How does the Sugar program continue to thrive?:

A multi-level capture of the American legislative process by the sugar industry.

By

Rahuldev Sukhil Suresh Babu

Submitted to:

Central European University

Department of Political Science

In partial fulfillment of the requirements for the degree of Master of Arts.

Supervisor: Attila Folsz

Budapest, Hungary.

(2021)

Abstract

How do inefficient support programs like the sugar program continue to exist? The American sugar industry has grown to become one of the top five biggest producers globally. This can be credited to the infamous Sugar Program which is one of several agriculturally protectionist federal subsidy programs backed by the US Department of Agriculture (USDA). The sugar program supports the US sugar industry by maintaining high domestic sugar prices achieved by limiting international access to the American sugar market through import quotas and protective tariffs along with several loan subsidies for domestic sugar producers. This program functions at a no-cost model by not being included in the federal budget but indirectly costs several billions of dollars which is passed on to the consumers. **The purpose of this paper is to explain the survival of this program through both, a capture of the regulatory agency (the USDA) along with the legislative capture of legislators in charge of passing farm bill legislations by the sugar industry.** This explanation combines the theories George Stigler's theory on Economic Regulation **(regulatory capture)** along with Mancur Olson's theory of collective action in explaining how the well-regulated sugar industry was able to successfully lobby through Political Action Committees **(legislative capture)** towards influencing major farm bill legislations. This paper concludes with a causal mechanism that suggests that both, the USDA and several of the legislators have undergone a certain level of capture which coerced them into prioritizing the interests of the sugar industry over the intended public welfare. These captures were two major reasons as to why the sugar program survived and why it is bound to remain untouched, at least in the near future.

Acknowledgements

I would like to thank my mother for her guidance in making me the individual I am today. Also without whose persuasion, this thesis and this master's degree would have ceased mid-way.

I would also like to thank my brother and my sister-in-law in their continuous support and advice before and during the process of this thesis.

I would also like to thank my supervisor Attila Folsz for his continuous mentoring throughout the course of my master's degree and collectively helped me brainstorm ideas not just for the thesis, but for life.

I would also like to thank Professor Anil Duman whose advice and support also helped me get through the MA degree and the initial stages of the thesis process.

Last but not least, I would like to thank my dog Byro for keeping me sane during the COVID-19 global pandemic during which this thesis was written.

Table of Contents

Chapter 1: Introduction

The agriculture sector of the US as a whole is entirely regulated by the USDA, which includes the sugar program. The US sugar program began as an amendment to the Agricultural Amendment Act of 1933 which was passed with an intention of saving the American agricultural industry from depression level prices. The stock market crash of 1929 had a severe impact on global commodity prices which further dropped to rock bottom levels and brought many industries to the brink of closing. This crash of 1929 drove the entire word into economic depression that some countries (the developed) came out of relatively early while others continued to stay in till the late 1930s. One main reason why the US was able to jump back on its feet was the approval of the Agricultural Adjustment Act of 1933 that provided agricultural subsidies for farmers who cooperated on decreasing the surpluses that dropped prices in the domestic market. The federal government assisted farmers by providing subsidies to farmers and by actively purchasing their produce so that they did not have to sell their produce in the open market (Rasmussen, Baker, & Ward, 1976). The longevity and persistence of this program has surprised many academics who question the very basis of this inefficient program. Inefficiency here implies the improper allocation of public resources into private industries that do not work in the benefit of public welfare.

There has not been any major politicization of this issue because elected officials that are pro-agriculture are equally dispersed through both major parties of the country, but this issue will be addressed more in upcoming sections. It can be difficult for elected representatives of democracies to comprehend all the preferences of the constituencies they represent and the

businesses that function there. This emphasizes the role of regulatory agencies in representative democratic systems. Regulatory agencies are intended to assist in the regulation of private industries by bridging the informational gap between the industry seeking influence in legislation and the legislators that vote towards legislations that are meant to be in the interest of public welfare. The way regulators bridge this informational gap is by presenting and reporting industry specific information to the legislators and the public that makes it easier for the legislators to pass more efficient legislations. The regulatory agency here is the USDA that supervises the sugar program and bears responsibility in reporting the workings of the program during national farm bill legislations. There are several inefficient programs like the sugar program that the USDA regulates.

The AAA of 1933 included several other agro-commodity programs and conservation programs, of which many of them are still in place just like this one. The peculiarity of the sugar program is the fact that it runs at "no-cost" to the federal government which pushes all costs onto the consumer while other programs operate through funding from the federal budget. Because the consumer incurs this price that he/she is not aware about, it brings about the problem of Collective action where because of information asymmetry, a lack of consumer awareness and dispersion of benefits throughout the consumer base, the incentives to do anything about the issue diminishes. This paper questions the assumed benevolent character of elected politicians and the USDA which gives rise to possibilities of collusion and capture between and within the legislators, the USDA, and the sugar industry. The survival of the sugar program is answered in two parts. The first suggests a regulatory capture of the USDA, i.e. the agency intended to regulate agricultural industries into working in the interest of the public. Through regulatory

capture, the sugar industry has modified the USDA's purpose into prioritizing the industrial interests over public welfare. The second part suggests a legislative capture, where through PACs and direct lobbying by sugar associations, the sugar industry has influenced legislators into voting in favor of retaining the sugar program during crucial farm bill legislations which threatened the survival of the program. This paper's answer to the question of the sugar program's survival is a combination of both parts forming a multi-level influence model undertaken by the sugar industry towards securing its interests whilst harming public welfare and minimizing grey areas of uncaptured legislation. Section 2 includes a review of similar research undertaken on agricultural support programs and lobbying efforts by industries for influencing legislations. Section 3 deals with the major theories used in this paper and section 4 provides the theoretical model formulated by the author which is intended to explain the phenomenon as a whole by minimizing grey areas and fulfilling the objective of the paper. Section 5 delves into the case study of the sugar industry, its history, set up and importance to the American and global economy. The uniqueness of the sugar industry and its constituents is explained. The domestic and international effects/implications of the sugar program are explored in detail which work as supporting elements to the hypotheses in the theoretical model, thereby structuring a causal pattern. Section 6 concludes.

Chapter 2: Literature Review

American legislation and policy might be the most studied and researched single country policy in the world. This country had seen centuries of economic success with their capitalist democratic structure and their victory in World War II that cemented their position as the most developed economy in the world. With such previous economic success, policy analysts have always been intrigued by such uniqueness and have conducted extensive research on its policies both domestic and international to come to a better understanding. Christine Mahoney credits the issue context as important factor as to why lobbying is so rampant in the US when compared to other democracies. More specifically, she credits the institutional structure of the US and its institutions that include direct elections and private campaign finance as to why lobbying and PACs influence have been more successful here (Mahoney, 2007). Although lobbying as an instrument that is used to influence legislators is extensively studied, regulatory capture of American agencies has not been looked into as much. This trend must change as agencies in developed economies that have been around for a while tend to drift away from their intended goals and are become susceptible to administrative rot just like agencies in developing economies.

In developed countries, during the inception of these agencies, the spotlight on them would have persistent for surveillance but as time progressed, public scrutiny would have shifted to other issues which gives possibility for the agencies to become inefficient and focus on personal goals (Berry, 1984). Anne Krueger asks a similar question and in her work on the increasing protection for the Sugar Program through the years. She explains how even if lobbying interests were important in retaining the program, the capture of the regulating agency had more to do with the

increase in amount of protection (Krueger, 1988). Shyam Kamath, in his work on the Indian sugar industry and its regulation explains a similar the situation that Indian consumers faced during the post-independence era to what the American consumers are currently facing (Kamath, 1989). His hypothesis that proposed a regulatory capture by the Indian sugar industry is similar to the goals of this paper but only partly. Kamath also explains the welfare losses that the Indian consumers faced while sugar companies collected rents is another fact that questions the reasons for the ease with which industries are able to capture regulatory bodies irrespective of the "developmental state' of the country. What Kamath's work emphasizes is that the American Sugar Program, although specially termed, is not an outlier in the global sugar market. Many countries have similar programs of protection with varying levels of transparency. In the case of this paper, the data on lobbying, PAC contributions etc., are readily available online but even this does not seem to invoke the interests of the general public.

Jose Alvarez, in his work on the success of the sugar lobby in influencing legislation owed it to three reasons including the economic importance of the industry, the industry's contacts within congress and the strong lobbying techniques equipped by the industry's trade associations (Alvarez, 2005). Harper and Aldrich confirm the first point of Alvarez's work on the economic importance of the industry towards influencing legislation, at least directly in the state level where sugar producing states typically voted towards retaining the program while consumer centric states opposed (Harper & Aldrich, 1991). Of course, in national levels of legislations, even legislators from consumer centric states are likely to be targeted by PACs and other lobbies that further complicate the issue of national legislative voting. David Smith and John Wright claim that even if legislators seem to be against the industry's favored position, lobbying towards

influencing their votes will at least counteract the opposition's lobbying efforts towards the same legislator which could make these legislators abstain from voting (Austen-Smith & Wright, 1994). This could be a win for the industry as even if it did not receive a vote in its favor, it avoided a negative vote. Alvarez's work can be better explained by recognizing the role of the regulatory agency as an independent entity and not just involving it within the endogenously within the concept of the state.

Laís Thomaz and Marcelo Olivera published an article focusing on the corn industry's lobby's influence on the 2002 and 2008 farm bill legislations (Thomaz & Oliveira, 2016). They focus on the corn industry's lobbying efforts on influencing the 2002 and 2008 farm bill legislations towards increasing the amount of federal support through agricultural subsidies for corn growers. The industry also lobbied towards the issue of the production of ethanol (a corn byproduct) with a masked reasoning that cheaper fuels from corn byproducts helped America become more self-reliant and the dependency on the middle east would go down was more in the interest of the corn industry than public welfare of making America self-reliant. Concurrently, they claim the corn industry also lobbied towards retaining the sugar program which gave the corn industry a suitable market to sell HFCS, a sugar substitute. Thomaz and Olivera explain that through various strategies employed by these lobbying firms including channeling contributions through their PACs, these firms have successfully influenced legislators into passing protectionist policies during the 2002 and 2008 legislations which offered more opportunities for the corn industry to extract rents in the future. This paper will focus more on the influence of the sugar industry on influencing legislations pertaining to the sugar program, but the intended outcome is on similar lines with Thomaz and Olivera's work. This paper supplements the model with

another level involving regulatory capture of regulatory agencies that influence national legislations.

Brooks *et al* were one of the first academics to successfully demonstrate that PAC contributions had an influence on legislator voting in their work on congressional voting on sugar legislation (Brooks, Cameron, & Carter, 1998). They show that while both pro-sugar and anti-sugar interests could wield influence, the pro-sugar interests won in the end owing to consistent concentrated funding when compared to diverse anti-sugar interests. Clayton Peoples, in their study on PAC contributions and its influence on policymaking clearly showed a strong linkage between the two in the years between 1991 and 2006 (Peoples, 2010). This study also does an excellent work on removing endogeneity in causality concerns by taking a multi-faceted approach similar to what we have utilized in this paper. However Peoples's work does not focus on any industry in specific but is a general study through 1991 and 2006, which includes several landmark farm bill legislations that have involved the sugar program. Rigoberto Lopez in another of his study elaborates on the linkage between PAC campaign funding and agriculture subsidies. He positively concludes that rent seeking is evident and that contributions from industry funded PACs that are channeled towards political campaigns of legislators are highly bound to receive agricultural subsidies that the legislators vote towards during legislations (Lopez, 1985). Lopez also adds that little to no contributions from industry PACs seemed to hurt industries and benefit public welfare as the incentives of the legislators would then shift onto increasing support from their voter constituencies. However since those industries that choose to limit campaign funding have survived and extracted rents for a long time, they certainly would not shut down. He concludes that among all instruments determining the availability of a subsidy, the contributions

from PACs amount to be the biggest factor that tips the scale against public welfare of the voters (Lopez, Campaign Contibutions and Agricultural Subsidies, 1985).

David Abler's research on the linkage between campaign contributions and voting trends by elected legislators works contrary to Lopez's point. Abler emphasizes the presence of a strong link between the way the legislator's opinions on the industry and how the PACs choose the legislator they would like to influence (Abler D. G., 1991). His research claims that industries mostly choose to endorse candidates with agendas that align with industry interests which makes them more predisposed to side with the industry's interests during legislations. The way a legislator's opinion regarding a particular industry develops also depends on several other factors including higher financial stakes from other industries or mere cultural conditioning. This paper claims that these above factors can also be strategically combined by lobbying firms that intend to influence legislation. However Stratmann's conclusion in his work on the influence of the timing of contributions on legislative vote casting suggests that campaign contributions made during the politician's elected term during farm bill legislations proved to be more effective when compared to funding aspiring legislators or future legislators (Stratmann, 1995). Russell's work on the incentives of legislators and PAC contributions suggests that, at least in the 2014 farm legislation, legislators that received campaign funding from agricultural PACs were more inclined to vote in the interest of the PAC's industry (Russell, 2018). The absolute impact of the timing of the contribution and the nature of the legislator may well again be dependent on several factors other than what the authors above have pointed out but one thing that they all seem to agree about is the absolute possibility for legislative capture to occur which this paper is concerned about.

Coleman *et al* finds that the sugar program was greater than any partisan issue in the congress as the Sugar Industry had legislators from both sides on their payroll which helped during the 1990s which was the time of the ideological shift into market liberalization (Coleman, Skogstad, & Atkinson, 1996,). Thanks to this, for the entire decade the sugar program underwent little-to-no change and whatever changes happened were quickly reversed. Most of the work mentioned in this review highlights individual components of a bigger problem. This paper aims to contribute to the gap that separate different individual issues and merge them in order to explain the problem more effectively. The claim made here is that the survival of the sugar program is better explained by analyzing all the different levels of legislation the sugar industry attempts to influence, as no single component will be completely able to explain causality.

Chapter 3: Core Theories

Public Interest Theory

Beginning with the benevolent assumption of man and institutions, this theory speaks of regulation to be completely in the interest of public welfare where public resources are limited, and regulatory agencies are employed to achieve judicial and efficient allocation of public resources (Hantke-Domas, 2003). According to this theory that holds the free market in very poor light, economies will eventually collapse without sufficient regulation by the state. Apparent methods of regulation are through a cost/benefit analysis on total public welfare by the regulation and if a majority of the public benefits from a particular legislation, then it would be deemed fit for implementation by the state. This theory attracted two main criticisms, the first one pertaining to the actual evaluation and quantification the "optimal" levels of regulation in different spheres of society. The second was the stepping stone for all the theories that follow below i.e. the assumed benevolence of the regulator. In other words, the difficulty in differentiating the regulator's interest in serving for the public interest or personal benefit. The public interest theory depicts an ideal world where everything works as intended.

Interest Group Theory: Mancur Olson

Democracies in general come equipped with several loopholes that hinder the proper functioning of the state and its responsibility in adhering to its obligations to its citizens. Lobbying occurs in every democratic structure in the world and the is not necessarily harmful to public welfare but is often utilized for the purpose of personal interests. Lobbying can also be used towards obtaining positive outcomes, but it is mostly successful when groups have narrow and specific ideas. In this context, lobbying becomes a strategy employed by "special interest groups" where organized

industry firms seek to utilize their political connections and exploit the common goods of the societies they are part of and most often end up harming the interests of the majority. As explained by Mancur Olson in his book "The logic of Collective action" which currently serves as the backbone for theories on group behavior, the ability of smaller groups to organize effectively and focus on specific narrow goals gives them informational leverage (informational asymmetry) that strengthens their stance against that of the unorganized majority (Olson, 1971).

Of all special interest groups, business (industrial) interests tend to be the most organized because of the highly disproportionate information leverage they wield over the prevailing majority (public). This can be ambiguous information or anything relating to the industry's products. The level of Informational Asymmetry is so high that industries even have the potential to control the direction of scientific research regarding these industry specific products that potentially sway both the legislators and the regulating agencies onto their side. In other words, through various marketing and lobbying strategies, the industry utilizes biased research portfolios into influencing legislations into the industry's benefit (Goldman, Carlson, Bailin, Fong, & Phartiyal, 2014). This Special Interest theory by Olson explains the behavior of organized firms in regulated industries that tend to lobby using methods where the industry's trade associations hire lobbying firms that utilize their political connections with legislators and congressmen to vote in favor of the industry's interests thereby influencing national legislation (Olson, 1971). Major firms utilize their own political connections in congress and the white house that they would have created over time while collecting rents in the industry that they would also lobby personally towards influencing legislations, but direct political lobbying is comparatively rare.

In these cases, industry associations offer positive incentives to legislators like rallying votes through their industries or also by persuading them with collusive material. The legislator here would face a trade-off between favoring business interests or the interests of his voter constituencies. He would carefully have to mitigate the cost of regulation and focuses on issues that marginally affect the public. Therefore, a smart legislator will tend to only focus on issues that marginally affect the consumers, where this effect is not significant enough to incite opposition from large groups. The other way in which industries lobby is through the formation of Political Action Committees where the industry's trade associations channel funding towards the political campaigns of the legislators whose votes the industry intends to influence during legislations. The American judiciary places limits on personal contributions from individuals or firms into the political campaigns of elected legislators and congressmen in order to limit possible collusion. Political Action Committees (PACs) enjoy more freedom in channeling financial contributions for political campaigns compared to contributions from individuals, but Super PACs do not have this limit on the amount of spending towards the campaigns of other legislators. However, this comes with a clause where Super PACs however are not allowed to directly endorse candidates in their campaigns. However, many super PACs overlook this clause and endorse legislators directly during their campaigns.

Industrial trade associations that are region specific will provide campaign contributions to local politicians through these PACs or Super PACs to fight towards their industry's cause. The associations choose their legislators in two ways. Firstly, through the PACs they target already elected legislators and collude with them in other for them to vote in the industry's interest. The other strategy is where the PACs will look into funding the political campaigns of new

politicians that hold agendas that work in the favor of the industry. Typically, the election campaigns of most elected officials do not come out their own pocket so campaign funding by PACs can sometimes be the lifeline for their candidacy. These donations are offered with a hope that the elected officials would, when the time comes, prioritize the interests of the industry while signing a legislation. The re-election prospects of legislators and other elected officials depend on their loyalty to their PACs. Hiring lobbying firms is not cheap and comes at a significant price to the industry's associations. This price will ideally be pushed forward towards all firms in the industry that benefit from influencing the legislation. However, not all firms within the industry will be impacted similarly. This creates a scenario for some firms with lesser incentives to not invest but enjoy the benefits from the collective lobbying taken by the trade associations, namely the "free-rider problem". The trade associations here act as a double edge sword. While they act as representatives to the industry in front of the congress that put out important demands and requirements of that industry, they also act as regulatory bodies within the industry that regulates the behavior of non-contributing firms that benefit from the lobbied outcome. In other words, they try to mitigate the free rider problem by including positive and negative incentives for participating and non-participating firms, respectively.

Olson explains that positive incentives of dispersing collective benefits are not the only way these trade associations control behavior within the industry. They also take negative paths of coercion or negative incentives for firms that choose to not get involved or oppose, further strengthening support within the industry (Olson, 1971). A majority of the organized interests within the sugar industry are large farms with huge acreages under cultivation while small farmers are the ones really in need of protection. A major chunk of protective subsidies ends up

going to the large producers leaving even the members of the same industry at a disadvantage (Hurtig, 2003). To illustrate using an example, in Iowa, a major chunk of agricultural subsidies (~61%) goes to 10% of the firms (the large ones) (Williams-Derry & Cook, 2002) implying losers even within the industry. As specified before, lobbying firms are expensive and industries that hire lobbying firms will seek to utilize them for all they are worth. In cases of legislations that have marginal impacts on the industry, the trade associations will still utilize the hired lobbying firm to lobby on the behalf of their ally industries. This behavior typically leads to the "logrolling phenomenon" where industries exchange favors to other industries in hopes of receiving favors in the future. In other words, industries that directly benefit from any legislation cannot are not the only ones lobbying towards a particular outcome.

Olson focuses on the geographical proximity of the firms of the industry and how proximity influences legislation. He emphasizes that firms placed closer together in same counties or states find it more convenient and efficient to organize and lobby for any particular legislation as the support towards the industry's interest will grow making it easier for the legislator to vote in a particular way. He claims that support for the issue for which these firms lobby is likely region specific and is unlikely to be spread throughout the country hence strong lobbying for one region improves the likelihood of influencing any given legislation. Olson explains the difficulties that larger groups face in coming together over specific issues where individual benefit decreases that brings down their motivation. This explains how smaller, more organized groups exploit this fact to put forward stronger petitions with higher individual benefit that generally goes against the larger group.

Theory of Economic Regulation: George Stigler

George Stigler adds a crucial point to Olson's Collective action theory that gives an active role to the state's regulatory agency rather than the normative role it usually plays. Stigler further takes a rationalist approach to the state (principal), the regulator (agent) and the industry it is intended to regulate in the interest and welfare of the public. Adding such a non-benevolent persona to regulators means that, although the elected office and regulatory agency was set up in favor of the general public, the officials will tend to utilize the powers of either office to maximize their personal interests. This gives incentive for industries to acquire or "capture" the regulatory body into functioning for the benefit of the industry. While Olson's theory explains state behavior as a whole, Stigler's theory focuses more on the regulatory agency. Stigler emphasizes regulatory capture through positive incentives given by the industry to the regulator where he is persuaded into prioritizing the industry interests by either choosing not to evaluate whether industry procedures are harming public welfare or not or by blatantly allowing inefficiencies to continue (Stigler, 1971). This persuasion happens either by offering economic incentives like bribes or further prospects in their administrative careers. Another possible incentive could be the prospect of future employment for the regulators in the very same industry that they would be assigned to regulate. As their job portfolio would require them to study the industry intricately, the regulators would have a small niche of jobs to choose from post retirement, this is also known as the revolving doors phenomenon (DAL BÓ, 2006).

However, the regulator's might not always be positively coerced into capture. Many times regulated firms choose to negatively cajole the regulator with threats to his reputation or the security of his employment. Negative incentives, however, have a lower likelihood of occurring in developed countries with strong institutions of law (Shleifer & Vishny, 1994). After providing sufficient reasons and methods for industries to "acquire" regulation, Stigler further explains that this newfound power would not be utilized by the industry in just the monetary perspective. In other words, the "acquisition" would not only be with the intent of receiving monetary subsidies from the state. He states that monetary subsidies would be more of a short-term option and with new firms entering the industry, the cash subsidy would have to be shared with newcomers in the future that existing firms would disagree with. Instead, the existing firms in the industry choose to look towards the long-term gains post capture and primarily focus on **controlling entry** into the industry by making it difficult for new firms to survive in the industry and diminishing their rate of returns. One tested method of controlling entry is by applying **protective tariffs** onto the new entrants so that the existing firms would retain some leverage and higher chances of survival. Apart from controlling entry, the existing firms (that mainly produce same or similar products) will influence the regulatory body to **fix prices** of the commodity as it would become difficult to the existing firms to maintain prices if the market is allowed to set the price. This can sometimes be because newer firms will tend to use more newer technologies and equipment that would make production more efficient which brings down the price that existing firms would not be able to compete with.

Further in this paper, we will observe that the American sugar industry has utilized all of the above strategies in maintaining their domestic market share in the country. Stigler, along the

lines of Olson believes in the role that size plays in policy making. He agrees that the size of the group seeking regulation does indeed play a role in determining whether the intended purpose will end up successful or not. However, by adding the non-benevolent persona, he assumes the regulator is inherently human and focuses on his own interests therefore influencing regulations on terms that will ultimately favor him. As mentioned before, his rule of thumb was that industries and firms will "acquire" regulatory agencies and make them work in favor of the industries. In special cases that involve high stakes for the public, wherein the informational leverage is no longer with the state and the industry, the representative of the state will prioritize on increasing his power through garnering more public support (votes). However, these special cases are exceptionally rare, according to Olson, as the incentives for a majority of the public is small and typically diminishes as the group size increases. Stigler emphasizes on the more direct role a regulator plays in prioritizing self-interests while regulating industries and how industries utilize that fact to achieve their own long-term goals.

Clarification to Stigler: Sam Peltzman

Sam Peltzman adds to Stigler's theory on regulatory capture but claims that in real life scenarios, regulatory bodies cannot and will not exclusively serve a single interest and the outcomes will normally be a compromise between contending interests where the industry will mostly receive the longer end of the rope (Peltzman, 1976). He emphasizes that regulation is a commodity that entails a price which is commanded through the laws of supply and demand. Therefore, he concludes that because the producers show more demand for regulation when compared to the consumers, regulatory outcomes mostly tend to favor the producers. This statement is plausible as it is mostly impossible for consumers to exert strong, narrow specific demands regarding a certain

public good like the producers' group as their incentives of the public becomes marginal. However, to further understand the dilemma of the regulator, he emphasizes on the nature of industry that is in question. He assumes two scenarios one with a monopolistic market and the other as a competitive market. According to Peltzman, in monopolistic markets, the regulator's emphasis will be in regulating the monopolist industry and focus on maximizing his votes as the political gain from the voters is significantly higher from whatever support he would have been able to garner from the industry. In competitive markets however, the balance tips in the other direction and the politician will prioritize the gains from producers over the marginal losses he would potentially face from disappointed voters. Therefore, in Peltzman's upgraded version of Stigler's theory, the regulator will face an inherent trade-off between either siding with the industry or the voters i.e., the producers or the consumers. The regulator, thus, will select a policy wherein he will seek to maximize benefits from the producer and retain or increase support from the consumer groups. This paper, however, argues that the instances of regulators siding with the consumers is very much an exception rather than the rule and that even when faced with opposition towards public welfare harming policies, regulators will distort public information in such a way where policies benefiting the producers will be showcased as though they have an inherent gain to society as a whole. Peltzman tests Stigler's theory in real light and claims that instead of always focusing on the interests of the private industry, the regulator will face a trade-off which he will have to make the most out of, for his personal benefit.

Other Theories

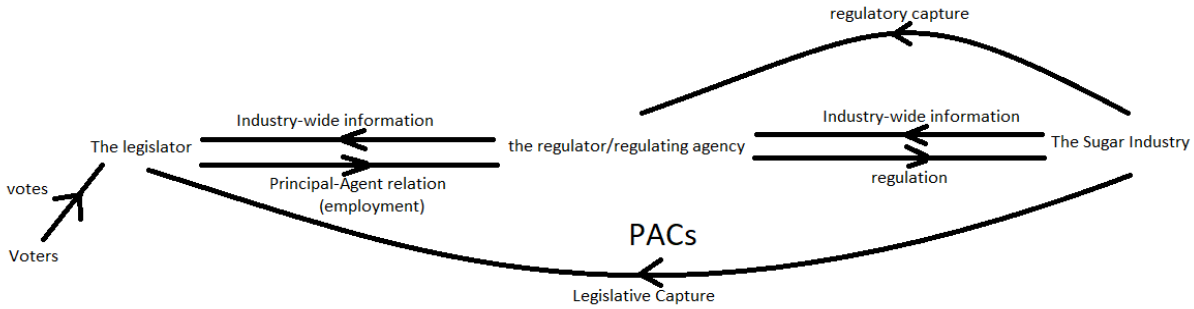
Other theories that deserve mentions include the "Resource dependent theory", "Toll Theory" and the "Regulatory life cycle theory". The "resource dependent theory" by David Lowery explains

that industries do not always intend to lobby unless their very existence is threatened. In other words, industries lobby for survival and not for seeking change in public policy as lobbying outcomes are not always a given (Lowery, 2007). This is partly true in light of current events where the recent legislations posed a threat to the sugar program. The "Toll theory of corruption" formulated by Shleifer and Vishny focus on the already corrupt regulator/legislator who utilizes the newly developing scope of law and intentionally creates inefficient regulations that act as "toll booths" for regulated firms who are required to collude with the regulators or legislators or contribute towards their political aspirations (Shleifer & Vishny, 1994). However, this morally unjustifiable system works in already corrupted societies where unjust policies are more easily justified and accepted as a way of life. This scenario is more appropriately depicted in developing economies that are in the process of drafting new laws rather than developed countries where the command of law is stronger and more reliable and are not inherently susceptible to manipulation for individual benefit. The "Regulatory life cycle theory" by Estache and Martimort focus on the time aspect of how susceptible regulatory agencies can become (Estache & Martimort, 1999). They explain that, initially, when the agency is created, it would face a lot of scrutiny, both in the eyes of the public and the state as to whether it is performing its intended duties correctly and efficiently. However, as time passes, the agency slowly slides away from the spotlight as the attention span of the public can be considerably short. However, throughout this entire time, the agency would have been facing pressures from the regulated firms and interest groups and with diminishing public attention, the chances of agency capture increase. This theory could not apply in this context because the founding date of the agency in question precedes the start of the sugar program making it hard to evaluate the chances of capture before the great depression of 1930.

Chapter 4: The multi-level capture model

This paper uses a combination of theories to explain different the multi-level multi-context behavior of the sugar industry and the influence it has had on national legislation. The major theories include 1. Stigler's theory of economic regulation refined by Peltzman for explaining the regulatory capture of the USDA by the sugar industry into influencing farm bill legislators to allow the Sugar Program to continue without any major amendments. 2. The interest group theory of Olson in explaining the role of Sugar Associations that directly and indirectly (through PACs) lobbied during the farm bill legislations. The concept behind hiring Regulatory agencies is that Legislators require someone to explain the industrial scenarios, contexts and terms in an unbiased way which would help them pass more appropriate and efficient legislations in the interest of public welfare. Under regulatory capture, these agencies are either bribed to influence their employers or are coerced verbally to a point where the agency officials become convinced on matters that benefit the industry. These convinced officials further convince their legislators that pass inefficient legislations that end up hurting the public.

The theoretical model of this paper is a three-tier model consisting of the state, the regulatory agency, and the regulated industry. Here the relation between the state and the regulating agency is explained using the principal-agent problem of informational symmetry, the relation between the regulating agency and the industry is the theory of regulatory capture while the direct relation between the state and the industry is explained using the interest group theory for legislative capture. It is of the author's understanding that the behavior of the sugar industry in this study cannot entirely be explained by a single theory. Therefore this multi-level model is created to minimize grey areas in the explanation of the sugar industry's survival.



INFORMATIONAL ASYMMETRY AND CAPTURE

This paper intends to strengthen two claims, the first that there has been a potential regulatory capture of the USDA by the sugar industry. Here, instead of performing its intended role of regulating the sugar program which has been causing economic harm to public welfare and duly informing this to the legislators and the public during farm bill legislations, the USDA has allowed the program to continue without opposition during several farm bill legislations. The second claim is that there has been a potential capture of the legislators by sugar industry where, instead of focusing on representing the interests of their voter constituencies by removing inefficient programs that do not work in the interest of public welfare, the legislators have prioritized the interests of the sugar industry during multiple farm bill legislations by allowing the program to run at the expense of the people they represent. Through both these claims, this paper intends to explain how the sugar industry has managed to keep the highly inefficient sugar program alive through influencing multiple hierarchical levels of the state and not just one of them.

This paper proposes two hypotheses, the first hypothesis $\boldsymbol{H_1}$ states that the USDA has undergone a significant level of regulatory capture by the sugar industry and the agency's functioning has changed towards working towards securing the sugar industry's interests. It will be difficult to

determine the exact levels of regulatory capture but even a simple causal pattern that indicates the switch in the intended roles of the agency from prioritizing public welfare to prioritizing industry interests will suffice to prove H_1. Even a slight hint towards regulatory capture can be implied through inefficiency in resource allocation that pose a threat to these democratic institutions who in turn face the burden to prove against this accusation. The second hypothesis H_2 states that elected politicians choose to prioritize the interests of the sugar industry that fund their political campaigns by voting towards legislations that appeal to the sugar interests over the interests of their voter constituencies that vote them into power. Just like in H_1, in majority representative democracies like the US, the elected politicians are mainly entrusted with power to represent the interests of their constituencies and industry interests are involved as long as long as they do not work against public welfare. Therefore a simple casual pattern of legislators voting in favor industries that work against public welfare should suffice in proving H_2. In both these hypotheses, there are 4 possible outcomes that are possible. The first possibility P_1 rejects H_1 *and* H_2 implying that both the legislators and the USDA are working as intended towards the welfare of the general public without any hint of corruption. This work along the lines of public interest theory where the situation is ideal, tricking down the benefits on to the public. The second and third possibilities P_2 *and* P_3 validate either H_1 *or* H_2 where either the USDA undergoes capture and guides well intending legislators into signing inefficient legislations validating only the capture theory or well performing agencies like the USDA are put in place as a gimmick and the final vote of the corrupt legislator would go towards industry interests validating only the interest group theory. The fourth possibility P_4 validates both H_1 *and* H_2 where the sugar industry has successfully influenced several levels of government towards keeping the sugar program alive enabling the industry to extract rents under government protection.

Chapter 5: The Sugar Industry

The sugar industry: A brief Introduction

The sugar industry in the US began during the 18th century when immigrant French missionaries brought the sugarcane crop with them to the US through south Florida. Sugar crops had already existed from two centuries ago in the Mexico area thanks to Spanish settlers, but logistic difficulties restricted the crop to the Mexican region. The French also revolutionized sugarcane processing a while later utilizing cheap slave labor that made the Louisiana region of the US supply 1/5th of the global sugar supply by the mid-19th century. As of 2019, according to international sugar organization, the US is the 6th largest sugar producer where it falls to the 9th place in sugar cane produced while being the 3rd in sugar beet produced (International Sugar Organization, 2020). The US is also 4th largest net importer of sugar even while maintaining domestic sugar price at nearly twice the international price.

Sugarcane remained the only sugar crop until the mid-19th century until the Englishmen revolutionized sugar processing from sugar beets around the same time. The sugarcane is a demanding crop that only grew in tropical climates, explaining why the Caribbean and southern regions of the US specialized in growing the crop. Sugar beets, however, were relatively more resistant to the cold making them suitable to grow in cold climates, much like the potato. This made it easier for farmers in the middle belt to grow the sugar beets where the medium temperate regions were ideal. This explains why most of the sugar beet growing firms and refineries are geographically concentrated on the middle belt of the US which reinforces Olson's view on Geographical proximity of industries. this factor could have made it easy and cheaper for sugar

producing firms to influence local legislation concerning the agricultural subsidies for sugar beet growers and refiners, even more than in non-sugar growing states (Olson, 1971). Therefore, owing to regional differences, the sugar cane and sugar beet growers, both of whose end product is refined sugar have different procedures in affecting their local legislations, along with similar outcomes.

Technical innovations in both sugarcane processing and sugar beet processing have led to the major concentration of the sugarcane growers in the Southern Florida region (and other places like Hawaii, etc.) and sugar beet growers mainly in the middle US belt. During the 2009-10 year, the total production of sugar beets was 30 million tons which was harvested on 1.2 million acres of land in the previously mentioned middle belt which totally values the beet sugar industry to a 4.6 billion dollars in 2010. Cane sugar, however, had a total production of 29 million tons which was harvested on 800,000 acres of tropical land mostly in the tropical southern belt of the country which was valued at 2.3 billion dollars in 2010 (ASA, 2011). The methods of processing are not equally efficient, and the processing of sugar beets is much more labor and technology intensive when compared to sugarcane. This explains why the subsidy support per pound of refined sugar from beets (~22 cents per pound) in higher than refined sugar from sugarcane (~18 cents per pound). However, the higher number of sugar beet producers compared to sugarcane in the country could have also played a role in the setting of higher prices as we can see, the value of sugar beets from above is nearly double of the sugarcane industry even when both were producing identical quantities. Apart from homegrown sugar, there are sugar processors that import sugarcane that are situated more closer to the ports in order to lower logistic costs. The US did not claim nativity to the sugar crop which was introduced in the 17th century. Post technological

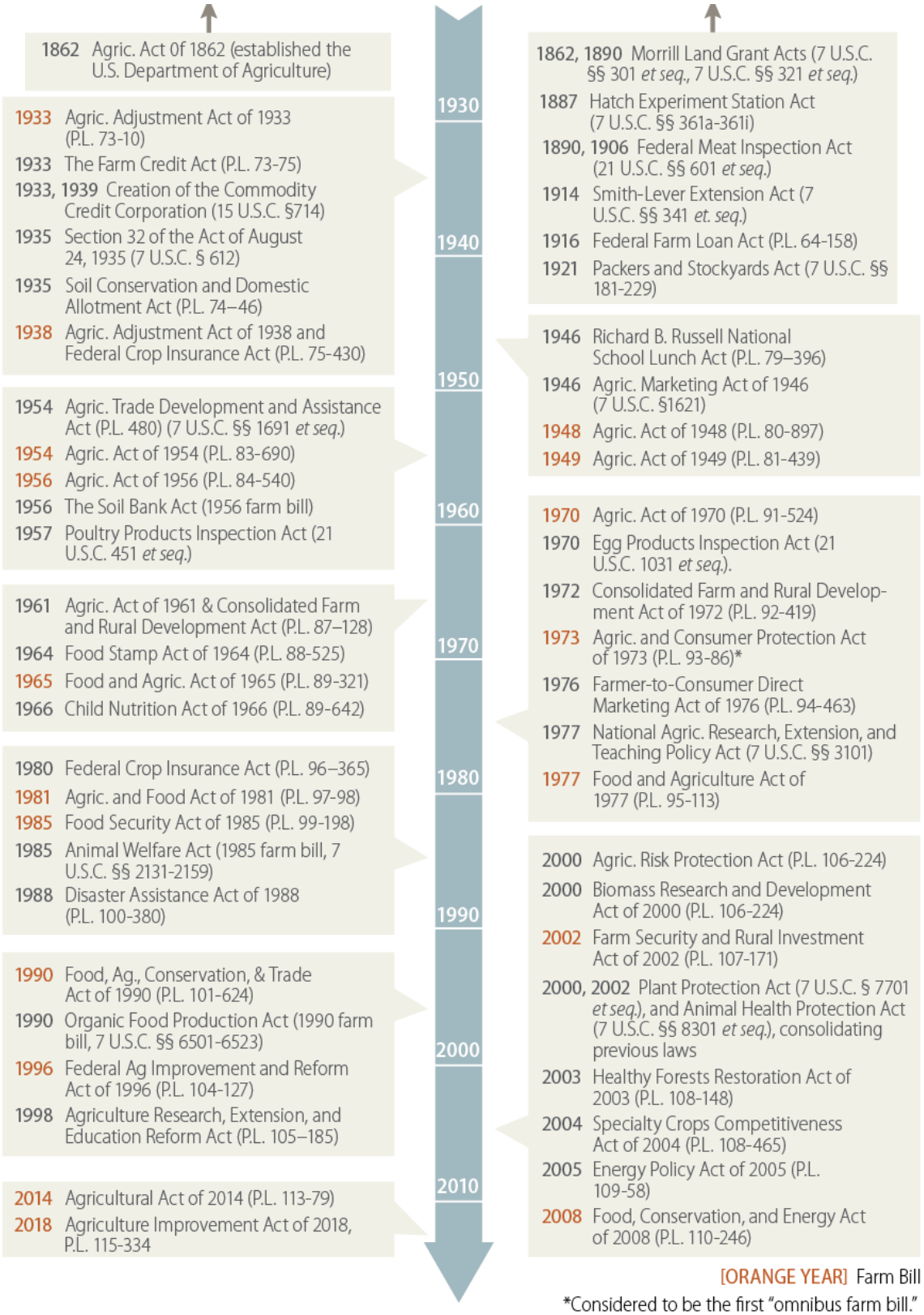
breakthroughs, sugar beets were made to grow which competes and remains a huge benefactor in the sugar industry.

The Sugar Program and its Constituent Amendments

The Jones-Costigan agreement in 1934 to this Agricultural Amendment Act marks the birth of the sugar program as these two senators from sugar producing states put across the demand for classifying sugar as a basic crop that required protection from the government. Under this agreement, much like the infamous intent of the Agricultural Adjustment Act, the sugar program was intended to create rents to domestic producers through quantitative restrictions that helped influence the domestic supply of sugar (Beghin, A Primer on US Sugar in the 2007 US Farm Bill, 2007). After the 1934 act, several legislations continued through the next three decades where neither of the agricultural commodity programs saw amendment. By the 1970s, a brief period of high international sugar prices rocked the base of the sugar program leading to its temporary dismantlement. However, this was just temporary and the program which bounced back even stronger by 1977 including new price support programs and non-recourse loan programs.

The next episode of high international prices in the 1980s brought more amendment into the program in the form of bilateral import quotas that further decreased the influx of sugar coming into the domestic market. The next amendment in 1985 was in response to the expensiveness of the program, which that instead of getting dismantled, was transformed into functioning at "no-cost" to the federal budget by transferring costs onto the consumers of the free market. The next farm bill of 1990 was intended to lead the country towards greater market liberalization, but this implied something opposite to the sugar industry (Runge, 1991). It introduced marketing control

mechanisms for controlling the domestic price of sugar in the country which further increased protection. The next legislation of 1996 termed the FAIR act was the landmark legislation in the ideological shift towards market liberalization where all market controls, the no cost requirement features of the sugar program were removed along with imposing penalties that entailed commodity forfeiture to the CCC (Evans & Davis, 2000). These changes brought about by the FAIR act of 1996 were short lived and most were rollbacked to the previous setting in the next landmark infamous 2002 bill. After the 2002 agriculture bill, the next major agriculture bills were 2008, 2014, 2018 and 2020 all of which have not included any amendments to the sugar program. The following image depicts a chronological order of all the farm bills passed throughout US history.



Source: What is a farm bill? Congress Research service 2019.

The features of the Sugar Program

This sugar program of the sugar industry has been dubbed the highest supported federal support program in the history of American farm support programs and comes under the purview of the US Department of Agriculture (Sumner, 2003). The sugar program that has been minimally modified through the seventy plus years of its existence consists of agricultural subsidies that have evolved to become "no-cost" (Beghin, 2007) i.e., independent of the federal budget. The costs of the program now conveniently fall onto the consumer rather than the taxpayer. This fact that the sugar program no longer funded by the federal budget is a main reason as to why the program lurks behind the spotlight of public purview. The sugar program entails three main support mechanisms for the sugar industry. These support mechanisms are intertwined in a way that involve all major constituents of the sugar industry, i.e., the sugarcane/sugar-beet growers, the sugar refiners/processors and ethanol refiners. These interactions between the growers and refiners must be complimentary to each other, failing which the support will be removed to that firm that does not get involved.

The first support mechanism is Marketing allotments where the domestic sugar market is proportionally divided according to the type of sugar and its origin. Currently, according to the 2008 farm bill, a total of 85% of the American market is reserved for domestic producers. This 85% is further divided amongst sugarcane and sugar-beet refiners. These allotments are made so that individual firms do not sell their produce entirely and crash the market. The farm bills also include a conservation program called Acreage Reduction Program where a percentage of acreage is intentionally left uncultivated to decrease production. This is mainly done by the federal government who pays farmers to keep their lands idle and keep production at lower levels that

affect supply which helps maintain the price. Only farms that prove that they have abided by this requirement are entitled to receive federal farm subsidies. The remaining 15% is allotted to imported sugar from licensed exporters in exporting countries that face zero-tariffs.

The second support mechanism is the import quotas that restrict sugar imports into the country from non-signatories to the NAFTA. These import quotas are offered to sugar processors from exporting countries that choose to buy back sugar from the American government. The amendment to the sugar program in the 1990 farm bill aimed at removing the sugar program out of the spotlight of being an expensive program by transforming it into a no-cost program that no longer ate into the federal budget of the country (Runge, 1991). This meant the subsidies that processors received became loans where if the market price fell below the support price, then the processors would be unable to pay back the loans and would in-turn forfeit the commodity (refined sugar) to the government. In other words, Forfeiture implied that through non-payment of loans forfeited sugar was purchased by the government through the budget. In order to emphasize the "no-cost" aspect of the program, the USDA included a clause where the forfeited sugar would be sold to foreign exporters in return for import quotas where they could buy cheaper produce from other third world sugar producers at a nearly zero cost tariff rate. This was intended to cement the no-cost feature of the program where the government would have alternatives that would prevent it from resorting to the absolute purchase of the forfeited sugar.

The Third support mechanism is minimum price support guarantees (MSGs) that the federal government offers to sugar cane and sugar beet growers who sell to domestic sugar processors/refiners. Sugar refiners that import raw sugar from other countries and sugarcane and

sugar beet growers that export the immediate crop are exempt from the support. The MSGs offered to growers is offered through domestic processors that receive price support loans from the federal government. These loans, that directly come from the Commodity Credit Corporation (CCC) are offered with the intent that sugar refiners do not flood the produce into the domestic market post-harvest/refining as it could potentially crash the sugar market leading to a drop in the price level (Hurtig, 2003). Through these loans, the CCC makes sure that the processors are not forced to sell the products instantly to make ends meet but can have the leisure to sell it at a constant rate (fixed by the government) throughout the year. The market prices are strictly measured so that they do not fall below the minimum support price, which, if happens, the sugar processors that would not be able to pay back the price support loans would have to forfeit their refined sugar instead to the government. The three support mechanisms of market allotments, import quotas and minimum price guarantees through the sugar program were intended to help sustain the sugar industry by spiked the relative sugar price and inhibiting competition from both domestic (new) and international growers.

Analysis of the Sugar Program

In this section, the author analyses the sugar program through the theoretical framework developed in the fourth section to explain causality of capture in several levels of the American government. The American economy runs on a capitalist democratic model which follows the demand and supply formula to explain the survival of goods in the market with minimum interference from the invisible hand. Demand stemming from several factors including but not limited to high competition, inefficient production etc. would typically determine the life of death of any commodity and hence, industry. However, with the help of the invisible hand

through support from the sugar program, certain highly processed inefficient goods like the sugar-beet still continues to remain on the table. Normally, even in other economies, such inefficient commodities would have typically exited the market after a certain period of time, but through the sugar program, the USDA has allowed these beet processing plants to stay, become more efficient and allowed them to compete on similar levels which decreased their rates of closure throughout the last century (Risch, Boland, & Crespi, 2014).

Both sugarcane and sugar beet processors are scattered throughout the country with a trend of being situated closer to the farms they source from for decreasing logistics costs. A third group of processors that import raw sugar are situated more near the international ports for the same reason. Although, these different constituent firms are a part the same sugar industry and have the same final products, they have different preferences that affect the political process differently, and hence undergo different treatment. The USDA treats the refiners that source domestic produce and the refiners that source international produce differently by providing marketing loans for the former but not the latter. Even within the same industry, refiners that import raw sugar as a raw material are discriminated against by domestic firms where their import quotas for raw sugar were also eventually decreased (Pendleton, 1948). The fact that the USDA enables this behavior questions its integrity as an independent regulating body and suggests towards capture by domestic firms. This works towards supporting **hypothesis H_1**.

The way the Sugar Program is structured can explain who the benefits are really intended towards. The different support mechanisms included in the program imply different benefits that finally finds its way to the sugar industry. With the first price support mechanism of market

allotments, influential firms in the sugar industry that have comfortably been extracting rents for the past many decades will look to continue to keep their share of the pie. With increasing new domestic growers and refiners, the existing firms that will seek to gain control over newer entrants will utilize the captured agency (the USDA) into setting limitations for new entrants to benefit from government subsidies. This is done with the intent that these new entrants will either close soon due to high prices or try to find other markets for their products. Adding to this, existing regulated firms will also look into decreasing the rate of returns for new entrants, so that their chances of closure will increase. It will be difficult for new farmers to set aside uncultivated parts of their farms and seek profitable rates of return initially, hence they will either look into changing their choice of crops or will have to look into other sources of employment. This support mechanism clearly does not act in the favor of the consumers.

The closure of beet processing plants would have done more good to the consumers as the resulting opportunity cost of not growing other crops that are more suitable to such weather conditions would have certainly diversified availability of products in the domestic market. But instead, tax payer money was offered to beet processors who began collecting rents instead from the higher support price. The second support mechanism of import quotas allows domestic sugar processors to extract rents from the trade diversion intentionally created by limiting imports into the country as non-import quota holders face high tariffs that touch nearly 50% of the product value (Beghin, 2007). Influential international firms from sugar producing countries would have extracted enough rents through the years of the sugar program that they would be able to afford to buy and re-export American sugar in exchange for import quotas with the goal of maintaining their import quotas. Other new international firms intending to export to the US will find it very

difficult to get over the ~40-50% tariff on non-quota imported sugar. Hence, they would be forced to either find other markets for their produce or close eventually. It is completely plausible that international sugar exporting firms that have been exporting from the beginning of the sugar program or before having commanded a say in the formulation of the sugar program through the USDA. The case of American firms having an influence on the World Trade Organization has also happened. To illustrate using an example, The American Sugar Alliance, a trade association of domestic sugar producers has had links with the US Trade Representative and the WTO and influenced trade reforms regarding trade liberalization through the WTO (Stokes, 2012).

The primary sign of capture of a regulatory agency (USDA) by a private industry for its personal interests, according to the theory of economic regulation, by J. Stigler is control over entry. From the above two price support mechanisms of marketing allotments, it is obvious that through the Sugar program, the industry has attempted to exert control over the entry of sugar into the American market from both international and domestic firms thereby validating the hypothesis ***H_1*.** The third support mechanism of minimum support guarantees in turn creates possibilities where the government has purchased the sugar from the refiners thereby transferring the cost onto the taxpayers. Irrespective if the government sells the sugar in exchange for import quotas to international firms, the chance of risk from selling their commodity in the free market and incurring losses by the sugar growers and refiners is completely removed. Either, the sugar is sold for high prices, or it is forfeited to the government, who in turn, has ended up buying the sugar from the processors at the minimum rate (which is still higher than international sugar

prices). All of the abovementioned support mechanisms clearly hint towards regulatory capture where neither of these support mechanisms seem to work towards public welfare.

The sugar industry has coerced the USDA into setting fixed prices that comfortably allow existing firms to extract rents, not by competing in the market but by other incentives like market allocations. In a perfect market, new firms that utilize the latest technologies to produce the same products would be able to sell their products at lower prices which would initially help them in create some market space. However, through price fixing, existing firms will overcome their inefficiency in production and continue to compete with the new entrants who eventually face diminishing rate or returns from lower demand and lower market shares. All of these above points work against public consumer welfare and in favor of hypothesis $\boldsymbol{H_1}$**.**

Accords to Mancur Olson's theory on special interest groups, narrow and specific demands throughout the industry is vital in influencing legislation at higher levels. The end product from both sugarcane and sugar-beet are the same hence commodity producers tend to agree strongly on most, if not all, goals of the sugar industry. Since the only existing differences, as previously discussed, are region specific, all these differences tend to become miniscule while representing the whole industry interests during national level legislations. These narrow industry specific goals have made it easy for associations to lobby and influence their specific issue-area in national legislations. Even within the industry, the sugar beet growers and the sugarcane growers have formed their own associations that have formed their own Political Action Committees (PACs) and Super PACs that lobby in multiple regions and levels of government towards influencing national farm legislations.,

The type of lobbying discussed in this paper is lobbying directly towards the legislator through the industry's trade associations. Here, the sugar industry's associations form PACs through which they channel significant campaign contributions to legislators with hopes of maintaining office and in turn, these legislators vote in favor of keeping the sugar program alive and unamended during national farm bill legislations (Alvarez, 2005). To illustrate using an example, during the 1990 farm bill, Alvarez clearly quantifies the high amounts of money that was channeled towards the campaigns of legislators that voted for the sugar program as opposed to minimal endowments for those who did not. This supports the **hypothesis H_2** that hints at legislative capture. This study by Alvarez, however, stands for legislators coming from sugar producing states. There is also some evidence where legislators that come from non-sugar growing states. These legislators, whose voting for the sugar program did not directly affect their support in their home constituencies, have openly voted in favor of the sugar program which motivates PACs to channel contributions anyway towards attaining a majority vote (Brooks, Cameron, & Carter, 1998). Removing PAC contributions from already established industries that have received considerable protection for the past many decades, would not do much against to these industries as it would take a stronger opposition to undo whatever legislations that have already occurred. However, further control of the USDA and inter-industry politics further motivates regulated firms to utilize captured agencies to their utmost benefit.

In all the farm legislations discussed in the previous section, the 2002 farm bill is infamous for reinstating protectionist measures for agricultural programs that was removed during the 1996 FAIR bill legislation. Clearly, market liberalization translates into increased welfare gains to the

consumers i.e., the public. However, this could not be achieved in the agricultural realm as agricultural interests (which were typically narrow) utilized the leverage as special interest groups who successfully lobbied in the favor of reinstating the support programs. All these developments through the late 20th century and early 21st century have involved both the USDA and the congress in allowing the sugar program to survive through several rounds of critical legislations. This is because, apart from directly voting for reinstating the program's benefits, there was neither a majority in congress that voted towards ending the inefficient program nor did the USDA do anything towards eliminating such inefficiencies**.** These developments suggest both the validity of both **hypotheses *H_1 and H_2***.

Throughout the history of the sugar program, several presidents have tried their hand at personally dismantling the sugar program due to its inefficiency in both national and international legislations but have failed in every attempt. It was the Nixon administration that first attempted to weed out such farm support programs but this attempt was rejected by congress who, at the same time approved direct cash payments to farmers (Paarlberg & Paarlberg, 2000), Next It was the Reagan administration that attempted nationally and internationally to dismantle the commodity programs. This administration attempted this stunt twice, once in each term, but the proposal was rejected both times by congress. The Reagan administration also attempted to reach out internationally to the GATT (WTO predecessor), but their talks ended up getting stalled midway, much like the WTO itself. The Bush Jr. administration was the third administration to attempt to remove the sugar program. During the farm bill legislation of 2008, the president called out the inefficiencies of some of the agricultural protection programs including the sugar program and a few others and decided to veto the passing of the 2008 farm

bill. However even presidential powers had to bow down to the powers of the congress, who eventually upturned the veto with an overwhelming majority that voted towards retaining the programs (Walsh, 2008). The politicization of the issue in national and state levels are low as like military funding, agriculture spending as a topic garners country wide support and anti-agriculture stances are typically faced with significant backlashes, as experienced previously by Bush Jr.. The sentiment of saving farm-based families and communities is continuously growing and this sentiment is exploited by big farm owning corporations that typically end up taking the biggest piece of the subsidy pie. There are no apparent political cleavages between the parties at both the senate and the congress because as stated before, legislators from pro-agriculture states command majority in both parties. Here, most of the legislators representing agriculture-based and non-agriculture-based states typically have to depend on support from agricultural industries for both their support through votes and campaign funding. Neither the GOP nor the democrats have expressed radical anti-agriculture views and have supported the continuation of federal farm programs during both all administrations. The fact that even such extraordinary measures like the president's veto have failed in the senate and congress must hint towards a significant legislative capture of several determined legislators who voted for the survival of the program and against the veto of the president. This clearly validates the **hypothesis H_2.**

Much has changed now from the time of the 1929 depression and industries no longer face the fate of striving of survival (which is the spirit of capitalism) but have had extracted enough rents and had enough time to have grown strong enough to face the perils of competition has completely removed the need for protection to remain. Paul Pecorino, however, explains how as protected sectors continue to grow, support for their existence increases within the constituency

to a point where the opposing constituencies become so small that incentives to oppose making it hard to oppose protection in the future would further diminish (Pecorino, 1997). The lobbies and the PACs clearly have done an outstanding job of either buying out the legislators or coercing them to the point where they still feel the necessity to continue the program that offers unnecessary rents to the industry. This along with the points mentioned above validate **hypothesis H_2** suggesting clear legislative capture by the sugar industry. All these evidence that helps validate both hypotheses which suggest regulatory and legislative capture are indirect proofs deduced from mere political outcomes. The next two subsections focus on quantified studies that explain the economic outcomes and implications of the sugar program.

The Domestic impacts of the Program

Legislations typically can witness three distinct types of groups that showcase interest in them. The first group is one that typically represents industry interests that would seek to continue existing support measures. The second group would typically represent the demands of the informed public by demanding legislations to be more public-centric. The third group is a group that represent government interests that looks into compliance of legislations with national and international obligations. The most organized one of the three is almost always the industry interests that mostly set the ball rolling in their way. Legislators end up prioritizing concentrated industry interests over diffused public interests and international obligation compliance, like the WTO (Westhoff & Binfield, 2008). A lot of authors have evaluated as to how much the "no-cost" sugar program has cost the consumers who end up bearing a majority of the costs of the program. John Beghin and Amani Elobeid in their work that summarizes the sugar program explain the costs incurred by the consumers in indirectly maintaining the sugar program to a mere 10$ per

person per year (Beghin & Elobeid, 2014). Interest group theory explains how this marginal price is the primary reason as to why there has not been a public fueled uproar regarding this issue. The ~10$ does not prove to be incentive enough for American consumers to fight toe to toe against sugar firms towards dismantling the sugar program. The informational asymmetry is the bigger evil here. Although the price is a mere 10$, most of the consumers, who make up the majority are not made aware of this fact. The responsibility of evaluating these costs primarily comes down to the USDA, i.e. the agency set up to work in favor of public welfare which includes informing the public and the legislators of such inefficiencies. However, this information gap that the USDA is withholding or the distorted information that it seems to have on the sugar program which hints towards regulatory capture where the industry is allowed to exercise leverage over the consumers. This validates the hypothesis $\boldsymbol{H_1}$**.**

As the saying goes, "competition is always a friend to the consumer and an enemy to the producer". Removing the sugar program, would therefore drop domestic sugar prices as imports of international sugar would be encouraged. This goes completely against the interests of the sugar industry and naturally they would do everything in their power to make sure that it would not come down to that. Decreased demand would force many industries that use sugar as their products (confectioneries etc.) to either shift to the cheaper HFCS or move their production units out of the country, typically north or south towards Mexico depending on the product. Both of these has happened. However, for industries that depend highly on sugar and cannot make the shift to Canada or further south have inevitably closed. Since imports of processed goods faced lower tariffs compared to import of raw and refined sugar, many American companies started to export finished sugary good into the country. This ultimately has an impact on employment in the

country. A study conducted by the sugar alliance compares the change in employment between 1993-94 and 2009-10 and reports a change of -43.4% (251,000 to 142,000 people) throughout the industry while the total economic impact of the industry rose by 81% (10.7 billion dollars to 19.7 billion dollars) (ASA, 2011). Such high increase in efficiency with a nearly 50% dip in employment can be credited completely towards government protection. The US Department of Commerce estimates that an approximately a total of 120,000 jobs in sugar processing industries were lost owing completely to the high prices of sugar (Jurenas, 2006). Beghin and Elobeid quantify the increase in consumer welfare to be upwards of 3 billion dollars along with the expansion of employment opportunities to nearly 20,000 jobs every year (Beghin & Elobeid, 2014). The US Government Accountability office estimated that in 1995, before the 1996 FAIR act, the sugar program had costed US consumers an approximate of 1.4 billion dollars during the 1989-1991 period while providing a profit of 600 million dollars each to the sugar industry and the corn industry respectively (US GAO, 1993). Beghin *et al*, in another work reevaluate the costs of the sugar program and quantified the loss of rents caused by the removal of the program to be about 1 billion dollars. It does not take a professional to understand that saving 1.6 billion dollars for the public should have been the priority of the USDA over allowing the sugar industry to collect 1 billion dollars in mere rent collections (Beghin, Osta, Cherlow, & Mohanty, 2003). This here alone should suffice to prove the hypothesis $\boldsymbol{H_1}$.

Even in sugarcane and sugar-beet farms, the sugar program which involves the acreage reduction program (ARP) forces farmers leave some parts of their farmland uncultivated so as to decrease supply of the crop. Allowing free cultivation and free marketing would definitely increase supply and employment while decreasing prices. The USDA is primarily responsible to oversee all of the

above-mentioned factors including supply, demand, employment, and prices but clearly all these have now been manipulated towards keeping prices high so that the sugar industry makes a profit. This again works in favor of hypothesis ***H_1*.** Economic costs are not the only costs that Americans would have to pay towards keeping this program alive. As agricultural subsidies attract potential entrepreneurs to eat into the "sugar pie", new farmers start planting sugar crops in hopes of receiving such benefits through the sugar program. The consequences that this behavior would have on the environment would be damaging as Shannon Anderson's work on excessive sugarcane farm explains that South Florida's everglades are on the verge of **environmental degradation** due to the majority of the region being involved in sugarcane farming (Anderson, 2009). Another sector where high sugar prices along with cheap sweeteners play a detrimental role is **public health**. HFCS may be a cheaper substitute to sugar, but it has only existed for a mere few decades. Preliminary research on the health benefits of HFCS already do not work in favor of its consumption (Beil, 2013). HFCS is linked with severe morbidities that simple sugar avoided. Obviously, most of this anti-HFCS research could have possibly been funded by the sugar industry but the HFCS is a new product while glucose has been around for centuries. In a scenario where both these products had comparable prices, consumers would not feel compelled to go for the cheaper substitute and have access to better lifestyles but now most of them cannot afford that choice. However, pertaining to lifestyle choices, sugar might be the lesser evil when compared to HFCS, but it surely is not an angel. Even sugar consumption has shown to have detrimental impacts on dental and overall health of in all age groups, but the sugar industry has conveniently influenced medical research into reversing the study (Kearns, Glantz, & Schmidt, 2015). As a gimmick, the sugar industry shifted the spotlight onto HFCS when both these products were detrimental to public health, which was overlooked perhaps intentionally by the

USDA. This accusation does not come without merit. As a rule of thumb, regulatory agencies like the USDA should influence farm bill legislations towards improving the nutritional content and wholesomeness of food (Larkin, 1990), rather than allow industry interests to control prices that force most of its citizens to survive on less nutritious cheaper alternatives. This point further works in favor of hypothesis $\boldsymbol{H_1}$.

The winners of situation under the sugar program are obviously sugar growers and refiners while the entire consumer group is pushed on the loser's end. As a common trend, this program gives rise to a situation where inefficiency begets more inefficiency. With high domestic sugar prices, the supply decreases which amps up demand for the product. The USDA usually reacts to this by allocating more import quotas to exporting firms that they already import from, leading to no real improvement in welfare domestically or internationally (Jurenas, 2006). the domestic impact of the sugar program depicts the situation of a few winners with the rest being the losers. The winners gain substantially while the losers have their losses dispersed in a way where they fail to realize the loss. With several quantifications, it has been made clear that the sugar program has created a substantial hole in the domestic consumer's pocket without them realizing. The marginal price of ~10$ prevents them from realizing the loss but other losses like health risks and environmental concerns prove to be much more costly to the consumers. The regulatory agency that is in charge mitigating these issues are seen to have become a victim of capture which inhibits them from working towards their intended goals.

The International impacts of the Program

The size of the American economy implies that every national legislation is bound to have an impact either directly or indirectly on the international economy. Even in the world of sugar, legislations regarding its marketing and imports influence world sugar prices (Beghin, 2007). However, most legislators in the history of American policy have ceased to consider the influence of their policies on the global economy. The sugar industry's endorsement of a dream of free trade in sugar whilst simultaneously fighting to keep the sugar industry protected back home sounds like an oxymoron. This mercantilist approach only makes sense when we consider that the agency that was supposed to regulate such behavior had reoriented their goals towards the interests of the sugar industry which validates hypothesis $\boldsymbol{H_1}$. Beghin *et al* along with other works have predicted that the removal of these protectionist policies under the sugar program will in turn increase international sugar prices by ~15% which would have a welcomed impact in the long run for countries with distorted sugar markets (Beghin, Osta, Cherlow, & Mohanty, 2003). The US's obligations to the WTO include importing a minimum of 1.5 million tons of sugar annually from international producers but the collusive relations between the WTO and the sugar industry hint that this number was nowhere arbitrary as it was intended to sound like. Irrespective of its shady beginnings, this international quota has actually caused more harm than good to the international producers and countries that depended on sugar export. Most of this quota is not given to competitive sugar producers but allotted to by the likes of the USDA.

After the NAFTA was signed, a majority of sugar import was given away to Mexico. The remaining share allotted to other non-signatories mainly went to exporters who were in contract with the US government that they would buy back sugar which would keep up the no-cost

requirement. During NAFTA's signing, US and Mexico agreed on American HFCS exports into Mexico in return for Mexican cane sugar import. By signing preferential trade agreements, countries provide exclusive access to their domestic markets to the FTA signatories that into the entire international quota meaning that other countries would have to suffer. The US sugar industry has in multiple occasions, opposed to free trade of sugar through FTAs but continued to utilize and exploit Mexico's sugar market by dumping sugar into Mexico at the same time (Jurenas, 2006). In other words, it was clear that even as a co-signatory to the NAFTA, Mexico ended up on the losers end on sugar export. The NAFTA included several side agreements that allowed America to exploit the Mexican market as within 5 years after the agreement came into force (Devadoss, Kropf, & Wahl, 1995), America was dumping HFCS into the Mexican market while importing Mexican sugar. There was an initial welfare gain to the American consumer, but sugar growers faced losses. This paved way to a higher price on sugar that limited imports. However, Mexico was not the only sugar exporting country that began to face the heat. The Caribbean growers began facing more issues being primary sugar exporters. (Evans & Davis, 2000) The Dominican Republic for example, began seeing a shrinkage in its export quota to US as non-signatories to the NAFTA gradually began to lose a huge share in the allocation. This had severe implications to the sugar industry in the Dominican Republic where consequently, the sugar industry began to see shrinkage and people had to search for alternate sources of employment. This also goes for other sugar-dominated countries around the US that have focused on exporting sugar for centuries (Coronado & Robertson, 1996).

The sugar program has also played a huge role in the Cuban revolution where due to decreasing market shares from decreasing import quota allocations, a country that specialized in exporting

sugar to the US slowly saw most of its sugar industries which exonerated unemployment, leading the country into crisis (Dye & Sicotte, 2004). Many of these countries not only face the risk of decreasing import quota allocations but also price instability and threats to the stability of the societal structure itself (Evans & Davis, 2000). Strong economies like the US impact the international market in ways that these smaller players can never dream to do so. Hence, as price volatility is subject to the legislations pertaining to the sugar program, the future of these sugar producing countries looks dark even if they choose to export elsewhere.

Rigoberto Lopez explains in his article about the impact of changing US legislations on the international sugar industries and economy particularly focusing on the conflict of interest that resulted in the policy of implementing a quota on imported sugar. Within the American sugar industry, there was a conflict of interest between some refiners and the sugar growers. As some refiners relied mainly on imported cane sugar that continued to face price discrimination which hindered the refinery business. Mr. Lopez, in another recent supporting article, studies the political economy of setting import restrictions for international sugar. His finds a high linkage between decisions on import quota with the federal budget deficit by encouraging domestic production and increasing exports (Lopez, 1989). He further concludes the positive influence of political considerations over economic implications as policy makers tended to focus more on short term gratification (more likely towards pleasing policy-oriented lobbies) towards reelection while neglecting the long run implications of such policies on the domestic economy.

Stokes explains how the sugar lobby played a role in the US-Australia FTA where the sugar industry lobbied extensively to remove any sort of talks regarding sugar off the table (Stokes,

2012). He also mentions a great collusive relationship between a particular sugar lobby (the American Sugar Alliance) and the USTR and WTO through which they have attempted to influence trade reforms in developing countries. The USDA was given the authority to report to the WTO if US's import limitations were exceeded or not met, along with the distortional impacts (Sumner, 2003) but no reports have been filed which clearly hints at agency capture of the USDA working in favor of hypothesis $\boldsymbol{H_1}$**.** The ASA is also on record for standing against trade related concessions in developing countries while actively lobbying for protection during the 2002 and 2008 farm bill legislations (Stokes, 2012).

David Abler *et al*, in their paper offering recommendations of replacing the sugar program into a standard crop program explain how unlikely their recommendations might shape up owing largely to displeased lobbies (Abler, Beghin, Blandford, & Elobeid, 2007). They explain that changing the superior program into a standard crop program which facilitates the opening of the domestic sugar market and increasing sugar imports might not sit well with the sugarcane and beet growers that are currently benefiting from the program. Increased imports mainly from Mexico through NAFTA might lead to stockpiling of domestically produced sugar in the country while Mexican industries focus on importing the cheaper HFCS sugar substitute. HFCS exports (dumping) is already happening, and the Mexican government owned industries are taking the hit. If the recommendations are adhered to, then the losses will be shifted on to the American sugar producers. The authors emphasize that since the American sugar industry is more organized, the possibility of this recommendation actually getting implemented is low.

Jose Alvarez in his paper on the success of the sugar program also concludes with no foreseeable reform in policy without the influence of the lobby in both domestic and international legislation (Alvarez, 2005), suggesting both legislative and regulatory capture which validate both hypotheses ***H_1 and H_2***. John Beghin *et al* in their paper try to evaluate the costs of keeping the sugar program in place and how the average taxpayer would benefit by removing the program. They find the costs to remove the program is about a billion dollars total every year but make a little difference to the average taxpayer which explains why the intent to derail this program is rare (Beghin, Osta, Cherlow, & Mohanty, 2003). However, removing the program completely proves to be costly to cane and beet growers which is why they would have to lobbying towards the program even during non-threatening legislations.

Regarding US obligations to the WTO and the status of the Sugar Program, The WTO classifies the Import quotas and marketing allotments and loans under the amber box and direct payments into the green box. If the real intention of the USDA were to protect farmers while complying with international trade law procedures, it would prioritize direct payments that have been proved to directly benefit the lives of farmers that comes under the green box. However, the USDA has specified several trade distortionary instruments like non-recourse loans and marketing allotments and import quotas that severely distort trade which fall into the amber box at the WTO that see no future of reform. Typically, breach of international trade obligations is generally in the form trade wars or embargoes on other products unrelated to the sugar industry. These instruments clearly work towards sustaining the future interests of the sugar industry rather than protecting their farmers and upholding its international obligations to the WTO which supports the ***H_1*** hypothesis. Also, Leu *et al* explain how if the intended purpose of the international quotas was in the interest

of public welfare and not the industry, then tariffs would have been a better alternative over import quotas and domestic farm protection programs (Leu, Schmitz, & Knutson, 1987). Quotas allows the industry to collect rents for domestic producers and international quota holding exporters, if public welfare was in the epicenter of the protectionist policy, then tariffs would have incited criticism from international players who would then have been forced to change their policies accordingly but that was not the case here.

Along with the breach of obligations, even within the global food aid program where the US is the biggest beneficiary of more than 50%, the sugar lobby along with other agriculture lobbies lobbied towards reserving nearly 80% of US food aid to have been sourced from the US. This provides another market for US producers and farmers that involves a severe resource allocation which again suggests regulatory capture that works in favor of hypothesis $\boldsymbol{H_1}$. The intention of the food aid is humanitarian and if the resources used to source US made goods was utilized to source the same goods from the international marketplace, the quantities would increase multifold that would work in favor of the intended purpose which again hints at potential capture through lobbying (US GAO, 2011). The US plays a very important role in the international economy and while plagued by certain inefficiencies through capture, the country is currently damaging the economies of export-oriented countries whilst damaging its own future prospects as well, just for protecting the interests of one industry. This has plenty to say about the legislators who were voted in to mitigate such issues but have chosen to focus on other personal ventures. The sugar program could potentially erode the international outlook of the country and future potential agreements it could need, dismantling the program has always been the solution.

The future of the program

A lot of academic articles on the reform of the sugar program conclude pessimistically with a very less likelihood of the sugar program getting amended even, let alone getting dismantled in the near future. Most of them owe it to the strong and persistent lobbying efforts by the sugar industry from the mid-20th century till now, where the support has grown extensively. The industry has extracted enough rents through this inefficient program that even in the face of a strong public opposition, they could safely sail on, with no end in near sight. Several authors have offered policy reforms and most of these suggestions have been given throughout the 20th and the 21st century. To cite some, Donald Horton offers a reform scenario where protection is completely removed and the immediate fallout is contained through subsidies (which would cost about the same as it takes for the sugar program to run) for the short run, after which a liberal market would help increase public welfare (Horton, 1970). Another suggestion offered by Andrew Larkin, in his paper on the ethics of the 1990 bill emphasizes that a portion of the next bill should devote a portion into research of the operations and effectiveness of the sugar program and the actual benefits it offers to the industry and to society (Larkin, 1990). However, the author of this paper feels that the only way this program could come under check is through international arbitration at the WTO, but even the WTO is currently facing internal issues which it has to currently prioritize before it looks into national policies and legislations. However, this is not to say that something would definitely happen through the WTO in the future, as we have already discussed possible collusions between the American sugar industry and the WTO. These are all many notable suggestions but the fact that several suggestions from the 1980s and up have not moved even the smallest of rocks suggests that maybe the USDA could have its hands tied, possibly by the sugar industry.

Conclusion

Recognizing and proving capture is not easy as it would have to include proved allegations against the agency or the legislator. This paper, however, has indirectly tried to hint at several possibilities, most of which suggest capture. The case study of the sugar program begins with the breakdown of the sugar industry, its history, and its relevance to the American and global economy. Then the sugar program is explained in detail, where we attempted to analyze why the severely inefficient sugar program has been surviving for so long when it is clearly has been functioning against the interest of the public. The domestic and international effects and implications of the program are explained in detail that include the studies which quantify the loss of public welfare because of the program. This causal mechanism of capture was formed through the evaluation of two different hypotheses, the first one focused on the possibility of regulatory capture of the USDA and the second one focused on the possibility of legislative capture of elected legislators towards influencing their voting during major farm bill legislations. For both of these hypotheses, using several pieces of evidence (indirect proofs) throughout the case study of the sugar program, this paper highlights that out of all the 4 stated possibilities, it the final possibility P_4 which validates H_1 **and** H_2**,** thereby reflecting the occurrences of both, regulatory capture along with the legislative capture during and after farm bill legislations. Nowhere in this paper was it possible to uphold the validity of the three other possibilities which invalidates the public interest theory and the possibility of either of the theories being single-handedly capable of explaining the survival of the sugar program.

This is more than just a coincidence because, as stated in the theory, a few instances of collusion are enough to instill doubt in the workings of either the regulatory agency or the legislators. No

pattern is required (although but it would help) to warrant whether the agency or the elected official is still on track with their intended obligations. Again, as mentioned before, the burden of proof lies with either the agency in question or with other researchers who intend to prove that these allegations are false, but until then these allegations stand with validity that such democratic institutions of regulation, either in developed or developing countries are susceptible to capture which coerces them to reorient their priorities into functioning for private interests. This is more of a qualitative review of previously quantified studies on the inefficiencies of the program where the proofs are rather indirect and carry no direct allegations against any agency or legislators, however, provided enough time and resources, it could be further developed into a stronger analysis that could form a substantial basis which could be used towards seeking institutional reform.

Further, this paper only limits itself to the sugar program and the interactions of the sugar industry with the legislature and the USDA, which does not claim that the USDA is completely compromised and is displaying similar behavior with other industries. However, there is evidence that reinforces this possibility as several other commodity programs like the dairy program, peanut program etc., are eating a bigger chunk of direct tax payer money behind the public's purview and a comparative future study could be necessary. Institutional reform and regular balances and checks are one way of offering ways of coping with and preventing capture from happening or worsening but the author believes that understanding and clearly identifying the problem is the first step. Coming to clear terms that capture has indeed occurred will simplify the identification of solutions to prevent or deal with problems of capture and this step is vital before the offering of solutions. However, there seems to be a lot of scope for further research in

recognizing and avoiding capture which would help democratic institutions evolve and focus on efficiently carrying out their intended goals of serving public interests. At this point of time, it is important for institutions to evolve in the direction of progress with steps taken in the right direction, failing which, the integrity of democracy as a whole could be at stake.

References

Abler, D. G. (1991). Campaign Contibutions and House Voting of Sugar and Dairy Legislations. *American Agricultural Economic Association*, 11-17.

Abler, D., Beghin, J. C., Blandford, D., & Elobeid, A. (2007). Changing the U.S. Sugar Program into a Standard Crop Program: Consequences under the North American Free Trade Agreement and Doha. *Review of Agricultural Economics, 30*(1), 82–102. doi:10.1111/j.1467-9353.2007.00393.x

Alvarez, J. (2005). Sweetening the US legislature: The remarkable success of the Sugar lobby. *The Political Quarterly Publishing Co. Ltd.*

Anderson, S. (2009). The Domestic Causes and International Consequences of the U.S. Government's Sugar Price Support Programs. *Pepperdine Policy Review, 2*(6), 32-39. Retrieved from https://digitalcommons.pepperdine.edu/ppr/vol2/iss1/6

ASA. (2011). *The Economic Importance of the Sugar Industry to the U.S. Economy - Jobs and Revenues.* Washington DC: LMC International for American Sugar Alliance. Retrieved from https://sugaralliance.org/wp-content/uploads/2021/01/LMC-Jobs-2011.pdf

Austen-Smith, D., & Wright, J. R. (1994). Counteractive Lobbying. *American Journal of Political Science, 38*(1), 25-44. Retrieved from https://www.jstor.org/stable/2111334

Beghin, J. C. (2007). A Primer on US Sugar in the 2007 US Farm Bill. *Center for Agricultural and Rural Development, Iowa State University*, 1-21.

Beghin, J. C., & Elobeid, A. (2014). The impact of U.S. Sugar Program Redux. *Applied Economic perspectives and Policy, 37*(1), 1-33. doi:10.1093/aepp/ppu028

Beghin, J. C., Osta, B. E., Cherlow, J. R., & Mohanty, S. (2003). The Cost of the Sugar Program Revisited. *Contemporary Economic Policy, 21*(1), 106-116.

Beil, L. (2013). Sweet Confusion: Does high fructose corn syrup deserve such a bad rap? *Science News, 183*(11), 22-25. Retrieved from https://www.jstor.org/stable/23599169

Berry, W. D. (1984). An Alternative to the Capture Theory of Regulation: The Case of State Public Utility. *American Journal of Political Science, 28*(3), 524-558. Retrieved from https://www.jstor.org/stable/2110903

Brooks, J. C., Cameron, C., & Carter, C. A. (1998). Political Action Committee Contributions and U.S. Congressional Voting on Sugar Legislation. *American Journal of Agricultural Economics, 80*(3), 441-454. Retrieved from https://www.jstor.org/stable/1244547

Coleman, W. D., Skogstad, G. D., & Atkinson, M. M. (1996,). Paradigm Shifts and Policy Networks: Cumulative Change in Agriculture. *Journal of Public Policy, 16*(3), 273-301. Retrieved from https://www.jstor.org/stable/4007648

Coronado, J. L., & Robertson, R. (1996). Inter-American Development and the NAFTA: Implications of Liberalized Trade for the Caribbean Sugar Industry. *Caribbean Studies, 29*(1), 120-143. Retrieved from https://www.jstor.org/stable/25613326

DAL BÓ, E. (2006). REGULATORY CAPTURE: A REVIEW. *Oxford Review of Economic Policy, 22*(2), 203-225. Retrieved from https://www.jstor.org/stable/23606888

Devadoss, S., Kropf, J., & Wahl, T. (1995). rade Creation and Diversion Effects of the North American Free Trade Agreement of U.S. Sugar Imports from Mexico. *Journal of Agricultural and Resource Economics, 20*(2), 215-230. Retrieved from https://www.jstor.org/stable/40987734

Dye, A., & Sicotte, R. (2004). The U.S. Sugar Program and the Cuban Revolution. *Economic History Association, 64*(3), 673-704. Retrieved from https://www.jstor.org/stable/3874816

Estache, A., & Martimort, D. (1999). Politics, Transaction Costs, and the Design of Regulatory Institutions. *Policy Research Working Papers*. doi:10.1596/1813-9450-2073

Evans, E. A., & Davis, C. G. (2000, DECEMBER). US SUGAR AND SWEETENERS MARKETS: IMPLICATIONS FOR CARICOM TARIFF-RATE QUOTA HOLDERS. *Social and Economic Studies, 49*(4), 1-36. Retrieved from https://www.jstor.org/stable/27865208

Goldman, G., Carlson, C., Bailin, D., Fong, L., & Phartiyal, P. (2014). Added Sugar, Subtracted Science: How Industry Obscures Science and Undermines Public Health Policy on Sugar. *Union of Concerned Scientists*, 6-18. Retrieved from http://www.jstor.com/stable/resrep00044.8

Hantke-Domas, M. (2003). The Public Interest Theory of Regulation: Non-Existence or Misinterpretation? *European Journal of Law and Economics, 15*, 165–194. doi:10.1023/A:1021814416688

Harper, R. K., & Aldrich, J. (1991). The Political Economy of Sugar Legislation. *Public Choice, 70*(3), 299-314. Retrieved from https://www.jstor.org/stable/30025472

Horton, D. C. (1970). Policy Directions for the United States Sugar Program. *American Journal of Agricultural Economics, 52*(2), 185-196. Retrieved from https://www.jstor.org/stable/1237489

Hurtig, B. (2003). The 2002 Farm Bill: One small step for family farmers, One Giant Leap Towards Corporate Production in Iowa. *The Journal of Corporation Law*, 200-216.

International Sugar Organization. (2020). *About Sugar*. Retrieved from International Sugar Organization: https://www.isosugar.org/sugarsector/sugar

Jurenas, R. (2006). *Sugar Policy Issues.* Resources, Science, and Industry Division. Washington D.C.: Congressional Research Service.

Kamath, S. J. (1989). Concealed takings: Capture and rent-seeking in the Indian Sugar Industry. *Public Choice, 62*, 119-138.

Kearns, C. E., Glantz, S. A., & Schmidt, L. A. (2015). Sugar Industry Influence on the Scientific Agenda of the National Institute of Dental Research's 1971 National Caries Program: A Historical Analysis of Internal Documents. *PLOS Medicine, 12*(3), 1-22. doi:10.1371/journal.pmed.1001798

Krueger, A. O. (1988). The Political Economy of Controls: American Sugar. *National Bureau of Economic Research: Working Paper 2504* . doi:10.3386/w2504

Larkin, A. (1990). Ethics, Economics, and Agricultural Policy: Considerations for the 1990 Farm Bill. *JOURNAL OF ECONOMIC ISSUES, XXIV*(2), 555-563.

Leu, G.-J. M., Schmitz, A., & Knutson, R. D. (1987). Gains and Losses of Sugar Program Policy Options. *American Journal of Agricultural Economics, 69*(3), 591-602. Retrieved from https://www.jstor.org/stable/1241694

Lopez, R. A. (1985). Campaign Contibutions and Agricultural Subsidies. *Economics and Politics, 13*(3), 257-279.

Lopez, R. A. (1989). Political Economy of U.S. Sugar Policies. *American Journal of Agricultural Economics, 71*(1), 20-31. Retrieved from https://www.jstor.org/stable/1241771

Lowery, D. (2007). Why Do Organized Interests Lobby? A Multi-Goal, Multi-Context Theory of Lobbying. *Polity, 39*(1), 29-54. Retrieved from https://www.jstor.org/stable/4500263

Mahoney, C. (2007). Lobbying Success in the United States and the European Union. *Journal of Public Policy, 27*(1), 35-56. Retrieved from http://www.jstor.com/stable/4007826

Olson, M. (1971). *The Logic of Collective Action: Public Goods and the Theory of Groups.* Massachusetts: Harvard University Press.

Paarlberg, R., & Paarlberg, D. (2000). Agricultural Policy in the Twentieth Century. *Agricultural History, 74*(2), 136-161. Retrieved from https://www.jstor.org/stable/3744844

Pecorino, P. (1997). Exogenous Tariff Changes with an Endogenous Lobbying Response. *Public Choice, 92*(1/2), 91-108. Retrieved from https://www.jstor.org/stable/30024244

Peltzman, S. (1976). Toward a More General Theory of Regulation. *The Journal of Law & Economics, 19*(2), 211-240. Retrieved from https://www.jstor.org/stable/725163

Pendleton, W. C. (1948). American Sugar Policy. 1948 Version. *Journal of Farm Economics, 30*(2), 226-242. Retrieved from https://www.jstor.org/stable/1232527

Peoples, C. D. (2010). CONTRIBUTOR INFLUENCE IN CONGRESS: Social Ties and PAC Effects on U.S. House Policymaking. *The Sociological Quarterly, 51*, 649-677.

Rasmussen, W. D., Baker, G. L., & Ward, J. S. (1976). *A SHORT HISTORY OF AGRICULTURAL ADJUSTMENT,1933-75.* Washington D.C.: ECONOMIC RESEARCH SERVICE, UNITED

STATES DEPARTMENT OF AGRICULTURE. Retrieved from https://naldc.nal.usda.gov/download/CAT87210025/PDF
Risch, C. C., Boland, M. A., & Crespi, J. M. (2014). Survival of U.S. Sugar Beet Plants from 1897 to 2011. *Agribusiness,, 30*(3), 265–277.
Runge, C. F. (1991). The 1990 Farm Bill and the Uruguay round. *American Journal of Agricultural Economics, 73*(3), 909-912. Retrieved from https://www.jstor.org/stable/1242851
Russell, L. (2018). Ideology, Electoral Incentives, PAC Contributions, and the Agricultural Act of 2014. *Journal of Agricultural and Resource Economics, 43*(2). doi:10.22004/ag.econ.273450
Shleifer, A., & Vishny, R. W. (1994). Politicians and Firms. *The Quarterly Journal of Economics, 109*(4), 995-1025. doi:10.2307/2118354
Stigler, G. J. (1971). The Theory of Economic Regulation. *The Bell Journal of Economics and Management Science, 2*(1), 3-21. Retrieved from https://www.jstor.org/stable/3003160
Stokes, C. (2012). Artificial sweetness a survey of the harmful effects caused by the u.s. sugar program and possibilities for reform. *Georgetown Journal of Law Public Policy, 10*(2), 589-618.
Stratmann, T. (1995). Campaign Contributions and Congressional Voting: Does the Timing of Contributions Matter? *The Review of Economics and Statistics, 77*(1), 127-136. doi:10.2307/2109998
Sumner, D. A. (2003). Implications of the US Farm Bill of 2002 for agricultural trade and trade negotiations. *The Australian Journal of Agricultural and Resource Economics, 46*(3), 99–122.
Thomaz, L. F., & Oliveira, M. F. (2016). U.S. International Agricultural Trade Policy: Interests, Institutions and Information in the Corn Supply Chain. *Brizilian Political Science Review, 10*(1), 1-27. doi:10.1590/1981-38212016000100005
Tirole, J. (1986). Hierarchies and Bureaucracies: On the Role of Collusion in Organizations. *Journal of Law, Economics, & Organization*, 181-214. Retrieved from https://www.jstor.org/stable/765048
US GAO. (1993). *Sugar Program: Changing Domestic and International Conditions Require Program Changes.* Washington D.C.: US General Accounting Office.
US GAO. (2011). *INTERNATIONAL FOOD ASSISTANCE Funding Development Projects through the Purchase, Shipment, and Sale of U.S. Commodities Is Inefficient and Can Cause Adverse Market Impacts.* Wahington D.C.: United States Government Accountability Office. Retrieved from https://www.gao.gov/assets/gao-11-636.pdf
Walsh, D. (2008, June 18). *CNN*. Retrieved from Congress passes farm bill over Bush veto: http://edition.cnn.com/2008/POLITICS/06/18/farm.bill/
Westhoff, P., & Binfield, J. (2008). US Farm Bill 2008: Back to the Future? *EuroChoices Journal compilation, 7*(3), 17-23.
Williams-Derry, C., & Cook, K. (2002). *Green Acre$: How Taxpayers are Subsidizing the Demise of the Family Farm.* Environmental Working Group. inneapolis: Institue of Agriculture and Trade Policy. Retrieved from https://www.iatp.org/sites/default/files/Green_Acre_How_Taxpayers_are_Subsidizing_the_D.htm