

Towards a New Strategic Agenda for the Common Agricultural Policy (CAP) after 2020

CEMA's contribution to the debate on the CAP's future: new concepts for supporting sustainable productivity

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Executive Summary

This paper¹ focuses on sustainable productivity and solutions which reward EU farmers' work and investments. It is the first of a series of papers that will deal with key aspects of the future European Common Agricultural Policy (CAP). It focuses on the following seven points:

1. Total Factor Productivity (TFP) is an enabling concept for reforming the CAP
2. DG AGRI's recent survey on TFP in the EU supports CEMA's analyses
3. The social & economic challenges of a low TFP
4. Producing more with less
5. Introducing an Agricultural Sustainable Productivity Bonus (ASPB) to the CAP
6. How could the ASPB practically work?
7. Tangible benefits of the ASPB approach

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1) Total Factor Productivity (TFP) is an enabling concept for reforming the CAP

CEMA advocates to make TFP the main tool to:

- Measure the efficiency of the current CAP,
- Evaluate EU's contribution to global food and nutrition security, in the view to feed a world population of 9 billion people by 2050 (For reaching this goal it is estimated that TFP should globally grow by an average rate of at least 1.75% per year),
- Drive a renewed greening payment scheme which allows European farms to increase their productivity in a sustainable manner,
- Improve living conditions of farmers and restore the attractiveness of the farming sector.

¹ This paper is CEMA's 2nd **position paper** on the future of the Common Agricultural Policy (CAP). It is supplementary to the first one (issued in February 2015 and available at www.cema-agri.org) whose general approach remains valid. Since then, CEMA has become an active member of the European Commission Civil Dialog Group (CDG) on the CAP. Within this group and other think-tanks, CEMA has had the opportunity to exchange with key-stakeholders on the future of the CAP. Thanks to these fruitful discussions CEMA developed a refined vision on how the CAP might be reformed and how EU agriculture could be modernized.

2) DG AGRI's recent survey on TFP in the EU supports CEMA's analyses

Last December, CEMA warmly welcomed the publication of the *EU Agricultural Market briefs n° 10*, on *Productivity in EU agriculture – slowly but steadily growing*. CEMA fully subscribes to the goals of this report as announced in its foreword:

“Agricultural productivity has gained renewed interest. Productivity growth has enabled food to become less scarce (and hence cheaper) in the 20th Century. One question is whether it can do so again in the 21st Century, as this is seen as one prerequisite to meet the challenge of feeding more than 9 billion people by 2050, by achieving more with less. Agriculture and the environment within which it operates can differ substantially between Member States. Thus the question about how productive agriculture is and how to breach the gap between those lagging behind and the frontrunners remains pertinent”

In CEMA's views, the way EU farmers will breach this gap is the most crucial question to be answered by the CAP. In this respect, DG AGRI survey gives precious information on the real dimension of the TFP gap, both for the EU and for the member states:

“Productivity in the EU has increased over time, albeit at a slower rate in recent years than 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. TFP grew with 9% in 2015 compared to 2005. In 2014 and 2015 TFP growth accelerated, given the favourable crop conditions boosting crop and animal production mainly driven by labour reduction. When comparing TFP growth to partial productivity indicators over the longer run, it becomes clear that labour productivity growth has contributed most to productivity gains (...) Output growth has been achieved in a context of a shrinking workforce. Since 2005 the volume of agricultural output has increased by about 6%, but this number is quite volatile given the economic, agronomic and climatic uncertainties characterizing agriculture. Between 2005 and 2015 the total workforce in agriculture declined with about 25% to around 9,6 million full time equivalents (...) Labour has to a large extent been substituted by capital. With capital investments increasing, productivity per unit of capital decreased. Capital productivity shows an overall decreasing trend prior to the financial crisis, indicating that investments in machinery, buildings and alike have played a major role in the realization of output growth and the substitution of labour. This is also visible from the development of capital which increased at an average growth rate of 4% per year prior to the crisis to fall back afterwards (Graph 3). As a consequence, after the financial crisis capital productivity growth is recovering, mainly linked to this slowdown in investment growth”.

This analysis shows that most of the TFP gains between 2005 and 2015, in the EU, have been achieved through investments in machinery and other assets. Despite these investments, EU TFP only grew by 0.8% in the same period.

Practically it means that EU-27 TFP growth should more than double in the coming 25 years to reach the goal of global food security. It's a considerable challenge for the EU as it is for the rest of the world. Effectively, TFP global index grew by 1.73% in 2016 and it's the third consecutive year that TFP growth is not accelerating fast enough to sustainably double agricultural output by 2050.

3) The social & economic challenges of a low TFP

As we outlined in 2015, the European agricultural productivity challenge is not only about relative productivity in comparison to the rest of the world. It is also about the social dynamics it generates for the sector in Europe. Without a higher TFP growth rate the average income per farmer in Europe will remain much lower than the EU's GDP per capita. It will eventually continue to decline if a paradigmatic revolution is not undertaken in agriculture.

For instance, productivity increased at an average annual rate of 3½ per cent, between 2000 and 2014, in the manufacturing sector, according to OECD². In other terms the annual supplementary income generated by the manufacturing sector increases five times more than the annual supplementary income generated in agriculture.

It is of critical importance that productivity in farming continues to grow at a reasonable level. Should productivity growth in farming fall behind productivity growth in the rest of the economy in the long run, farmers' living standards will automatically decline with it. Connected to this, the economic attractiveness of agriculture towards the future generations will still weaken. And, the long-term decline in the number of agricultural holdings will also continue. Here, we should have in mind that between 2005 and 2013, the average rate of decline was 3.7% year-on-year. Accordingly, the total number of farm holdings fell by 1.2 million.

Parallel to the social economic challenge, the environmental challenge is also a fundamental part of the debate on the future CAP.

4) Producing more with less

The greening scheme of the current CAP gives a good indication on the direction the future CAP is likely to take after 2020.

Following the COP 21 Climate Agreement, scheduled to enter force in 2020, it became clear that agriculture will also have to limit its environmental and GHG impacts. CEMA therefore anticipates that the greenings measures included in the CAP will be maintained and perhaps even extended.

For CEMA, agriculture is essential for preserving EU natural resources. If agriculture is often perceived as negatively impacting biodiversity, soils and water quality, it could also play a major role to mitigate climate change and other environmental risks.

These last two decades, EU Farmers demonstrated that they have the capacity to reduce GHG emissions from agriculture and the level of nitrates in rivers. The first were reduced by 17.7% since 1990, and the second since by 23% since 1992.

After two years of reflection, CEMA still believes that TFP is the most appropriate ratio available to inspire the next CAP. TFP measures the gains of productivity which are not originating from an increase in input use. As such TFP encompasses the combined effects of many productivity factors

² OCDE, The future of Productivity, Paris, 2015.

including smart farming technologies, agricultural machinery, breeding techniques, fertilizers, managerial skills, infrastructures...

With this second contribution to the CAP debate, CEMA proposes to transpose the TFP concept into a practical tool.

5) Introducing an Agricultural Sustainable Productivity Bonus (ASPB) to the CAP

On October 13th 2016, AG Commissioner Phil Hogan delivered a founding speech, which in CEMA's understanding clearly calls for reforming the CAP around the sustainability and sustainability concept:

*"We know that Europe has every capacity to become a champion in environment and climate-smart agriculture. We have some of the world's leading agriculture research institutes, with decades of expertise. We have policymakers who are fully in tune with these challenges. The recent European Parliament reports by MEPs McIntyre and Huitema reports have been very positive contributions. They highlight **the need for the Commission to stimulate the development and uptake of precision farming. They also urge the Commission to include innovation in any forthcoming review or reform.** We know that we have the capacity and ingenuity to develop new solutions for keeping our soils healthy, our water clean, and our environment rich in species to keep away pests. However, I would add one proviso to your discussions. **Please make sure that all your strategies keep the farmer at their centre. At the end of the day, it is the men and women working the land who must deliver.** The CAP has always been, and continues to be, a farmer-oriented policy. New methods and innovations must serve the greater societal good, but they must also serve the farmer's bottom line. Without a fair reward for their work, we cannot expect farmers to continue delivering food security as well as this broad spectrum of wider public goods. **Therefore, I urge you to work towards solutions which reward the farmer.** Production efficiency has a direct impact on the farmers wallet. They will be able to produce at lower costs and – with all other things being equal - farming income will increase".*

In response to the Commissioner's call to work towards solutions which reward EU farmers, CEMA proposes to introduce an Agricultural Sustainable Productivity Bonus to the CAP.

The concept underpinning such a sustainable productivity bonus is simple and straightforward: farmers who are able to increase their productivity while strictly following the cross-compliance requirements should be rewarded.

6) How could the ASPB practically work?

The sustainable productivity bonus could work this way: farmers investing a given percentage of their revenue in certified sustainable technologies will automatically be eligible to the Greening direct CAP Payments. Optionally, EU farmers who would not reach this percentage could still use the traditional greening CAP scheme.

6.1) Examples of precision agriculture technologies potentially eligible to the ASPB

Progress towards high-precision farming would be part of such a process. Productivity gains require significant investments. Risk-taking attitude should be rewarded so that progress disseminates among farming communities.

For instance, **Big Data and the Internet of things** improve connectivity and make existing products smarter. Smart devices like smart-phones, tablets, software, applications, embarked computers, screens should be part of the technologies to support.

Sensing and monitoring are critical for protecting plants from pest. They are at the core of precision livestock farming improves animal growth and health, and within meat, egg and milk production. Optimal seeding and harvesting increases overall production, while they minimize crop losses.

Global Navigation Satellite Systems (GNSS), proximal sensors on board machinery, and new remote sensing approaches lower the environmental impact of farming. GNSS technologies allow automated steering and headland turns. They reduce soil compaction and the cycle time at headland. They actively contribute to lower fuel consumption and CO2 emissions.

Variable Rate Application (VRA) methods and precision spraying. These technologies support efficient and sustainable use of organic and mineral fertilizers with a high level of accuracy and with minimal losses. They also offer considerable potential for cost saving, yield optimization and humus formation in the soil.

Unmanned systems. Drones, robots, autonomous machinery serve many functions described above. As such they also should be eligible to the ASPB.

By definition this list is non-exhaustive and doesn't have the ambition to identify all the all technologies which are likely to improve the TFP.

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6.2) A simplified approach for certifying sustainable productivity technologies

In order to avoid unnecessary administrative costs and extra burdens for the EU farmers, CEMA suggests the EU Commission to let the manufacturers and producers self-certifying the sustainable technologies they offer to EU farmers.

CEMA also encourages the EU Commission to issue general guidelines defining the eligibility criteria to the ASPB.

7) Tangible benefits of the ASPB approach

To conclude this paper, we would like to underline the main benefits of the Agricultural Sustainability Productivity Bonus approach:

- a) It will facilitate the uptake of precision agriculture technologies by EU farmers, noticeably smaller farm-holders. (Currently, less than 25% of the EU farmers have access to precision agriculture technologies).
- b) It will have a direct and positive impact to the EU farmers' wallet and increase the attractiveness of the sector.
- c) It will increase the TFP grow rate, needed for feeding the world.
- d) It will make compatible sustainability and productivity, two concepts very often described as incompatible.

For all these reasons, CEMA strongly believes that an EU Agricultural Sustainability Productivity Bonus would be a most innovative tool responding simultaneously to various economic, social and environmental challenges.

And, not the least, it would create the ASPB a win-win situation for farmers, the agri-business, the customers and the civil society.

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About CEMA

CEMA (www.cema-agri.org) represents in total 4,500 manufacturers of agricultural equipment consisting of large multinational as well as numerous small and medium-sized enterprises (SMEs). The sector has a total annual turnover of €26 billion and provides employment for 135,000 people directly in the sector and another 125,000 persons indirectly in the distribution and service network.