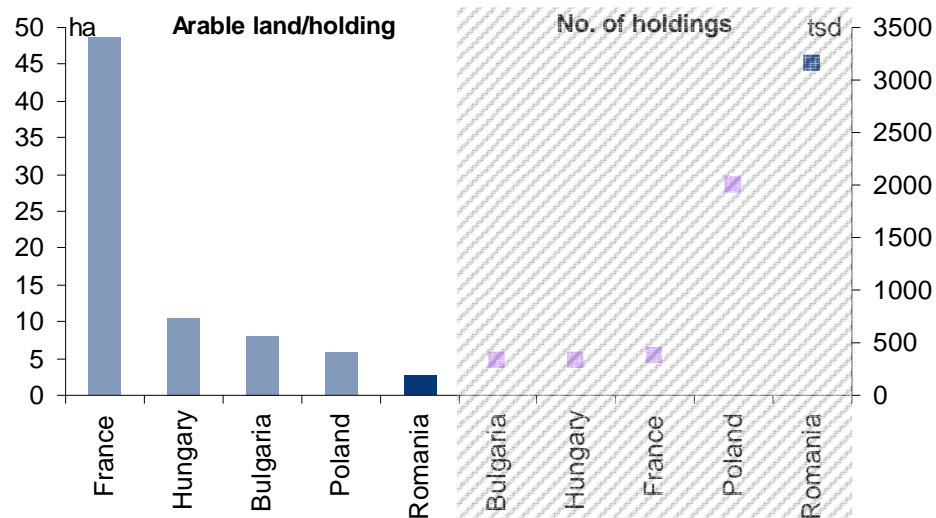
...due to low investments...

No. of machines & irrigation equipment per holding



Source: Eurostat

No. of holdings and arable land per holding



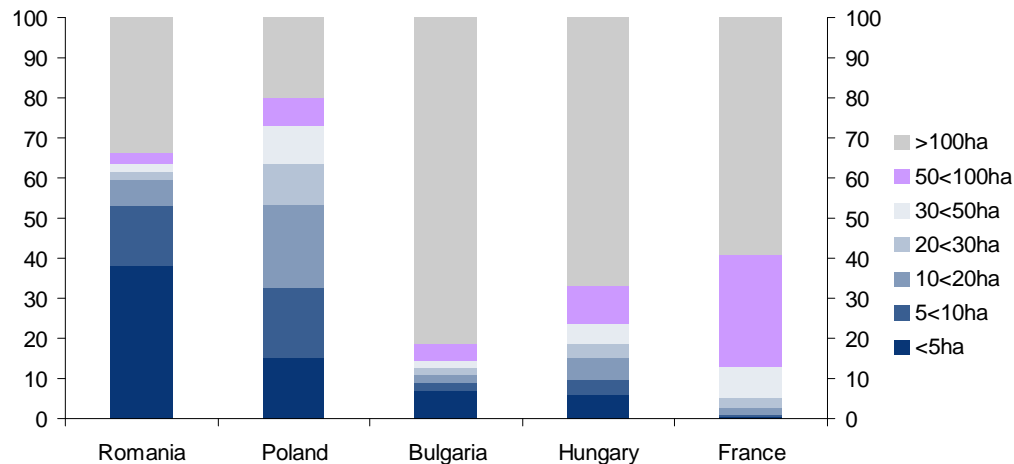
Source: Eurostat

- The holdings in Romania are poorly equipped with machines; when it comes to irrigation, the situation is even worse and this is why the battle against the 'elements' is quite often lost and the crops are so poor.

- Romania has more than 8 times the number of arable land holdings seen in France, while the area per holding is almost 18 times lower on average; this is an important weakness Romania has yet to address.

...and atomized land structure...

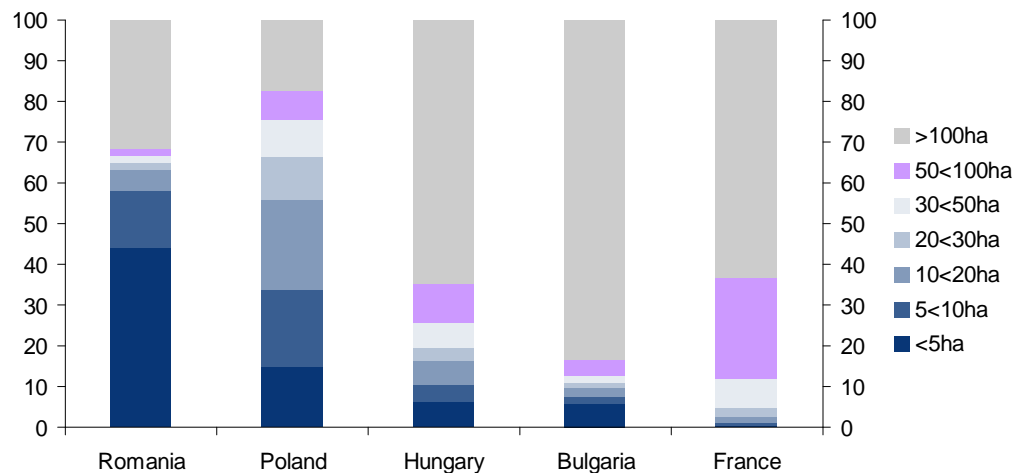
Fragmentation of arable land



Source: Eurostat

- **53% of the arable land in Romania is worked by holdings under 10 ha (small farms), which usually are poorly endowed; the top 50 agricultural holdings in Romania cover less than 5% of the total arable land in Romania.**

Fragmentation of arable land for cereals

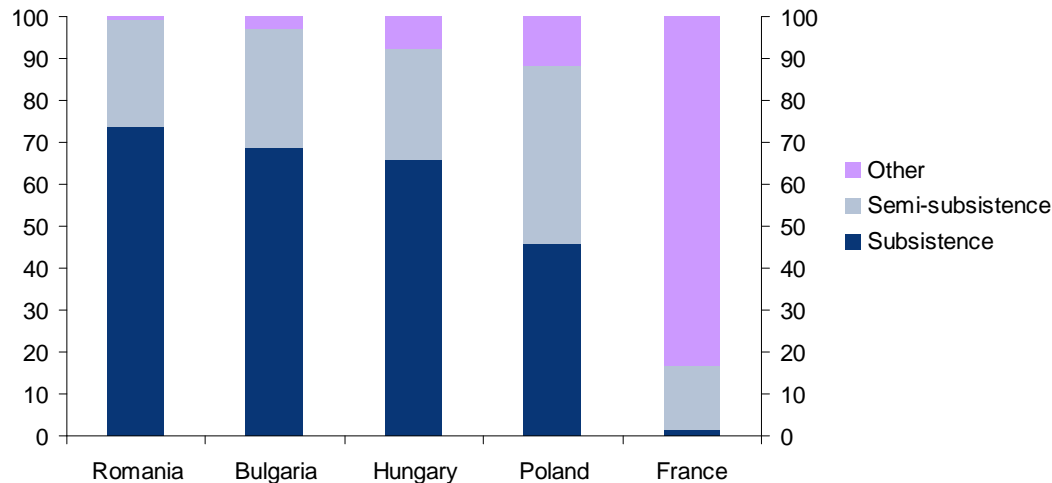


Source: Eurostat

- **The situation is not at all better for cereals, where almost 60% of the arable land is worked by small holdings (<10 ha); in France, 88% of the arable land is cultivated by holdings having an average area larger than 50 ha.**

High profile of subsistence and semi-subsistence farming

Type of holdings by ESU

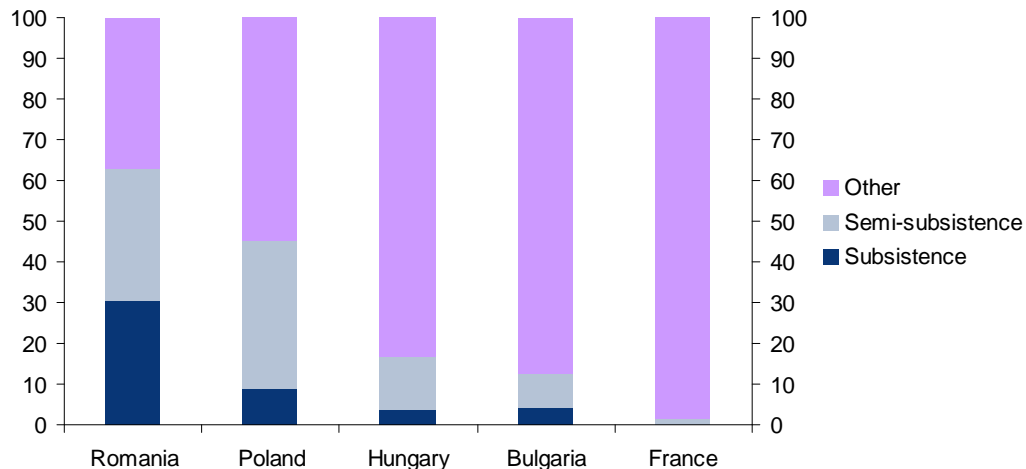


Note: ESU= Economic Size Unit
1ESU= EUR 1,200

Source: Eurostat

Subsistence and semi-subsistence farms (<8 ESU) are commonplace in Romania (99% of total holdings); market participation is rather limited, due mainly to transaction costs, poor quality and non-pecuniary benefits of consuming own-produced food

Areas worked by each type of holding

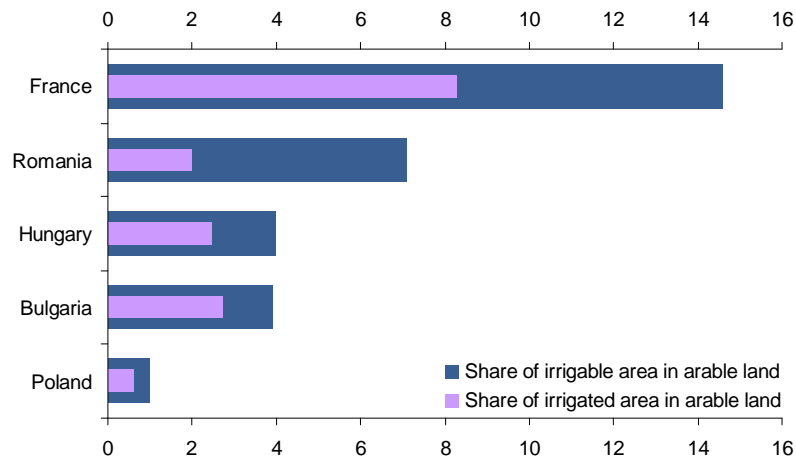


Source: Eurostat

- Although the huge majority of farms fall into the subsistence/semi-subsistence category, they work only 63% of the total arable land; however, small and semi-subsistence farming has an important role, which is as a buffer against poverty – more than 58% of total income received by these households is ‘in kind’.

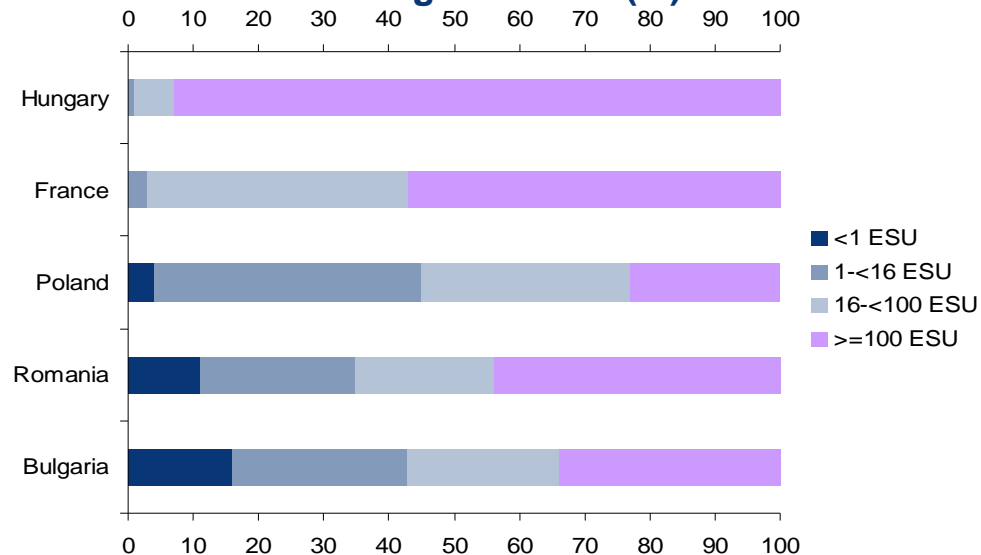
Strong discrepancy between irrigable and irrigated areas

Irrigable vs. irrigated areas (%)



Source: Eurostat

Who irrigates what (%)



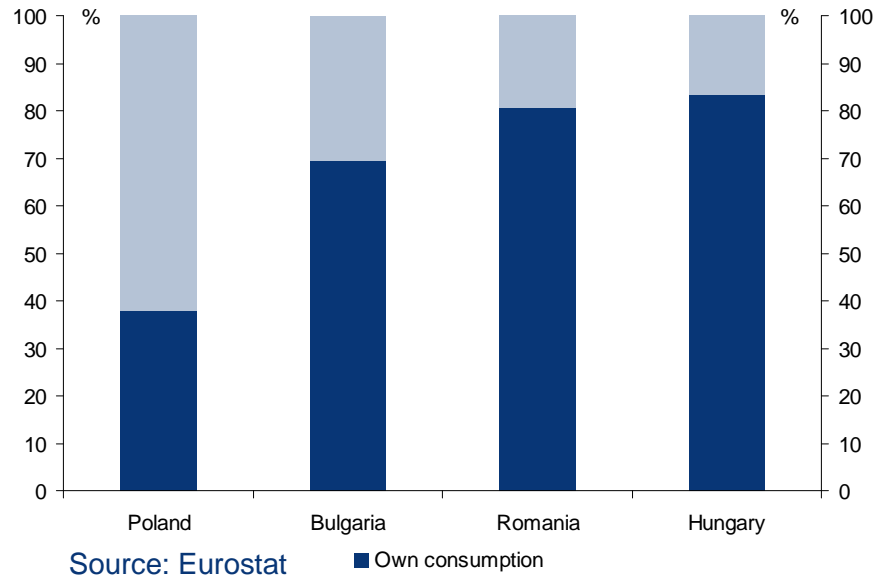
Source: Eurostat

- Irrigable area in Romania represents 9% of total arable land, while the irrigated area is much smaller at 1%; flood irrigation, which is water-intensive, is predominant in Romania (57% of the total).

- In most member states, irrigable area managed by very small farms (<1ESU) is negligible; however, in Romania and Bulgaria, the irrigable area managed by subsistence holdings is significant (between 11% and 16%), which generates upside pressures on costs.

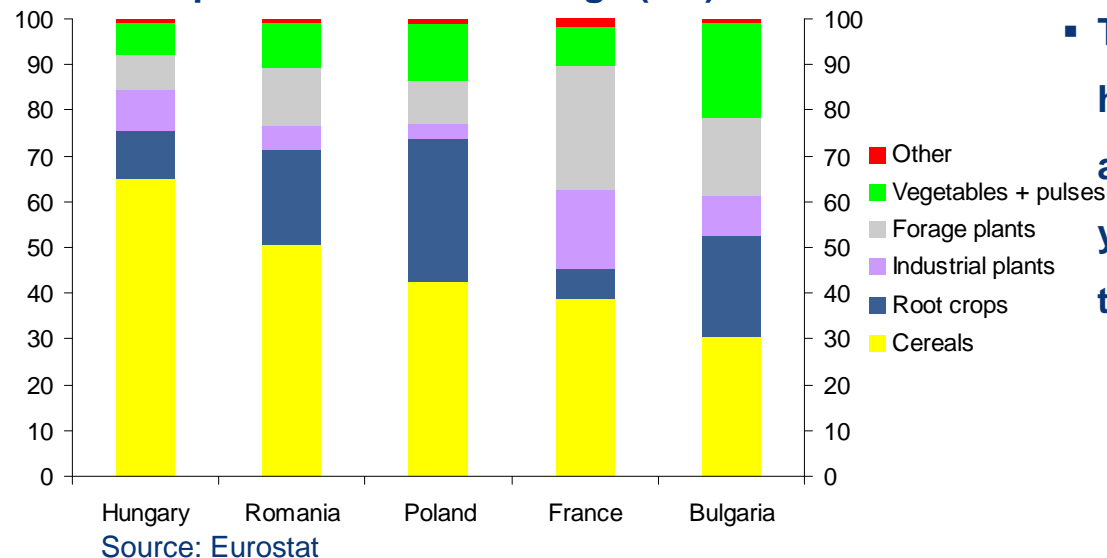
Holdings consuming more than 50% of their own production

Own consumption - % of total production



- Since 78% of total holdings in Romania are sole holdings, most of them below 1<ESU, the high share of consumption (81%) from own production is not surprising.

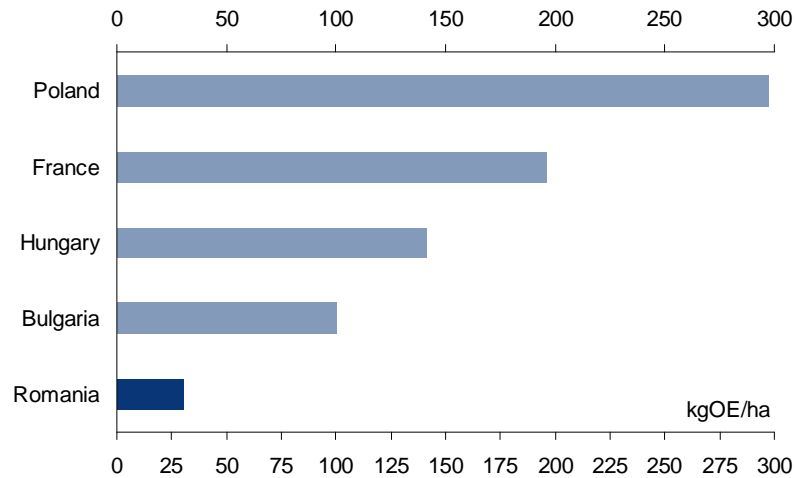
Specialization of holdings (no.)



- The ageing population in agriculture is a hot topic in Romania; 45% of total farms are held by people that are at least 65 years old; in France, for example, 15% of the holders are at least 65 years or more.

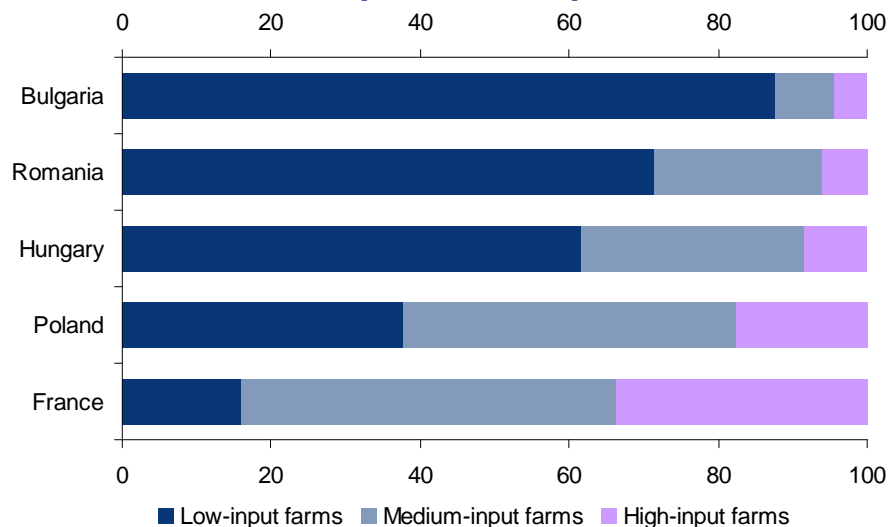
Romania ranks last in terms of energy consumption

Energy consumption/ha (kg oil equivalent)



Source: Eurostat

Farm input consumption



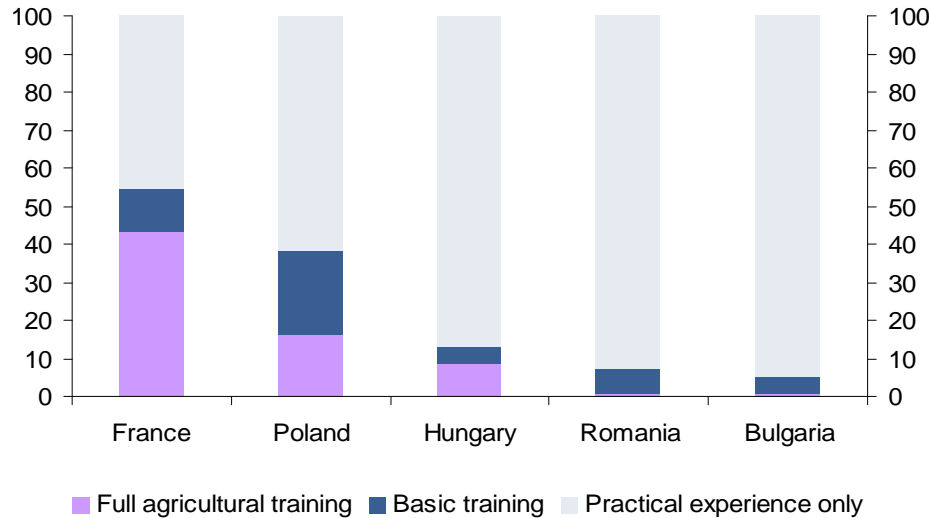
Source: Eurostat

- Low mechanization, combined with obsolete irrigation systems, makes Romania rank last in terms of energy consumption, which is characteristic of a rudimentary agriculture; energy consumption per hectare is more than 6 times lower in Romania compared to France.

- More than 71% of the total utilized agricultural land is worked by low intensity farms spending less than EUR 125 per hectare; France spends EUR 336/ha on fertilizers and pesticides (2.7 times higher).

How well trained are farm managers?

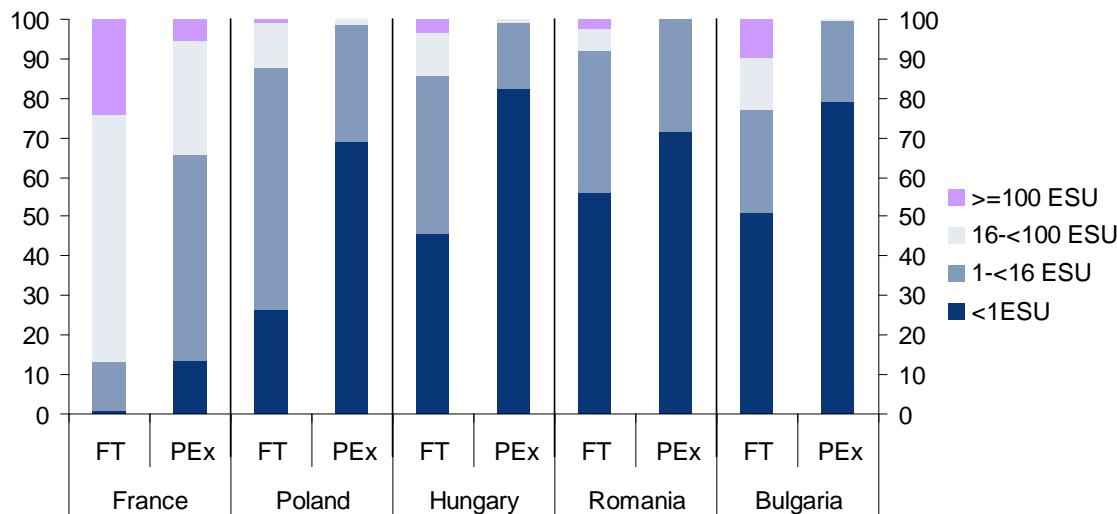
How well trained are farm managers?



Source: Eurostat

- Training is an important asset that gives an edge on how to make agriculture work; Romania and Bulgaria are definitely laggards from this point of view, with only 1% of the holdings benefiting from full agricultural training.

Type of training by ESU

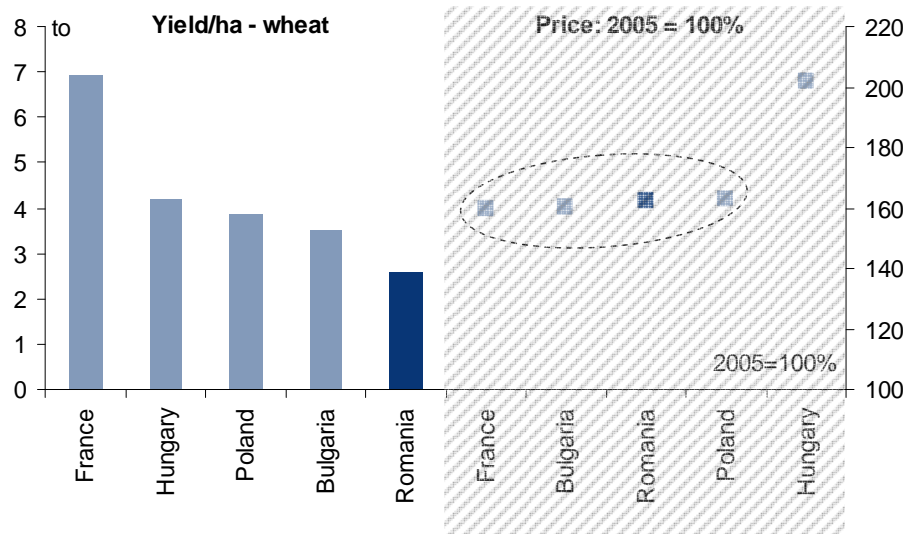


Source: Eurostat FT = full training; PEx = practical experience

The high concentration of fully trained managers at subsistence level in Romania makes it difficult for agriculture to see steady progress; merging the land plots into larger holdings will help increase productivity, while the labor force will be put to better use.

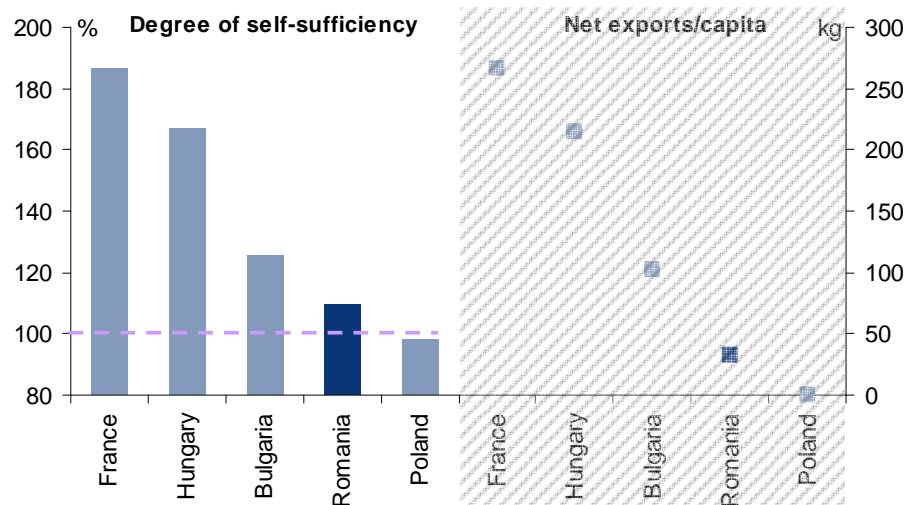
Wheat productivity per hectare is lowest in Romania ...

Yields (2006-2010 avg.) and prices (2010 vs. 2005)



Source: Eurostat

Self-sufficiency and net exports of wheat/capita



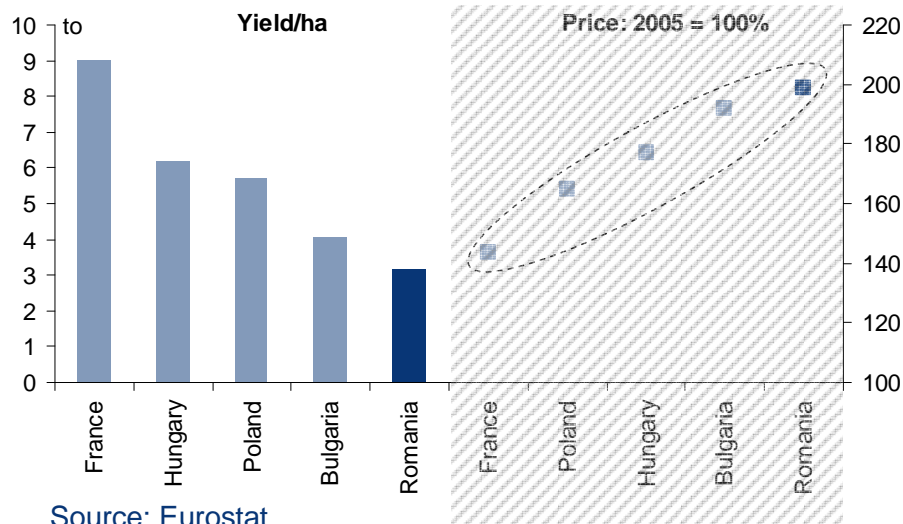
Source: Eurostat

- Romania comes last in terms of wheat yield per hectare; as for prices, Hungary is definitely a clear outlier on the high side, while Romania falls within the range of the countries under review.

- Although next to last, Romania manages to secure a pretty decent degree of self-sufficiency in terms of production of wheat; net exports/capita are positive, but Romania has the potential for a much better performance.

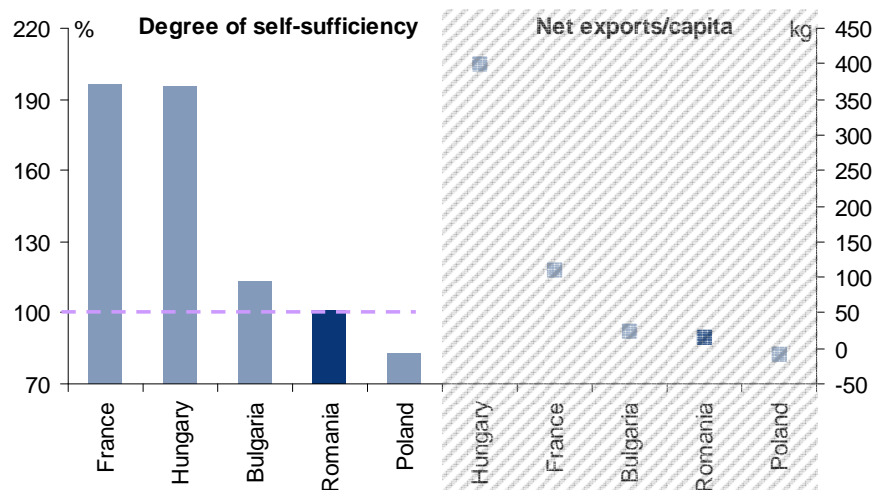
... and so is that of maize

Yields (2006-2010 avg.) and prices (2010 vs. 2005)



- Romania is the underdog when it comes to maize yields and, unlike wheat, prices have spiked almost 200% since 2005; maize crops cover 27% of total arable land in Romania, while in Poland they represent less than 3%.

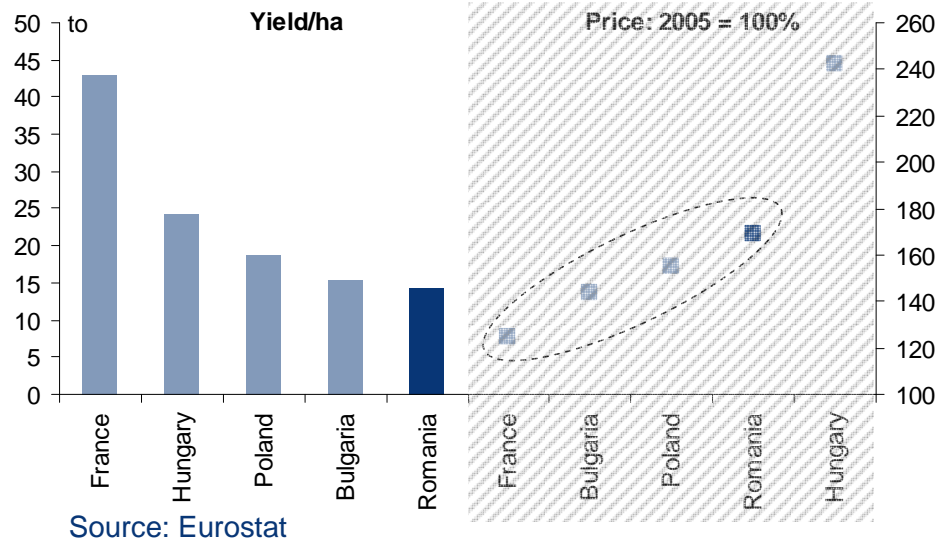
Self-sufficiency and net exports of maize/capita



- As for the average maize crop, Romania is only a shade above 100% when it comes to its degree of self-sufficiency; however, in years when good weather holds up, maize production in Romania could jump to more than 9mn tons, allowing the country to join the world's top 10 corn producers.

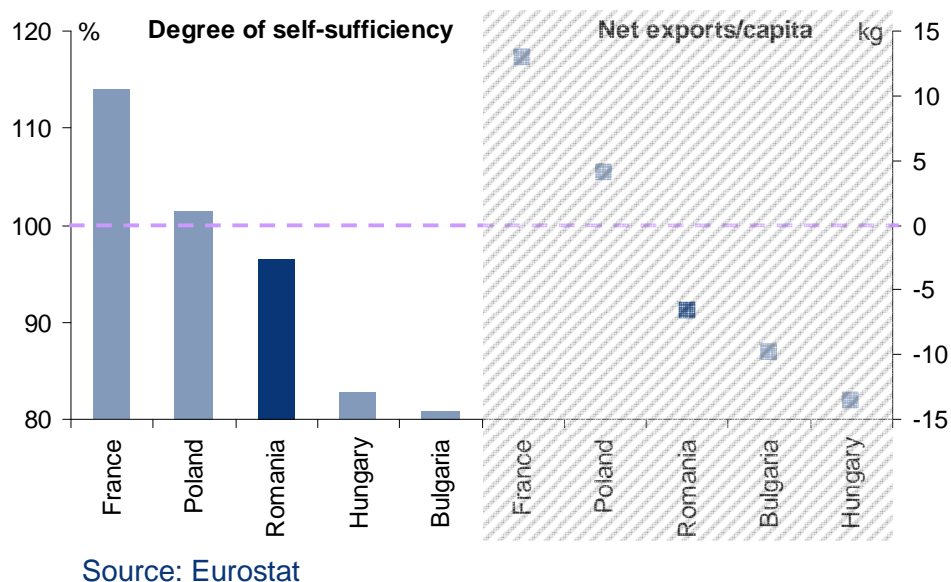
Potatoes are still no exception to the rule

Yields (2006-2010 avg.) and prices (2010 vs. 2005)



- Although Romania is a high-ranking country in Europe with a production area average at around 260tsd ha (third place in Europe after Poland and Germany), potato yields per hectare are well below those of Hungary or Poland; although to a lower extent than Hungary, the price of potatoes in Romania strengthened by almost 70% compared to 2005.

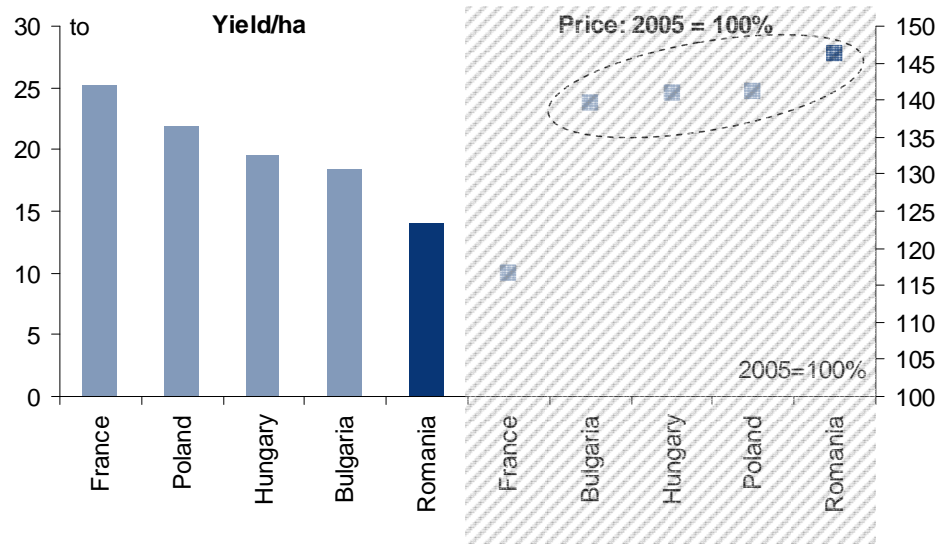
Self-sufficiency and net exports of potato/capita



- The degree of self-sufficiency is all too low in Romania, considering the country's potential; 'market participation' is also a main weakness Romania has yet to address; Poland is by far the top dog in the region and an important exporter to the European market.

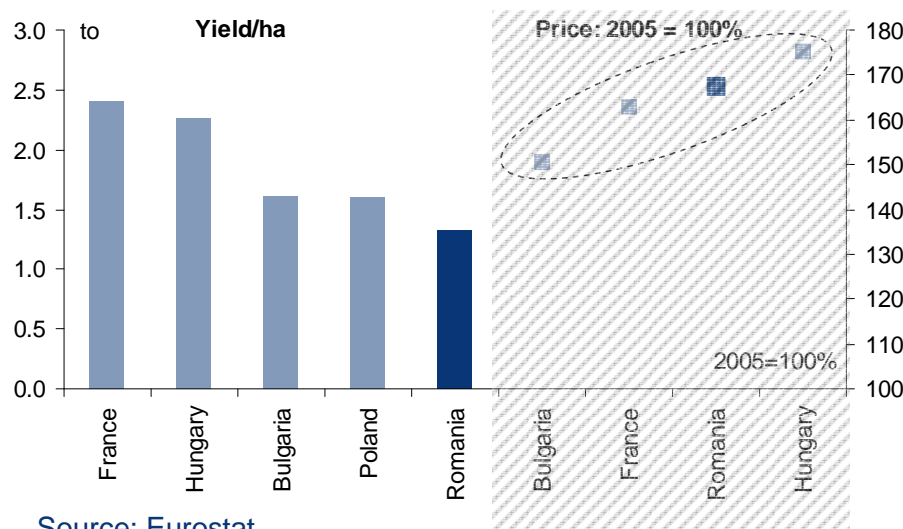
Production of sunflower and vegetables

Vegetables: Yields (2006-2010 avg.) and prices (2010 vs. 2005)



- Production of vegetables leaves much to be desired in Romania; in good years, Romania manages to cover up to 50-60% of total domestic consumption, which is why pressure on prices is mostly to the upside.

Sunflower: Yields (2006-2010 avg.) and prices (2010 vs. 2005)

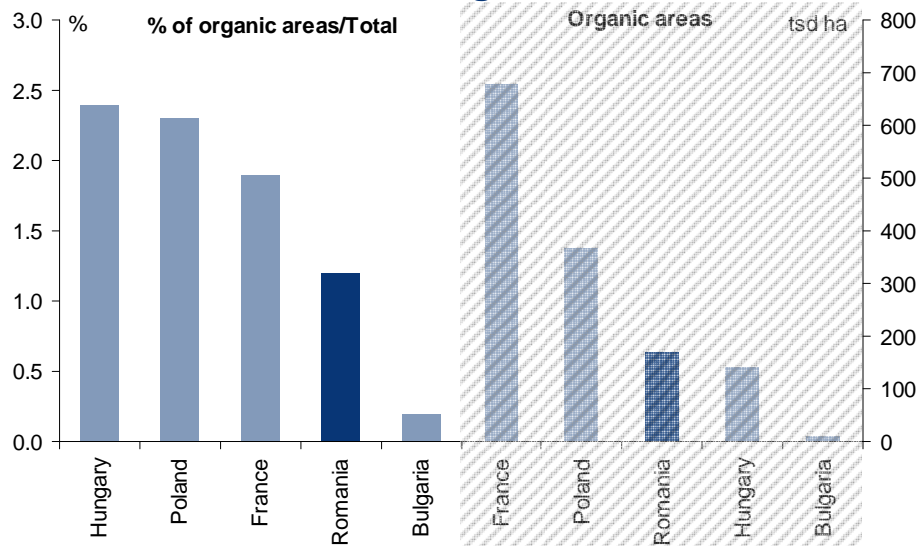


- With more than 840,000 hectares cultivated, Romania ranks first in Europe in terms of area of production and is in EU's top 5 sunflower producers with a yearly average production of 14.4 million tons (2006-2010).

Source: Eurostat

Organic farming has lowest visibility in Romania

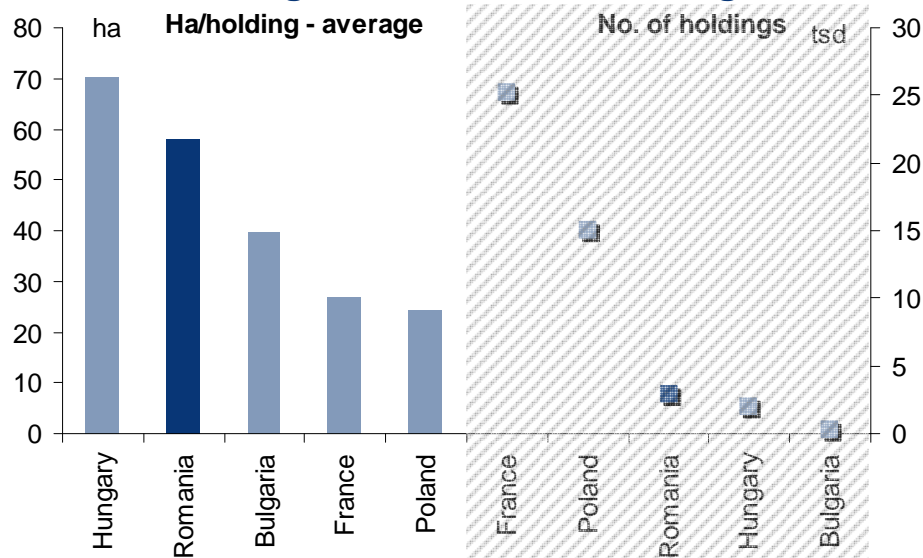
Share of organic areas



Source: Eurostat

- Romania is well below the EU27 average in terms of % of organic area/total (1.2% vs. 4.1%); in Romania, almost 67% of the fully converted areas are cereals, while 27% are industrial crops; vegetables have the lowest visibility with 0.4%.

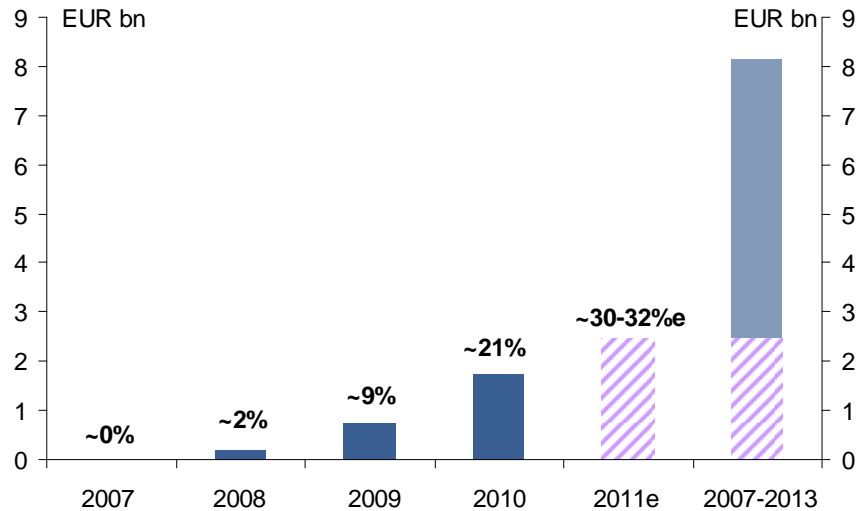
Average size and no. of holdings



Source: Eurostat

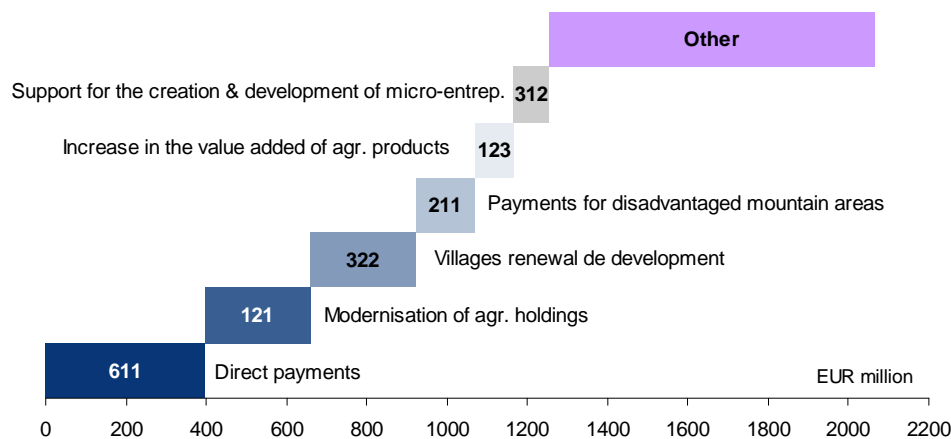
- The average size of organic agriculture in Europe stands at around 37 hectares per holding, compared to 13 hectares for all agricultural holdings; one possible reason for this is the use of a more extensive way of farming within the organic segment.

Absorption vs. allocation 2007-2013



Source: APDRP, BCR Research

Structure of EU funding as of end-May 2011

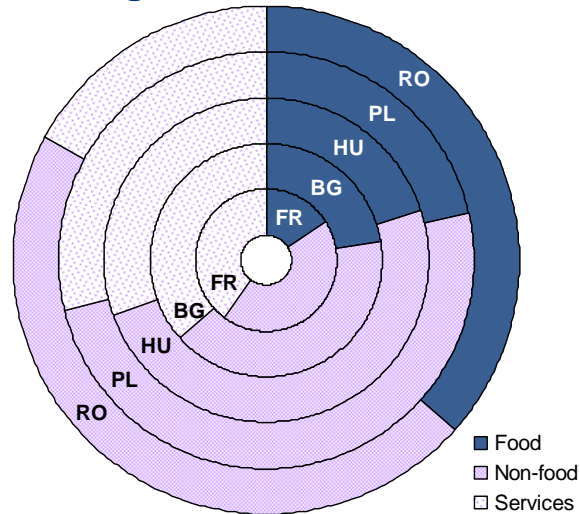


Source: MADR

- As of end-May 2011, a total of 34.4tstd applications have been registered within EAFRD with a face value of almost EUR 4.3bn.
- Actual payments made amounted to around EUR 2bn (end-May), putting the absorption rate at about 25% of total 2007-2013 funding.
- Romania could see an absorption rate of 30-32% as of end-2011; absorption could grow somewhat faster in the coming years, as the local producers become more aware of the ‘way this type of business should be done’; however, high land fragmentation remains an important drawback to EU funds absorption.

Romania has highest share of food within CPI basket

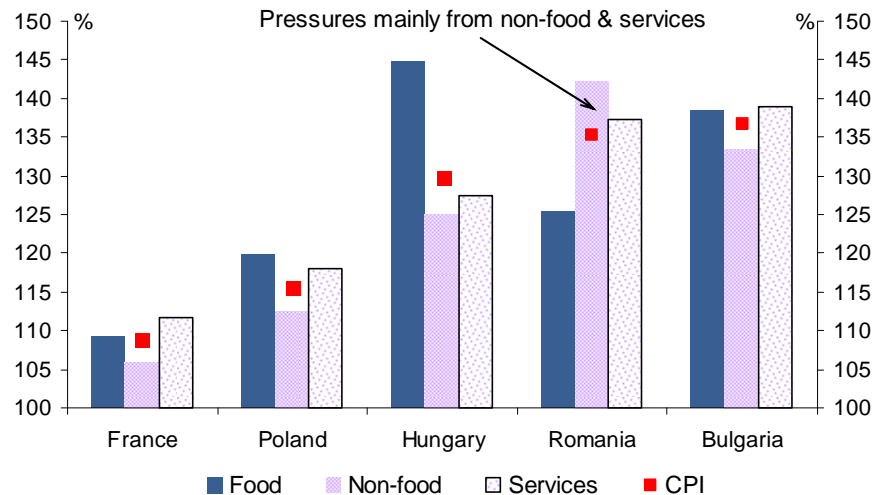
Item weights within the CPI basket



Source: Eurostat

- With food weighing almost 37% in the CPI basket, Romania is much more exposed to international commodity price fluctuations; it is important to mention that the highest negative impact on food prices in Romania is generated by the chronic gap between supply and demand.

CPI development 2005-2010; 2005=100%

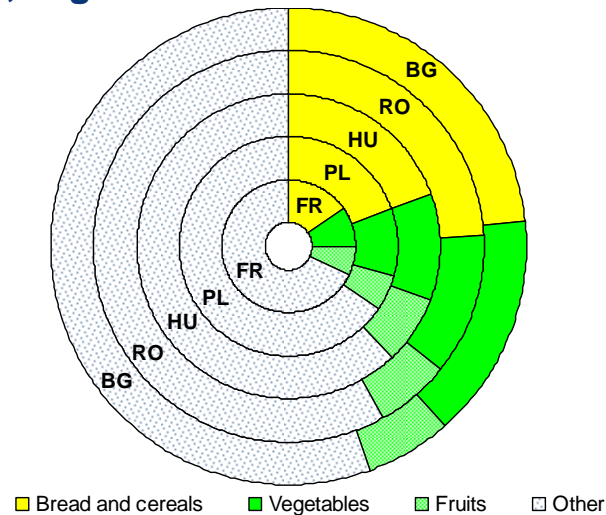


Source: Eurostat

- However, food prices in Hungary and Bulgaria have seen much higher growth rates than in Romania since 2005; it is obvious that the more developed the country in terms of agriculture (e.g. France), the lower the price increase over a certain period of time.

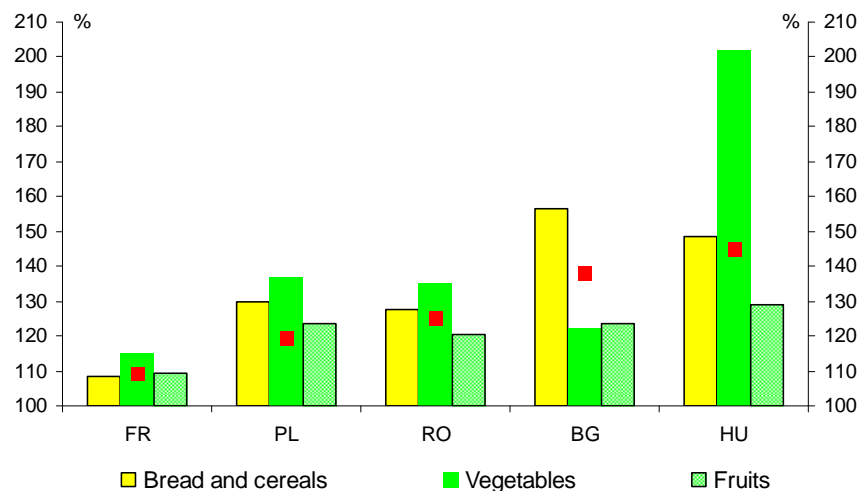
Consumption of bread is much higher in Romania and Bulgaria **BCR**

Bread, vegetables and fruits in CPI basket



Source: Eurostat

Food price development 2005-2010; 2005=100%



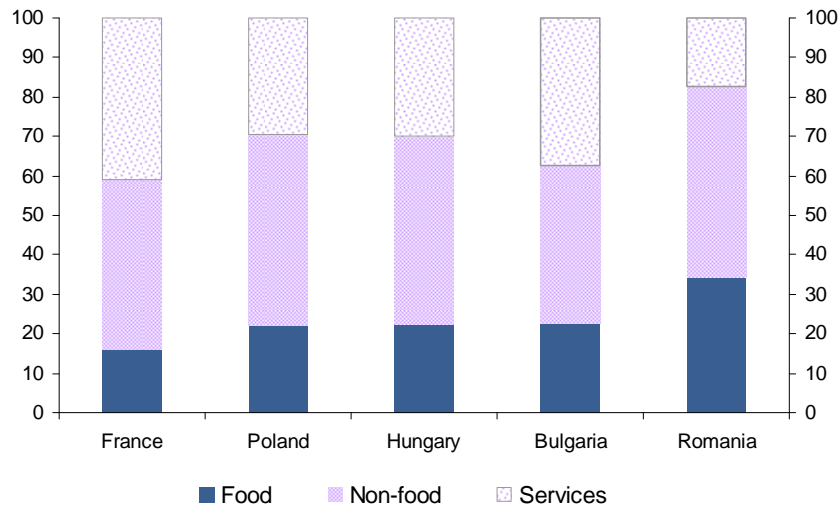
Source: Eurostat

- Bread & cereals, vegetables and fruits make up more than 41% in Romania and Bulgaria, while in France the combined share is lower (32%); the big difference in shares between the two countries and France could be chalked up to a stronger consumption of bread and cereals.

- Romania is actually not so badly positioned in terms of food price development (especially among its peers); the higher share of bread & cereals often saves the day in terms of price increases, since Romania manages to secure a satisfactory rate of self-sufficiency.

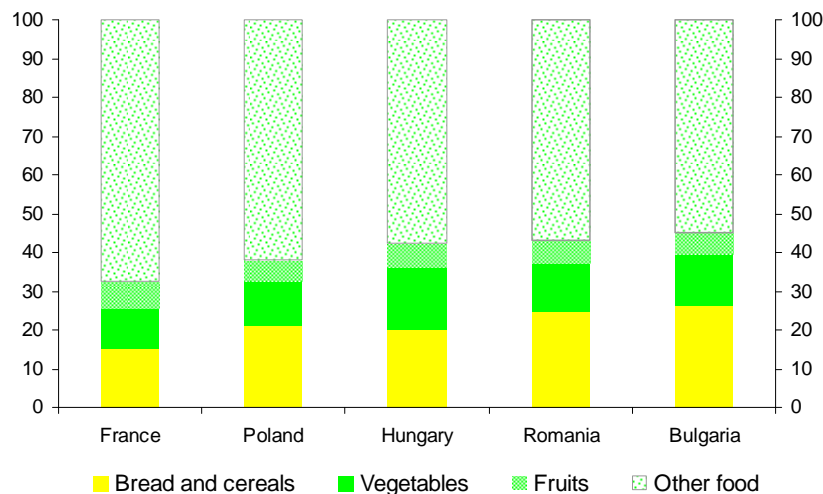
Greater impact of food products on CPI due to their high share **BCR**

Contributions to overall price increase



Source: Eurostat, BCR Research

Contributions to food price increase



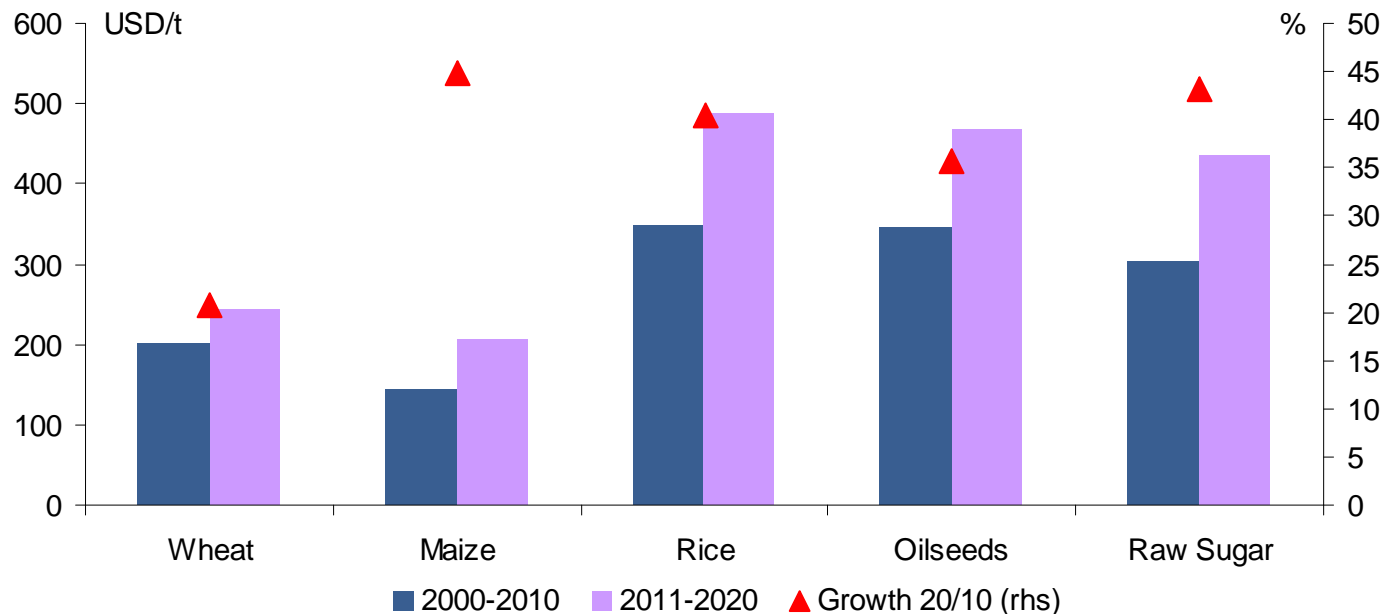
Source: Eurostat, BCR Research

- Food prices have the biggest impact on headline inflation in Romania compared to the other countries; this is mainly due to the much higher share of food within the CPI basket and, to a lesser extent, to the price increase.

- The impact of the bread price on overall food prices is also stronger in Romania and Bulgaria, due to the significantly higher weights; interestingly, in Romania, the contribution of *other food* price growth is lower than in Hungary and Poland.

- By 2020, nominal wheat prices are projected well above the historical average; instead, maize prices are expected to grow sharply from the historical average, narrowing the wheat to maize price ratio.

Price trends of some agricultural commodities



Source: OECD, FAO

- Main drivers of price volatility at global level will remain: weather and climate change, stock levels, energy prices, exchange rates, growing demand, trade restrictions, wars, financialization of agricultural markets.