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Common Agricultural Policy – The Opportunities and Threats for Regions of European Union Member States

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***Abstract*—The Common Agricultural Policy (CAP) is one of the oldest and accounts for the largest share of the EU budget in recent decades. The EU's Common Agricultural Policy (CAP), launched in 1962, is a partnership between agriculture and society, and between Europe and its farmers. The main objectives of the CAP are to support farmers and increase agricultural productivity, as well as to preserve rural areas throughout the EU. Thus, it is intended to keep the rural economy alive by creating jobs in agriculture, agri-food industry and related sectors. Each reform of this policy aims to improve the CAP and prepare the agricultural sector for new challenges. This article focuses on the pros and cons of implementing CAPs in the 21st century in Member States (MS), as well as the evolution of CAPs over the years. The author uses a lot of research in this area and data from Eurostat. An analysis of budget expenditures and support of CAP in the 21st century was carried out, a map of a risk management tool in agriculture was drawn. The dynamics of indicators of agricultural productivity is considered. Although few indicators are used, calculations and data are sufficient to draw conclusions at the end.**

Keywords—CAP, budget expenditure, labour input in agriculture, EU-15, EU-13, EU-2.

I. INTRODUCTION

The CAP is a common policy for all EU countries and is managed and funded at European level from the resources of the EU's budget. Farming is complete different business which in the meantime is milestone for food security, affordable prices, competitiveness, Nature dependence, resources' preservation. All of these specific features are faced with new challenge - Covid-19 and sustainability of agriculture all over the MS despite lockdowns and supply chains disruption. Courage for business is accompanied by parallel processes of fear of failure [1]. Despite the importance of food production, farmers' income is approximately 40% lower compared to non-agricultural income. One more thing - there is an inevitable time gap between consumer demand and farmers ability to supply – growing more wheat or producing more milk inevitably takes time. So, in one hand farmers should be cost effective, and on the other hand should work in a sustainable and environmentally friendly manner, maintain soils and biodiversity.

The significant role that the public sector plays for EU farmers is derived of business uncertainties and the environmental impact of farming [2]. The CAP finances different schemes for support through two pillars:

- ✓ the European agricultural guarantee fund (EAGF) provides direct support and funds market measures;

the European agricultural fund for rural development (EAFRD) finances rural development.

II. MAIN PART

2.1. Budget expenditure

Agricultural policy is handled by the European Union, unlike sectors such as transport or education. So, all funding for agriculture comes from the European Union budget. This is why agricultural spending is the largest individual part of the European Union's total expenditure. The cost to European taxpayers of EU agricultural policies is relatively low at just 30 cent per citizen per day [3]. As we mentioned in the beginning European farmers are expected to maintain the highest safety, environmental and animal health standards. This is corresponding to public demands for a sustainable agricultural sector.

At Figure 1 we can see the budget costs annually for 21-st century. Actually the amount of CAP spending is increased with almost 18 billion of euro for 19 year period. We can see the different financial instruments for support the agricultural holdings. It's true that EU citizens don't suffer from undernutrition or poor food quality but do they need to pay the price of 58,1 billion euro for 2019 year. On the other hand without support the EU farmers hardly would survive. The results in Figure 1 show us that after 2010 the main schemes for support are direct payments (the main part of EAGF) and the EAFRD (the second pillar with different measures according to the MS).

We have to mention that there were few reforms of the CAP which influence the main payment scheme.

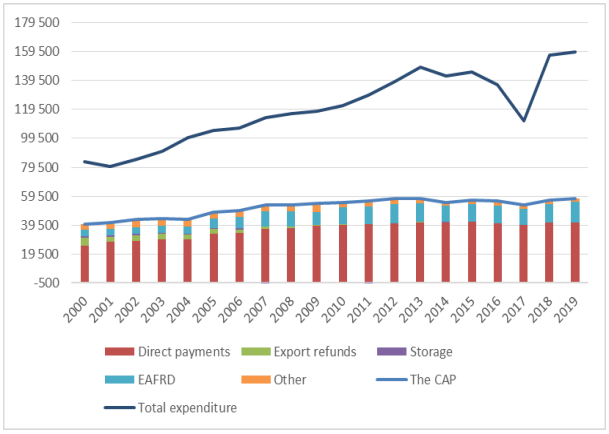

Fig. 1. Budget costs and CAP support in 21-st century, million euro

Source: Eurostat and own calculations

The EU and Member States must provide certainty that taxpayer's money is spent lawfully, and recover undue payments. The "clearance of accounts" [4] system guarantees regular audits of the payments made by member states so that incorrect payments can be identified and remedied. Besides, EU countries are required to make individual inspections and using a dedicated IT system that has been designed to reduce the number of payments made in error.

There is a publicly accessible database of all CAP funding recipients. This data is available only for two years after the payment has been made. Everyone can see where the money has been spent [5]. After this two-year period, the information is removed.

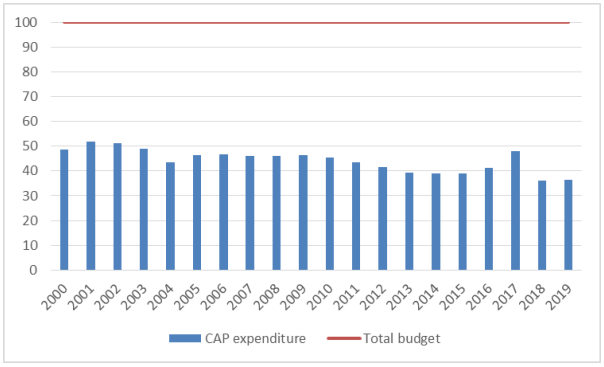

Fig. 2. CAP expenditure as percentage of total budget costs

Source: https://ec.europa.eu/budget/graphs/revenue_expediture.html and own calculations

At Figure 2 we can see the relative share of the CAP expenditure to the total budget per year. The supporters of the CAP always say that the CAP now is only 36, 52 % in 2019 year instead of 48, 54 % in 2000. Yes, this is true but we have to bear in mind that in 2000 year the budget was 83, 45 billion euro till in 2019 - it's 159, 1 billion euro.

2.1.1 CAP evolution

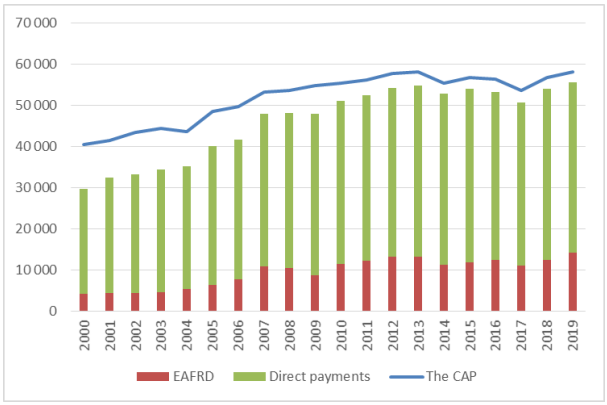

Fig. 3. The CAP expenditure through its' 2 pillars, million euro

Source: Eurostat and own calculations

As we can see the Figure 3 shows us the main evolution of the CAP - more funding with relatively concentrated measures for support. Actually the CAP had 5 big reforms and the 6-th is on the way just after 2020 year. With a series of reforms over the last three decades, analysis of the reform trajectory rather than the individual reforms should be the focus. Globalised policy makers takes place in the intersection between international and domestic pressures but does not do away with domestic politics. Processes in the global market environment are interdependent. Changes, necessities and products that are established on the big economies' market are inevitably sooner or later positioned on that of the smaller countries [6].

Development of the CAP is inevitably doing through reforms which are reflected the social and political needs. Interestingly, the various demands for reform are not all consistent and may actually weaken each other rather than reinforce one another. Clearly there is a reinforcement in the sense that "something needs to be done", but there is much less common ground on the direction which the reforms should take. In fact, some of the reform ideas point in opposing directions [7]. Actually the society, farmers and policy makers rely on CAP for better food production, environmental friendly production, affordable and competitive prices, rural community sustainability and risk management [8] because of more market oriented measures which are decoupled from production.

Actually Table 1 is presenting the possible risk management in agriculture. This could be a start point for the next reform CAP post-2020. The rapid shifts in this policy could and will disconnect the whole industry and thus will be far away from fulfil the Sustainable Development Goals (especially the SDG 2 - zero huger). In 2020 the COVID-19 crisis triggered the so called catastrophic risk with additional 750 billion of euro for the next financial period (this is still negotiable because of Poland and Hungary veto on the budget).

TABLE I. MAPPING OF RISK MANAGEMENT INSTRUMENT IN AGRICULTURE

	Mapping of risk management instrument		
	Normal risk	Marketable risk	Catastrophic risk
On farm	Financial management		
	Standarts (hygiene, etc.)		
	Diversification (including off-farm)		
Market tools		Forward contracting	
		Cooperatives	
		Non-subsidised insurance	
	Non-subsidised mutual funds		
Ex-ante policies		CAP subsidised Income Stabilisation Tool (not risk specific)	
		CAP subsidised insurance and mutual funds for production risks	
		CAP market measures	
	CAP Basic Payment Scheme		
Ex-post policies			Ad hoc disaster aid

Source: European commission, EU Agricultural Markets Briefs, No 12, September 2017

The post-2020 CAP is intend to provide environmental benefits and simplification but does it really can meet the targets for the next generation. The pressure on food supply chain and production is increasing constantly and the farmers should produce more food with limited resources at competitive price, so we can sum up the future CAP as intentions of policy makers [9]:

✓ *A needs-based, targeted approach to addressing environmental and climate objectives through the whole CAP in coherence with other EU policies;*

✓ *An improved system of conditions ("conditionality") to be met by farmers receiving area- and animal-based CAP payments;*

✓ *A complementary set of (voluntary) tools to be offered to farmers to help achieve the CAP environmental and climate objectives.*

It should be clear that the future CAP reform is on the way but nobody at the moment could say if it will be better targeted and would it complete the high expectations of farmers, on one hand, and the society of the MS, in other.

2.1.2. Sustainable development of agriculture

Sustainable development is at the heart of many scientific developments worldwide. It has different aspects and finds expression in economics and management [10]. The concept of sustainable development is increasingly becoming more popular and now is implementing as an element of political strategies. Sustainable agricultural production is a key element in the fight against hunger and malnutrition. A concerted effort is needed to create a food production system that is based on sustainable agricultural practices and produces an adequate supply of food. The Common Agricultural Policy is an example, because one of the main purposes is to ensure a fair standard of living for the agricultural community, e.g., through stable income and improvement of the quality of life in rural areas. In his situation the economic sustainability (or socio-economic sustainability if we assume that income inequalities are part of social sustainability), can be seen in terms of the income gap between agricultural and non-agricultural sectors. The principles of sustainability concern the economic, socio-cultural and environmental impact of the economy and the establishment of an appropriate balance between these three dimensions [11]. Many scientists have stressed the importance of increasing employment in rural areas supported by the Common Agricultural Policy (CAP), which may be a remedy for social exclusion, depopulation of these areas, and the income gap [12-13]. Actually, from the perspective of the impact of demographic considerations on the economic situation of rural areas, what is important are the changes in the trend of population structure by age, and, above all, the relationship between the number of people of working and non-working age [14].

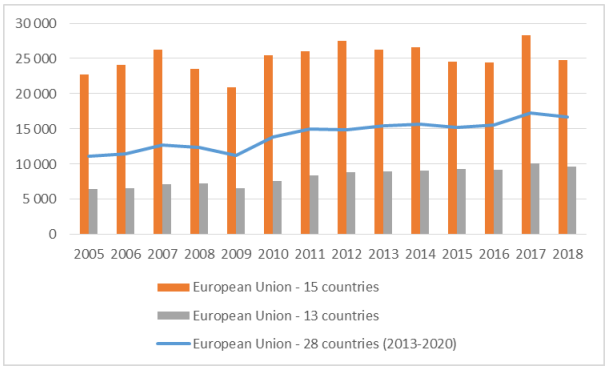

Fig. 4. Agricultural factor income per annual work unit (AWU), euro per year

Source: Eurostat, DG AGRI [SDG_02_20] and own calculations

In Figure 4 we can see the huge difference in agricultural factor income per AWU between EU-15 and EU-13. This average annual amount is clear enough to prove us the gap in the Community. The depopulation and lack of young entrepreneurs in agriculture is severe problem which the CAP apparently could not resolve. For example, the lowest annual income per AWU is in Romania (4394 €, 2018) while in Czechia the farmers enjoy with 18 373 € for the same year. This two countries are part of EU-13. If we take a look in depth in EU-15 the situation is quite different, i.e. Portugal - 10 921 € and Netherlands - 48 431 €. On average at the EU-28 level we can see the amount of 16 683 € for 2018. The agricultural factor income per AWU is increased with 2 038 € in 2019 to 2005 in EU-15 while in EU-13 the number is 3 135 € for the same years. Of course we should take into account the ultimate low level of this indicator for EU-13 if we present the above mentioned increasing in relative value (8, 98 % in EU-15 and 48, 33 % in EU-13).

Agricultural factor income per AWU varies considerably between Member States and farm types. It tends to be higher in countries with more mechanised, input-intensive production systems than in countries using more traditional, labour-intensive methods.

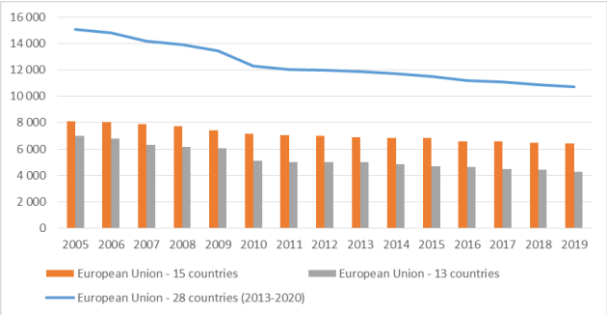

Fig. 5. Agricultural labour input statistics: absolute figures (1 000 annual work units)

Source: Eurostat [AACT_ALI01] and own calculations

Now in order to be more punctual Figure 5 is presented. It's obvious that from the beginning of 21-st century the agricultural labour (AWU) is constantly decreasing. In the countries of EU-15 in 2019 there were 1,656 million AWU less (or 20, 46 % decreasing) compare to 2005. At the same time in EU-13 decreasing is 2,698 million AWU (or 38, 68 % decreasing). In conclusion approximately half of above mentioned increasing agricultural factor income per annual work unit is due to reducing the number of AWU engaged in agriculture.

Everything changes - nature, man, society, science. Change is the impetus for development, cause and effect of evolution. It cannot always explain how things change but you always can and must understand why they change and how this change affects them [15].

The sustainability of agriculture is influenced by different policy makers rather than the real needs of the sector. This is obstacle for development of upgradable CAP and as it was mentioned above "something needs to be done" without any clear idea for one step after another to pursue the obvious goals. Actually this is the real tragedy for the agriculture of the EU. As we can see in this article - just pouring a lot of money does not guarantee prosperous evolving sector with good productivity and well situated rural areas.

The lack of a sustainable enabling environment for agriculture in the Central and Eastern European countries has two sides. First, governments have failed to take steps toward restructuring government and public institutions to serve the needs of private agriculture. For small farms, increasing competitiveness is almost always connected with increasing size to so called midsized farms, increasing nonlabor inputs, new technology, and better management methods. For large farms, the improvements in competitiveness usually concern reductions in staff or farm size (rarely), introductions of nonlabor inputs or new technology, and better management methods [16].

Labour productivity in the European agricultural sector has increased, but investment in the future of farming lags behind. Economic sustainability needs to be achieved in the European agricultural sector to ensure its long-term viability. Agricultural factor income per annual work unit (AWU) is an indicator of labour productivity [17].

2.1.3. Agricultural productivity

This part of the article is dedicated on productivity of the agricultural sector. The main indicators are used such as gross value added, net value added, as well as crop output, animal output and agricultural goods output. Agricultural productivity increase has gained renewed interest. Productivity growth made availability of food because it's become less scarce (and hence cheaper) in the 20th Century. Now the big question - is it possible to maintain the trend in 21-st century? The European Commission has launched an ambitious program towards - a resource efficient Europe in 2020. As a consequence, the agricultural sector is challenged to achieve more with less. There is a general belief in the progress of technology which could improve resource efficiency. Actually, this is challenging in agriculture, as working with living organisms in outside conditions introduces variability and limits to growth.

To monitor progress made towards higher productivity, which indicates an improved output over input ratio, Total Factor Productivity (TFP) offers an interesting starting point. TFP is the main indicator to measure changes in productivity, as it is considered more encompassing than partial productivity indicators such as labour or land productivity. TFP growth can be defined as the *ratio between the change in production volumes over a considered period and the corresponding change in inputs (or factors) used to produce them* and hence measures the growth in productivity over a given time span. An increase in TFP reflects a gain in output quantity which is not originating from an increase in input use. TFP reveals the joint effects of many factors including new technologies, efficiency gains, economies of scale, managerial skill, and changes in the organization of production [18].

Productivity in the EU has increased over time, albeit at a slower rate in recent years then in the past. While the growth rate surpassed 1% per year between 1995 and 2005, it slowed down to around 0.8% between 2005 and 2015.

Output growth has been achieved in a context of a shrinking workforce.

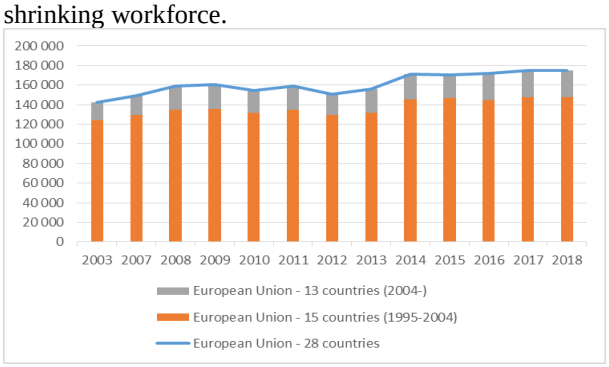

Fig. 6. Gross value added at basic price 2010, million euro

Source: Eurostat [aact_eaa07] and own calculations

The analyses of Figure 6 shows a steady increase of gross value added (GVA) in agriculture up to 180 billion euro in 2018 year. We have to admit that approximately two-third of this value is coming from EU-15 (so called old MS). Meanwhile the EU-13 (new MS) increases it's GVA with 50 % in 2018 compare to 2003 but is still far behind the EU-15.

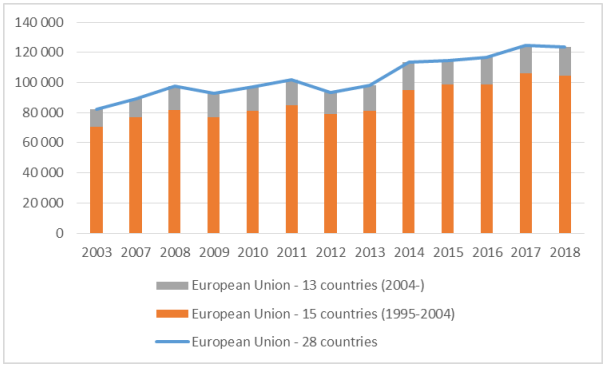

Fig. 7. Net value added at basic price 2010, million euro

Source: Eurostat [aact_eaa07] and own calculations

In Figure 7 we can see almost the same picture but in the context of net value added (NVA). Here only one-fifth of the NVA was generated from new MS in 2018. We have to take into consideration that the new MS doesn't have the same agricultural area and animal breeds as the EU-15 and the CAP was implemented only fifteen years against more than half a century. Nevertheless, we should admit that farmers in new MS are more vulnerable for competition and market fluctuations than their colleagues in EU-15.

This is confirmed in the Figure 8, 9 and 10 where crop output, animal output and agricultural goods output are approximately twenty - twenty five per cent of total EU-28 value.

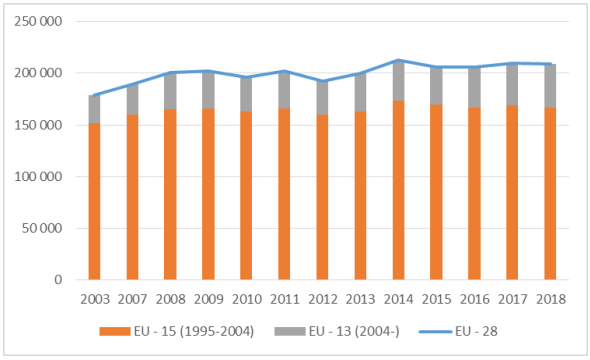

Fig. 8. Crop output at basic price 2010, million euro

Source: Eurostat [aact_eaa07] and own calculations

Actually the crop and animal output provide to us clearer picture about structure in production in EU-28. Here is not considered the differences in crop yield and animal breed's productivity through MS. Nevertheless the last three Figures provide us enough information for confirmation of the enormous gap between EU-15 and EU-13 agriculture development. This disparity is not overcome even with the CAP instruments.

The Common Agricultural Policy (CAP) plays a key role in supporting Europe's agricultural sector – even more at present due to COVID-19 pandemic that is also putting a strain on the resilience of European farmers. This involves a new growth strategy that aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use.

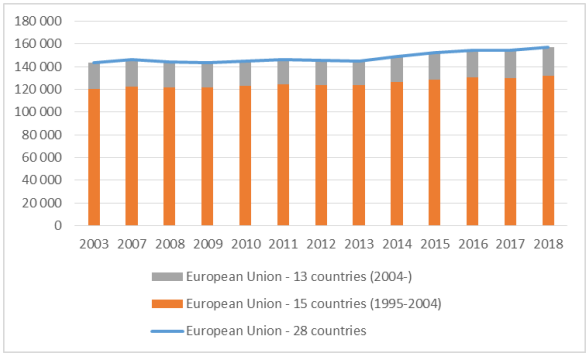

Fig. 9. Animal output at basic price 2010, million euro

Source: Eurostat [aact_eaa07] and own calculations

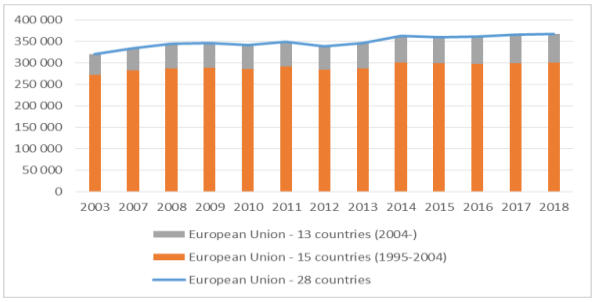

Fig. 10. Agricultural goods output at basic price 2010, million euro

Source: Eurostat [aact_eaa07] and own calculations

In June 2018, as part of the proposals linked to the next Multiannual Financial Framework, the Commission adopted the legislative proposals of the CAP for the period 2021-20277. These legislative proposals, based on a wide consultation process and extensive impact assessment, confirmed the need to simplify and modernise the CAP, to better respond to the emerging economic, environmental and social challenges that the agricultural sector is facing and which are only reinforced by the current crisis arising from the COVID-19 pandemic [19].

One more thing should be underlined - the importance of information, especially in agriculture. Today we all have unlimited access to information, and this changes the essence of the definition of "literate". Already it's not what you know, but how quickly you can find the information you requested, to process, to compare with other sources and to give your added value. It is important to be able to communicate and work together on a project with a partner on the other side of the world [20]. We should recognize that not only the agriculture is core of the present society of 21-st century. Due to the leading socio-economic role of electricity, the introduction of competition in energy markets is of great importance than in many other sectors of the economy [21].

The Commission services have analysed the links between the CAP reform proposals and the Green Deal, and identified the potential obstacles and/or gaps jeopardising the ambition level of the Green Deal in the agricultural sector.

III. Conclusion

At the moment negotiation for the post- 2020 CAP continue and there is agreement for postpone the new financial frame for 2 years [22]. Each common EU policy has

its supporters and opponents, especially the CAP which is "the richest" as part of total EU budget. There are few weak spots at the CAP - the total decreasing of number of agricultural holdings (in some countries there are three times reduction of this figure) such as reduction of labour force input in this business, or even the view that EU agriculture is not green enough and want it with higher ecological standards [23]. The provided figures of this article show huge difference between so called old (EU-15) and new (EU-13) Member states. The decades of support through CAP is ensured more competitive agricultural holdings but this is not enough for sustainable development of rural areas in the EU. The post-2020 CAP should be more bound with other policies of the Community for fulfilment the new challenges including the COVID-19. The agriculture was, is, and will be the cornerstone of EU development because without food security and supply chain persistence there will be highly impossible to develop know how and innovation of any other economic field. Agricultural subsidies should be reduced significantly; and they should support environmental and employment goals and be targeted more towards the less wealthy Member States [24]. Cohesion funds should be shifted from the "richer" to the "poorer" Member States and should be coupled more strongly with climate and employment goals and a pro-active migration policy.

The agriculture can't avoid the recent trend of globalization and deregulation has weakened the role of classical banking institutions and strengthened the role of insurance companies as financial intermediaries [25].

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