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FACED WITH THE RISKS OF FREE TRADE, AGRICULTURAL POLICIES NECESSARY FOR SUSTAINABLE AND RESILIENT FARMING SYSTEMS. APPLICATION TO THE DAIRY SECTOR AND PROSPECTS FOR THE POST-2020 CAP

ABSTRACT

In this paper we would first challenge the regulative vision of the liberal economy: scope and limits of the general equilibrium; lessons learned from the IAASTD (International Assessment of Agricultural Science and Technology for Development) expertise. Then, analyzing the complexity of the dairy sector and the consequences of the end of quotas in the EU, we would learn from recent dairy crises and propose preventive implementation of regulatory instruments. In the third part, analyzing proposals for the post-2020 CAP and some keys for future directions for the development of sustainable and resilient farming systems, we suggest that getting out of liberalism is another way for Europe. The CAP must appear again as a cement of the European construction, in a strengthened democratic framework.

Key words: general equilibrium model, free trade risks, dairy sector, complexity of farming systems, CAP priorities.

JEL Classification: A10.

1. INTRODUCTION

With the Uruguay Round opened in 1986, the theoretical breakthrough of free trade extended to the agricultural sector. It was during this period that the stabilizing agricultural policies were brought into disrepute. The exchange of agricultural and food products on the world market was then presented for each country as a means of sourcing, in a logic well understood of the trade issues.

This doctrine is based on the theory of general equilibrium. With the development of computing from the 1980s onwards, general equilibrium modeling became the dominant approach in both academic bodies and international organizations. But this doctrine is particularly normative. Assuming by construction that the markets balance themselves, the conclusions go in the same direction: any policy that affects prices and quantities produced creates trade distortions and

results in a loss of welfare for society as a whole. The only way to abolish this loss is to return to a competitive situation, since markets alone are likely to achieve an optimal general equilibrium.

This theoretical model is the representation of a world that does not exist in reality. In particular, it does not represent economic development, the time required for production processes, profit as the motor of accumulation. And it does not integrate the complexity of agricultural systems, any of the sources of instability in agricultural markets, or the constraints for sustainable and resilient agriculture.

2. MATERIAL AND METHOD

This article relies on a critical review of materials and publications on the different topics covered and it is the result of a commitment as expert within agricultural policy evaluation institutions and platforms. In this regard, we can mention: the expertise IAASTD (International Assessment of Agricultural Knowledge, Science and Technology for Development); the Center for European Studies in Strasbourg; the CIRAD (Centre International de Recherche Agronomique pour le Développement), being at the origin of a world agricultural observatory project, which is currently supported by FAO through the WAW (World Agriculture Watch) program; the Platform for Another CAP (Plateforme pour une autre PAC), a French inter-organization platform, constituting a common space for reflection and action, with a view to recasting the common agricultural policy.

3. RESULTS AND DISCUSSIONS

3.1. TO CHALLENGE A REGULATIVE VISION OF THE LIBERAL ECONOMY

3.1.1. General equilibrium model: scope and limits

In the field of international trade, the belief in the superiority of free trade over any other trade policy goes back to the end of the eighteenth century. Trade and exchange appear as indispensable instruments to get out of feudal societies. David Ricardo's Theorem of Comparative Advantages in the 'The Principles of Political Economy and Taxation' contains an intention that is part of a recurrent search for a universal society in which nations would be linked by friendships. In Chapter VII, Ricardo states: "At the same time that the increase of the general mass of products everywhere spreads welfare, exchange binds all the nations of the civilized world together by the common knots of interest, by friendly relations, and makes a single and great human society."

With the Uruguay Round opened in 1986, the theoretical breakthrough of free trade extended to the agricultural sector. It was during this period that discredit was cast on stabilizing agricultural policies.

This doctrine is based on the general equilibrium theory of which Léon Walras is one of the principal initiators. With the development of computer science from the 1980s, general equilibrium modeling has become the dominant approach both in academic bodies and in international organizations. But this doctrine is particularly normative. Assuming by construction that the markets are self-balancing, the conclusions are always in the same direction: any policy that has effects on prices and quantities produced distorts trade and leads to a loss of welfare for society as a whole. The only way to eliminate this loss is to return to a competitive situation, markets alone being able to achieve an optimal overall balance.

This theoretical model is the representation of a world that does not exist in reality. In particular, it does not represent economic development, the time required for production processes, profit as the engine of accumulation. Above all, it does not include any sources of instability in agricultural markets.

A parenthesis, or the sign that everything is possible?

In a September 2016 article, *The Trouble with Macroeconomics*, Nobel Prize-winning economist Paul Romer accuses his fellow macroeconomists of "using" mathematical models unrelated to the real world, similar to the religious rituals of clergy dedicated to the cult of the infallibility of economic theory (*Le Monde,* October 10, 2018).

The 2008 agricultural crisis acts as a reminder. Faced with the radical uncertainty it causes regarding the conditions of the food supply, several countries are questioning the public policy instruments to secure their food supply. This agricultural crisis includes the abrupt and sharp rise in prices of agricultural commodities in world markets and its impact on domestic supplies in some countries.

Drawing lessons from the 2008 crisis, Franck Galtier (2019) notes that a strain to free trade have exacerbated the crisis, but free trade cannot be the answer. In the face of rising international grain prices, some exporting countries have chosen to curb or block their exports in order to keep prices at a reasonable level in the domestic market. By reducing supply, these measures have exacerbated the rise in prices on international markets, which has led other countries to block their exports. There was a real "bubble" of export prohibitions on the rice and wheat markets. But from a food security point of view, in a free trade situation, when the international price increases, the price increases in the same proportion in all countries (with transport costs close), which from a global poverty point of view is not an optimal situation.

In the face of threats of political destabilization by importing countries and the risks of imported inflation, governments have often responded with appropriate

policies to secure their food supply. These widely publicized decisions marked the resurgence of food security and food sovereignty in agricultural policy debates around the world.

Reasons for calling into question a representation of agricultural markets based on the general equilibrium model. The first reason is that many assumptions for a competitive equilibrium are not fulfilled: imperfections in the functioning of markets such as information asymmetry or non-atomicity make illusory any balance. In addition, the existence of climatic hazards, but also the increasing financialization of agricultural markets, can no longer be considered negligible.

The second reason is that this theoretical model cannot represent the diversity of agricultural economies. In an ideal competitive economy, agricultural prices are formed on the basis of production costs on marginal lands, those with the lowest level of productivity. Differential rents are created on more productive lands. But we can only note that on the world market, the opposite is happening. Market opening results in a price alignment of products from the most productive lands, whereas the models are based on the assumption that the price corresponds to the marginal production cost, that is to say the cost of production on the least productive lands. Since the world economy is not a competition economy in keeping with the theoretical model, this openness can be devastating for the less productive agricultures. Prices that are far too low cannot cover expenses and guarantee minimum remuneration to farming families. It concerns more than three billion people around the world.

The third reason is just as fundamental. In the imperfections of markets, it is necessary to add the existence of public goods for which there are neither international markets nor institutions capable of protecting the commons. This is the case with food security, landscapes or the protection of biodiversity. In the latter case, for example, the market does not seem able to ensure sufficient conservation of biodiversity by itself. Yet, according to a widely shared diagnosis, biodiversity is essential for the survival of humanity and agricultural biodiversity is a major component.

The influence of the general equilibrium doctrine on agricultural policy recommendations in major international institutions remains important despite the discredit created by the 2006–2007 price spikes that they had not anticipated. Alternative work seeking to model the many sources of instability in agricultural markets has also helped to alert the limits of general equilibrium models. Let's mention the work of Momagri (Mouvement pour une organisation mondiale de l'Agriculture) (Munier & Briand, 2012), as well as the work of Jean-Marc Boussard and his team (Gerard *et al*., 2007).

3.1.2. Lessons learned from the IAASTD expertise: the standard economic model and agriculture, options for action

The International Assessment of Agricultural Science and Technology for Development (IAASTD) was an international participatory process for the evaluation of agricultural science and technology such as the MEA (Millennium

Ecosystem Assessment) and the IPCC (Intergovernmental Panel on Climate Change). The idea of such an assessment was launched in August 2002 by the World Bank and FAO at the World Summit on Sustainable Development. IAASTD ended with an intergovernmental conference in Johannesburg in April 2008.

While recognizing the role of science and technology in substantially increasing agricultural production over the past five decades, the report stresses that productivity gains have not, on the one hand, benefited equally all regions and farmers in the world, and on the other hand, have often been accompanied by negative consequences for the environment, contributing to soil degradation, water and air pollution, and to the loss of biodiversity. Continued intensification as previously practiced is therefore considered "unsuitable for the future".

While affirming that we cannot continue as before, the report highlights three elements that underlie the new paradigm proposed and involve the reorientation of development approaches: the recognition of the multi-factorial nature of agricultural activity, the multiplicity of its functions (economic, social and environmental) and the diversity of technological innovation processes.

Thus, the agricultural development process must take into account the complexity of the functioning of agricultural systems as well as their diversity according to the socio-economic and cultural contexts and the specificities of ecosystems. It must be part of a comprehensive approach that takes into account the relationship between agriculture and the issues of poverty, hunger, human health, natural resource management and the environment. Production can no longer be considered in isolation.

The report also stresses the need to integrate different types of knowledge, especially local and traditional knowledge, into the process of scientific and technological innovation and a highly interactive conception of this process. Man must be put back at the heart of the process of innovation that cannot be conceived outside the surrounding social and institutional contexts.

In terms of public policies, the IAASTD calls for a major renewal. There are five major injunctions:

1. Put in place coherent public policies to meet both the objectives of sustainable agriculture development: to strike a balance between the use of natural resources, economic development and the maintenance of social and cultural values at different scales, to encourage collaboration with the private sector and NGOs.
2. Establish new property regimes that clearly define the access regime, user rights and property rights; identify factors facilitating the organization and implementation of these new regimes.
3. Develop new governance systems based on interactive networks at the local level; facilitate local governance using participatory approaches including different stakeholders.
4. Develop policies to remove farm and agro-business concentration incentives: anti-trust measures, better competition policies, stricter rules on social communication, and increased transparency in business transactions.

5. Develop policies to internalize the environmental and social costs of agricultural production and remunerate agroecological services: develop financial instruments to discourage the use of environmentally harmful inputs and promote low-pollution farming practices, ecological management of watersheds and landscapes and carbon sequestration through agroforestry.

The IAASTD's public policy findings show the extent to which reducing the global governance of agriculture and food security to the precepts of free trade is an ideological approach. As indicated by Agriculture Strategies (2018), "Today, it is paradoxically the free market ideology based on the assumption of market efficiency that is the main risk to international trade because it prevents any pragmatic approach aimed at taking account of food security issues and the limitations of market price adjustment".

3.2. THE DAIRY CHAIN: FROM THE FARM TO THE INDUSTRY: THE PUZZLE OF REMOVING MILK QUOTAS

3.2.1. The dairy sector. Quality and safety imperatives

The quality of the milk depends on the health of the herds, the hygiene during milking, the storage conditions of the milk and the cleanliness of the farm and equipment. During the period of lactation, the milking takes place at regular hours, twice a day, 7 days a week and rhythm the daily life of the breeder all year long. European standards concerning the sanitary quality of milk on the farm are severe.

The milk delivered to the dairy must come from healthy animals. In daily contact with his flock, the farmer keeps a breeding register, a real sanitary, zootechnical and medical dashboard which includes: the presentation of the buildings and animals of the farm, the technical and veterinary supervision of the farm breeder, the moving of the animals and the health book of each of them.

Milk is a raw material that is transformed into a wide variety of products before being consumed. The dairy quality and sanitary safety chain is as valid for the farm as for the processing sites (650 in France).

Fragile food, milk can be contaminated at any time by microorganisms naturally present in nature or caused by human activities. Milk and dairy products are therefore subject to very strict regulations detailed in European Directives. To ensure compliance, the health authorities can perform controls at any time and anywhere in the chain. Companies are subject to an obligation not of means but of result: the products, when they leave the factory, must be irreproachable in terms of food safety.

3.2.2. Europe: world leader in dairy production

The European Union (EU) is the largest producer of milk and dairy products in the world, ahead of the United States. All Member States produce, with

Germany leading. In 2014, it made 21% of the European milk harvest. Next come France (17%), the United Kingdom (10%), the Netherlands (8%) and Italy (7%).

The EU's dairy herd has declined steadily in recent years as a result of increased yield per cow. In 2014, it was 23.6 million heads, spread over 610,000 dairy farms. The average number of cows per farm is very variable: it ranges from a hundred (Denmark, Cyprus) to 1.5 in Romania. The European average is between thirty and forty heads. Yields are on average around 6500 liters per cow, the undisputed champions in this respect being Denmark, Sweden and Finland (more than 8 000 liters / cow / year).

3.2.3. End of quotas: consequences in terms of market balances and distribution of production

The milk quota system introduced by the CAP in the Member States of the European Union was abolished in 2015. This system consisted in quotas, country by country. The production volumes had been set up to solve the problem of excess production at European level. But a year after their elimination, many European farmers, facing an overproduction, source of a new collapse in purchase prices, plunged into crisis (Loyat, 2016).

The three-year period preceding the decision to abolish milk quotas (effective April 1, 2015) was characterized by a boom in external demand for dairy products, especially from China. Some producing countries were eager to overtake the quotas still in force. But in August 2014, Russia's embargo on imports of Western products, including agricultural products, suddenly dried up an important outlet for European cheeses. At the same time, China abruptly reduces its purchases of milk powder. In addition to this change in circumstances, weather conditions are beneficial for New Zealand, US and Australian herds, whose milk yields are increasing. The production levels take off then leading to a fall in the price of milk in autumn 2014. The increase in global demand expected by some is no longer at the rendezvous. But the European Union (EU) continues to liberalize the milk market while this downward price trend continues in 2015 and 2016.

Such an evolution questions the regulatory mechanisms of a sector which, after thirty years of quotas, is only subject to the laws of the market.

Milk quotas or how to regulate an unstable market. Milk quotas were set up in 1984 under the CAP, with the aim of stabilizing milk production by limiting surpluses.

A structurally surplus sector. Since its creation in 1968, the Common Market Organization, which regulates dairy products, worked to ensure a sustainable balance between supply and demand.

Until 1975, the incentive for the development of production is accompanied by safeguards measures to ensure sufficient outlets through the intervention purchase of butter and skimmed milk powder. This policy has a budgetary cost. In

addition to intervention stocks, there is private storage aid for butter and certain cheeses while subsidies are granted to guarantee certain outlets in the internal market.

The introduction of quotas in 1984 makes it possible to better take into account the market by controlling supply. The penalty for exceeding the quota is set at a rate such that no producer has an interest in producing more than the permitted standard. If the reference quantities allocated to it are exceeded, the producer (or dairy) must pay an additional levy equivalent to 100% of the target price for the milk.

In parallel with the introduction of milk quotas, public intervention for purchases of butter and skimmed milk powder is now limited. Until then, the intervention had been the main mechanism of market support with, as a consequence, the accumulation of public stocks which, at the end of 1986, amounted to 1,300,000 tons of butter and 800,000 tons of skimmed milk powder on a European scale. Finally, the Agricultural Council (which brings together the Ministers of Agriculture of the Member States) defines a destocking program for 1987 and 1988 covering around 1 million tons of butter (via a program of exceptional exports, particularly to USSR, use of butter for industrial purposes and for animal feed and consumers).

Milk production in the Community had continued to increase until the introduction of quotas in 1984, mainly because of the increased potential of the herds (genetic improvement combined with better use of food). While the milk quota system comes into effect, the yield per dairy cow continues to improve: from 4,440 kg per head in 1984 (EU-12 average), it has increased to 5,688 kg in 1999 (EU-15 average). Compliance with quotas, revised downwards several times since their introduction, was therefore only possible through the reduction of livestock numbers. Between 1984 and 1989, it was reduced by almost 20%, or nearly 5 million cows, or the equivalent of half of the US dairy herd.

The end of quotas… As of 2003, due to a price decrease, the quantity of milk delivered is below the set quotas, with a gap of -5% in 2013. Eight Member States still exceed their quotas: Germany, the Netherlands, Poland, Denmark, Austria, Ireland, Cyprus and Luxembourg.

In December 2014, the European dairy cow herd (23.6 million head) was slightly higher than in December 2013 (+0.4%). This trend, which had already occurred the year before, is to be attributed to the EU-15 countries, especially those in Northern Europe. A survey conducted in May 2015, confirms this capitalization phenomenon, which is explained by the significant growth in the number of breeding females in Ireland, the United Kingdom and the Netherlands.

At the same time, there is a decline in other major dairy countries (Germany, France, Poland) where, until then, the trend was mostly upward. These divergent developments reflect different national strategies for milk production in an increasingly difficult global context.

... is accompanied by an increase in milk production in Northern Europe. On April 1, 2015, a new campaign will begin at European level without any production constraints. Despite an already difficult situation on the world market

for dairy products (supply too abundant / demand of major importers in decline), some Member States, starting with those in Northern Europe, choose to produce more and more, operators (the cooperatives) agreeing to collect all milk produced by dairy farmers.

Ireland, which does not hide its ambition to increase production in the long term, recorded a rise of 15.9% over the first eight months of the 2015–2016 campaign. Growth was also strong in the Netherlands (+9.1% over eight months), Belgium (+10.2%), Denmark (+4.1%) and, to a lesser extent, the United Kingdom (+3.1%). For their part, the two main European producing countries are trying to control their collect levels: over the first eight months of the season, Germany stabilizes its own (-0.1%) while France only records a very slight growth of around 1%, particularly in view of the limitation of the quantities of milk fixed in the contracts binding the producers to the private dairies.

To note the existence of very different strategies between the cooperatives who promised to collect all the milk and the private firms that have led producers to slow down their production. This is particularly the case in France where private firms and cooperatives share about half of the dairy production each.

... causes a drop in the price of milk. These different production choices were made in the context of a general drop in the price of milk paid to the producer. This decline in the price of milk, which began in 2014, continued all or part of 2015, depending on the country. On the positive side, production costs, particularly feed purchases and energy expenditures, were generally stable, below 2014 levels.

... and could cause a new concentration of milk production.

3.2.4. Learning from recent dairy crises and proposing preventive implementation of regulatory instruments.

An international context under tension. As shown previously, in 2014 the context seemed particularly favorable for producers. Thanks to a high price of milk – around 400 €/ton at the beginning of 2014, an abundance of fodder, the dynamism of world demand, the belief that the market would easily absorb increasing volumes has worked fully. Market rhetoric was quickly denied by the facts. The repeal of milk quotas in 2015 was indeed strongly anticipated by the countries of the North of the European Union, which have always been very hostile to the quantitative control of production. This movement of anticipation has led to a surge in investment to modernize livestock buildings, expand the size of livestock, and ultimately increase milk production. This led to a growth in production which, in the absence of regulation, turned into overproduction, attributable to the opportunistic behavior of the Northern Member States, which clearly did not anticipate the instability of the macroeconomic and geopolitical context *(Bazin et al., 2019)*.

New European milk crises are predictable ... In the last quarter of 2017, European milk production was boosted by more attractive prices. With the breeders regaining confidence, the production has grown by more than one million tons compared to the most recent forecasts of the Commission (European Commission, 2017). But production has also found a good level in the United States and Oceania. The risks of an imbalance in the global milk market in the face of higher supply growth than demand were high. A priori for the 2018 campaign, all the conditions seemed to be met again for a sharp drop in the price of milk : a strong European milk recovery, large stocks of powder and the suspension of the intervention decided by the Commission in early 2018. But the weather spared us a new crisis of overproduction : a late and snowy winter followed by an early, hot and very dry summer, on the north of Europe have slowed the European milk production and helped limit the fall in the price of milk. For a few months or semesters no doubt ... because the capacity to accelerate European milk production remains strong and exceeds the trend in global demand.

Today, the outlook for the global dairy market is as follows:

– **The global dairy market remains limited in volume and mainly concerns industrial products.** This global market is controlled by three exporters (New Zealand, EU, USA) that supply 70% of volumes.
– **There is increasing volatility in the price of milk in Europe**, which is in line with the world market price, but not related to the cost price.
– **Regarding Europe, it is clear that the average price of milk on the farm is now correlated with world butter-powder prices whose volatility is increasing.**
– The challenge of the world market made by the Commission and by many dairies to justify the exit of quotas leads to more volatility in the price of milk on the farm, with long periods when these market prices are lower than cost prices.
– **The EU has become the main disrupter of world exports.** Since 2014, preparing the exit of quotas, the EU has played a major role in amplifying the imbalances of the global dairy market. As early as 2014, with attractive milk prices and abundant fodder, the EU produced 60% of the additional production. In 2015 and until summer 2016, the EU's share of surplus formation rose to 80% due to the slowdown in Oceania production. Then from the summer of 2016, it was the European production that allowed the recovery of world prices until summer 2017. In autumn 2017, it is again the EU that fueled growth of the world dairy supply. Thus, in this narrowing market, new crises seem inevitable, but it is now the EU that is the main player. However, European producers will remain the most vulnerable in the coming years, especially compared to the more competitive New Zealand producers or to US producers protected by support prices.
– **Three other major players in the global dairy market are very unpredictable: China, India and Africa**.

In China, the dairy sector has been in crisis for 10 years. Following the scandal of melamine in 2008, the state will encourage the concentration and dairy integration of production and processing by supporting the development of large dairy units of several thousand cows and discouraging small producers.

India has developed dairy production on a dairy model that is the reverse of that of China. The strong increase in production interferes little on the world market because the additional production is absorbed by the internal market, the milk being the main source of animal proteins for the population.

As for Africa, it will remain the continent of malnutrition but also of a high-risk market. The Sahel countries pose the most urgent problems. In these countries, the very high population growth will cause considerable upheavals while the water resources are very limited. This opens market prospects for European dairy surpluses. But these European surpluses, subsidized by domestic support, can also compromise traditional African dairy farming, affecting tens of millions of families.

What tools to prevent new milk crises? The dairy sector is an almost ideal example to quickly realize this new European ambition of market regulation.

It concerns all EU countries, it is one of the leading economic sectors of agriculture and agribusiness, it is the main economic activity of many disadvantaged regions and supports several million families, from the production to distribution. But it is a very particular market, with a continuous supply all year, a fragile product, to quickly turn into multiple foods, liquid, solid, fresh or dry.

It is also a heavy industry requiring large investments for decades with low profitability, with a twice-daily strain for food and milking, all these constraints implying a little visibility on prices and revenues to ensure viability and the renewal of holdings. Finally, since a large part of the production is coming from grazing animals, the supply is sensitive to climatic hazards. On the demand side, this is fairly stable, if not rigid, for most dairy products throughout the year. Between this atomized, diversified, weather-dependent daily supply and a more and more demand for quality, there is the increasingly concentrated processing and distribution, which decide farm prices according to the prices at a world global market.

All these elements call for public regulation of this strategic and vulnerable sector *(Bazin et al., 2019)*.

Market regulation instruments were set up by the Commission in 2016 to deal with the 2015–2016 dairy crisis. A study by think tank Agriculture Strategies (2019) assesses the measures taken by the Commission during the 2015/16 milk crisis. It is recalled that the milk crisis is the direct result of the abolition of milk quotas. The “soft landing” strategy, aimed at progressively increase quotas before eliminating them in order to return to equilibrium, will remain in the annals of agricultural policy mistakes. In the face of falling prices, the Commission triggered Article 222 (of the Regulation (EU) no. 1308/2013 of the European Parliament and

of the Council of 17 December 2013), which temporarily authorizes cartels in the sector to remedy overproduction. This measure, very questionable in principle, had no effect. On the other hand, activated a few months later, aid for the voluntary reduction of milk production was effective since it allowed prices to rise as soon as it was announced. The measure has been well received: it has been adopted by 27 of the 28 EU countries and almost all of the proposed package has been requested by breeders from the first of four planned offers. Ireland and Belgium are the countries that have benefited the most. Although effective, the measure could have been implemented earlier, which would have avoided accumulating powder stocks in community reserves.

And now? But despite a crisis of exceptional magnitude, despite the demonstration that the temporary reduction was effective to recover prices, Phil Hogan, former EU Commissioner for Agriculture and Rural Development, did not want to include this mode of regulation in the Omnibus reform end 2017. It is, indeed, the logic of the market and free trade that must prevail. There will therefore be more room for some regions, including Ireland, where dairy farmers enjoy low production costs!

Proposals to avoid new crises destructive of value and jobs (Bazin *et al*., 2019)

– **Consolidate public storage and reevaluate the intervention price.** The intervention price must be upgraded and coupled with supply management.
– **A regulation of the European milk supply achievable quickly in case of crisis risks.**
– **Better enforcement of European environmental regulations.** By limiting the concentration of milk production in the most intensive regions (compliance with the Nitrate Directive).

3.3. AN ANALYSIS OF THE PROPOSALS FOR THE POST-2020 CAP AND SOME KEYS FOR FUTURE DIRECTIONS FOR THE DEVELOPMENT OF SUSTAINABLE AND RESILIENT FARMING SYSTEMS

Getting out of liberalism: another way for Europe. Strategic consensus on agriculture must emerge on a European scale. This consensus must be based on a questioning of the free trade ideology based on the efficiency of the markets. A new multilateralism, in the spirit of the Treaty of Rome to guarantee food security, stabilize markets and guarantee agricultural incomes while adding environmental obligations, must be a powerful means of strengthening the Community framework.

The CAP must appear again as a cement of the European construction, in a strengthened democratic framework. And to quote Heyer *et al*. (2018): “We need a Europe that is an area of high democratic, social and ecological quality, a Europe capable of promoting and strengthening human and social rights that, for the time being, no country has raised more than it ... A Europe by and for the citizens ...”.

3.3.1. The CAP: from the promotion of a single model of development towards progressive changes

The common agricultural market was based on three principles:
– a Single Market;
– Community preference;
– financial solidarity.

Through them, it was the internal cohesion and integration of agricultural Europe within the Community that was realized. The Common Agricultural Policy then appears as the true founding act of the Common Market.

The CAP, created in 1962, was based on mechanisms (intervention price, threshold price for imports, export refunds and import levies) which guaranteed a Community preference and allowed for a presence in third markets. It offered producers a guarantee of purchase whatever their production, with the following consequences:

– price stabilization, to reduce risks and eliminate competition among producers;
– domestic prices aligned with high intervention prices allowing productivity gains;
– growth in production, independent of final demand, resulting in an accumulation of stocks and subsidized exports;
– an increase in budgetary expenditure for the benefit of the most productive farms.

A unique model of development. The model is based on family farms, protected by the common agricultural policy (Community preference and high guaranteed prices) and in France, in particular, by a structural policy.

As supply is not constrained by demand (it is infinite because of intervention mechanisms in the markets), the research and development effort focuses on productivity through improved techniques and genetic progress. The risk taken by the farmer is minimal, which explains that the management of the farm is a field abandoned by the research.

In the economic domain, models (exchanges, markets) take over, in a very neoclassical approach, according to the model then in force in the international organizations, in particular the OECD. The economic evaluation of the system consists in aggregating individual data, each farm having to optimize its results from a production function of its own. This evaluation does not take into account the overall efficiency of the sector or its external costs.

The ultimate goal is to get the most out of the differential productivity rent. Since rent is a heritage element, any change in its level has consequences not only in terms of income, but also patrimony. This explains the political difficulty of carrying out in-depth reforms, particularly in sectors where the market regulation mechanisms are the most important (field crops, milk, beef, sugar). This

questioning is all the more difficult to achieve because the development model is widely shared, both by professional managers and by the public authorities, with a particularly effective process of co-management of agricultural policies.

In summary, we can draw some lessons from the development of this unique model promoted by agricultural policies:

– a very great success of these policies compared to the initial objectives;
– adverse effects: supply / demand imbalance, subsidized exports with the reaction of the major exporting countries;
– a budgetary drift;
– damage to the environment: nobody cared, it did not enter the reasoning of management of exploitation;
– warnings (the Mansholt report) and the beginnings of adjustment (until the big dairy quota reform in 1984), predictive of major reforms that will follow.

The evolution of the CAP. Here is a summary of the main reforms:

– During the 1980s, in a European market in excess, introduction of production quota measures especially milk quotas in 1984;
– 1992 reform: in order to bring European market prices closer to those of the world market, lower support prices offset by direct aids; introduction of compulsory fallows;
– 1999 reform: continuation of price reductions and introduction of the second pillar of the CAP (rural development);
– 2003 reform: decoupled aids to strengthen market orientation;
– 2008 reform (health check of the CAP): continuation of the downward trend in producer price support, elimination of compulsory fallow, elimination of milk quotas in 2015, increased decoupling rate;
– 2014–2020 reform. In 2015, the decoupled aid is replaced by a three-part aid: the basic payment scheme (BPS), green payment, additional optional schemes. These latter are decoupled payments in addition to the BPS, for high value-added products, especially livestock, fruits and vegetables.

The aim of these reforms was to reduce market regulation mechanisms and to allow competition between producers. This is in line with greater liberalization in national agricultural policy, leading to a weakening of the family farming model and stronger forms of integration by the industrial sector.

It should be noted, however, that new concerns are emerging in environmental and rural development issues. The challenges identified are:

– ***Economic***: food security and globalization, downward trend in productivity growth rates, price volatility, production cost pressures due to higher input prices and weakening of farmers' position in the food chain;
– ***Environmental***: efficient use of resources, soil and water quality, threats to habitats and biodiversity;
– ***Territorial***: rural areas facing demographic, economic and social changes, including depopulation and de-localization of businesses.

3.3.2. Decoupling of agricultural aid – a contested principle

International trade negotiations have led to the decoupling of agricultural aid, a principle currently contested from outside by the EU partners, and from the inside, for its social and environmental failure (Courleux, 2019).

In the 1980s, the United States pursued a policy of supply management through, on the one hand, the public storage of surpluses and, on the other hand, the remuneration of farmers who agreed to set aside fields. In 1983, the United States thus had close to a grain harvest in advance in their public stocks and subsidized the setting aside of one third of their agricultural area.

With export subsidies, the EEC exported more than the United States in 1983 and 1984. It was the trigger for a trade war between the United States and Europe, which culminated in 1986 in the opening of a trade negotiation in GATT, the forerunner of the WTO. Agriculture then entered international trade negotiations.

This negotiation was not limited to the issue of lowering tariffs, the primary objective of the GATT negotiations. It was a matter for the United States and the EEC to remedy the imbalance of the international markets, which pulled prices down, while agreeing on the types of instrument to be favored for their respective agricultural policies. The negotiations led to an agricultural agreement that will be extended to the rest of the world through the 1994 Uruguay Round Agricultural Agreement, which still sets the WTO's agricultural policy rules.

The two main points of this agreement are the establishment of fallow land in Europe and the principle of decoupling agricultural subsidies.

Adopting a tool frequently used in the United States to counteract overproduction, the EEC agreed to reduce its unfair competition in international markets by setting up fallow subsidies that became mandatory from the 1992 reform.

But the main innovation comes from the decoupling of aid that corresponds to the logic of transforming support by prices into support paid directly to farmers, regardless of their production. It should be noted that the United States had, since the post-war period, adopted direct income support measures for farmers, which essentially varied with the level of prices. We then speak of counter-cyclical direct aid, deficiency payments.

"Decoupled aid is an economic ideal where the financial transfer is supposed to have no effect on the behavior of the beneficiaries. According to the formula, decoupled aid should lead to the least possible distortion of production and trade" (Courleux, 2019).

"The principle of decoupling is based on a strong assumption: that of the efficiency of agricultural markets, in other words on the propensity of prices to return to their equilibrium level, that of marginal complete production costs. Decoupling support would reduce all the distortions that prevent supply and demand from adjusting" (Courleux, 2019).

The 2007–2008 food crisis, in which agricultural prices doubled or even tripled, challenged WTO precepts on agriculture. Agricultural markets are not as efficient as the theory suggests, and only small changes in production or stocks are enough to explain very large price changes. When food security is at stake, speculative phenomena are inevitable.

As for European agriculture, it is confronted with contradictory injunctions: it is a question of respecting the strictest environmental standards, while playing the card of the hyper-competitiveness with some competitors with the lower social and environmental requirements.

It is necessary to rebalance the weight of the different objectives, in order to respect the social and environmental requirements, including those of climate change with the sequestration of carbon in soils. The CAP will have to build on a new paradigm integrating three main axes:

– The structural instability of agricultural markets and food security;
– Geopolitics and the constitution of a new world economic order;
– The challenges of depleting natural resources and of climate change.

3.3.3. Prospects for the post-2020 CAP for sustainable and resilient farming systems

The priorities of "*La Plateforme pour une autre PAC (2019)*":

The new CAP will have to take into account the extreme diversity of situations, economic, social and territorial, and reason in terms of development models to be promoted. How can we maintain a common policy and avoid the temptation to renationalize agricultural policy?

The question of the beneficiaries of this new CAP arises both from producers and from consumers.

Among the priorities of the post-2020 CAP are:

– Co-building the CAP with citizens and public actors in the environment and health.
– Support productions for healthy, quality food.
– Develop local food supply dynamics that meet citizens' expectations.
– Making organic farming accessible to all farmers.

– Fund the agroecological transition of farms, including pesticide removal.
– Recognize virtuous environmental practices and compensate them.
– Managing health and climate risks.
– Empowering farmers to protect themselves against price volatility and ensure income.
– Ending trade that interferes with family farming in Southern countries.

A consolidated set of agroecological principles. The so-called "industrial" agroecosystems require systemic change to become sustainable and to address food security and nutrition, and that simply implementing some practices and changing some technology is not sufficient; rather the application of agroecological principles and a redesign of farming systems is required.

Agroecological practices harness, maintain and enhance biological and ecological processes in agricultural production, in order to reduce the use of purchased inputs that include fossil fuels and agrochemicals and to create more diverse, resilient and productive agroecosystems. According to HLPE Agroecological approaches, agroecological farming systems value, inter alia: diversification; mixed cultivation; intercropping; cultivar mixtures; habitat management techniques for crop-associated biodiversity; biological pest control; improvement of soil structure and health; biological nitrogen fixation; and recycling of nutrients, energy and waste (FAO, 2019).

Agroecology is available without or with very few pesticides and the most advocated technics are:

– use of rustic varieties and therefore less demanding in chemical inputs;
– diversified rotations and, whenever possible, annual crop associations in order to obtain high biodiversity and to reduce, or even eliminate, use of pesticides or replace them with natural auxiliaries of cultures (like ladybugs);
– agriculture-livestock association (whether cattle or small ruminants, pigs and poultry...) which leads to better efficiency of production and reduction of economic or climate-related risks;
– association of useful trees, annual crops (agroforestry) and hedgerows;
– techniques improving farm autonomy whether at seed level (few hybrids, no GMOs) or reduced fertilizer purchases, which are less essential because of the agriculture-livestock integration and the presence of nitrogen-fixing legumes in inter-culture rotations.

4. AS A CONCLUSION: MARKETS AND PUBLIC POLICIES IN ORDER TO ENSURE FOOD SECURITY AND PROTECT FAMILY FARMS

Supply and food security must be understood in their dual global and local dimension. This refers to the dynamics of local and global markets, but also to public agricultural and food policies. It is assumed that markets are not the only

ones that can meet the needs. One of the keys to food security is then based on the development of national food production, which implies an increase in investments in food production from agriculture for the domestic market. In the face of food security challenges, agricultural activity must be expanded and intensified in all regions of the world, where this is possible.

It is a question of "creating the conditions so that all the peasants of the world, and not only a minority of them, can build, extend and exploit cultivated ecosystems capable of producing, without harm to the environment, a maximum quality food. And for that, it is necessary above all to guarantee to all these peasants sufficiently high and stable prices so that they can live worthily of their work, to invest and to progress" (Mazoyer, 2008).

According to the annual report on "The State of Food Security and Nutrition in the World" (FAO *et al*., 2019), published on July 15, 2019 by several UN agencies, the roots of hunger and malnutrition are poverty and social inequality. The countries where hunger increases the most are not the poorest, but countries highly dependent on imports and exports. The report shows that 54% of the countries where undernourishment has increased in recent years are countries dependent on international commodity markets, mainly food.

The dairy sector, as shown previously, is one of the leading economic sectors in EU agriculture, with a fragile product. In front of an atomized and diversified supply, a demand for quality and an increasingly concentrated processing and distribution, there is a need for public regulations.

And to finish on current issues:

– The draft commercial agreement concluded between the EU and Mercosur on June 28, 2019, clearly raises the question of the dangers of free trade for both producers and the environment (Agricultures et Territoires, Chambres d'agriculture, 2019).

– The agreement between Canada and the EU (CETA, Comprehensive Economic and Trade Agreement) can be analyzed as an insurance against the rise of protectionism and for the opening of the market. But fears remain about the divergent health standards. Health standards applicable in Europe are not automatically valid for imported products. In addition, the Investor-State Dispute Settlement (ISDS) mechanism is an exceptional jurisdiction that grants companies the same status as governments : if a State passes a law that reduces the profits of a company, it can sue it before an arbitral tribunal. This ISDS mechanism amounts to privatizing the system for settling disputes between States.

It is hoped that future negotiations will make it possible to set up local, national and international policies to regulate animal production, vegetable and environmental protection.

Here, the injunctions of IAASTD retain all their relevance.

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