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Implications of a Doha Agreement on Agricultural Markets in Sudan

by

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Abstract: The latest round of multilateral trade negotiations was launched at the ministerial meeting of the World Trade Organization in Doha, Qatar, in November 2001. Agriculture is a major item on the agenda for the Doha Round. The primary focus is on the three "pillars" of the Uruguay Round agreement—domestic support, market access, and export competition.

The framework for a final agreement was finalized at a Ministerial meeting in Geneva in July 2004, but contains few details on modalities (e.g., the formula to be used for reductions in tariffs/increases in tariff-rate quotas, quantitative limitations on domestic support, and the schedule for the elimination of export subsidies). Detailed proposals on a number of these issues were put forward in October 2005 by the European Union and the United States, in addition to the G10 and G20 groups of countries. The Doha Round negotiations have since run into several major hurdles, and it is unclear at this time if, or when, an agreement might be reached. Nevertheless, the range of alternatives for key parameters is becoming increasingly clear.

In this paper we analyze empirically the implications of the provisions of a Doha agreement for agricultural markets in Sudan. The analysis is based on the PEATSim model (Partial Equilibrium Agricultural Trade Simulator) developed by the Penn State University in collaboration with the Economic Research Service of the U.S. Department of Agriculture. This dynamic, multi-country, multi-commodity model covers 35 of the major traded agricultural commodities and contains a detailed representation of markets and policies in twelve countries/regions that are particularly significant for world agricultural trade. The model is used to analyze the US, EU, and G20 negotiating proposals from October 2005. The PEATSim model has previously been used to analyze a number of agricultural trade and policy reform scenarios, including global agricultural trade liberalization in all commodities, trade liberalization in global dairy markets, and trade liberalization in coarse grain markets.

Sudan is not a currently member of the WTO although it has been in the accession process since 1994. Assuming that Sudan continues outside of WTO membership, its trade policies will not be directly affected by a Doha agreement. But Sudan could be affected significantly by changes in global agricultural markets. Preliminary results using PEATSim indicate an increase in Sudanese production and exports of course grains, peanuts, cotton, sunflowers, and beef due to increases in world prices. Imports of several products increase, especially wheat, rice, and poultry meat. On the whole the preliminary results suggest that Sudanese agriculture should benefit from a Doha agreement.

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Implications of a Doha Agreement for Agricultural Markets in Sudan

Introduction

Sudan is classified by the United Nations as one of the Least Developed Countries (LDCs). These countries are characterised by structural and supply side constraints that impede their development efforts (Abdel Karim et al. 2007).

Sudan's economy is based largely on agriculture as a source of non-petroleum foreign exchange earnings, raw materials and for food market. Moreover, it is a source of services produced by other sectors, as well as a source of more than two thirds of the labor force in the country. The agricultural sector contributed, on average, about 40% of Gross Domestic Product (GDP) during the period 1994-2006 (Bank of Sudan). Agricultural exports were the main sources of foreign currency before exploitation of oil. For example, during the period 1994-1998, agricultural products represented about 88.6%, on average, of the total country's exports, and this share declined to only 6.0% in 2006 (Bank of Sudan).

Sudan has applied to join the World Trade Organization (WTO), and is currently negotiating its terms of accession to the organization. It started the negotiating process by submitting a proposal for accession. Sudan is currently undertaking reforms of its all commercial laws to bring all its trade-related laws, regulations and procedures into conformity with WTO requirements. The government of Sudan has also been implementing economic reforms since 1991 to restore economic growth and development. The modernization of the agricultural sector is one of the major areas of concern for these reforms. The liberalization of agricultural markets and subsequent abolition of price controls and export taxes reduced Sudan's trade barriers. This process should be further continued under the umbrella of the WTO after Sudan becomes a full member.

As indicated by many researchers who estimated the impacts of the global agricultural trade liberalization on developing countries and least developed countries, higher world prices are expected especially for temperate agricultural products and to a less extent

for tropical products. Many studies have provided positive estimates of the effects of agricultural trade liberalization on developing countries, suggesting that developing countries will reap most of benefits from trade liberalization (Abdel Karim 2002; Hertel et al. 2001; Matthews et al 2005). On the other side, importing countries could face record costs in obtaining food (WTO 2007). The longer term solutions for food security include cutting subsidies in rich countries so that farmers in poorer countries get better prices, development assistance to improve agricultural infrastructure and productivity, and aid for trade.

Sudan faces from time to time a difficult food security situation. With the very high dependence of the population on agriculture and a largely family structure of farming, how the ongoing reform measures, and how the global agricultural trade liberalization impact on the agricultural sector is of critical importance. Therefore, food security concerns - which essentially mean the state of the agricultural sector - should be central to any discussion of trade policy reforms.

Sudan's participation in WTO accession negotiations should be grounded in an analytical and empirical understanding of the expected effects of the WTO rules especially under the Agreement on Agriculture. Membership in this organization provides Sudan with opportunities for growth and development, and also creates new challenges**.**

The latest round of multilateral trade negotiations was launched at the ministerial meeting of the World Trade Organization in Doha, Qatar, in November 2001. Agriculture is a major item on the agenda for the Doha Round. The primary focus is on the three "pillars" of the Uruguay Round agreement—domestic support, market access, and export competition.

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Round negotiations have since run into several major hurdles, and it is unclear at this time if, or when, an agreement might be reached. Nevertheless, the range of alternatives for key parameters is becoming increasingly clear (Abler and Blandford 2007).

In this paper we analyze empirically the implications of the provisions of a Doha agreement on agricultural markets in Sudan. More specifically, this paper analyze the impact of the US, EU, and G20 proposals on agricultural markets in Sudan.

Methodology

A framework adopted in this study is the PEATSim (Partial Equilibrium Agricultural Trade Simulator) model, which is a multi-country, multi-commodity, non-spatial, applied partial equilibrium model of global agricultural trade. The model was developed through a collaborative project involving the Pennsylvania State University and the Economic Research Service (ERS) of the US Department of Agriculture. The model has previously been used by several researchers to analyze a number of agricultural trade and policy reform scenarios, including global agricultural trade liberalization in all commodities, trade liberalization in global dairy markets, and trade liberalization in coarse grain markets (e.g. see Abler and Blandford 2007).

The PEATSim model applied in this study covers 13 countries/regions: Argentina, Australia, Brazil, Canada, China, European Union (EU-25), Japan, Mexico, New Zealand, South Korea, the United States, Sudan, and an aggregate for the rest of the world (ROW). Sudan was included in the model to depict the potential impact of trade liberalization on its agriculture.

The model includes 35 commodities: 13 crops (rice, wheat, corn [maize], other coarse grains, soybeans, sunflower seed, rapeseed, peanuts, cotton [fiber and oilseed], other oilseeds, tropical oils, and sugar); 12 oilseed products (soybean oil and meals, sunflower seed oil and meal, rapeseed oil and meal, cottonseed oil and meal, peanut oil and meal, other oilseed oil and meal); 3 meats (beef and veal, pork, and poultry); raw milk and 6 processed dairy products (fluid milk, butter, cheese, nonfat dry milk, whole

dry milk, and other dairy products. The 'other coarse grains' aggregate is primarily barley, sorghum, millet and oats. The 'other oilseeds' aggregate includes canola, flaxseed and others. 'Tropical oils' include olive oil, palm oil, coconut oil, and others. The 'other dairy products' aggregate includes ice cream, yogurt, whey, and other miscellaneous dairy products.

Production and/or consumption of 15 of the 35 products in PEATSim are negligible in Sudan: soybeans, soybean oil, soybean meal, sunflowerseed oil, sunflowerseed meal, rapeseed, rapeseed oil, rapeseed meal, tropical oils, pork, butter, cheese, nonfat dry milk, whole dry milk, and other dairy products. These products are excluded from the results tables below for Sudan.

Treatment of Trade

Raw milk, fluid milk, and other dairy products are treated as non-traded commodities. The other 32 commodities are traded internationally. The model is non-spatial, meaning that it does not distinguish a region's imports by their source or a region's exports by their destination. It is a gross trade model that accounts for total exports and total imports of each commodity in every region. This is accomplished in most cases by having the smaller of the two (exports or imports) in a region governed by an Armington-like equation that is consistent with historical trade, while the larger of two (exports or imports) adjusts as needed to help clear global agricultural markets.

Policy Coverage

The model is different from other partial equilibrium trade models in that it explicitly incorporates a wide range of domestic and border policies in agriculture. The core set of policies for all countries includes both specific and ad valorem import tariffs, tariff-rate quotas (TRQs), and producer and consumer subsidies. Export subsidies are not explicitly included in the model but they are implicit in that products having intervention or other support prices requiring government purchases must have some mechanism for disposal of government stocks through subsidized sales abroad. Other types of domestic policies and programs are also included. For example for the EU the model

includes intervention prices, variable import levies, compensatory payments, acreage set-asides, base area bounds.

Data, Base Year, and Analysis Period

The model's base year is 2004. Baseline data on area, yields, production, consumption, stocks, and trade are drawn from USDA and country sources, including USDA's PS&D (Production, Supply and Distribution) database.[1] World prices are drawn from the ERS baseline projections database.[2] Tariffs and TRQs are drawn from the Agricultural Market Access Database (AMAD).[3] Sudan's baseline data are taken from the State Ministry of Agriculture and annual reports of Bank of Sudan. The model uses actual applied tariff rates rather than WTO bound rates, recognizing that bound rates significantly exceed applied rates in many cases. The analysis period over which the model runs is 2005-2014.

Model Structure and Parameters

The model is a reduced-form economic model in which the behavior of producers, consumers, and other economic agents is represented by elasticities and other model parameters. The behavioral equations in the model are largely constant-elasticity in nature. Constant-elasticity functions are used because of their ease of interpretation and well-behaved properties (provided the elasticities are chosen appropriately). The structure of the behavioral equations is the same for all countries in the model. The parameters of the equations and the values of variables in these equations vary from one country to another.

The model includes five types of consumption activities: food/consumer demand, feed demand, crush demand, dairy processing demand, and other use demand (which includes biofuels, seed use, and waste). The model in this respect follows the logic of the PS&D database.

The parameter values for the model come from various sources, including the European Simulation Model (ESIM), the ERS baseline projections model, the Food and

[1] See http://www.fas.usda.gov/psdonline/.
[2] See http://www.ers.usda.gov/Data/Baseline/.
[3] See http://www.amad.org/.

Agricultural Policy Simulator (FAPSIM), OECD's AGLINK model, FAO's World Food Model, the International Food Policy Research Institute's IMPACT model, the Policy Analysis System-Economic Research Service (POLYSYS-ERS) model, and SWOPSIM (Static World Policy Simulation Model).

A number of restrictions were imposed on the model's elasticities to ensure that requirements of economic theory are satisfied at the baseline values for the data. These requirements include symmetry and homogeneity in output supply equations, land demand equations (crop production), feed demand equations (livestock production), and consumer food demand equations. World prices are in US dollars and all domestic prices and policies are expressed in US dollars. Exchange rates are treated as exogenous.

Scenarios

A number of detailed proposals have been made recently to reach final agreement on agriculture and the range of alternatives for key parameters is becoming increasingly clear (Abler and Blandford 2007). In 2005, the United States offered a detailed proposal with specific modalities for the adoption of new disciplines on the three major agricultural reform pillars i.e. export competition, domestic support, and market access (Hanrahan et al. 2005). The U.S. proposal encouraged three major negotiating participants — the EU, the G20 group of developing countries, and the G10, to offer separate proposals for agricultural modalities.

WTO scenario: in this paper we analyzed the impact of US, EU, and G20 proposals on agricultural market of Sudan.

Market Access - The tariff cuts for the US, EU, and G20 proposals as they are simulated in this scenario are presented in Table 1. Each proposal has four bands for tariff cuts. The cuts in the US proposal increase linearly within each band, starting for example for a developed country at 55% in the first band and increasing to 65% when the upper limit of the first band is reached. The tariff cuts in the EU and G20 proposals

are a fixed percentage within each band. All three proposals specify smaller tariff cuts for developing countries than developed countries.

Because it is not a WTO member, none of the tariff cuts in these proposals apply to Sudan. Even if it were a WTO member, as an LDC Sudan would not be required to undertake any tariff cuts under the US, EU, and G20 proposals.

Tariff cuts in the PEATSim model are implemented at the 8-digit level of the Harmonized System (HS) and then aggregated to the level of the commodities in the model. The aggregation is through a simple, un-weighted average of tariff lines. The PEATSim model includes a bound/applied calculator that cuts bound rates and sets each new applied tariff equal to the smaller of the new bound rate or the original applied rate.

Export Competition - The three proposals analyzed here include the elimination of export subsidies. This is accomplished in the model by reducing intervention prices (and support price schemes that operate in a similar manner) to world prices over the five-year phase-in period 2008-2012, since it is intervention prices that lead to the accumulation of products that must be disposed of on world markets. Once the reduction is fully phased in, each intervention price is set equal to the smaller of last year's world reference price or last year's intervention price.

Domestic Support – For the purposes of this paper, the EU's Single Farm Payment (SFP) and US direct payments are assumed to remain in the Green Box. The PEATSim model also assumes that these payments have no impacts on production.

Results and Discussion

This section presents the effects of the US, EU and G20 proposals on Sudanese agricultural markets. The results presented in this here are for 2014, after an agreement is assumed to be fully phased in (2012) and the model dynamics have had an additional two years to work themselves through. Thus, the results should be seen as medium run in nature.

Domestic Prices

Table 2 indicates percentage changes from the baseline in domestic prices in Sudan. Both producer and consumer prices are equal to domestic prices because there are no policies in the model (e.g. producer or consumer subsidies) that would drive a wedge between producer and consumer prices. Domestic prices in Sudan are equal to world prices plus tariff and transportation costs, so that changes in domestic prices parallel to changes in world prices.

The results for all three proposals indicate large percentage increases in domestic prices for corn, other coarse grains, other oilseed oil, and sugar. There are also significant increases in domestic prices for rice, wheat, and beef and veal. These are all commodities for which tariffs worldwide tend to be quite high.

In general, domestic prices show the largest changes under the US proposal and the smallest changes under the EU proposal, with the G20 results lying in the middle. This makes sense because tariff cuts globally under the US proposal are the largest of the three proposals while cuts under the EU proposal are the smallest.

Production

Table 3 indicates percentage changes from the baseline in production in Sudan. Sudan's production of grains (wheat, rice, corn, and other coarse grains), sugar, and milk increases in response to higher producer prices. Except for other oilseeds, production of oilseeds, oilseed oils, and oilseed meals decreases due to cross-price effects in supply, as land and other producer resources are drawn into grains. Similarly, increases in milk production generally come at the expense of production of beef & veal and poultry, except for beef & veal under the US proposal.

Consumption

Table 4 indicates percentage changes from the baseline in consumption in Sudan. Consumption generally falls in response to higher domestic prices, except for raw milk, fluid milk, and cottonseed under the EU proposal.

Exports and Imports

Table 5 indicates Sudanese exports and imports of key tradable commodities in the model's base period (2004), the model baseline (2014), and under the three proposals. The major differences between the base period and the model baseline are in other coarse grains, other oilseeds, and sugar exports. Exports of other coarse grains substantially increase from 17000 metric tons to 142000 metric tons. Exports of other oilseeds increase from 218000 metric tons to 273000 metric tons, and for sugar exports increase from 24000 metric tons to 47000 metric tons in the baseline. The results reflect the Sudan's production potential for these commodities.

The most important differences between the model baseline and the three proposals lie in exports of other coarse grains and exports of sugar, which increase significantly under all three proposals.

Conclusion

As long as Sudan is not a member of the WTO, the major effect of global agricultural trade liberalization facing it is higher world prices and therefore higher domestic prices. The results of the PEATSim model show that Sudan's agricultural producers will benefit from higher prices but consumers will be negatively affected. Production and exports of major agricultural commodities are projected to increase under the US, EU, and G20 proposals. Designing domestic policy that favorable for agriculture is important for Sudan to maximize its benefits from global agricultural trade liberalization and to maximize its potential in agricultural production.

Table 1. Tariff Cuts: US, EU, and G20 Proposals

	US Proposal		EU Proposal		G20 Proposal	
Developed Countries	AVE[4] Tariffs within Band	Percentage Cut in AVE	AVE Tariffs within Band	Percentage Cut in AVE	AVE Tariffs within Band	Percentage Cut in AVE
Band						
1	0-20	55-65%	0-30	35%	0-20	45%
2	20-40	65-75%	30-60	45%	20-50	55%
3	40-60	75-85%	60-90	50%	50-75	65%
4	60+	85-90%	90+	60%	75+	75%
Tariff Cap (%)	75%		100%		100%	
Sensitive Products (% of Tariff Lines)	1%		8%		1%	
Developing Countries	**US Proposal**		**EU Proposal**		**G20 Proposal**	
Band						
1	0-20	37-43%[5]	0-30	25%	0-30	25%
2	20-40	43-50%	30-80	30%	30-80	30%
3	40-60	50-57%	80-130	35%	80-130	35%
4	60+	57-60%	130+	40%	130+	40%
Tariff Cap (%)	100%		150%		150%	
Sensitive Products (% of Tariff Lines)	1%		8%		1%	

Source: Abler and Blandford (2007)

[4] AVE = ad valorem equivalent.
[5] Developing country tariff cuts under the US proposal are two-thirds of the corresponding developed-country cuts.

Table 2. Domestic Prices in Sudan (Percentage Change from Baseline)

Commodity	US Proposal	EU Proposal	G20 Proposal
Rice	7.2	4.7	5.4
Wheat	7.7	4.5	5.6
Corn	11.9	7.4	9.5
Other Coarse Grains	10.5	7.2	8.6
Sunflowerseed	3.2	1.9	2.2
Cottonseed	4.6	2.5	3.3
Cottonseed Oil	4.6	2.7	3.4
Cottonseed Meal	2.0	0.7	1.6
Peanuts	4.2	2.5	3.1
Peanut Oil	3.6	2.2	2.7
Peanut Meal	6.6	3.4	4.5
Other Oilseeds	8.5	4.0	5.9
Other Oilseed Oil	7.2	3.9	5.4
Other Oilseed Meal	8.7	1.0	4.0
Cotton	5.4	3.1	4.1
Sugar	14.7	7.4	11.0
Beef & Veal	6.3	3.1	4.3
Poultry	4.8	2.6	3.4
Raw Milk	3.1	2.0	2.4
Fluid Milk	3.2	2.0	2.5

Table 3. Production in Sudan (Percentage Change from Baseline)

Commodity	US Proposal	EU Proposal	G20 Proposal
Rice	0.9	0.6	0.7
Wheat	1.0	0.5	0.6
Corn	2.6	1.7	2.1
Other Coarse Grains	2.3	1.8	2.0
Sunflowerseed	-0.9	-0.5	-0.7
Cottonseed	-0.8	-0.7	-0.7
Cottonseed Oil	-0.4	0.0	-0.2
Cottonseed Meal	-0.4	0.0	-0.2
Peanuts	-0.1	-0.1	-0.1
Peanut Oil	-0.6	-0.4	-0.5
Peanut Meal	-0.6	-0.4	-0.5
Other Oilseeds	0.8	0.1	0.4
Other Oilseed Oil	-1.9	-1.1	-1.5
Other Oilseed Meal	-1.9	-1.1	-1.5
Cotton	-0.8	-0.7	-0.7
Sugar	3.6	1.8	2.7
Beef & Veal	0.3	-0.2	-0.1
Poultry	-0.5	-0.6	-0.7
Raw Milk	0.4	0.2	0.3
Fluid Milk	0.1	0.0	0.1

Table 4. Consumption in Sudan (Percentage Change from Baseline)

Commodity	US Proposal	EU Proposal	G20 Proposal
Rice	-0.1	-0.1	-0.1
Wheat	-0.2	-0.1	-0.1
Corn	-1.1	-0.7	-1.0
Other Coarse Grains	-0.8	-0.7	-0.8
Sunflowerseed	—	—	—
Cottonseed	-0.4	0.0	-0.2
Cottonseed Oil	-1.1	-0.6	-0.8
Cottonseed Meal	-0.1	-0.1	-0.1
Peanuts	-0.2	-0.1	-0.2
Peanut Oil	-0.7	-0.4	-0.5
Peanut Meal	-0.5	-0.4	-0.4
Other Oilseeds	-1.9	-1.1	-1.5
Other Oilseed Oil	-2.0	-1.1	-1.5
Other Oilseed Meal	-0.8	-0.1	-0.4
Cotton	-0.1	-0.1	-0.1
Sugar	-0.8	-0.4	-0.6
Beef & Veal	-0.6	-0.2	-0.4
Poultry	0.0	-0.1	-0.1
Raw Milk	0.4	0.2	0.3
Fluid Milk	0.1	0.0	0.1

Table 5. Sudanese Exports and Imports (1000 MT)

Commodity	Base Period (2004)		Model Baseline (2014)		US Proposal (2014)		EU Proposal (2014)		G20 Proposal (2014)	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
Rice	0	36	0	36	0	36	0	36	0	36
Wheat	0	1066	0	1067	0	1060	0	1064	0	1063
Corn	0	0	0	2	0	0	0	1	0	0
Other Coarse Grains	17	0	142	0	315	0	279	0	300	0
Sunflowerseed	7	0	6	0	6	0	6	0	6	0
Cottonseed			0	3	0	4	0	4	0	4
Peanuts	3	0	5	0	6	0	5	0	5	0
Other Oilseeds	218	0	273	0	280	0	275	0	278	0
Other Oilseed Oil	0	0	0	0	0	0	0	0	0	0
Other Oilseed Meal	0	0	1	0	0	0	0	0	0	0
Cotton	79	0	77	0	76	0	76	0	76	0
Sugar	24	17	47	17	81	17	64	17	73	17
Beef & Veal	6	0	5	0	20	0	5	0	11	0
Poultry	0	217	0	217	0	217	0	217	0	217

Note: Exports and imports of all commodities not listed are zero.

References

Abdel Karim, I. (2002). The Impact of the Uruguay Round Agreement on Agriculture on Sudan's Agricultural Trade. Berliner Schriften zur Agrar-und Umweltökonomik Band 2, Shaker Verlag, Germany.

Abdel Karim, I. and Alfahl, E. (2007). The Impact of Domestic and Trade Policies on Sudan's Agricultural Trade. Contributed paper to the Symposium on China's Agricultural Trade: Issues and Prospects, July 8-9th, 2007, Beijing, China.

Abler, D., and D. Blandford (2007) Implications of a Doha Agreement for Agricultural Policies in the European Union. Contributed paper to the Symposium on China's Agricultural Trade: Issues and Prospects, July 8-9th, 2007, Beijing, China

Bank of Sudan – Annual reports

Hanrahan, C. and Schnepf**,** R**.** (2005). WTO Doha Round: Agricultural Negotiating Proposals. CRS Report for Congress, WDC.

Hertel, T., Preckel, P. and Reimer, J. (2001). Trade policy, Food Price Variability, and the Vulnerability of Low-Income Households. Paper presented at the joint meeting of the American Agricultural Economics Association and Canadian Agricultural Economics Society, USA.

Falconer, C. (2007). "Communication from the Chairman of the Committee on Agriculture, Special Session." World Trade Organization. April 30, 2007.

Matthews, L., Christophe, J. and Jean, S. (2005). Agricultural Trade Liberalization: Assessing the consequences for Developing Countries. Paper Prepared for XIth EAAE Congress, Denmark.

WTO (2007). Spotlight on US domestic support in Agriculture Committee. WTO news letter, 21 November.