

Crisis, Market Instability and Agricultural Policy: Analysis and Prospective Elements

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It was in the eighties that discredit was launched on agricultural policies. During the GATT negotiations (Uruguay Round from 1986 to 1994) and the WTO negotiations that started in 1999 and especially during the Doha Round which opened in November 2001, agricultural policies have been criticized not only by economists but also by countries newly established on global markets of agricultural and food products such as Brazil. As for the European Union (EU), the Common Agricultural Policy (CAP), created in the early sixties, has been reformed several times, not only to comply with the requirements of the GATT and of the WTO, but also to loosen the budget constraint. The result was a steady process of deregulation of agricultural markets in Europe, which has had a great influence on the instability of agricultural markets since 2007. In contrast, the US has maintained their interventionism on agricultural markets relatively untouched, in line with the spirit of the agricultural policy set in the 1930s by the Roosevelt Administration, even if in 1996, the Clinton Administration, experienced some form of deregulation.

Taking this decline in regulating mechanisms of the agricultural markets in the EU into account altogether with changes in global supply and demand of food and agricultural products on a global level, we can notice a series of imbalances since the mid-2000s, leading to an increased volatility of prices in agricultural raw materials markets, that was amplified by financial deregulation organized by the States which directly impacted future markets of raw materials. The specificity of the current period is that confronted with promises of a rising new knowledge-based economy States re-discovered traditional challenges in food production and access to food; all of which led to increased competition for the capture of the rent that food supply represents on a global level. It can become a source of economic war, as the failure of multilateral trade negotiations of the WTO (Doha Round) tends to show.

The goal of this paper is to develop these points, while emphasizing their overall coherence. The analysis of the transformations of the global agricultural economy will be the first part of this work. More precisely, we will see that there has been, since the late nineties, the

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beginning of a shift of the center of gravity of the global agricultural economy towards Latin American countries, especially Brazil. The second part will deal with the arguments justifying interventionism in agricultural markets. Indeed, why do agricultural policies exist? Parts of the answers will be advanced, linking economic theory and historical perspectives. Then, the third part will consider the current volatility in agricultural markets. Finally, with regard to the current crisis and transformations it carries on a global scale, an agricultural foresight exercise will be attempted.

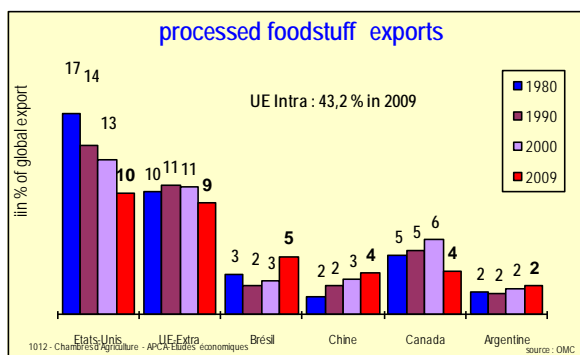
1. A new hierarchy of nations producing and exporting food products.

Based on the argument claiming that the international economy is not a positive-sum game but rather a zero-sum game, referring to the conception that authors such as Francois Perroux had, we consider that the international economy is an area of rivalry between nations fighting for control of *leadership* on the Rest of the World. Moreover, since the work of Gerschenkron, we know that the process of economic development leads to a contestation of the countries in power by rising powers (Gerschenkron [1962]) (Perroux[1958] [1979]).

These brief references to an international economics taking into account these conflictual dimensions are fully applicable to the case of agriculture. By making a periodization of agricultural trade disputes, we can notice that the first phase of the conflict took place in 1986 between the United States and the European Union², at the opening of the GATT Uruguay Round. The rise of European agriculture and the economic policy of the US Federal Reserve (raising interest rates and the dollar) and of the Reagan Administration (budget deficit financed by the Rest of the World) resulted mainly in the reduction of the market share of US agricultural and food products (Figure 1). The agreement concluded in 1993 and signed in Marrakech in 1994 helped to loosen the risk of trade conflict.

Chart 1

² The signs of the conflict between these two economies producing and exporting of agricultural and food products date back to the 1960s, when the CAP was created. The conflict focused on the access to European markets of oleaginous products for animals. To read about this economic history of international agricultural relations point, see Bowers and Porter [1989].



The second phase of this conflict emerged in the early 2000s, when some emerging nations began to capture market shares and challenge the dominant positions held by the United States and the EU-27 on agricultural home and foreign markets. The case of Brazil is a great example and illustrates the switch of the center of gravity of the agricultural global economy from 2000 onwards. Brazil food industry performances can be compared with what has been achieved in manufacturing by the Chinese economy. Brazil now occupies the forefront in sectors such as sugar, beef and poultry, orange juice and soybean. The massive investments made since the seventies in the agro-food sector, often supported by appropriate economic policies, the emergence of multinational processing firms –(see the example of the company JBS that has reached a global dimension and was able to purchase Australian competitors)– required opening international markets to sell the products (Charts 2, 3 and 4) (Pouch [2010]). Furthermore, the constant depreciation of the exchange rate of Brazil’s currency, the Real, had an important impact on the country’s agro-food export dynamic. The result was a hardening of the international competition in food markets, which became a blocking factor for trade negotiations, still deadlocked in 2011. As shown in Figure 1, Brazil had become in 2009 the third largest exporter of agricultural and food products (the ranking shows that on the six largest exporters, three of them are emerging countries, where China is a particular case as we shall see below). By breaking down the EU zone, we find that Brazil follows on the heels of France, that went through a progressive downgrading of his rank in the hierarchy of nations producing and exporting agricultural and food products (Table 1).

Chart 2

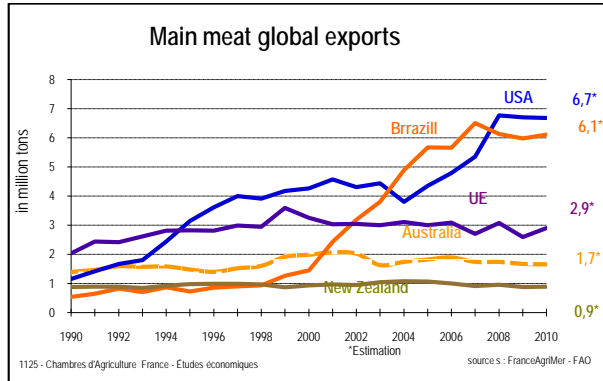
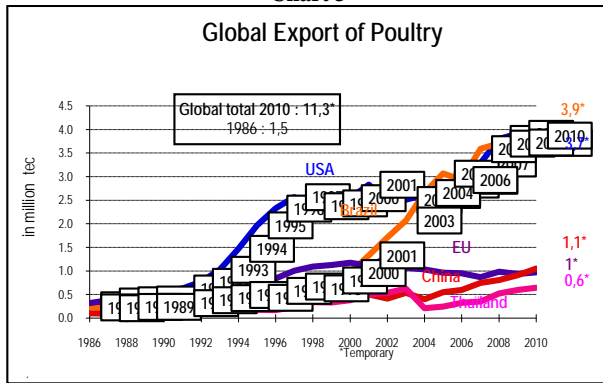


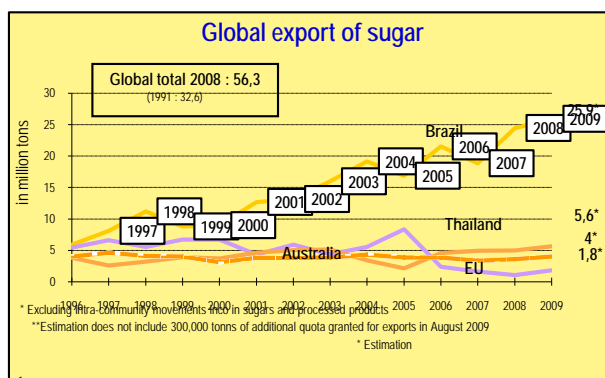
Chart 3



The rise of Brazil, but also of Argentina, is in conflict with the previous dominant positions held by the EU and the US. The dispute concerns the access to developed, emerging and developing country markets. The European Union is expected to open its home market and to renounce the Community Preference, in favor of Argentine or Brazilian exports, especially on meat. The conflict with the United States is more about production and export subsidies (cotton, meat in particular). The major stake is the 21st century food challenge. Several factors converge to make food a major geo-economic issue, involving the main nations and multinational companies producing and exporting agricultural products. Global population growth, rising living standards under annual growth rates of about 10% or more (for China), nutrition transition (greater consumption of animal products and prepared meals...), and increased urbanization are several parameters proving the development of agricultural production and trade, and causing economic struggles for the capture of such a rent.

The evolution of the Chinese society is a great example of this global economic transformation. With an upward trend in the consumption of meat and dairy products, the first meat-producing nation - especially pork - is China and has to import massive amounts of oleaginous products to feed livestock and thus satisfy the food expectations of a larger growing share of its population (Chart 5). China indeed absorbs more than 50% of global trade in soybeans (Fèvre, Pouch[2010]). This configuration should continue over the medium term if China favors industry over agriculture, as shown by the evolution of Chinese food trade in recent years (Chart 6). Moreover, South Mediterranean and Middle Eastern countries, that have a constantly increasing degree of dependence on food – (Algeria has one of the lowest food self-sufficiency rate worldwide)- is another coveted region (Abis, Hervieu[2009]).

Chart 4



The current transformation is also based on a movement of dismantling agricultural policies. Since 1992, the EU has met the requirements of its competitors, and even surpassed the expectations of the WTO. The reforms of the CAP have led to a steady decrease in intervention prices (mainly for cereals and beef), a decrease in export refunds, a decoupling of production subsidies and agro-environment expenditure (Chart 7). Compared with GDP of EU-27, total agricultural expenses of the European Union are after all limited, not exceeding 0.8% since the eighties. A decisive step for the future of the CAP must be taken in 2013, especially in terms of budget, particularly with regard to the great deterioration of public budgets since 2008 in the Euro area. The Commission has also reopened trade negotiations with MERCOSUR countries (Argentina, Brazil, Uruguay, Paraguay and Venezuela) in 2010 with the aim of increasing European imports of meat from these production areas. The same phenomenon happened for the banana sector,

where tariffs have been revised downward to the advantage of productions of Central America.

Table 1

Poids de la France et ses principaux concurrents dans les exportations mondiales agroalimentaires (en %)								
	1990	1995	2000	2005	2006	2007	2008	2009
<i>Australie</i>	2,8	2,5	2,9	2,5	2,3	2,0	2,0	2,0
<i>Brésil</i>	2,3	2,6	2,8	4,1	4,2	4,3	4,6	4,9
<i>Canada</i>	5,3	5,4	6,3	4,9	4,7	4,3	4,0	3,7
<i>Chili</i>	0,7	1,0	1,2	1,4	1,2	1,2	1,2	1,3
<i>France</i>	9,0	7,7	6,6	6,1	5,9	5,1	5,5	5,4
<i>Pays-Bas</i>	7,7	7,2	7,6	7,9	7,6	7,5	7,5	7,6
<i>Allemagne</i>	5,9	5,5	6,3	6,1	6,3	6,5	6,5	6,6
<i>USA</i>	14,0	13,6	12,9	9,7	9,8	10,0	10,4	10,2
<i>Chine</i>	-	-	-	-	-	-	3,6	3,9

Source : Organisation Mondiale du Commerce

However, there is a large contrast with US agricultural policy because of the great role of the agriculture in the US economy (employment, external trade). The US has globally maintained an interventionist agricultural policy since the thirties other than the attempt to liberalize the agricultural policy in 1996, which was quickly aborted when the Asian crisis affected American agro-food exports and income of producers. The previous *Farm Bill* (2008-2012), passed by the Senate and the House of Representatives despite the *veto* of President Bush, contains more than 300 billion dollars of spending, two-thirds devoted to food assistance (41 million Americans receive food aid) (Chart 8). Total US agricultural expenses are around 1% of GDP in 2010, compared to nearly 2% in the early eighties (Chart 9).

US agricultural policy began in the thirties, as did the great crisis of American capitalism. The 1929 crisis is associated with the collapse of stock prices and the increasing number of bank failures, causing panic in the US population. However this crisis is also characterized by the collapse of raw materials prices, the first signs of which began at the end of World War I. Between 1919 and 1925, American agricultural prices first decreased by 62%. Then between 1925 and 1929, prices fell 9%. From 1925 to 1932, the decrease reached 90%. This rapid downward trend in agricultural prices over just a

few years was greater than the decrease of production costs. This was the result of rapid agricultural supply growth confronted with an insufficient demand³.

This situation caused the collapse of producers' income, that made the new US President assemble a team of economic advisers to develop an agricultural policy with two objectives: to stop the drop in prices, and through their future recovery, to reach a recovery in producers' incomes in line with the rise in overall well-being of the whole US population. Until the twenties, the US federal government almost never intervened in agricultural markets, neither on prices nor on incomes⁴. The experience of the collapse of agricultural prices and consequently of the income of American farmers led the newly voted in Democrat government to implement a comprehensive study on how to resolve this agricultural crisis.

US farm policy then focused on price support and direct aid payments to producers of cereals, which are one of the main beneficiaries of these measures; this policy was also followed by methods of control supply. One may claim that this price support remained, until the sixties, one of the key instruments of the US agricultural policy. The mechanisms were institutionalized under the *Agricultural Acts Adjustment* made between 1933 and 1938. The primary objective of the government was to support farmers' income. This was indeed crucial in the process that led to the creation of the US agricultural policy. During each period, it is the parity of income – (the income of farmers has to be closely related to changes in the general progress of the economy) - which is the cornerstone of the intervention in agriculture. Moreover, the ambition of US farm policy was to preserve the whole national economy from disturbances caused by the changing agricultural prices.

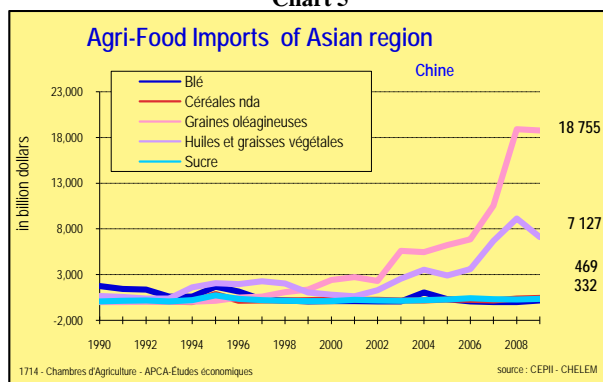
The construction of the US agricultural policy should furthermore be analyzed as an institutional process. To reach the goals set in his *New Deal*, Roosevelt hired many scholars who had forged links with the first institutionalism movement in every ministry, especially in the Agriculture department, such as T. Veblen, W. C. Mitchell and J. R. Commons. These economists devised the so-called "American-style planning." Among them we find Rexford

³ An overview of the situation of American agriculture during this period can be seen in L. Romier [1933], « L'agriculture et la crise aux États-Unis », in J. Alquier et al. (éditeurs), *L'agriculture dans l'évolution de la crise mondiale*, éditions Félix Alcan, p. 27-48. Let us be reminded that concerning the thirties crisis, the French school of régulation has stressed that it was caused by the disequilibrium between a potential of "mass production" faced with a lack of corresponding potential of "mass consumption" see M. Aglietta [1976], *Régulation et crises du capitalisme. L'expérience des États-Unis*, éditions Calmann-Lévy. More globally, on crisis history, read P. Gilles [2004], *Histoire des crises et des cycles économiques*, éditions Armand Colin, coll. « U ».

⁴ In fact, public intervention did exist, but mostly government intervention there, but focused on the conditions of access to land (*Homestead Act* of 1862) and the development of infrastructure - especially transport- and irrigation. The Ministry of Agriculture - USDA - is also created by Lincoln in 1862.

Tugwell, Milburn Wilson and Howard Tolley. In addition to forging these tools for intervention in agricultural markets, these economists have made a new statistical system in order to get a better understanding of the performance and of the difficulties of the agricultural sector⁵. US agricultural policy has undergone few changes since its creation (Debar [2001]). The question is whether, given the budget deficit and federal debt, the next Farm Bill, which will cover the period 2012-2016, will be extended or reduced by some cuts. In the latter case, these are radical changes that await American agriculture.

Chart 5



The rivalry that prevails in international food relationships is basically opposing emerging markets like Brazil and Argentina with the United States. The EU on its side is on a path of further dismantling of the CAP. The degree of conflict over this international trade does not seem to be coming to an end as one can observe with the blockades met in the WTO, an institution failing to resolve trade disputes. The failure of the WTO is one of the symptoms of a global crisis, due to the fact that the liberalization of trade in goods and especially agricultural goods, has ultimately led to the resurgence of nations and the reaffirmation of their diverging interests (Sapir, [2011]). Moreover, since 2007, this situation is in line with a context of an increasing price volatility of all raw materials markets.

⁵ Read the fascinating book written by É. Didier [2009], *En quoi consiste l'Amérique ? Les statistiques, le New Deal et la démocratie*, éditions La Découverte, coll. « Textes à l'appui ». This author underlines that Roosevelt's agricultural support plan caused very violent reactions.

Chart 6

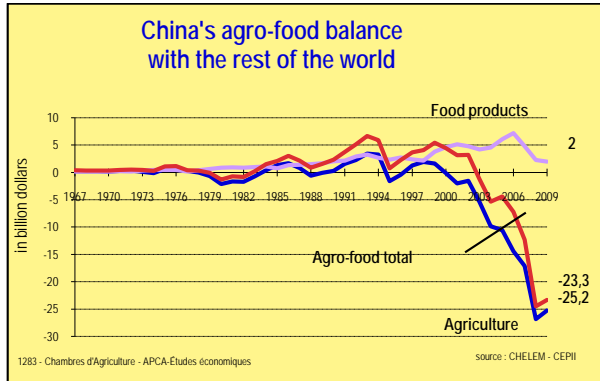


Chart 7

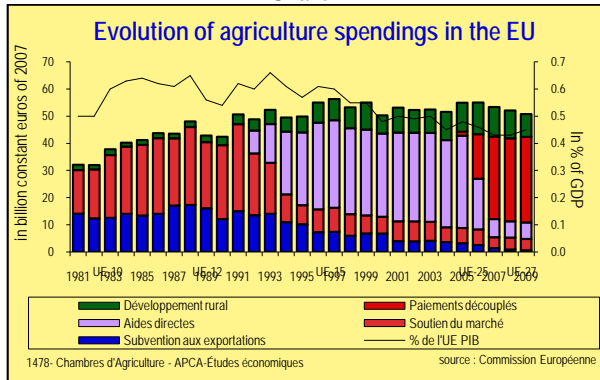


Chart 8

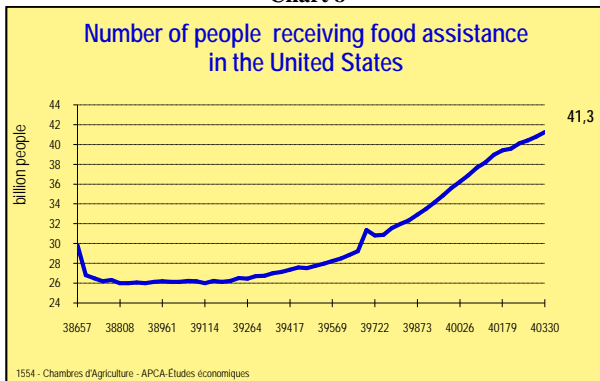
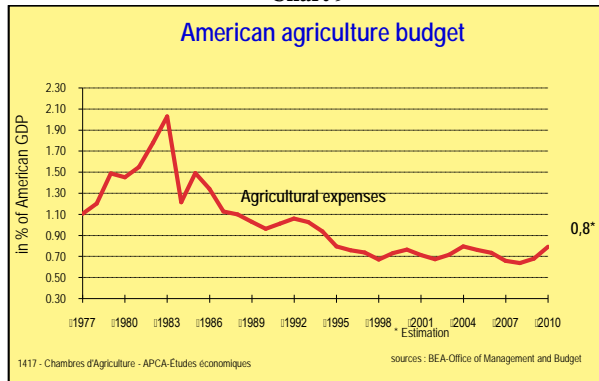


Chart 9



2. Why do agricultural policies exist?

The field of agricultural economics does not differ much from other parts of economics. There are liberal and interventionist agricultural economists. According to liberal economists, the fluctuations in agricultural prices are either ignored, because they cannot be generated by market mechanisms, or these fluctuations are likely to occur, but market mechanisms are supposed to erase them to reach the equilibrium. As for the interventionist economists, fluctuations in market prices are caused by market mechanisms, and if in addition there are some exogenous causes, the situation of the market requires a public intervention to organize and stabilize these markets in order to stabilize producers' incomes.

Agricultural markets are characterized in general by a chronic instability. In the confrontation between supply and demand on such a market, exogenous and / or endogenous shocks may result in a gap between the supposed equilibrium price and the price observed. It should be seen in the case of an agricultural market, as the result of a break with the principle of demand elasticity to prices. Observing the evolution of the grain exchange in London in the eighteenth century, the statistician Gregory King deduced that farmers saw their income increase when crops were low and decrease during periods of good harvests (*law of King*). The farmer's income is not fixed according to the interaction of supply and demand (Boussard et al [2005]) because of the rigidity of the demand relatively to the price. In addition, producers' anticipations are not rational. The market equilibrium is unstable in agriculture; the decision to produce cannot be only based on market information, which is biased due to the inelasticity of demand. In a famous article published in 1937 in the *Quarterly Journal of Economics*, Hungarian-born economist, Mordecai Ezekiel radically criticized the neo-classical normative

model (Ezekiel [1937]). Ezekiel model indicates that differences in the elasticity of supply and demand can lead the economy faraway from equilibrium and cause devastating effects on producer incomes. An illustration of these price fluctuations in the agricultural sphere is contained in the famous "pig cycle " in which diverging processes take the players away from the market equilibrium ("saddle point" as opposed to "bowl point ").

These two points of economic theory have led many theorists to recommend the construction and implementation of interventionist mechanisms in agricultural markets, resulting in agricultural policies driven and financed by States (price supports, subsidies, quotas, tariffs...). Let us recall that Ezekiel was an economic adviser of the Roosevelt Administration. The current crisis of the agricultural and food markets that will be discussed below, in some ways, restores the legitimacy of such agricultural policies, while the practices of deregulation of public policies were –(with the exception of the US economy) -widespread since the eighties, and first of all in developing countries (these deregulations can be observed in most *Structural Adjustment Programs*) and then in the European Union since the beginning of the nineties (successive reforms of the *Common Agricultural Policy*).

The arguments advanced to justify the total or partial dismantling of agricultural policies have been quite diverse. We are going to develop only two of them. The first argument is a quantitative one. It says that the agricultural sector, relative to its weight in terms of GDP or employment, does not count anymore. The reduction of agricultural expenses would contribute to a better allocation of budgetary resources, resulting in the same time in an optimal redistribution of the hierarchy of sectors. This is probably one of the most powerful arguments put forward by the European Commission, especially through the *Lisbon Strategy*, that aims to make the EU the most competitive area in the field of the knowledge and intangible economy. The decline of agricultural expenses, organized in the budget preparations for the future CAP 2013, would then appear inseparable from this economic perspective.

The second argument is an economic and political argument, and has been widely exploited by economists of *Public Choice* School. According to them, the agricultural expenses are in fact rent-seeking. To be preserved these rents require an intense political lobbying from elected representatives who, to preserve their chances of being re-elected, will increase agricultural expenses. In this sense, intervention in agricultural markets would actually be an excuse to defend micro-economic units to the detriment of the community.

Many historical experiences - the thirties crisis, wars, current crisis - have demonstrated the imperfect adjustment of agricultural markets, however, sending signals that contradict the

normative economic theory, which established the rules of perfect competition, paving the way for the formation of agricultural policies. The economic role of agricultural policy is to stabilize markets. In doing so, they cause income guarantees for farmers, which have a better visibility of their investments and of their activities of production. Both the chronic instability of agricultural markets and the current crisis call for both a revision and a reassessment of the economic and political justification of public interventions in agricultural markets. It must be recalled that, in fact, even the great theoretician of free trade, David Ricardo, had a reservation about the size of the scope of his comparative advantage theorem. In a booklet that remained famous, but little read, published in 1815 - two years before *the Principles of Political Economy and Taxation* - entitled *Essay on the Influence of a Low Price of Corn on the Profits*, he drew attention to the following: "Only almost irrefutable arguments about the danger of depending on foreign countries for part of our food, only in this context there can be discussion on the opportunity to restrict imports "[Ricardo (1815), page 13].

This point is essential at a time when there are a lot of analyses/scenarios on the evaluation of the global demand for food in 2050, even if the findings of these analyses do not necessarily converge / on measures to be adopted. These differences in evaluation of the state of global food demand in 2050 relate to methodological differences, depending on whether or not the price is an endogenous variable, or whether or not the tensions between global supply and demand lead to prices increase causing a drop in demand and a rise in production. It follows that global demand could increase by 2050 of 40-68% (Even, Laisney [2011]).

This upward trend of global demand in 2050 must however be qualified with several parameters. The first argument is demographic. It is known that the figure of 9 billion people in the world is regularly advanced to justify fears of a global agricultural supply. But, the different demographic scenarios indicate that the range in which the global population would be is from 8 to 11 billion people, range established on assumptions of fertility, infant mortality, epidemics, war... To these differences in population forecasts, we must add the possible influence of the rates of GDP growth in emerging markets (point inseparable from current fears about an overheating of the Chinese economy), the economic and social inequalities, the speed of food transition (more meat, fruits and vegetables and less grains) on the strength of global demand for agricultural and food products.

Lever of action must therefore be made available to meet this global demand, despite the uncertainties that exist regarding actual changes and intensity of this demand in 2050. These levers are the responsibility of the agricultural policy and thus of the state intervention. So, the

role of the EU intends to play in global markets by 2050 must be dealt with. Hence the need to provide a table with some prospective elements that will be discussed in Part IV.

3. The chronic instability of agricultural markets

The prices of all raw materials experienced an upward movement in the middle of the 2000s. The decline which occurred by the end of 2008, linked to the global crisis, even if it illustrates a resurgence of price volatility as measured for instance by Bollinger indicator, seems not to contradict a continuing trend upward which will provoke a change in the hierarchy of nations within the global economy. Indeed, global prices started to increase at the beginning of 2010. Whether for oil and other raw materials for industrial use (copper, zinc, aluminum...), it is the demand growth from main emerging markets that takes the raw materials prices up for almost a decade. In addition to catching up on industrialized countries, the development of emerging countries is clearly carrying conflicts over raw materials control and annuities that their exploitation releases (Aknin, Serfati 2008]). This is particularly true for energy and agricultural products, with, in the latter case, a movement of land grabbing (Pouch [2011]).

If it was in 2007 that observers set the beginning of the process of fluctuations in all raw materials prices, the onset of these fluctuations probably goes back a little further in time. For the agricultural products, there are even initial signs of increase from 2005 onwards (Charts 10 and 11). The period which opened then contrasts with previous years in that the agricultural and non-agricultural prices were on a downward trend previously. Based on the real price index of agricultural and food products defined by Grilli and Yang, one can see a clear downward trend since the beginning of the twentieth century (Grilli, Yang [1988]) (Pfaffenzeller, Newbold, Rayner [2007]). The rise in agricultural prices since the mid-2000s must be analyzed through a variety of factors constituting an overall dynamic. It fundamentally concerns plant products (cereals, oilseeds, sugar, cocoa ...); the meat price is not concerned by these increases, the producers of meat are subject instead to an increase in their production costs.

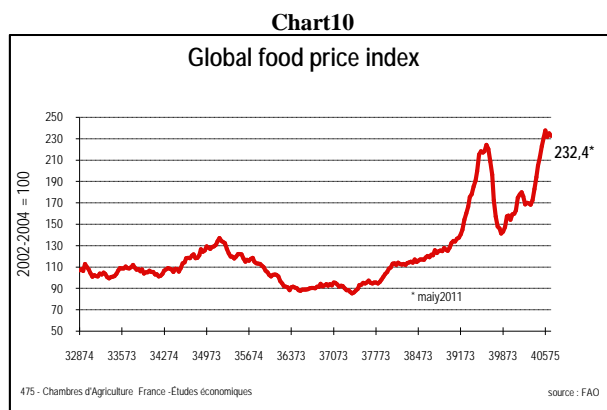
On the supply side, since the early nineties we first saw a trend of growth slowing down in crop production (Table 2). From 2.3% during the period 1970-1990, the growth rate of global production of grains and oilseeds went down to only 1.2% between 1991 and 2007. It is linked to the deterioration of agricultural output, due to the gradual decrease of technological

and agricultural (especially varietal progress) progress. Moreover, the weakness of cereal grains and oilseeds prices during the previous period had resulted in fewer plantings, resulting in a decrease in cultivable land. This movement was also amplified with the growth of urbanization in some parts of the world. More recently, the successive phases of drought in Australia (country exporting annually about 80 to 85% of its grain production, fully playing the *law of King*) and then in Russia and Ukraine have increased the scarcity of global agricultural supply. Finally, the growth of US production of ethanol from corn (about 40% of corn production in the United States is used for the manufacture of ethanol, the United States being the world's leading producers of this cereal grain) causes a withdrawal of volumes of corn on the global market and unbalances supply and demand (Figure 12). Here we must highlight the correlation between the price of oil and prices of agricultural raw materials.

The development of biofuel production throughout the world was highly linked to the adoption of public policy measures. These policies have always aimed to regulate the proportion of biofuels in the total energy consumption. Such political incentives are divided between regulatory actions and subsidies. In the United States, with regard to expected changes in the price of fossil fuels, a 2007 law about energy regulation had set a minimum incorporation rate of ethanol in gasoline (136 billion liters, nearly five times more than the use in 2008) for 2022. In October 2010, the US Agency for Environmental Protection decided to increase the rate of incorporation of ethanol in gasoline used by vehicles, from 10% - unchanged from 1979 - to 15%. Also in October 2010, Agriculture Secretary Tom Vilsack adopted a series of measures to develop the production of biofuel, in particular ethanol.

These measures are part of the aid from the Biomass-Producing Crops Plan (BPCP), and range from support of plantations to the payment of subsidies to at least partially compensate for the costs of the transportation of crops to the place of transformation. They also include the implementation of research institutions on biomass and renewable energy and the awarding of federal aid to service stations for the implementation of gas pumps containing ethanol-blended gasoline. A battle started in the Senate in Spring 2011, over a rapid removal of the "ethanol tax credit" between supporters (Republican side) and opponents (Democrats side). The Senate, however, rejected the Coburn amendment, which was designed precisely to eliminate this "ethanol tax credit" because it was believed that such a vote could harm a successful industry creating jobs. In the background, the search for a reduction of the federal state budget deficit, may well lead to putting a stop to the "ethanol tax credit" - and other aid and agricultural support.

A major area of consumption in the US economy is fossil energy. So it is exposed as a net importer of oil, to the fluctuations of the oil prices. Due to the increase of the US population, the rise of food expenditures and the increased use of energy-intensive technologies, the use of fossil fuels has become widespread throughout the food chain. Therefore, to reduce dependence of the US economy on external sources of supply, an active public policy is being implemented. The economic importance of ethanol in the United States shows the will to be free even partly from this constraint on imported fossil energy. In 2011, nearly 36% of corn production was converted into ethanol. According to the USDA, the amount of corn used by the ethanol industry in 2011 could be higher than that the corn consumed by animal productions.



On the demand side, the contrasts are important depending on which productions and which importing countries are considered. A relative consensus among economists stresses the role of China and India for the emergence of a sustained global demand. However, it should be mentioned that the influence of these two emerging countries on the formation of global demand only concerns oilseeds, especially soybeans for animal feed (Heady, Fan [2008]). The strong growth in main emerging economies also affects the profile of living standards and food regimes (increase in food consumption per capita increased demand for meat products and dairy products). This structural disequilibrium between global supply and demand of food and agricultural products has resulted in a decline of global stocks, both in wheat and corn in particular (Charts 13 and 14).

Chart11

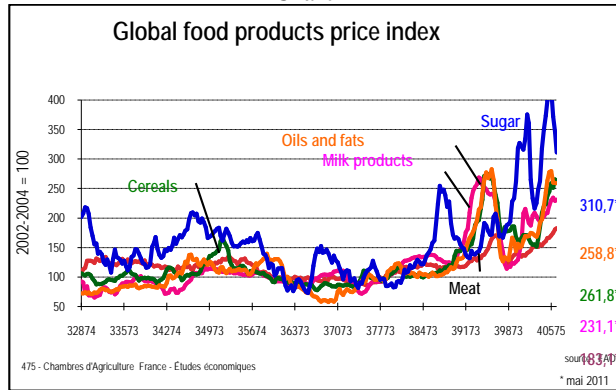
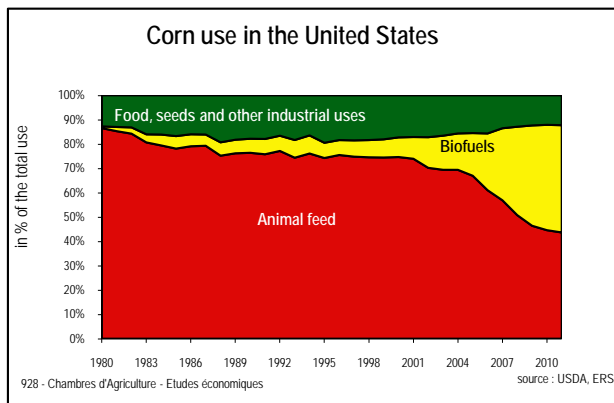


Chart 12



Since many raw materials are denominated in dollars, changes in the parity of the dollar have had a great influence on agricultural prices; the depreciation of the dollar caused a decrease in import prices that boosted demand. The question of the role of finance and more specifically of future markets given the instability of the raw materials market prices. The abundant literature on this subject cannot decide definitively. The fact remains that the movement of capital from one market to another since the Internet bubble burst in 2001 and the real estate bubble in 2006 has facilitated the formation of a raw materials bubble (Kerckoffs [2010]) (Tang, Xiong [2009]). The positions taken by non-commercial actors - especially banks like Goldman Sachs - on the raw materials markets proved it (Chart 15). Moreover, the abundance of global liquidity, caused by a highly accommodating US monetary policy has influenced the behavior of cash holders, even though this correlation is now much discussed (Glick, Leduc [2011]).

It led to passionate debates over the better economic policy instruments adapted for the control of these capital flows and of the speculation on raw materials derivatives markets (the Tobin tax project and tense discussions within the G20, the latter resulting in a determined hostility of both Brazilians and Americans to any regulation of commodity markets, which highlights the contradictions of contemporary global capitalism and the failure of trade negotiations at the WTO having been the harbinger of these contradictions during the Ministerial Conference July 2008).

Table 2
Average annual growth rate of global production of cereals and soybeans (in%)

	1960-70	1970-80	1980-90	1990-2000	2000-07
Total of cereals	3.7	3.5	1.7	1.7	2.1
Corn	3.5	4.3	0.9	2.7	3.8
Wheat	4.1	3.2	1.8	0.7	0.9
Rice	3.4	2.5	2.5	1.7	1.2
Soybean	5.1	5.5	6.3	5.1	3.9

Source : USDA

The current phase of rising raw material prices will cause a slowdown in global growth, or even a recession. Indeed, high prices increase the cost of inputs in user countries and a rise in the consumption price index. This can result in, as we have seen recently with the increase in the interest rate of the European Central Bank (ECB), a tightening of monetary policy that would slowdown economic activity. In the case of oil, it operates a transfer of income to the producing countries with high savings rates, which may limit the global demand for goods and services. Rising raw materials prices, especially agricultural ones, is finally fueling a reaction of emerging and developing countries, either in the form of voluntary export restrictions (as in Argentina and Russia) to avoid the impact of higher prices on domestic consumer prices or in an accommodative fiscal policy for subsidizing for example the consumption of some foods and / or domestic agricultural production (Yang, Qiu, Huang, Rozelle [2008]).

Chart 13

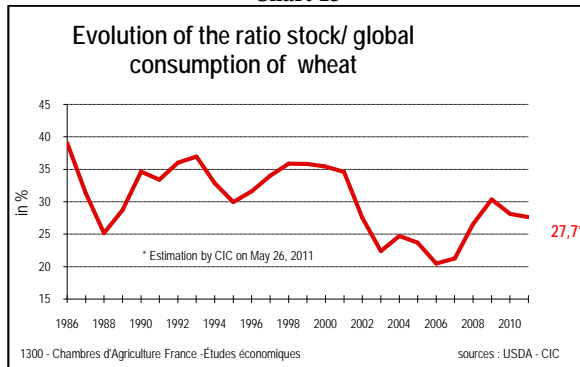
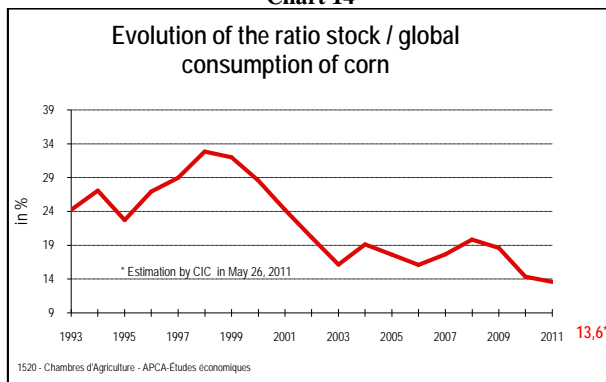
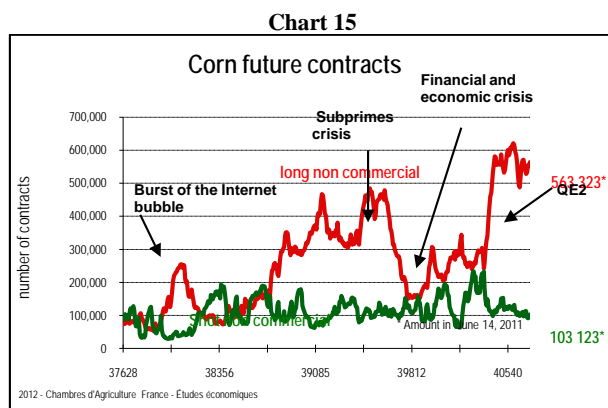


Chart 14



Will the phase of the raw materials prices rise last? This is now the main issue, in light of the current crisis. The international agencies' forecasts of global agricultural markets vary depending on assumptions about population growth, on growth rate of gross domestic product of economic areas or countries, on inflation (macroeconomic environment). Similarly, fluctuations in exchange rates of the dollar with other currencies have an impact on the formation of global raw materials prices, which are mostly denominated in US currency. Some international institutes establish only price forecasts, while others provide more precise forecasts including production and trade. Furthermore, some more precise forecasts have taken into account the current crisis and the conditions of global economic recovery, with low or high growth rates of GDP, both cases being linked to a future scenario. Some forecasts also incorporate public policies. Finally, the concept of medium term is also variable; some forecasts stop it in 2018, while others stop in 2015. The practice of

prospective in agricultural prices remains very uncertain, because of issues related to climate change for example.



For cereals (as for other types of agricultural products such as milk, beef, pork, poultry...), the forecasts are as follows according to the prospective agencies (Tables 3-6). The price of wheat is expected to move upward over the periods studied by different agencies, without going back to levels seen between 2006 and 2008. Coarse grains should not go back to the price level of 2006-2008; prices would follow a downward trend until 2018, after a slow rise between 2012 and 2015. Every projection claims that the corn price will depend on many of the directions taken in the use of this raw material, particularly in the production of ethanol. Oil prices will have a great impact on the global corn price. Whether for the European Commission, FAPRI or OECD-FAO, turning phases on grain markets may no longer be excluded. These price changes would therefore affect the formation of farmers' incomes throughout the world. Concerning volumes, the production of wheat would rise by about 9% (baseline) between 2009 and 2018 (while wheat would represent nearly 30% of global cereal production in 2018). The ratio between global trade and production, after all, would remain fairly stable, 18% of global production of wheat being traded. As for global cereal stocks, which had reached extremely low levels in recent years, they would evolve on this period on an upward trend, setting the ratio stock / consumption around 30% for cereals (wheat and coarse grains) and 22% for rice.

Table 3

Global prices US\$/t	Average 06-07/08- 09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<i>WHEAT*</i>	269.1	211.3	197.7	206.1	215.3	218.1	216.8	217.3	218.9	219.3	219.6
Low GDP	269.1	208.0	190.7	199.4	211.3	215.2	212.3	211.7	213.8	214.8	215.2
High GDP	269.1	208.0	190.7	201.0	215.1	219.7	216.4	215.9	218.4	219.7	220.1
<i>COARSE GRAINS</i>	184.9	164.1	160.4	166.4	172.5	170.9	172.1	173.9	168.0	165.1	165.1
Low GDP	184.9	158.7	149.8	158.2	168.1	165.6	165.0	166.8	161.7	159.0	158.9
High GDP	184.9	158.7	149.8	160.7	173.6	171.2	170.4	172.8	168.1	165.3	165.3
<i>RICE</i>	504.7	417.5	345.6	347.7	378.5	412.9	415.3	408.0	409.8	409.5	411.9
Low GDP	504.7	412.6	335.9	337.3	371.8	409.1	409.8	399.1	400.2	402.1	406.3
High GDP	504.7	412.6	335.8	339.5	377.5	416.2	416.0	405.3	407.3	410.1	414.1

Source : OECD-FAO

Table 4

Global forecasts(mt)	Average	BASELINE			Low GDP			High GDP			
		06/08	09/11	12/17	18	09/11	12/17	18	09/11	12/17	18
<i>WHEAT</i>											
Production	628.9	661.6	697.1	722.4	658.7	693.2	718.5	658.8	696.3	722.7	
Consumption	628.8	660.0	694.0	718.9	657.4	690.0	714.7	657.7	693.0	718.6	
Stocks	174.0	195.5	207.4	217.7	195.8	206.5	217.0	195.7	206.9	218.8	
Trades	113.7	118.8	126.3	133.8	118.5	125.6	133.4	118.5	126.0	133.9	
<i>COARSE GRAIN</i>											
Production	1056.1	1134.4	1224.1	1283.6	1128.0	1214.0	1273.1	1128.2	1221.6	1283.7	
Consumption	1051.6	1138.7	1217.7	1276.0	1132.3	1207.7	1265.3	1132.9	1215.1	1275.8	
Stocks	243.2	249.9	265.7	292.9	251.8	265.0	292.3	251.5	264.7	292.6	
Trades	119.3	117.9	121.2	127.9	117.8	121.4	128.3	117.8	121.2	128.1	
<i>RICE</i>											
Production	442.1	461.4	478.9	494.4	460.1	477.1	492.3	460.2	478.5	494.3	
Consumption	440.4	460.2	478.8	494.8	459.1	477.0	492.7	459.2	478.4	494.6	
Stocks	91.6	102.4	105.5	107.9	102.5	105.1	107.5	102.4	105.3	107.9	
Trades	31.8	34.2	36.7	38.7	33.9	36.3	38.2	34.0	36.6	38.6	

Source : OECD-FAO

Table 5

CEREALS EU27	2008	2009	2010	2011	2012	2013	2014	2015
Production	311.9	293.0	287.7	291.0	293.6	296.2	299.0	302.0
Consumption	270.9	271.8	272.1	273.1	275.9	279.5	283.2	288.0
Trade balance	21.1	21.5	16.1	18.0	16.7	18.1	15.2	14.8
Stocks end of season	67.8	67.5	66.9	66.9	67.9	66.5	67.0	66.2

Source : European Commission

Tableau 6

* Baseline

World Prices (US\$/t)	09/10	10/11	11/12	12/13	13/14	14/15	15/16
Wheat							
US fob gulf	225	224	231	235	241	247	251
UE Market	207	210	212	209	212	211	211
Corn							
US fob gulf	185	184	191	192	199	202	204
RICE							
US Fob Houston	479	468	495	524	557	568	589

Source : FAPRI

We therefore expect that agricultural prices will increase in the coming years, due to factors that have been recalled throughout this text (such as demography, urbanization, growth in emerging markets...). However, according to the profile of global growth, phases of price fluctuations may accompany this trend of rising agricultural raw materials prices. The world economy has indeed entered a period of great turbulence.

4. Prospective elements

Agricultural policy divides. The CAP is particularly exposed to criticism from neo-classical economists and also from international institutions like the WTO, for which the global market free of trade barriers would optimally supply countries with agricultural goods and food products. The current crisis, as we have seen above, seems to have reshuffled these odds, without nevertheless totally discrediting the process of liberalization and dismantling of the CAP. What will become of the CAP with a crisis of globalization? In part, the answer to this question depends on the degree of involvement of EU Member States in the functioning of agricultural markets, or, to put it another way, the importance given to the food issues, and on the other hand, on the design of international trade that will come out of WTO negotiations (if there are any at the end of the Doha Round).

Two scenarios have emerged quite clearly.

The first scenario is characterized by a *generalized liberalization of agricultural markets*, which is linked with an *entrepreneurial* conception of agriculture. [It is linked with the Reduced Government scenario.](#) This view is in line with the neoliberal phase since the middle of the eighties, and with the vision of agriculture in the European Commission. The farmers / entrepreneurs in this configuration would be called upon to adapt to an increasingly demanding global market in terms of competitiveness, [and would become in some ways](#)

outsourcers of the food transformation industry. In addition to the fact that the food supply would be covered by the free movement of agricultural and processed products, this scenario would lead to an extreme specialization of production areas in Europe, highlighting the current movement of farm concentration (Delorme [2004]). It should be added that in this case, farmers risk becoming subcontractors for agro-food industry firms. At the same time, the global agricultural trade liberalization followed by a dismantling of agricultural policies will cause a generalized competition for producers. It would follow that the producers of the EU, particularly the French ones, would be greatly exposed to external competition because of their costs of production, especially compared to those of Brazilian, Indian, and Thai productions. A large part of CAP expenditure would be reallocated towards rural development and environment issues, which can result in the very fact that, in doing so, the EU may be ultimately forced out, partly or fully, of global markets. The result would be European agricultural regions heightening their specialties; some pushing their comparative advantages toward positioning on the global market, others going toward a multifunctional dynamic more centered on territories (Trouvé [2009]) (Fouilleux [2003]).

In contrast, a ~~the~~ scenario that could be qualified as “maintaining agricultural policies” could emerge, branching into three variants. The first would be called *Global Governance* and would lead to a multipolar agricultural world, centered on the US, the EU, Brazil, ~~or~~ India, and China ~~–the latter having opted for the preservation of its food independence. The US would conserve an active agricultural policy that would permit them to keep their comparative advantages on the global market. Such a configuration would require putting into place international cooperation by means of agricultural agreements, notably through the WTO. (this strong assumption must be discussed) – adopting the pursuit of industrialization, given the relative decay of its agriculture would thus become a net importer of agricultural and food products.~~ In this scenario, the CAP would still have regulatory tools to stabilize markets and farmers' incomes (including export support instruments, like the US practice), while maintaining and increasing the production of food and agricultural volumes necessary for domestic demand but also for certain areas of the world. Commonly, this scenario illustrates the search for the preservation of family farms, which has been widely questioned since the CAP reform in May 1992. A second variant of the scenario would be built around the regionalization of global agriculture. Maintaining active agriculture policies that are very different in each large production zone would produce considerable international economic tension, preventing notable any commercial agreement at the WTO. Finally, the third variant

Commentaire [KG1]: J'ai trouvé cette phrase dans le texte français (pas en rouge) mais pas dans le texte en anglais.

would consist of a division of global agriculture into two main actors, US/China, an agricultural response to sharing of power of these two States.

The last scenario looks rather like one of a regionalization of the CAP. The regionalization process of the CAP has been engaged since the late nineties, as the European regions hold levers to drive agricultural policies, including in terms of finance (Fouilleux [2003]). This movement of regionalization of the CAP among members would vary depending on the political organization of each country—degree of centralization versus decentralization—but also in terms of economic strategies. Ambitions to preserve some meaningful production of agricultural goods which are claimed by some states and their regions, are also opposed by some environmental objectives in line with societal expectations or associated with sectors such as tourism (the case of German agriculture is very instructive, particularly in respect of agricultural multi-functions).

This last scenario still remains very uncertain. It would be on one side a way to preserve most of the agricultural model implemented after the War (the dimension "co-management" State/majority agricultural unions being one of its features), even if new players have since then entered the agricultural game, claiming the limitations of this model (environmentalists, minority agricultural unions, consumer lobbies ... that have behaviors based on new institutionalized compromises at the regional level) while campaigning for the rural development activities that would require reallocation of budgetary resources (reduction or elimination of agricultural support payments to producers for example), but would be seen on the other hand as the door open to a hidden and differentiated liberalization of the CAP. Regionalization would indeed support the weakening of the intervention on agricultural markets.

—By focusing on territorial dimensions of agriculture, which are in line with the logic of decentralization of decisions and public policy tools, we renounce even partially to practice sectorial policies, linked by definition to a logic of more centralized public policy tools. Finally, the overall consistency of the regionalization of the CAP is an issue that remains unresolved; the risks of competition between European regions are remaining (the debate around the competitiveness differential between Germany and France since the early 2000s proves that the risk of increased competition within the Community is a plausible scenario).

These prospective elements must be seen within the specific overall logic of a growth regime which, because of the current crisis, interpreted by some economists as the crisis of a "finance-growth regime" established in the nineties, has not yet fully developed, far from it

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(Boyer [2009]). Moreover, it will be necessary to analyze the next CAP reform scheduled for 2013 specifically, the legal measures of which will be made known in the fall 2011.

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