Commodity Analysis Research on the Sugar Global Market

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Market research and analysis was conducted for the global sugar market over the period between 2010 to 2020. The price of sugar has fluctuated significantly over this time but the significant price spike during 2015-17 was explored using a supply and demand model. The research also suggests that the price of sugar will increase in the next five years due to increasing global demand and lagging global supply.

Global Sugar Price Data from Jan 2010 - Dec 2020

Please refer to the attached FRED graph that visualizes the global sugar price between January 2010 and December 2020 using nominal U.S. cents per pound as the common price denomination [4]. The nominal price was used due to relatively insignificant inflation rates between 2010 and 2020 [10]. The price of sugar was quite volatile pre-2010 to 2011 as the price of sugar dropped to 15.1 cents per pound in May 2010 and spiked to 29.7 cents per pound in January 2011. This was due to many extreme weather events in many key sugar producing regions at the time [8]. The price of sugar then steadily decreased from the 2011 high with a brief but extreme price increase and subsequent fall during 2016 and 2017. This fluctuation was mainly due to expectations in the global market, and the USD decreasing, then increasing in value compared to other global currencies [5]. Then from 2019-2020, the price steadied out to around 12-14 cents per pound. In general the price fluctuations in the sugar market are due to the inelasticity of sugar cane supply, volatile weather, and changing global demand for sugar and ethanol products [7]. Specifically, the causes for the period of especially volatile prices in 2015-2017 will be discussed in detail in the following section.

Price Change Analysis Using Supply and Demand Model

Based on the data from FRED, there was a dramatic fluctuation in sugar prices between the years of 2015-2017. This change in price began in Aug. 2015, when the average price of sugar was about 11 cents per pound [4]. Then, prices rapidly increased to about 23 cents per pound in Oct. 2016, which was the highest sugar prices had been since the incidents previously mentioned above [4]. This 68% climb in price from the start of the year was a result of expectations that the global market would experience a supply deficit [5]. The supply deficits were mostly due to Brazil and Thailand, which were the two major sugar exporters at this time, getting lower than expected sugar yields due to poor weather conditions leading to a price increase [5]. Furthermore, the expectation was also due to the weakening of the USD. So, when the USD began to plummet against other major currencies because of the uncertainty ahead of the US presidential elections, which led to the Federal Reserve to leave interest rates on hold [1]. The weakening of the USD was a huge issue in the sugar market because in the international market of sugar, sugar is predominantly traded in USD [8]. This is due to most global banks and financial institutions wanting to own USD due to the USD being protected/secured through securities like US Treasury bonds [11]. This trust from banks and financial institutions throughout the world is why sugar is traded predominantly though USD. After Trump's inauguration, the USD was able to regain its previous value and as a result, sugar prices, being a dollar-dominated contract, rapidly rose. The USD price increase was subsequently followed by an equally rapid decrease in sugar prices, falling to about 13 cents per pound in Jun. 2017. Many factors led to this decrease in price, one of which was following Donald Trump's inauguration into the white house. When the presidential election came to a close, the USD gradually regained all previous

losses against major currencies [1]. However, the main reason behind the lowering prices was the "growing confidence that the global sugar market would return to a surplus in 2017/18 [5]." This was because at the end of production quotas in 2017, there were expectations that the production in the E.U. would increase [5]. Therefore, resulting in the decrease in sugar prices due to increased global production following the massive increase the year before.

Price Prediction for Next Five Years

The research conducted suggests that sugar prices will increase from the 2020 level over the next five years. However, the sugar market may still be subjected to price fluctuations during the next five years as production is very volatile, but price is overall expected to rise.

Sugar production is expected to increase in 2022 to accommodate the increase in global demand but production is still predicted to not meet expected global consumption [3]. The supply of sugar has lagged behind demand especially post the COVID-19 related market shifts [3]. The increase in demand for sugar has been steadily increasing especially due to an increase in consumption in India and China along with a general increase in global sugar demand across all countries that will result in a price increase [8]. The increase in demand is also due to higher prices and demand for ethanol expected in 2021 and beyond [9]. Despite the record low ethanol demand in 2019 and 2020, the U.S. Energy Information Administration expected in 2021 and beyond an increase in ethanol production as gasoline demand increases again [2]. Additionally, global renewable energy policies and desire to move away from greenhouse gasses is bolstering the ethanol market [6]. Thus, increased demand for ethanol will create supply competition for sugar producers leading to higher sugar prices due to less supply. Overall, global increases in sugar consumption and the more recent increase in demand for ethanol is expected to cause sugar prices to increase over the next five years. The price is expected to steadily increase due to high demand and lagging supply, but should become relatively stable at a higher than 2020 price once global supply is able to meet global demand.

Attached: Monthly Global Price of Sugar from January 2010 - December 2020

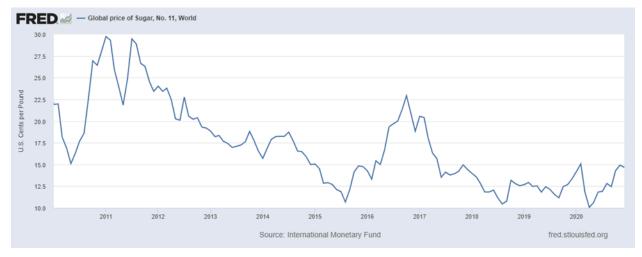


Figure 1: Monthly price data for the global sugar market between 2010 to 2020 data from the Federal Reserve Economic Data (FRED) from the St. Louis Federal Reserve Bank [4].

Citations:

[1] C. Purdy, "Presidential Elections And The Trump Effect On The U.S. Dollar," *Forbes*, May 18, 2016.

https://www.forbes.com/sites/charlespurdy/2016/05/18/presidential-elections-and-the-trump-effect-on-the-u-s-dollar/?sh=1d00331e2c8f (accessed Mar. 03, 2022).

- [2] E. Voegele, "EIA Increases Forecast for 2022 Ethanol Production, Blending," EthanolProducer.com, 11-Jan-2022. [Online]. Available: http://www.ethanolproducer.com/articles/18905/eia-increases-forecasts-for-2022-ethanol-production-blending. [Accessed: 02-Mar-2022]
- [3] "Food Outlook Biannual Report Global Markets," Markets and Trade, Nov-2021. [Online]. Available: https://www.fao.org/markets-and-trade/publications/en/?page=1&ipp=10&no_cache=1&tx_dynalist_pi1[

par]=YToyOntzOjEwOiJuZXdzX2ZpbGVzIjtzOjY6IjEwNzUzMiI7czoxOiJMIjtzOjE6IjAiO30=.

- [4] International Monetary Fund, "Global price of Sugar, No. 11, World [PSUGAISAUSDM]," Federal Reserve Bank of St. Louis. [Online]. Available: https://fred.stlouisfed.org/series/PSUGAISAUSDM
- [5] J. Basu, "Sweet Year for Sugar in 2016," *Spend Matters*, Jan. 30, 2017. https://spendmatters.com/2017/01/30/sweet-year-sugar-2016/#:~:text=Sugar%20prices%20reached%20ov er%20four-year%20highs%20in%20September (accessed Mar. 03, 2022).
- [6] K. Elafany, "Commodities 2022: European biofuel mandates to structurally shift ethanol demand higher in the year," S&P Global Commodity Insights, 04-Jan-2022. [Online]. Available: https://www.spglobal.com/commodity-insights/en/market-insights/latest-news/agriculture/010422-commodities-2022-european-biofuel-mandates-to-structurally-shift-ethanol-demand-higher#:~:text=European%2 0fuel%20ethanol%20demand%20in,2020%2C%20according%20to%20Platts%20Analytics. [Accessed: 02-Mar-2022].
- [7] L. Pines, "How Is Sugar Produced & Why Is It Critical to the World's Economy?," Sugar In 2022 Production Information Plus What Drives Price. Learn Today, 18-Mar-2021. [Online]. Available: https://commodity.com/soft-agricultural/sugar/. [Accessed: 02-Mar-2022].
- [8] M. J. McConnell, E. Dohlman, and S. Haley, "World sugar price volatility intensified by market and policy factors," *USDA ERS World Sugar Price Volatility Intensified by Market and Policy Factors*, 01-Sep-2010. [Online]. Available:

 $https://www.ers.usda.gov/amber-waves/2010/september/world-sugar-price-volatility-intensified-by-market-and-policy-factors/.\ [Accessed: 02-Mar-2022].$

- [9] S. Hill and E. Shi, "U.S. fuel ethanol production and inventory changes have largely followed motor gasoline," U.S. fuel ethanol production and inventory changes have largely followed motor gasoline Today in Energy U.S. Energy Information Administration (EIA), 08-Jun-2020. [Online]. Available: https://www.eia.gov/todayinenergy/detail.php?id=44015. [Accessed: 02-Mar-2022].
- [10] Statista Research Department, "Projected annual inflation rate in the United States from 2010 to 2026," Projected annual inflation rate in the United States from 2010 to 2026*, 14-Apr-2021. [Online]. Available: https://www.statista.com/statistics/244983/projected-inflation-rate-in-the-united-states/. [Accessed: 02-Mar-2022].
- [11] "The U.S. dollar as the world's dominant reserve currency," *Congressional Research Service*, 18-Dec-2020. [Online]. Available: https://crsreports.congress.gov/product/pdf/IF/IF11707. [Accessed: 18-Mar-2022].