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Single Commodity Dependence and Impact of GDP Shock in Sub-Saharan Africa

Adam Gerval and Jim Hansen

Selected presentation for the International Agricultural Trade Research Consortium's (IATRC's) 2020 Annual Meeting: Economic Implications of COVID-19, December 14-15, 2020, Virtual platform.

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United States Department of Agriculture

Single-commodity Dependence & Impact of GDP Shock in Sub-Saharan Africa

Presented to the
International Agricultural Trade Research
Consortium – Annual Meeting
December 15, 2020
Adam Gerval & Jim Hansen

Disclaimer: The findings and conclusions in this presentation are those of the authors and should not be construed to represent any official USDA or U.S. Government determination or policy. This presentation was supported by the U.S. Department of Agriculture, Economic Research Service (USDA/ERS)



Outline

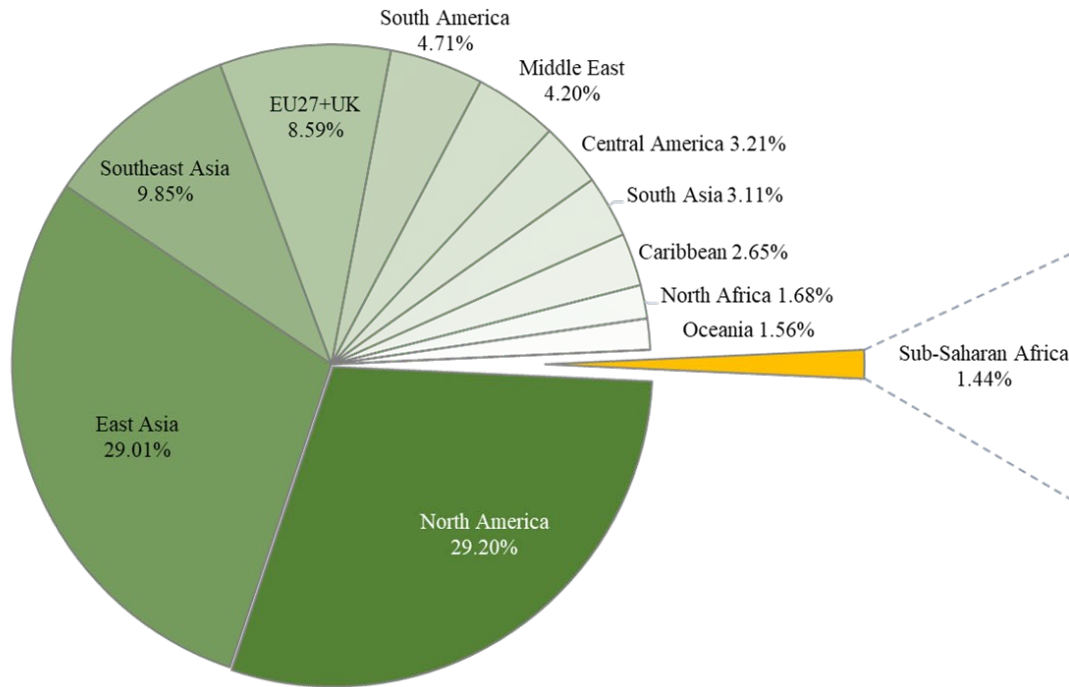
- **Sub-Saharan Africa in Context:** Proportion of US exports to sub-Saharan Africa and commodity diversification issues
- **Single-Commodity Dependence (SCD):** Growth volatility creates obstacles to sustainable development
- **Development issues in SSA:** Masked economic deficiencies provide misleading indicators of import potential
- **Import Potential & SCD:** Forex shortages and export revenue further entrench development issues
- **Commodity Dependence as Predictive Variable:** Oil prices inform degree of volatility and ability to import US agricultural goods
- **GDP Scenario & Results:** How macroeconomic shock will impact recent consumption trends
- **Conclusion & Key Findings**



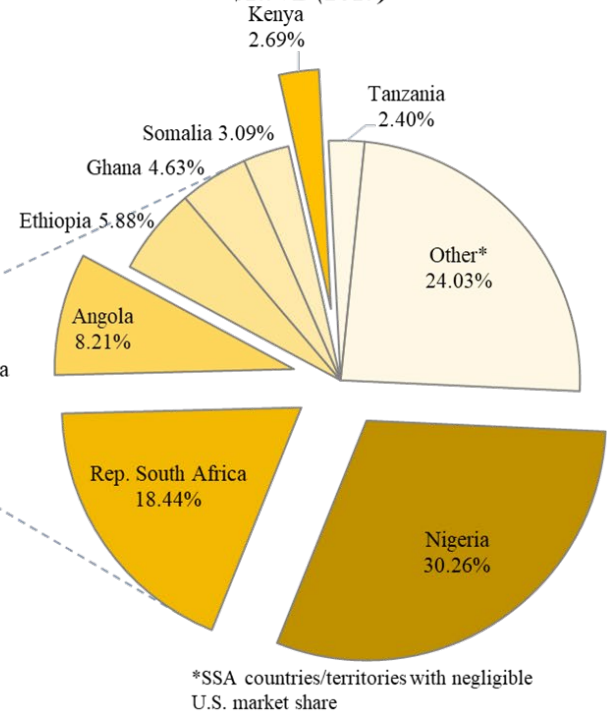
Sub-Saharan Africa in Context

Share of US Agricultural Exports by Region (2019)

Value Share of U.S. Agricultural Exports (to World)
\$136.7B (2019)



Value Share of U.S. Agricultural Exports to sub-Saharan Africa (by country)
\$1.97B (2019)



- Sub-Saharan Africa (SSA) accounts for 1.44% of U.S. agricultural exports by region (left pie chart), and increased in share by only 0.21% from 1990 to 2019
- U.S. agricultural exports to the region are concentrated among few primary markets relative to the geographic size and number of countries in the region

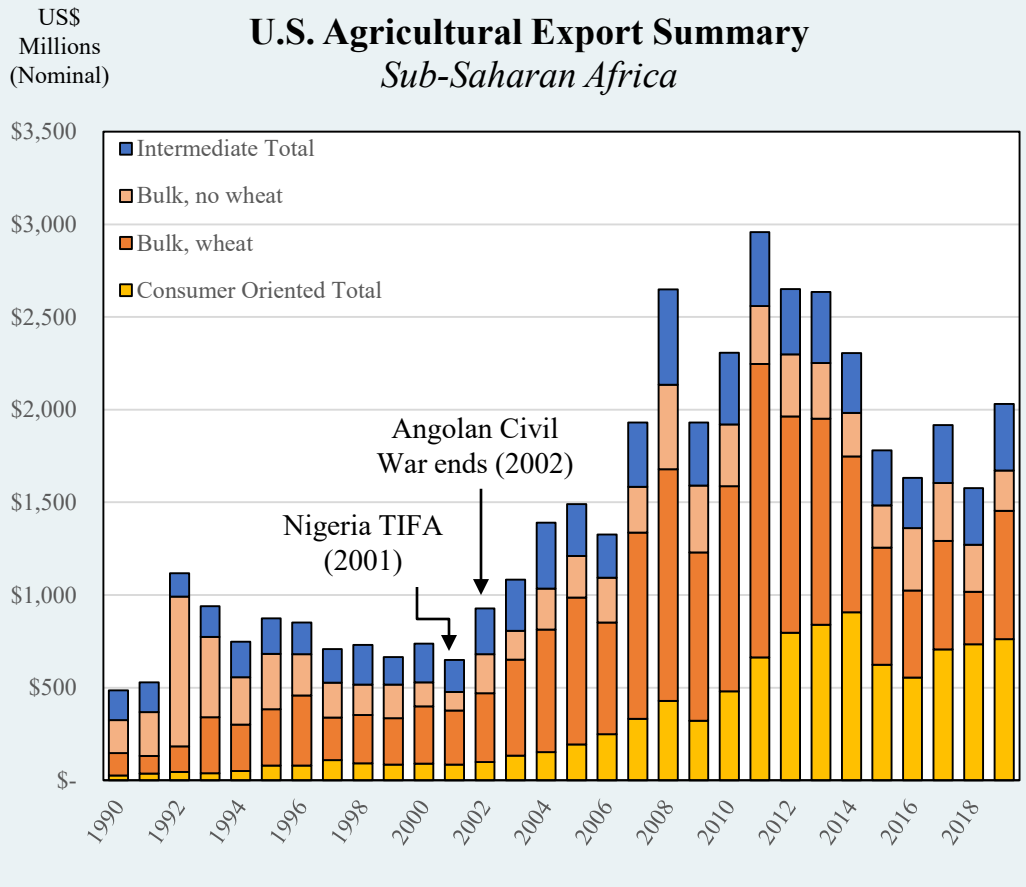
Source: Global Agricultural Trade System (GATS) December 2020



Sub-Saharan Africa in Context

U.S. Export Data & Commodity Breakdown

U.S. Agricultural Export Summary
Sub-Saharan Africa



Source: USDA, FAS, Global Agricultural Trade System (GATS) December 2020

- Increased market access for U.S. agricultural goods driven by policy developments (Nigeria-US Trade and Investment Framework Agreement (TIFA)) and end of Angolan Civil War (2002)
- **Wheat** exports to **Nigeria** account for majority (52%) of U.S. bulk commodities exported to SSA in 2019. These exports decline after 2011. Other bulk exports include coarse grains (i.e., sorghum)
- Angolan Civil War (1975-2002) disrupts country's once vibrant agricultural sector, forcing the import of many consumer commodities (primarily poultry meats)
- U.S. consumer-oriented products—majority of which are poultry meats and products—exported to **Angola** and **Ghana**, poultry accounts for 59% percent of the consumer-oriented exports in 2019



Single-Commodity Dependence

Definition & Regional Summary

SINGLE COMMODITY DEPENDENCE (BY COUNTRY)					
	Angola	Ethiopia	Ghana	Kenya	Nigeria
Commodity Exports (as a % of total merchandise exports)	100	85	94	72	98
Commodity Exports (as a % of GDP)	25.6	3.7	29.2	5.2	11.6
Exports by commodity group (as a % of merchandise exports):					
• Agricultural commodities	0	72	28	61	5
• Fuels	97	4	24	5	92
• Ores, metals, precious stones and non-monetary gold	2	10	43	6	2
Leading commodity exports (as a % of merchandise exports):					
• Cocoa	-	-	18	-	-
• Coffee and coffee substitutes	-	23	-	-	-
• Crude vegetable materials, n.e.s.	-	-	-	13	-
• Gold, non-monetary (excluding gold ores and concentrates)	-	-	40	-	-
• Natural abrasives, n.e.s. (including industrial diamonds)	2	-	-	-	-
• Natural gas, whether or not liquified:	-	-	-	-	11
• Oilseeds and oleaginous fruits (excluding flour)	-	12	-	-	-
• Petroleum oils, oils from bitumen, materials, crude	96	-	23	-	77
• Petroleum oils or bituminous materials > 70 % oil	-	-	-	5	1
• Residual petroleum products, n.e.s, related mater	2	-	-	-	-
• Tea and mate	-	-	-	24	-
• Vegetables:	-	16	-	-	-

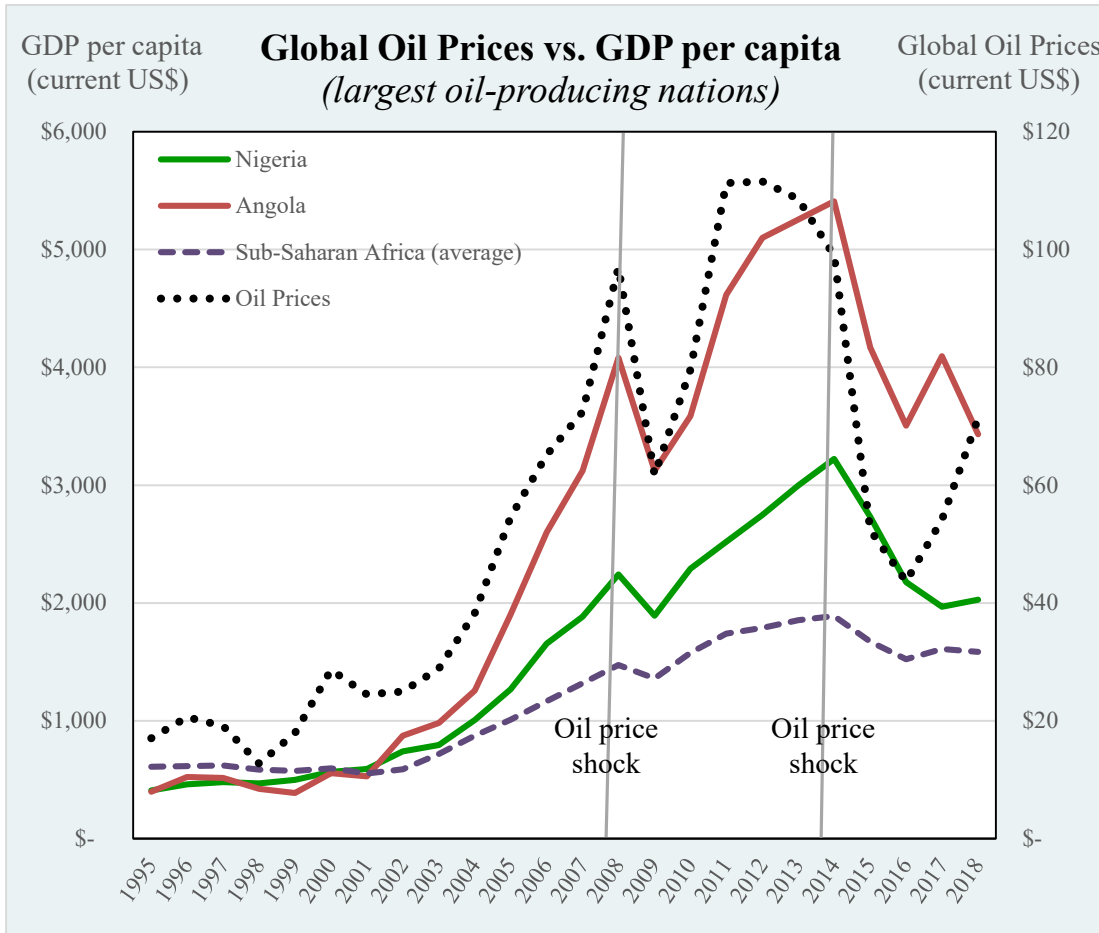
- Single-commodity dependence is pervasive throughout SSA, with 89 percent of countries deriving at least 60 percent of total merchandise exports (by value) from commodities; most derive between 80 and 100 percent
- Oil-dependent countries derive disproportionate share of foreign exchange and export revenue: oil exports accounting for more than 90 percent of foreign exchange earnings and 70-75 percent of export revenue in Angola and Nigeria

Source: UN Conference on Trade & Development
– 2019 State of Commodity Dependence Report



Single-Commodity Dependence

Masking Development Issues



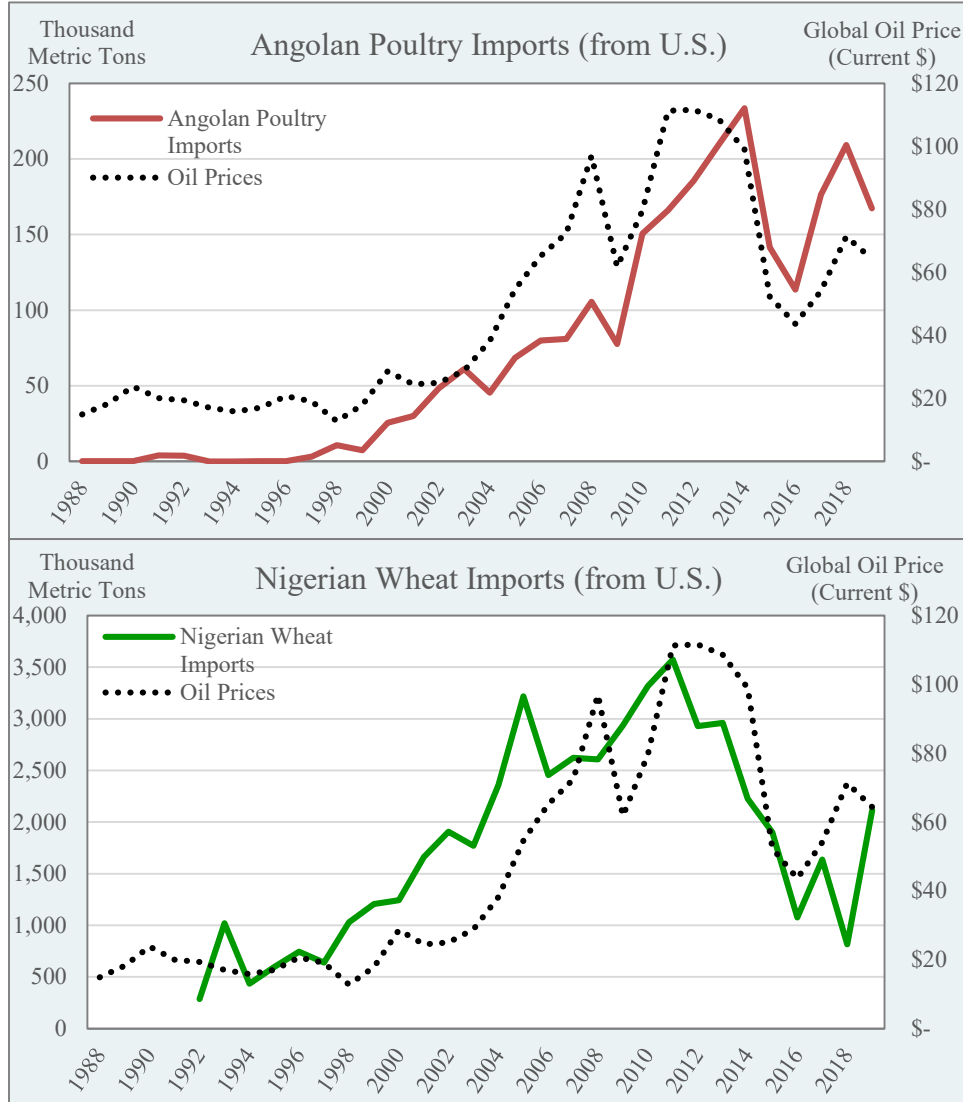
- Countries with large reliance on oil production are particularly susceptible to frequent price shocks inherent in such commodities
- Despite having the 6th (Angola) and 8th largest GDP per capita in the region, neither country enjoys the distributive benefits of oil production
- The advent of the oil sector in Nigeria and Angola drew domestic and foreign investment at the cost of other economic sectors, often agriculture and manufacturing
- Lacking the skilled workers and infrastructure to cultivate oil sectors, developing countries rely on multinational corporations to cultivate fledgling oil industries; skilled workers are imported from overseas to work in oil sectors while most Nigerian and Angolan employment is in the informal economy

Source: World Bank, Federal Reserve Economic Data (FRED)



Single-Commodity Dependence

Terms-of-Trade Shocks



- Periods of decline in commodity prices elicits a terms-of-trade shock, reducing ability to import
- The US has seen a decline in imports of SSA oil as it reaches higher self-sufficiency levels, while the EU accounts for roughly one-third of all Nigerian and Angolan oil exports (2019); lower oil imports from SSA raise exchange rate volatility and shrink dollar reserves
- Drops in global oil prices impact demand for foreign products by reducing foreign exchange reserves, increasing demand for cheaper alternatives (i.e., Russia, Canada, and EU)
- Nigeria and Angola have faced a severe dollar shortage since the oil shock in 2014; oil prices still have not recovered to their pre-2014 level; dollar shortage severely limits the ability to import, with most foreign exchange reserved for strategic imports during periods of economic shock

Source: Global Agricultural Trade System (GATS),
Federal Reserve Economic Data (FRED)

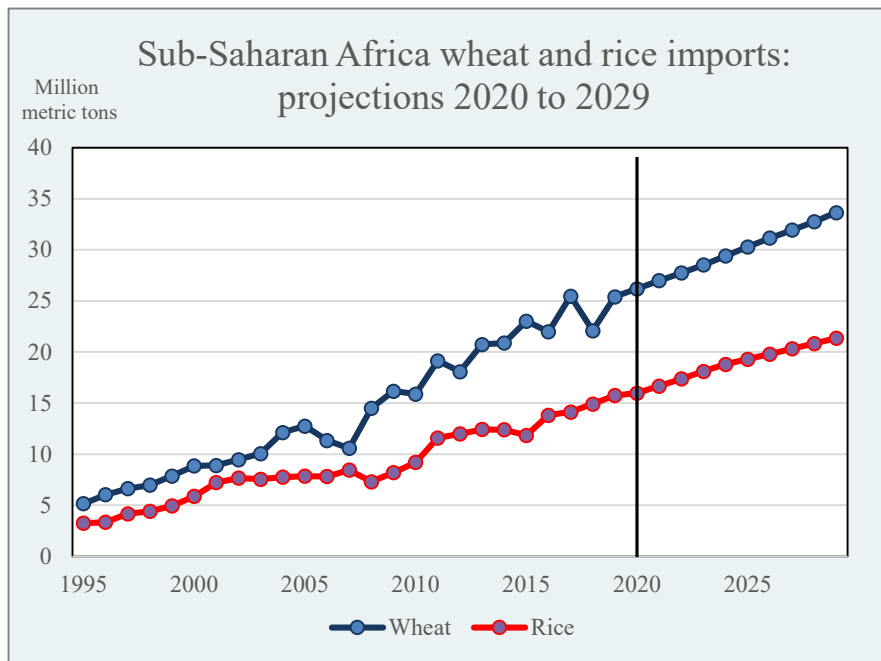


Impact of macroeconomic shocks on consumption, trade, and production for wheat, rice, corn, and poultry

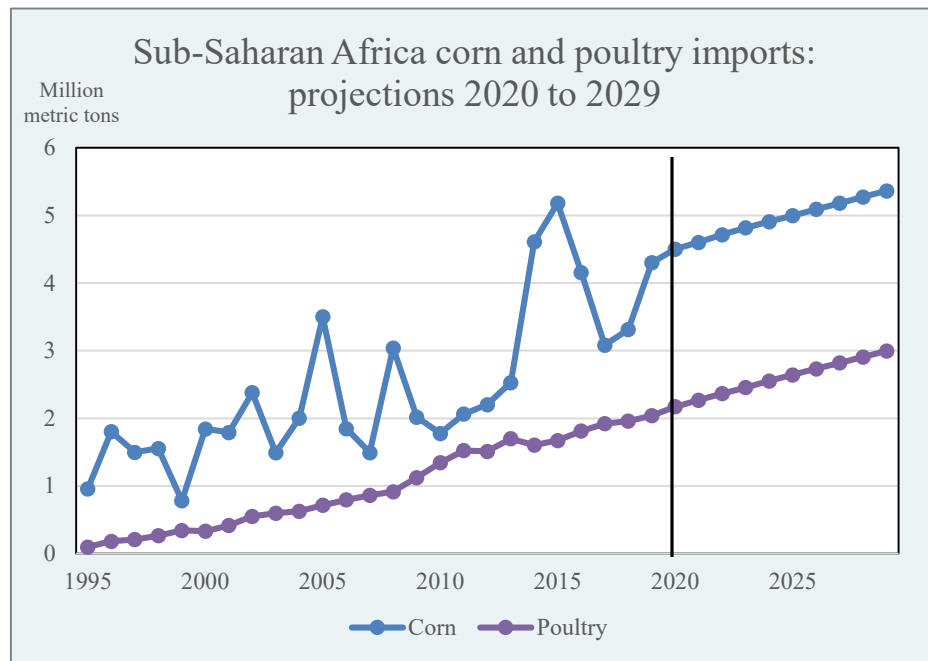
Model description, scenarios and results for decreasing GDP in country and regional models



The key commodities for this preliminary research are rice, wheat, corn and poultry.



USDA Long-term Projections, Feb, 2020



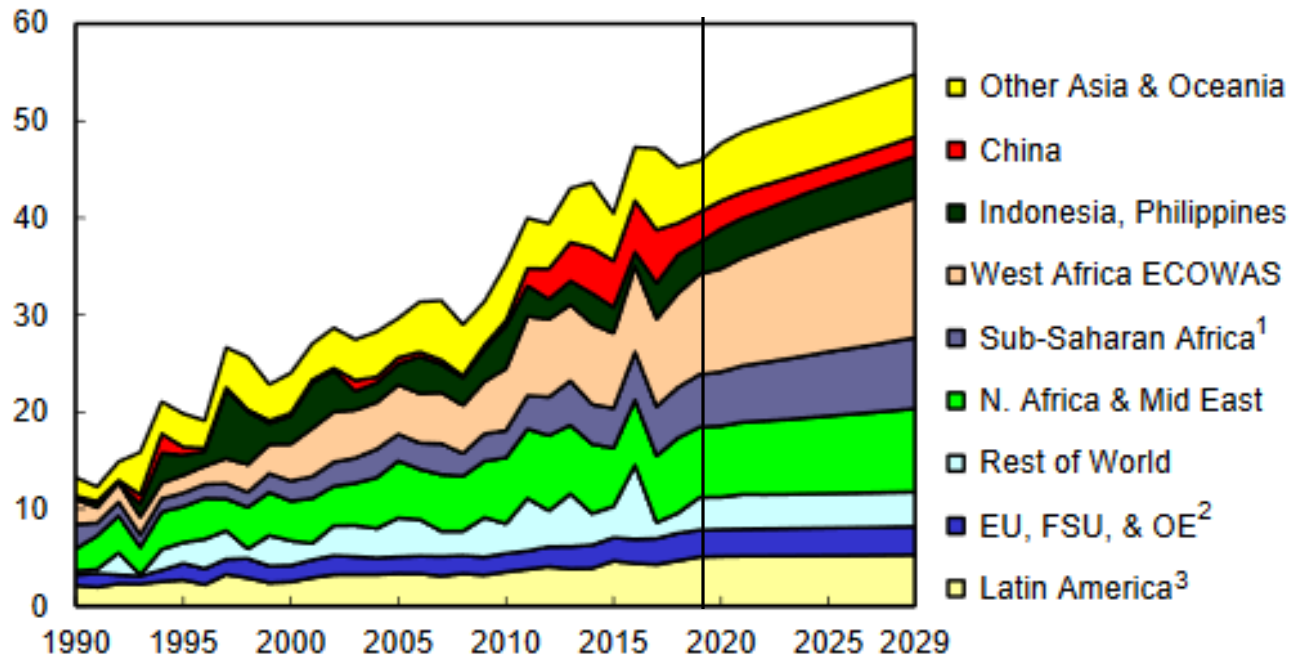
USDA Long-term Projections, Feb, 2020

- Population growth rates, growing GDP per capita, and urbanization have increased demand for rice products in the region



Global rice Imports

Million metric tons



¹ Exclude 15 member countries in Economic Community of West African States, ECOWAS. ² European Union, former Soviet Union, and Other Europe. ³ Includes Mexico.

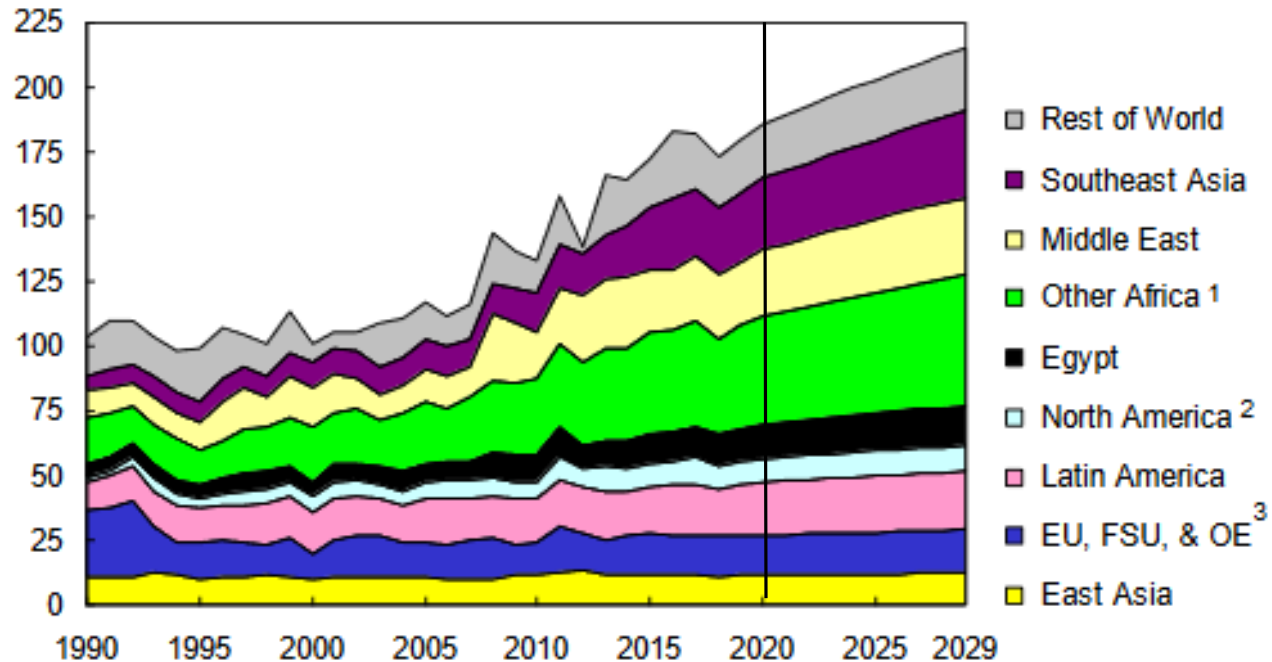
USDA Long-term Projections, Feb, 2020

- Sub-Saharan Africa is the largest rice importing region in the world
- Growing GDP per capita and urbanization have increased demand for rice products in the region



Global wheat Imports

Million metric tons



¹ Africa, excluding Egypt. ² Canada, U.S., and Mexico.

³ European Union, former Soviet Union, and Other Europe. Includes intra-FSU trade.

USDA Long-term Projections, Feb, 2020

- Sub-Saharan Africa is the fastest growing wheat market in the world
- Growing GDP per capita and urbanization have increased demand for wheat products in the region



USDA's Baseline Model & Agricultural Projections

- Modeling system: dynamic partial equilibrium simulation non-spatial trade country models
 - 43 countries/regions, 24 commodity markets
 - Equilibrates: (Supply = Demand) & (Imports = Exports)
Solves for prices and trade, clear world and country markets
- Baseline Development: Analysts Judgment: Model + Delphi approach
 - Country modelers, Commodity analysts (ERS, WOAB, FAS, NASS, ...)
 - Country specialist, Weather and geographic specialists
- 10-year projection of major commodities
 - Supply, demand, trade, and prices.
 - Based on October 2019 market conditions. Released Feb 2020
- Assumptions:
 - Continuation of current U.S. law and international trade agreements
 - Population growth slows, strongest in developing countries
 - Macroeconomic growth – strongest in emerging markets
- Process: Macro, modelers, analyst meetings, trade-commodity spec, calibrate



One scenario is conducted on 4 country models: ECOWAS (less Nigeria), Nigeria, South Africa, and Other Sub-Saharan

The scenario is a -2% growth rate in GDP growth for 2020, then a rebound in GDP growth in 2022 and 2023.

- The ECOWAS (less Nigeria) is a decrease in GDP growth rate from the base by 7.5% and 3.5% in 2020 and 2021. Then rebound by 2.6% and 1% above the base in 2022 and 2023.
- Nigeria is a decrease in GDP growth rate from the base by 4.0% and 1.8 % in 2020 and 2021. Then rebound by 0.7% above the base in 2022.
- South Africa is a decrease in GDP growth rate from the base by 3.2% and 0.8 % in 2020 and 2021. Then rebound by 0.5% and 0.3% above the base in 2022 and 2023
- Other Sub-Saharan is a decrease in GDP growth rate from the base by 6.0% and 2.1 % in 2020 and 2021. Then rebound by 1.6% above the base in 2022.



Scenario for decreasing GDP in country and regional models

ECOWAS (less Nigeria)												
	mkt 18/19	mkt 19/20	mkt 20/21	mkt 21/22	mkt 22/23	mkt 23/24	mkt 24/25	mkt 25/26	mkt 26/27	mkt 27/28	mkt 28/29	mkt 29/30
	cal 2019	cal 2020	cal 2021	cal 2022	cal 2023	cal 2024	cal 2025	cal 2026	cal 2027	cal 2028	cal 2029	cal 2030
GDP												
Base	207,087	219,031	231,071	242,916	254,619	266,108	277,695	289,242	301,049	313,381	326,265	339,728
Scen	207,087	202,907	207,034	222,953	235,842	246,484	257,217	267,912	278,848	290,270	302,204	314,675
GDP Growth Rate												
Base	6.1%	5.8%	5.5%	5.1%	4.8%	4.5%	4.4%	4.2%	4.1%	4.1%	4.1%	4.1%
Scen	6.1%	-2.0%	2.0%	7.7%	5.8%	4.5%	4.4%	4.2%	4.1%	4.1%	4.1%	4.1%
Difference from the base												
GDP	0	-16,125	-24,037	-19,963	-18,777	-19,624	-20,479	-21,330	-22,201	-23,110	-24,060	-25,053
%	0.0%	-7.4%	-10.4%	-8.2%	-7.4%	-7.4%	-7.4%	-7.4%	-7.4%	-7.4%	-7.4%	-7.4%
Nigeria												
	mkt 18/19	mkt 19/20	mkt 20/21	mkt 21/22	mkt 22/23	mkt 23/24	mkt 24/25	mkt 25/26	mkt 26/27	mkt 27/28	mkt 28/29	mkt 29/30
	cal 2019	cal 2020	cal 2021	cal 2022	cal 2023	cal 2024	cal 2025	cal 2026	cal 2027	cal 2028	cal 2029	cal 2030
GDP												
Base	478,627	488,384	502,030	519,601	537,787	557,955	578,878	602,033	626,114	651,159	677,205	704,293
Scen	478,627	468,870	473,455	493,340	510,607	529,755	549,621	571,605	594,470	618,248	642,978	668,698
GDP Growth Rate												
Base	2.0%	2.0%	2.8%	3.5%	3.5%	3.8%	3.7%	4.0%	4.0%	4.0%	4.0%	4.0%
Scen	2.0%	-2.0%	1.0%	4.2%	3.5%	3.8%	3.7%	4.0%	4.0%	4.0%	4.0%	4.0%
Difference from the base												
GDP	0	-19,514	-28,575	-26,261	-27,180	-28,200	-29,257	-30,427	-31,644	-32,910	-34,227	-35,596
%	0.0%	-4.0%	-5.7%	-5.1%	-5.1%	-5.1%	-5.1%	-5.1%	-5.1%	-5.1%	-5.1%	-5.1%

Source: Projections and scenario based on USDA baseline model and long-term projections, February 2020

Disclaimer: Results are preliminary and have not been peer reviewed



Scenario for decreasing GDP in country and regional models

Republic of South Africa												
	mkt 18/19	mkt 19/20	mkt 20/21	mkt 21/22	mkt 22/23	mkt 23/24	mkt 24/25	mkt 25/26	mkt 26/27	mkt 27/28	mkt 28/29	mkt 29/30
	cal 2019	cal 2020	cal 2021	cal 2022	cal 2023	cal 2024	cal 2025	cal 2026	cal 2027	cal 2028	cal 2029	cal 2030
GDP												
Base	431,833	438,821	445,187	452,978	462,037	472,202	482,591	493,208	504,058	515,148	526,481	538,063
Scen	431,833	424,844	427,926	437,661	447,727	457,577	467,644	477,932	488,447	499,193	510,175	521,399
GDP Growth Rate												
Base	0.6%	1.6%	1.5%	1.7%	2.0%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%
Scen	0.6%	-1.6%	0.7%	2.3%	2.3%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%
Difference from the base												
GDP	0	-13,977	-17,261	-15,317	-14,310	-14,625	-14,946	-15,275	-15,611	-15,955	-16,306	-16,665
%	0.0%	-3.2%	-3.9%	-3.4%	-3.1%	-3.1%	-3.1%	-3.1%	-3.1%	-3.1%	-3.1%	-3.1%
Rest of Sub-Saharan Africa												
	mkt 18/19	mkt 19/20	mkt 20/21	mkt 21/22	mkt 22/23	mkt 23/24	mkt 24/25	mkt 25/26	mkt 26/27	mkt 27/28	mkt 28/29	mkt 29/30
	cal 2019	cal 2020	cal 2021	cal 2022	cal 2023	cal 2024	cal 2025	cal 2026	cal 2027	cal 2028	cal 2029	cal 2030
GDP												
Base	678,783	705,672	734,736	765,357	797,415	831,023	866,134	902,729	940,905	980,808	1,022,520	1,066,128
Scen	678,783	665,338	678,492	718,080	748,157	779,689	812,631	846,965	882,783	920,221	959,357	1,000,271
GDP Growth Rate												
Base	3.8%	4.0%	4.1%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.3%	4.3%
Scen	3.8%	-2.0%	2.0%	5.8%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.3%	4.3%
Difference from the base												
GDP	0	-40,334	-56,245	-47,278	-49,258	-51,334	-53,503	-55,764	-58,122	-60,587	-63,163	-65,857
%	0.0%	-5.7%	-7.7%	-6.2%	-6.2%	-6.2%	-6.2%	-6.2%	-6.2%	-6.2%	-6.2%	-6.2%

Source: Projections and scenario based on USDA baseline model and long-term projections, February 2020

Disclaimer: Results are preliminary and have not been peer reviewed



Impacts on total sub-Saharan Africa from decreases in GDP by country and regions

SSA	Corn			
	Production	Imports	Exports	Consumption
Percent change from base				
19/20	-0.1%	-1.1%	1.5%	-0.7%
20/21	-3.7%	-1.7%	1.2%	-3.8%
21/22	-5.6%	-1.1%	0.0%	-5.4%
25/26	-4.2%	-1.0%	0.0%	-4.1%
29/30	-4.3%	-1.1%	0.0%	-4.1%
Base (1,000 metric tons)				
19/20	69593	4303	2250	73778
20/21	73738	4502	2787	75229
21/22	75105	4603	2761	76758
25/26	80548	4997	2795	82718
29/30	85825	5364	2981	88415
Difference from base (1,000 metric tons)				
19/20	-65	-47	35	-513
20/21	-2740	-75	32	-2859
21/22	-4240	-49	-4	-4158
25/26	-3348	-52	-45	-3361
29/30	-3665	-58	-68	-3655

SSA	Sorghum			
	Production	Imports	Exports	Consumption
Percent change from base				
19/20	-0.2%	-0.6%	0.0%	-0.3%
20/21	0.4%	-0.7%	0.0%	0.3%
21/22	0.9%	-0.5%	0.0%	0.8%
25/26	0.4%	-0.4%	0.0%	0.4%
29/30	0.4%	-0.3%	0.0%	0.4%
Base (1,000 metric tons)				
19/20	27195	813	210	28198
20/21	27909	855	210	28553
21/22	28452	874	210	29103
25/26	30868	954	210	31608
29/30	33482	1027	211	34277
Difference from base (1,000 metric tons)				
19/20	-53	-5	0	-72
20/21	118	-6	0	93
21/22	251	-4	0	242
25/26	138	-4	0	136
29/30	145	-3	0	141

Source: Projections and scenario based on USDA baseline model and long-term projections, February 2020

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Impacts on total sub-Saharan Africa from decreases in GDP by country and regions

SSA	Wheat			
	Production	Imports	Exports	Consumption
Percent change from base				
19/20	0.0%	-1.9%	-0.1%	-1.6%
20/21	0.7%	-2.7%	-0.1%	-2.0%
21/22	2.5%	-2.2%	-0.1%	-1.1%
25/26	2.4%	-2.2%	0.0%	-1.2%
29/30	2.3%	-2.2%	0.0%	-1.2%
Base (1,000 metric tons)				
19/20	8042	25410	1005	32084
20/21	8176	26199	1030	33157
21/22	8360	26993	1042	34264
25/26	9097	30303	1093	38345
29/30	9825	33666	1145	42472
Difference from base (1,000 metric tons)				
19/20	-2	-488	-1	-499
20/21	60	-715	-1	-656
21/22	210	-590	-1	-380
25/26	216	-663	0	-449
29/30	229	-749	0	-520

Source: Projections and scenario based on USDA baseline model and long-term projections, February 2020

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Impacts on ECOWAS countries and South Africa from decreases in GDP

ECOWAS & South Africa		Rice		
	Production	Imports	Exports	Consumption
Percent change from base				
19/20	-0.1%	-3.0%	-0.7%	-1.8%
20/21	-0.5%	-5.3%	-0.8%	-2.8%
21/22	-0.4%	-4.6%	-0.5%	-2.3%
25/26	-0.3%	-3.8%	-0.7%	-2.0%
29/30	-0.4%	-3.7%	-0.9%	-2.0%
Base (1,000 metric tons)				
19/20	12605	11375	335	23800
20/21	13148	11462	338	24456
21/22	13536	11930	341	25248
25/26	14918	13801	354	28316
29/30	16379	15176	364	31140
Difference from base (1,000 metric tons)				
19/20	-17	-345	-2	-426
20/21	-67	-606	-3	-679
21/22	-54	-550	-2	-583
25/26	-47	-524	-3	-573
29/30	-63	-564	-3	-629

Source: Projections and scenario based on USDA baseline model and long-term projections, February 2020

Disclaimer: Results are preliminary and have not been peer reviewed



Impacts on total sub-Saharan Africa from decreases in GDP by country and regions

SSA	Pork			
	Production	Imports	Exports	Consumption
Percent change from base				
2020	0.1%	-28.9%	-0.4%	-2.8%
2021	0.2%	-48.6%	-0.4%	-4.0%
2022	0.1%	-45.5%	-0.4%	-3.4%
2026	0.2%	-49.3%	-0.4%	-3.4%
2030	0.2%	-45.9%	-0.4%	-3.4%
Base (1,000 metric tons)				
2020	730	79	17	792
2021	746	69	18	797
2022	766	64	19	811
2026	850	64	21	893
2030	940	78	24	994
Difference from base (1,000 metric tons)				
2020	1	-23	0	-22
2021	1	-34	0	-32
2022	1	-29	0	-28
2026	1	-32	0	-30
2030	1	-36	0	-34

SSA	Poultry			
	Production	Imports	Exports	Consumption
Percent change from base				
2020	-0.3%	-6.6%	-0.1%	-2.7%
2021	-0.3%	-8.8%	-0.2%	-3.7%
2022	-0.1%	-7.1%	-0.1%	-3.0%
2026	-0.1%	-6.9%	-0.1%	-3.0%
2030	-0.1%	-7.3%	-0.2%	-3.3%
Base (1,000 metric tons)				
2020	3200	2039	54	5185
2021	3285	2173	55	5402
2022	3372	2270	57	5586
2026	3626	2643	61	6208
2030	3880	2996	67	6809
Difference from base (1,000 metric tons)				
2020	-8	-134	0	-142
2021	-8	-192	0	-200
2022	-5	-162	0	-167
2026	-5	-183	0	-187
2030	-5	-219	0	-224

Source: Projections and scenario based on USDA baseline model and long-term projections, February 2020

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US Impact and Results

US	Corn					Prices	US	Sorghum					Prices
	Production	Imports	Exports	Consumption				Production	Imports	Exports	Consumption		
Percent change from base							Percent change from base						
19/20	0.0%	0.0%	-0.5%	0.0%		-0.2%	19/20	0.0%	--	-0.3%	0.1%	-0.3%	
20/21	0.2%	-0.3%	0.0%	0.1%		-0.7%	20/21	0.1%	--	-0.1%	0.1%	-0.7%	
21/22	0.5%	-0.5%	1.2%	0.2%		-1.1%	21/22	0.4%	--	0.4%	0.2%	-1.0%	
25/26	0.9%	-0.7%	3.7%	0.4%		-1.5%	25/26	0.8%	--	1.5%	0.4%	-1.6%	
29/30	1.2%	-0.9%	5.0%	0.4%		-2.0%	29/30	1.0%	--	2.1%	0.5%	-1.9%	
Base (1,000 metric tons)						(US\$ / mt, real)	Base (1,000 metric tons)						(US\$ / mt, real)
19/20	350011	1270	48262	307735		155	19/20	8855	0	2540	6604	152	
20/21	394861	635	53342	321192		136	20/21	8738	0	2540	6104	131	
21/22	374159	635	54613	319928		133	21/22	8052	0	2540	5969	129	
25/26	390670	635	59693	330977		128	25/26	8230	0	2540	5715	125	
29/30	404768	635	64773	341519		120	29/30	8230	0	2540	5715	117	
Difference from base (1,000 metric tons)							Difference from base (1,000 metric tons)						
19/20	0	0	-227	89		0	19/20	0	0	-9	5	0	
20/21	982	-2	-4	479		-1	20/21	10	0	-3	7	-1	
21/22	1990	-3	629	793		-1	21/22	29	0	11	12	-1	
25/26	3691	-5	2213	1238		-2	25/26	66	0	39	25	-2	
29/30	4924	-6	3226	1533		-2	29/30	85	0	54	30	-2	

Source: Projections and scenario based on USDA baseline model and long-term projections, February 2020

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US Impact and Results

US	Wheat				
	Production	Imports	Exports	Consumption	Prices
Percent change from base					
19/20	0.0%	-0.2%	-0.8%	0.2%	-0.6%
20/21	-0.2%	-0.3%	-0.9%	0.1%	-0.9%
21/22	-0.3%	-0.3%	-0.6%	0.0%	-0.8%
25/26	-0.3%	-0.4%	-0.8%	0.0%	-1.0%
29/30	-0.3%	-0.4%	-0.8%	0.0%	-1.2%
Base (1,000 metric tons)					(US\$ / mt, real)
19/20	53390	3266	25855	31788	208
20/21	49968	3810	25174	31135	208
21/22	50920	3810	25174	30999	208
25/26	53696	3810	25855	31298	200
29/30	54268	3810	26535	31325	186
Difference from base (1,000 metric tons)					
19/20	0	-7	-204	55	-1
20/21	-79	-11	-221	46	-2
21/22	-150	-11	-152	7	-2
25/26	-170	-14	-197	-1	-2
29/30	-187	-17	-205	-10	-2

US	Rice				
	Production	Imports	Exports	Consumption	Prices
Percent change from base					
19/20	0.0%	0.0%	-2.8%	0.1%	-4.1%
20/21	-0.7%	0.0%	-3.3%	0.1%	-4.5%
21/22	-1.3%	0.0%	-2.8%	0.1%	-3.2%
25/26	-1.5%	0.0%	-3.5%	0.1%	-4.1%
29/30	-1.7%	0.0%	-4.1%	0.1%	-4.7%
Base (1,000 metric tons)					(US\$ / mt, real)
19/20	5990	940	3016	4159	357
20/21	7027	940	3080	4477	353
21/22	6350	951	3128	4398	350
25/26	6595	995	3175	4382	336
29/30	6796	1070	3282	4520	322
Difference from base (1,000 metric tons)					
19/20	0	0	-86	5	-15
20/21	-47	0	-103	5	-16
21/22	-83	0	-87	4	-11
25/26	-97	0	-111	5	-14
29/30	-118	0	-133	6	-15

Source: Projections and scenario based on USDA baseline model and long-term projections, February 2020

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US Impact and Results

US	Beef					US	Pork				
	Production	Imports	Exports	Consumption	Prices		Production	Imports	Exports	Consumption	Prices
Percent change from base						Percent change from base					
2020	0.0%	0.2%	-0.2%	0.0%	-0.9%	2020	0.0%	0.1%	-0.1%	0.0%	-0.4%
2021	0.0%	0.3%	-0.3%	0.0%	-1.1%	2021	0.0%	0.1%	-0.1%	0.1%	-0.6%
2022	0.0%	0.2%	-0.2%	0.0%	-0.9%	2022	0.1%	0.0%	0.0%	0.1%	-0.6%
2026	-0.1%	0.2%	-0.2%	0.0%	-0.8%	2026	0.1%	0.0%	0.1%	0.2%	-0.6%
2030	-0.1%	0.2%	-0.2%	0.0%	-0.9%	2030	0.2%	-0.1%	0.1%	0.2%	-0.7%
Base (1,000 metric tons)						Base (1,000 metric tons)					
					(US\$ / mt, real)						(US\$ / mt, real)
2020	12617	1302	1499	12421	1046	2020	13015	415	3311	10101	1601
2021	12462	1270	1565	12190	1095	2021	13373	426.5	3576	10239	1296
2022	12271	1270	1588	11953	1046	2022	13605	444.1	3827	10220	1333
2026	12589	1383	1520	12452	938	2026	14485	478.6	4464	10495	1223
2030	13345	1474	1588	13231	827	2030	14656	507.9	4922	10238	1185
Difference from base (1,000 metric tons)						Difference from base (1,000 metric tons)					
2020	-2	3	-3	5	-9	2020	1	0	-2	2	-6
2021	-3	4	-4	5	-12	2021	4	0	-2	6	-7
2022	-4	3	-3	2	-9	2022	11	0	0	10	-8
2026	-7	3	-3	-1	-8	2026	20	0	3	17	-8
2030	-9	4	-3	-2	-8	2030	25	0	4	21	-8

Source: Projections and scenario based on USDA baseline model and long-term projections, February 2020

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US Impact and Results

US	Poultry					
	Production	Imports	Exports	Consumption	Prices	
Percent change from base						
2020	0.0%	0.2%	-0.2%	0.0%	-0.9%	
2021	0.0%	0.3%	-0.2%	0.0%	-1.1%	
2022	0.0%	0.2%	-0.1%	0.0%	-0.9%	
2026	0.0%	0.2%	-0.1%	0.0%	-0.9%	
2030	0.0%	0.1%	-0.1%	0.0%	-1.2%	
Base (1,000 metric tons)						
2020	22598	67.1	3588	19079	1732	
2021	22742	69.2	3682	19118	1754	
2022	22913	74.1	3763	19224	1790	
2026	24006	90.2	4022	20074	1510	
2030	24952	104.1	4260	20797	1259	
Difference from base (1,000 metric tons)						
2020	-2	0	-8	5	-16	
2021	-2	0	-9	7	-19	
2022	1	0	-6	7	-15	
2026	1	0	-6	7	-16	
2030	-1	0	-6	5	-15	

Source: Projections and scenario based on USDA baseline model and long-term projections, February 2020

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Key Findings – Single-commodity Dependence

- U.S. exports to SSA concentrated among few countries, commodities
- SSA countries often lack economic diversity, relying on primary commodities for growth, export revenue, and forex reserves.
- This singular reliance exposes developing countries to shocks and several economic risks:
 - Can deplete forex reserves, which reduces ability to import US goods
 - Can distort socioeconomic metrics to paint misleading picture of their economic condition
- The influence of commodity-dependence on numerous macroeconomic variables does, however, provide a predictive variable for US agricultural exports to the SSA region
- Export opportunities less risky in SSA countries with diversified economies, insulated from shocks in international market prices



Key Findings – Commodity Results from Lower GDP

- GDP growth rate lowered to -2% from 4% in 19/20 for Nigeria, ECOWAS (less Nigeria), and Other SSA (exclude South Africa); Republic of South Africa GDP growth rate lowered to -1.6% from 1.6%
- SSA to see lower GDP growth, lowering income, food consumption, and imports; Major commodities impacted: rice, wheat, corn, and poultry
- ECOWAS and South Africa rice consumption decreases by about 1.8–2.8%, rice imports decrease range from 3.0–5.3%. US rice exports are lower by 2.8–4% and world price decreases by about 4.5%.
- SSA wheat consumption decreases by about 1–2%. SSA wheat imports decrease range from 2–2.7%. US wheat exports fall by about 0.8% and world price decreases by about 0.9–1.2%.
- SSA corn consumption decreases from 3.8% to 5.4%. SSA corn imports decrease range from 1% to 1.7%. Production decreases by about 3.7–5.6%. US corn exports decrease in 19/20 but increase by 5% by 29/30. World price decreases by about 0.2–2%.
- SSA poultry consumption decreases by about 3–3.7%. SSA poultry imports decrease range from 6.6–8.8%. US poultry exports are lower by about 0.1–0.2% and world price decreases by about 0.9–1.2%.

