



Agricultural Policies in the Next Decade: A Global Perspective*

Andrew Schmitz**

Institute of Food and Agricultural Sciences, University of Florida, FL, USA, E-mail: aschmitz@ufl.edu

Many countries around the world either tax agriculture or provide subsidies through trade and agricultural policies. This paper presents historical developments in the United States, European Union, Canada, China, India, and Thailand, which generally subsidize agriculture although the level of subsidization has decreased because of the significant rise in commodity prices. While progress has been made in lowering tariff and non-tariff barriers around the world with positive outcomes, the future progress in this area is questionable as evidenced by the Doha Round trade talks. Policy makers are now grappling with how to deal with price instability, uncertainty, and rising food prices.

Keywords: agricultural policy, trade distortion, price instability, subsidies, taxes

JEL Classification: F13, Q28, Q38

Introduction

Agricultural policy is a course of government action selected from available alternatives to guide and determine present and future conditions in agriculture (Schmitz *et al.*, 2010). While economists could suggest different ways to solve farm problems, the means of solving the problems rest clearly on the objectives. Politicians often want to use agricultural policy to address a crisis or to create the image that there is a farm crisis when, indeed, there is none. The rent-seeking behavior by politicians is consistent with this perception, particularly in agriculture-based countries. However, it is not necessarily

* A previous version of this paper was presented in a seminar "The Survival of Thailand Agricultural Economy" hosted by the Agricultural Economics Society of Thailand under Royal Patronage, Kasetsart University, Bangkok, Thailand, January 13, 2011. The comments from those who attended the seminar are greatly appreciated. I would like to thank especially Orachos Napasintuwong and the Agricultural Economics Society of Thailand for the invitation and their comments on an earlier draft.

** Corresponding author: Prof. Andrew Schmitz, Ph.D., D.Litt. Eminent Scholar: Ben Hill Griffin Jr. Endowed Chair, Food and Resource Economics Department, Institute of Food and Agricultural Sciences, University of Florida, 1130A McCarty Hall, 110240, Gainesville, FL, USA. Tel: +1352 392 1826 ext. 415, Fax: +1352 392 3646, E-mail: aschmitz@ufl.edu

consistent with lobbying effects by farmers and/or agribusiness, agricultural policy is thus often developed in the absence of defined objectives, which leads to a myriad of possible solutions and to increased confusion. Despite agricultural policies having evolved over time in several countries, farm problems persist. The causes of continuously low returns to agriculture have been analyzed by a number of economists, but there remain some disagreements.

This paper describes agricultural programs and policies that have been implemented in the United States, European Union, Canada, China, India, and Thailand. Although their agricultural policies are different, rent-seeking behavior prevails throughout. These rent-seeking activities occur on different fronts as agricultural policy affects both producers and agribusiness. In the twenty-first century, agricultural policy extends beyond simply price and income support programs. Trade distortions and high commodity prices increasingly become more challenging, particularly for small countries. When there is a sharp rise in commodity prices, countries tend to stop or reduce exports. For example, Russia banned wheat exports in 2010 and India curtailed rice exports. These actions, as discussed at the end of the paper, add to price instability and uncertainty in world markets.

Agricultural Policy: Historical Developments¹

The United States

Agricultural policies in the United States shifted from promoting the development of agricultural resources to supporting agricultural prices. A variety of policy instruments increased agricultural prices by reducing the amount of agricultural products available to the markets either through limiting production using acreage allotments, production set-asides, or acquiring commodities through non-recourse loans. Prior to 1986, the United States required that the government buy stocks when market prices fell below the loan rate. As shown in Figure 1, because of low market prices, the United States stored large quantities of wheat. However, this is no longer the case. In 1986, the stock-holding requirement was removed.

¹ The sections on the United States, European Union, and Canada rely heavily on Schmitz *et al.* (2010). The discussion on China, India, and Thailand is taken largely from material provided by Anderson and Martin (2009).

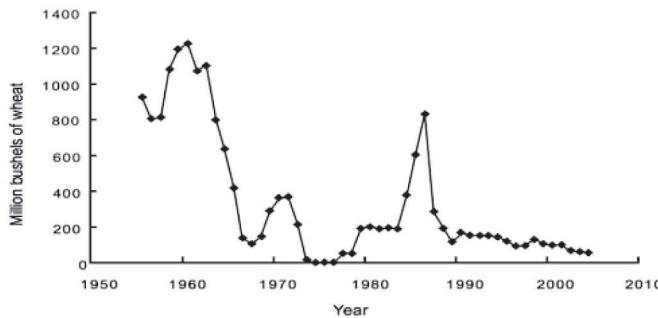


Figure 1 U.S. wheat stocks, 1950-2010

Source: Schmitz *et al.* (2010)

Starting in the 1980s, a variety of policy innovations were implemented to make commodity programs more market oriented. Market orientation culminated with the passage of the Federal Agricultural Improvement and Reform Act of 1996, which implemented several policy instruments that attempted to decouple commodity supports from production decisions. Passage of the Food Security and Rural Investment Act of 2002 and the Farm Program of 2008 represented a return to more traditional instruments of commodity programs, including target price and loan rate provisions for basic commodities. There are very few changes between the 2002 and 2008 U.S. farm bills. The key components such as loan rates and target prices remain. Like the 2002 U.S. Farm Bill, the largest USDA expenditures under the 2008 U.S. Farm Bill are for the food stamp and school lunch programs.

The milk program in the United States uses a modified two-price plan that increases the blended price of all milk by restricting the quantity of fluid milk. The U.S. sugar program is unique in that the United States is a net importer of sugar. Thus, while the program instruments exist (such as the loan rate), the domestic sugar price is supported with a tariff rate quota that restricts the amount of imported sugar. Peanut and tobacco programs were terminated through buyouts, in which the future rents under the program were purchased by the federal government and paid to farmers, including landowners. The conservation reserve program has more than 30 million acres of farmland. A contentious issue revolves around the U.S. subsidization of ethanol production from corn. This subsidization takes the form of ethanol import tariffs and processor subsidies (Schmitz *et al.*, 2011).

European Union

The high supports under the Common Agricultural Policy (CAP) have led to significant productivity increases for the European Union. Large outlays from the EU budget are necessary to support agriculture. The EU budget outlays for agriculture grew from about ECU 5 billion in 1975 to ECU 45 billion in 1998 to more than ECU 60 billion in 2008. The European Union has moved continuously from payments tied to commodities to direct income support

payments that include single-farm payments. Since 1970, the European Union has shifted from being a net importer to one of the world's largest net exporters of wheat, sugar, beef, poultry, and dairy products.

When designing farm policy, decisions are based on historical net farm income figures that are derived from price and production data. In the European Union, the Single-farm Payment Scheme (SFP) was created during a period of low commodity prices and heavy subsidies. Farmers were guaranteed SFP payments in 2003 and subsidies through 2015, with additional sugar quota buyouts beginning in 2006. Because of this permanency, the payments are not affected by a sharp rise in commodity prices. Thus, EU farmers receive double payments in periods of high prices (Schmitz, Schmitz, and Schure 2008). This is also true for U.S. farmers, since direct payments under the 2008 U.S. Farm Bill were not eliminated even though market prices for many commodities were significantly above the loan rate and target price.

Since 1998 a key trend in commodity policy has been the move from primary reliance on price supports to the increased use of income supports. In the European Union, income support measures include compensatory payments. These compensate for price supports with direct payments to crop producers based on historical production and livestock head-age payments for beef cattle based on the number of animals. EU producers receive payments as long as they continue to plant some type of arable crop or put land into set-asides. Under full decoupling, virtually all of these payments have been bundled into the single farm payment. The EU agricultural policy has evolved under a complex political structure. Rent-seeking behavior in the context of the theory of public choice explains how agricultural policy has evolved.

Canada

Canadian stabilization programs are ever changing for several reasons, including budgetary costs and the impact on trade. With the exception of supply management, history has shown that producers in Canada cannot count on governments to leave the rules of stabilization programs unchanged for any length of time. This affects the way producers respond to programs. They become wary of new programs and policies (and their attendant political promises), especially if previous programs and promises have not fulfilled expectations. Canadian stabilization programs have ended up being ad hoc compared to those in the United States and the European Union (Schmitz *et al.*, 2010). In this regard, as pointed out by the Canadian auditor general, of the Canadian farmers who applied for a Canadian Agricultural Income Stabilization (CAIS) payment, roughly 50 percent received no payments, whereas the majority of U.S. and EU farmers received payments under their programs.

A major reason for the constant change in Canadian farm programs is the fact that it is a shared jurisdiction. Unlike in the United States where agriculture is a federal jurisdiction

that allows for more continuity and stability through its five-year farm bills, the Canadian funding formula for stabilization programs has changed from a sole federal responsibility to a joint federal-producer responsibility and, more recently, to a tripartite federal-provincial-producer responsibility. This makes negotiating and implementing programs very difficult, and it presents significant challenges for maintaining programs for a very long time. Because of provincial funding, farmers in some parts of Canada do better than others in terms of government financial support. Both CAIS and crop insurance could be combined into an insurance style single program with whole farm and commodity specific yield loss arrangements.

A related issue is the extent to which risk-management programming becomes contingent on food safety and quality measures, as well as on environmental protection at the farm level. Rent-seeking activities have impacted stabilization and supply management programs. Lobbying by farm groups is an important component of policy structure, but so too are bureaucratic and political rent-seeking behavior. Because of rising quota values there have been discussions that supply management should be removed and farmers compensated for the value of their quotas. This happened to the U.S. peanut and tobacco programs under which farmers were paid handsomely for quotas when the programs were changed to reflect free-market conditions. In contrast to supply management and the grains and oilseeds sectors, there has been relatively little support for the beef cattle and hog sectors.

China

The nature and extent of government policy intervention in agriculture in China have changed dramatically over the past 25 years (Anderson and Martin, 2009). An agricultural sector characterized by significant distortions has been transformed into a relatively liberal sector. Domestic pricing and marketing policies forced farmers to sell much of their surplus to the government at an artificially lower price that was lower than a free-market price (which was close to international price) even in the case of exportable commodities such as rice. Hence, although there was little trade taxation at the border, domestic policies levied a tax on farmers. Similar dynamics characterized the situation among importable commodities such as wheat and soybeans. Despite the fairly high protection rates through trade policies, producers received much less protection than they would have received had there been a free domestic market for importables.

After the late 1980s and early 1990s, the liberalization of domestic markets reduced the distortions created by domestic policies. The market has gradually replaced the state as the primary mechanism for allocating resources and has become the basis for the production and marketing decisions of farmers. Especially in the case of importable commodities, trade policy has also become more liberalized. China's agriculture has

become much less distorted in recent years in two ways. First, the difference between international and domestic prices has narrowed considerably for many commodities because of trade policy liberalization. Second, with the elimination of domestic policy distortions, trade liberalization allows for more imports or exports of agricultural commodities, as prices in the domestic market change.

India

During the 1950s and 1960s, agricultural products represented slightly less than half of the country's total merchandise exports, but the share has steadily declined since then and is now around 10 percent. On the other hand manufactured exports have usually accounted for 70-80 percent of total merchandise exports since the late 1980s. A diverse range of agricultural products are regularly exported, including fish and fish preparations, oil cakes, cashew kernels, tea, coffee, tobacco, spices, fruits, vegetables, pulses, basmati rice, and, periodically, large quantities of sugar and common rice.

From the 1970s to 1995, the incentive system strongly favored manufacturing and services over the principal agricultural crops, although the extent of the anti-agricultural bias had diminished considerably by the mid-1990s (Anderson and Martin, 2009). The largest consistent imports of processed food have involved edible oils. Imports of these products expanded rapidly during the 1970s and early 1980s, triggering a major government program to replace the imports through domestic production. For a while, edible oil imports declined, but despite high tariffs (an 80 percent tariff on palm oil in 2006, for instance), import growth resumed in the 1990s and by 2005, imports accounted for about 40 percent of the domestic consumption of these products.

One of the most prominent objectives of the independence movement in India was to establish institutions and policies that would eliminate catastrophic famines, such as those that occurred during the colonial period, and that would also ensure that basic food items would be available to the population at affordable prices. The government has intervened in food grain markets since the late 1940s. In 1958, it established the current public distribution system, which sells basic foods at subsidized prices through fair price shops. There are currently 460,000 of these shops. For most of its history, the system has distributed wheat, rice, sugar, and edible oils on the basis of ration cards that entitle the bearers to specified quantities of food items at announced low prices. The principal government food subsidy activity today is the sale of rice and wheat through the fair price shops to below-poverty-line households and distribution as part of other anti-poverty programs. In 2003, the total government food subsidy was estimated at Rs 258 billion (about US\$5.7 billion, or 0.83 percent of GDP).

Domestic policies and trade policies that affected the rural sector were basically untouched by the 1991 reforms. In particular, government enterprises continued to dominate

the domestic and international trade in cereals (notably the Food Corporation of India, which periodically imported wheat to meet domestic shortages). Agricultural products remained subject to the import licensing system that applied to all consumer goods. With some important exceptions, import licenses were not issued for agricultural products. The system thus amounted to an import ban on agriculture. The exceptions in agriculture included cotton and wool, for which unrestricted low-tariff imports of important inputs had been successfully negotiated by influential industrial lobbyists. Edible oils were also imported on a large scale.

In the mid-1990s, five years after the 1991 reforms, about two-thirds of tradable GDP was still protected by explicit non-tariff barriers (about 36 percent in manufacturing, 84 percent in agriculture, and 40 percent in mining). During the second half of the 1990s, this situation began to change, in large measure in response to international pressures linked to the Uruguay Round agreements and the negotiations associated with them. Starting in 1998, the general import licensing system began gradually to be dismantled, and, on April 1, 2001, the last 715 of 2,714 tariff lines (including nearly all the agricultural tariff lines) were removed, and the system itself was abolished.

Farm input subsidies, particularly for fertilizers and electricity, under the nominal rates of assistance (NRA) for covered products have been steadily increasing. Electricity is used mainly in pumping irrigation water. In the late 1980s, input subsidies contributed 4 percentage points to the average NRA of 25 percent. Input subsidies helped reduce the gap between the benefits to rice producers and the export price of rice in the 1990s. From the mid-1960s to the mid-1980s, the assistance going to producers of non-agricultural tradables far exceeded the assistance going to farmers.

Thailand

There has been a limited scope for an agricultural policy of protection as a means of influencing domestic commodity prices because the country is a major exporter. The direct taxation of agricultural exports has been gradually eliminated, especially in the case of rice where the high rates of export taxation before the mid-1980s have been abolished. Rubber exports that were taxed prior to 1990 have been untaxed since then. Cassava exports have continued to be taxed to a minor extent through the system of export quotas while maize and chicken exports have been consistently untaxed. Fertilizer is a major input into agricultural production, and the effective taxation of fertilizer use has been steadily eliminated since the early 1990s.

Most of this evolution in taxation and protection has involved the elimination of price distortions that once disfavored agricultural export industries. Soybean was an export before 1992 and a net import item (subject to quota restrictions) since then. This shift from a net export to a net import item coincided with a switch from negative to positive

nominal rates of protection (NRP). Since the early 1990s, the domestic soybean industry has benefited from a NRP between 30 and 40 percent. Sugar is an export commodity, but the domestic sugar industry is protected by a system that taxes domestic consumers and transfers the revenue to producers. The NRP of sugar have averaged over 60 percent. Government interventions on behalf of rural people have been important. However, they have generally not been interventions in agricultural commodity markets. Instead, the main instruments have been cash transfers to village organizations, subsidized loan schemes (not linked to production), and a generally good system of public infrastructure.

Agricultural Policies in the Context of Trade Distortions

Even though agriculture accounts for less than 8 percent of GDP and exports, as much as two-thirds of global welfare gains from removing all merchandise trade restrictions and agricultural subsidies would come from agricultural policy reform. Without the agricultural price and trade policy reforms of 2004, global welfare would be lower by US\$233 billion annually (Anderson, 2009). Low-income economies have benefited more than high-income economies. Between 1980 and 2004, the world has moved three-fifths closer towards global free trade in goods (annual global welfare cost of policies at US\$168 billion, compared to estimated gain of US\$233 billion). All high-income economies have lowered price supports for their farmers since 1980, with some countries replacing price supports with assistance partially decoupled from production. Most countries have shifted from taxing to subsidizing agriculture. Farmers in low-income countries have tended to face depressed terms of trade relative to international product prices, which is the opposite for farmers in high-income countries, with the exception of Australia and New Zealand. Importables have received assistance throughout the past five decades.

High and Volatile Commodity Prices

This section focuses on the following commodities: cotton, corn, sugar, rice, soybean, and wheat. From 2000 to 2010, there was a significant increase in price volatility and a sharp rise in prices, except for a brief period in 2008. As the following figures show, for all of the commodities listed, the market prices as of December 2010 are significantly higher than the U.S. loan rate and target prices. As a result, the cost of the U.S. farm program has been significantly reduced because of the reduction in countercyclical payments.

For cotton, market prices from January 2000 to January 2008 were significantly below the target price and, at times, below the loan rate (Figure 2). However, in January 2010, market prices were well above the target price (Figure 3).

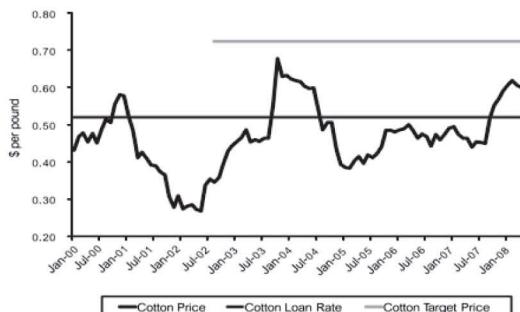


Figure 2 U.S. cotton price, loan rate and target price, Jan 2000-Jan 2008

Source: Schmitz and Schmitz (2010)

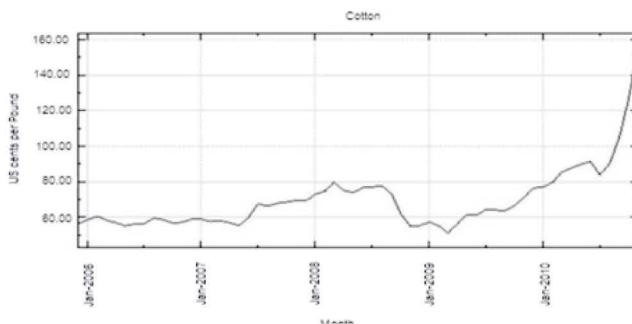


Figure 3 U.S. cotton price, 2006-2010

Source: IndexMundi (2011a)

For corn, market prices beginning in 2007 were significantly above the loan rate and target prices (Figure 4 and 5). The same was true for rice, soybean, and wheat (Figure 6, 7, and 8). At the end of 2010, world sugar prices were well above U.S. support levels (Figure 9).

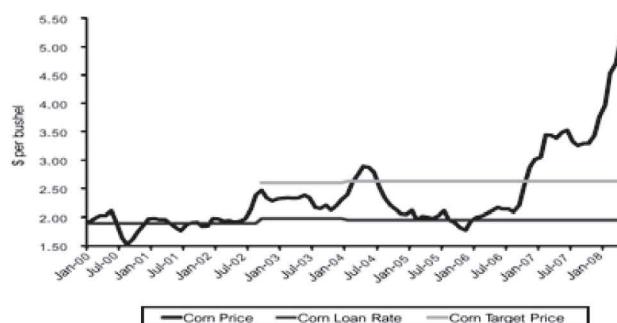


Figure 4 U.S. corn Price, loan rate and target price, Jan 2000-Jan 2008

Source: Schmitz and Schmitz (2010)

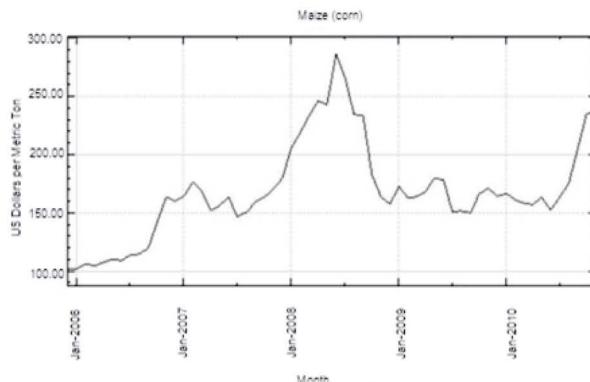


Figure 5 U.S. Corn price, 2006–2010

Source: IndexMundi (2011b)

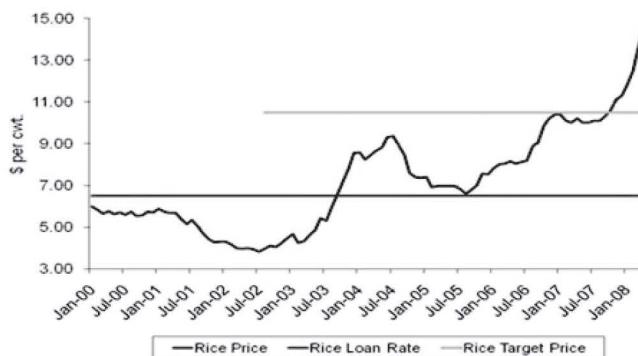


Figure 6 U.S. rice price, loan rate and target prices, Jan 2000–Jan 2008

Source: Schmitz and Schmitz (2010)

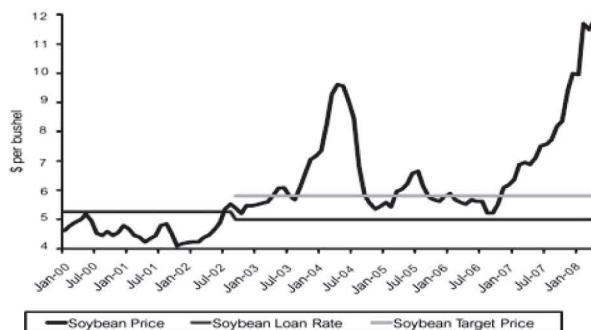


Figure 7 U.S. soybean price, loan rate and target price, Jan 2000–Jan 2008

Source: Schmitz and Schmitz (2010)

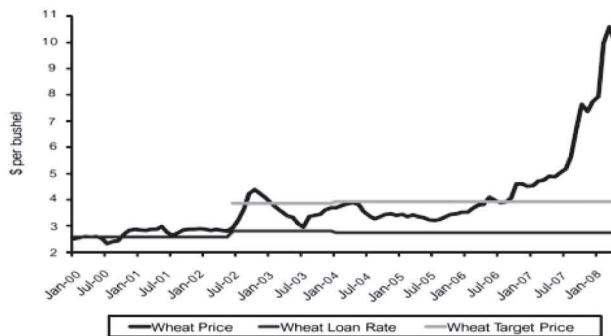


Figure 8 U.S. wheat price, loan rate and target price, Jan 2000–Jan 2008

Source: Schmitz and Schmitz (2010)

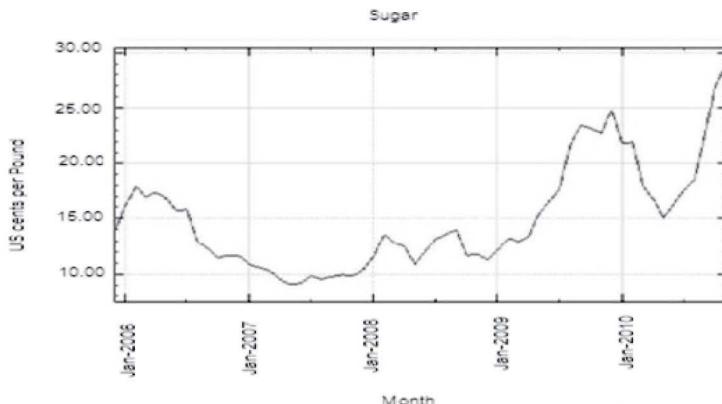


Figure 9 U.S. sugar price, 2006–2010

Source: IndexMundi (2011c)

In perspective, world food prices peaked in 2007/08 and fell sharply in 2009, only to rise again sharply in 2010 and 2011 (Table 1). For some commodities, such as meat and sugar, prices increased by more than 30 percent between 2009 and 2011 (this may also be true for fruits and vegetables). Rising food prices created political instability in many countries, including the overthrow of the government in Tunisia.

Table 1 FAO monthly food price indices, 2000-2011

Year	Food price index (avg.)	Meat	Dairy	Cereals	Oils & fats	Sugar
2000	90	96	95	85	68	116
2001	93	96	107	87	68	123
2002	90	90	82	94	87	98
2003	98	97	95	98	101	101
2004	112	114	123	107	112	102
2005	117	120	135	104	104	140
2006	127	119	128	122	112	210
2007	159	125	212	167	169	143
2008	200	153	220	238	225	182
2009	157	133	142	174	150	257
2010	185	152	200	183	193	302
2011 (Jan)	231	167	221	245	278	420
2011 (May)	231	180	231	261	259	312
2011 (Sep)	225	178	215	245	238	379

Source: Food and Agricultural Organization of the United Nations (2011)

Conclusions

Two of the main drivers that shape the future of agriculture are the United States and the European Union. Within the next decade, likely only minor changes will occur in the European Union, as it already has made significant steps toward farm program decoupling. More countries will join the European Union, but there will be pressure not to increase the EU budget for agriculture for the entire Union.

In the United States, a new farm bill will be passed in 2012. It likely will contain many of the elements present in the 2008 U.S. Farm Bill. There are ongoing discussions about reducing farm payments, but if commodity prices remain anywhere near what they were in 2010, countercyclical payments will be smaller than in the first five years of the twenty-first century (Schmitz and Schmitz, 2010). It is unclear whether the U.S. ethanol program will remain in place in the future due to the possible phasing out of the tax credits for ethanol production. According to Associate Director Eddie Gouge of CARET, another issue on the farm agenda is whether Washington will continue support for the production of ethanol fuel. President Obama extended tax credits for ethanol and biodiesel on December 17, 2010, when he signed into law the \$858 billion compromise tax legislation Congress passed during the lame-duck session. However, the future of cellulosic ethanol—made from corn cobs and other crop waste largely depends on tax credits and grants up for reauthorization in the next (2012) farm bill. One of the biggest supporters of ethanol among ethanol among Republicans is Iowa Senator Charles E. Grassley, who argues it is

key to ending U.S. dependency on foreign oil. Senator Grassley, ranking Republican on the Senate Finance Committee, succeeded in keeping the tax credits and a tariff on ethanol in the recent tax bill. However, he has sounded less optimistic about such support for the fledgling industry beyond 2011. "For next year, we're all kind of committed to taking a new approach and the phasing out of the tax credits," he told Agriculture News, a trade publication. He said he would expect the credits for the 'mature industry' to be phased out over the next five to ten years (<http://www.washingtontimes.com/news/2011/jan/9/farm-bill-fight-could-sow-division-in-gop/>).

Even though there may not be major changes in agricultural programs within the next several years, there still may well be an increase in government intervention in the functioning of commodity markets. In view of high and volatile commodity prices, interventions such as Russia's wheat export embargo are likely to increase. One thing appears certain: the United States is not likely to follow this path in view of the experiences with past embargoes.

In the 1970s and early 1980s, there was considerable discussion on food stock management as a way to deal with price instability, uncertainty, and food security (Schmitz *et al.*, 2010: 56-88). Perhaps countries/regions might pursue further the possibility of international cooperation in the holding of strategic commodity reserves.

References

Anderson, K. (ed.). 2009. *Distortions to Agricultural Incentives: A Global Perspective, 1955-2007*. Washington, D.C.: The World Bank.

Anderson, K. and W. Martin (eds.). 2009. *Distortions to Agricultural Incentives in Asia*. Washington, D.C.: The World Bank.

Food and Agricultural Organization of the United Nations. 2011. *FAO Food Price Index* (Online). www.fao.org/worldfoodsituation/wfs-home/foodpricesindex/en/, January 9, 2011.

Gouge, E. G. 2011. "Farm bill fight could sow division in GOP." *The Washington Times* (Online). www.washingtontimes.com/news/2011/jan/9/farm-bill-fight-could-sow-division-in-gop/, January 9, 2011.

IndexMundi. 2011a. *Cotton Monthly Price* (Online). www.indexmundi.com/commodities/?commodity=cotton&months=60, January 9, 2011.

_____. 2011b. *Maize Monthly Price* (Online). www.indexmundi.com/commodities/?commodity=corn&months=60, January 9, 2011.

_____. 2001c. *Sugar Monthly Price* (Online). www.indexmundi.com/commodities/?commodity=sugar&months=60, January 9, 2011.

Schmitz, A., C. B. Moss, T. G. Schmitz, H. W. Furtan, and H. C. Schmitz. 2010. *Agricultural Policy, Agribusiness, and Rent-Seeking Behaviour*. 2nd ed. Toronto: University of Toronto Press.

Schmitz, A. and T. G. Schmitz. 2010. "US and EU agricultural policy: Divergence or convergence." In V. E. Ball, R. Fanfani, and L. Gutierrez (eds.). **The Economic Impact of Public Support to Agriculture: An International Perspective**. New York: Springer, 41-66.

Schmitz, A., N. Wilson, C. Moss, and D. Zilberman (eds.). 2011. **The Economics of Alternative Energy Sources and Globalization**. UAE: Bentham Science Publishers.

Schmitz, A., T. G. Schmitz, and P. Schure. 2008. "High commodity prices and the EU's single payment scheme: Some consequences of double-dipping." **Canadian Journal of Agricultural Economics** 56 (4): 523-532.