

Colonialism, “efficiency” and development: Re-examining Puerto Rico's land reform, 1935–1945

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Abstract

Existing historiography on Puerto Rico's agrarian reform programme in the early 1940s fails to explain why the reform resulted in the nationalization of sugar cane plantations and the formation of “Proportional Profit Farms” rather than land redistribution. This analysis examines the interplay between the New Deal and Puerto Rican political forces in the 1930s to help answer this question. It concludes that land redistribution was preferred among local forces and that the Proportional Profit Farms were a result of federal intervention by the New Deal, embodied most clearly in the figure of Rexford Tugwell, Puerto Rico's appointed governor from 1941 to 1946. This intervention calls for a re-examination of the New Deal's role in Puerto Rico's long-term economic development in the 20th century, particularly in laying down a model of dependent development and industrialization.

KEYWORDS

colonialism, development, land reform, New Deal, Puerto Rico

1 | INTRODUCTION

Puerto Rico was one of the many Latin American societies to experiment with agrarian reform in the mid-20th century. In April of 1941, Puerto Rico's colonial legislature passed a Land Law intended to ameliorate the problems of landlessness and corporate absentee ownership in the island's agrarian economy and particularly in its sugar sector. The law sought to put into force the “500-Acre” provision of the 1900 Organic Act of Puerto Rico which, promoted by protectionist beet farmers and promulgated by a US Congress in a trust-busting mood, sought to limit corporate

landholdings on the island to 500 Acres (Tugwell, 1941, pp. 3–11). The Land Law was then implemented under the governorship of Rexford Tugwell, a progressive New Dealer and former US Undersecretary of Agriculture, in collaboration with the newly formed *Partido Popular Democrático* (PPD), or Popular Democratic Party, which controlled the legislature.

In theory, the land reform executed by Tugwell and the PPD had three pillars: the distribution of family farms to create a class of smallholders; the creation of large “Proportional Profit Farms” (PPFs) owned by the state in which profits were distributed among workers in addition to wages paid and finally, the distribution of *parcelas*, small plots of around 1 acre, to landless agricultural workers for the construction of houses and very small-scale agricultural production. Only the second two elements of the law were implemented, however. Thus, by the early 1950s, 25,000 landless families had been resettled in small plots—by 1965, it was 65,000 families—and the government owned almost 70,000 *cuerdas*¹ of land in PPFs accounting for 10% of annual sugar cane yield. In contrast, only 437 family farms had been established, accounting for an insignificant sum of 6,283 acres (Koenig, 1953, pp. 251–254; Wells, 1969, pp. 173–174).

Why did the reform feature such an important role for large state sugar farms and such a small one for land redistribution to family farms? Existing scholarly interpretations of the reform answer this question with a more or less standard narrative, summarized best by the works of Edel (1962) and Rosenn (1963), two seminal early studies of the reform. “Imaginative” and “political” ideas of land division and distribution to family farms among Puerto Rican reformists in the 1930s, inflected by the idea of “Jeffersonian democracy,” ran up against the harsh “economic” realities of production—the large-scale corporate plantation was simply more amenable to mechanization and more efficient. The PPD and Tugwell thus devised a central role for the PPFs as a compromise between the goals of social justice and economic efficiency.

Three fundamental assumptions undergirded Edel and Rosenn's analyses. First, the analyses assumed, in Malthusian fashion, that there were simply too many people and too little land to go around. As Rosenn put it, “unfortunately, many of the [island's] acres are far less fertile than the inhabitants” (Rosenn, 1963, p. 340).² Second, they also assumed that land redistribution to small farmers would have been unfeasible because the Puerto Rican sugar economy was based, on the one hand, on efficient, large-scale American corporate plantations and, on the other, on fully proletarianized wage labourers both incapable of and uninterested in managing small farms (Edel, 1962, p. 27; Rosenn, 1963, pp. 34–35). Finally, they assumed that large-scale implied efficiency: only large farms could replicate the “intensive” and technologically advanced cultivation implemented by American corporate sugar plantations on the island.

More recently, Dietz (1986, pp. 182–240), Pantojas-García (1990, pp. 29–60) and Ayala and Bernabe (2007, pp. 179–222) analyse the agrarian reform more briefly but attempt to situate it in broader historical processes—the New Deal, state-led industrialization and the emergence of the *Partido Popular*. Barring the Malthusian “population bomb” concerns, however, all three studies more or less repeat the narrative presented by Edel and Rosenn. They all describe the PPFs as a compromise solution to a perceived conflict between social justice and the efficiency of scale, struck either within the PPD or between the PPD and Tugwell. They do not, however, go into detail as to exactly how this compromise came about (Ayala & Bernabe, 2007, p. 185; Dietz, 1986, p. 195; Pantojas-García, 1990, p. 43).

There are three assumptions regarding Puerto Rico's agrarian reform, then, that have yet to be investigated in the literature: the superior “efficiency” of large-scale operations in Puerto Rico's sugar economy, the infeasibility of land redistribution in a sugar economy dominated by American sugar corporations and wage proletarians and the notion of a “compromise” between efficiency and social justice that resulted in the central role of the PPFs. This analysis aims precisely to unravel these assumptions. I begin by contesting the assumptions about agrarian social structure in Puerto Rican sugar production on which many of the existing arguments on the agrarian reform are

¹One *cuerda* is equal to approximately 0.971 acres. For ease of analysis, we use the two measurements interchangeably here.

²Edel repeated this idea, stating that “population was expanding too rapidly for the island's resources” (Edel, 1962, p. 55). Recent research actually suggests that despite its relative population density, land use in Puerto Rico was actually not all that intensive. Even though there was an increase from 21% in 1899, by 1935 still only 37% of all farmland was under cultivation, excluding land in pastures (Ayala & Bergad, 2020, p. 214).

based. I emphasize that although the expansion of sugar production in the first three decades of the 20th century involved the establishment of American corporate plantations employing pure wage labour, the island's sugar sector by no means depended exclusively on either of these.

In the second section, I review the historical conditions that led to the implementation of the land reform, namely, the crisis of the Puerto Rican economy in the 1930s and consequent social unrest, the arrival of the New Deal on the island and the rise of the PPD as a political force. I also analyse the prevailing opinions of the Puerto Ricans that advocated for land reform in the 1930s. I argue that the shape that the land reform ultimately took is not explained by island politics, because no major political movements of the 1930s called for land nationalizations. Instead, the decision to nationalize rather than redistribute expropriated cane lands was a result of the intervention of Rexford Tugwell and the US New Deal bureaucracy. The nature of this intervention and the ease with which it was made cannot be understood without considering Tugwell and his ilk's membership in a managerial class interested in a particular model of *organization*, rather than ownership, of production, and the sheer arbitrary power these bureaucrats had in a colonial context.

The PPD, in turn, was willing to accept this intervention without much struggle—despite the fact that it went against its platform—because the land reform still allowed it to achieve two of its primary political goals through the execution of the Land Law: the reduction of US absentee ownership and more importantly, the political emancipation of landless workers through the *parcelas* programme, which in turn established a social base of support for the party. By the mid-1940s, PPD leaders were openly endorsing the PPF idea.

The question of whether the emphasis on scale was empirically warranted, which I turn to in my final section, is somewhat speculative, yet it is still important insofar as the case of Puerto Rico fits into broader investigations on the relationship between land reform and development. Indeed, there is a large existing literature on the relationship between farm size and productivity in labour-rich and capital-poor developing countries. I examine existing data on the relationship between farm size and sugar cane yields in Puerto Rico at the time, as well as studies of cane-producing family farms created in Puerto Rico by the US Department of Agriculture's Farm Security Administration (FSA). I also examine the agrarian social structure in Taiwan, in which family farms played a central role in sugar production under Japanese colonialism. I conclude that Puerto Rico's land reform did indeed ignore the possibilities of the family farm, with possible implications for its long-term development.

This study thus expands discussion on agrarian reform in Puerto Rico in two ways. First, it aims to insert the case of Puerto Rico into the broader conversation on the relationship between agrarian reform and economic development. Second, it calls for a re-evaluation of the role of US colonialism and the New Deal in Puerto Rico in the 1930s. Existing studies emphasize the key role of the New Deal and federal spending during World War II in laying a groundwork for economic development and poverty reduction on the island (Bolívar, 2011; Burrows, 2014). The imposition of the PPF idea gives an example, in my view, of intervention by federal New Deal officials that was detrimental to Puerto Rico's long-term development.

2 | AGRARIAN SOCIAL STRUCTURE IN PUERTO RICAN SUGAR PRODUCTION

The first three decades of the 20th century witnessed a tremendous expansion of the sugar industry in Puerto Rico. There is some debate, however, over the nature of the political economy generated by this expansion, an understanding of which is crucial in analysing later agrarian reform efforts. Much of the existing literature on Puerto Rican land reform and agrarian social structure assumes a sugar economy dominated in the first half of the 20th century by absentee American corporations exclusively employing dispossessed wage labourers. This literature has been influenced by the work of mid-century social scientists such as Sidney Mintz and Eric Wolf, whose ethnographic fieldwork in Puerto Rico depicted pure proletarians in the sugar industry completely delinked from peasant production and engaged in social struggles aimed at improvement of factory-like working conditions, not land redistribution

(Mintz, 1956, 1974; Wolf & Mintz, 1957). Indeed, both Edel and Rosenn cite Mintz in their analyses of land tenure in Puerto Rican sugar production (Edel, 1962, p. 27n; Rosenn, 1963, pp. 334n, 335n, 346n). More recently, scholars have repeated the claim that the expansion of the sugar industry on the island went in tandem with the gradual disappearance of access to land for subsistence production among wage workers who cut cane (Ayala & Bernabe, 2007, pp. 49–50; Dietz, 1986, p. 125).

Certainly, US corporations played a crucial role in the expansion of sugar production in Puerto Rico during the first half of the 20th century, and the island did see the expansion of a class of pure proletarians who relied on the store, rather than the subsistence plot, as their main source of food. However, Puerto Rico's agrarian social structure—even in cane production, where the US corporate presence was strongest and proletarianization the most prevalent—was more complex than these studies suggest. Small farmers played an important if not dominant role in cane production, and subsistence production among wage workers in the sugar industry continued. This complexity is crucial in any proper understanding of the social forces behind the island's agrarian reform.

First of all, it was actually Puerto Rican rather than American capital that played a dominant role both in the growing of cane and the initial industrial processing of sugar. More than half of the sugar produced in Puerto Rico in the 1930s was actually ground in Puerto Rican-owned mills, not American corporate mills (Ayala, 1999, p. 144). The predominance of local capital and ownership was true of cane production as well. American sugar companies likely controlled no more than a fifth to a fourth of all cane lands; most of the rest were in the hands of local cane growers, the *colonos* (Bernabe, 1989, p. 55). The *colonos* constituted a very broad producer category; the term *colono* referred not to the scale of a cane producer's operations but rather to their level of vertical integration in the process of sugar production—that is, a *colono* was anyone who grew cane but did not grind it. Thus, a small farmer and a large landowner could both be called *colonos* (Ayala, 1999, p. 121).

The importance of the *colonos*—who in reality were farmers of all sizes—in Puerto Rico's sugar sector was a product of the expansion of the sector on the island following its incorporation behind US tariff barriers in the early 20th century. During this period, the expansion of sugar production increased concentration of capital in the industrial processing of sugar, but at the same time, it actually promoted the *fragmentation* of property in cane-growing. The expansion in productivity in industrial processing greatly outpaced productivity growth in cane production and outgrew the capacity of existing sugar plantations from the Spanish colonial period, the *ingenios* (Scarano, 1990, pp. 144–145). This situation was favourable to the entrance of smaller and medium-sized producers into cane production, although sugar mills (*centrales*), both local and American, did attempt to secure enough of their own land in cane production to exert market power (Scarano, 1990, p. 159).

Thus, according to data compiled from the US Agricultural Adjustment Administration (AAA) by Sol Luis Descartes, an agricultural economist who later became Puerto Rico's Secretary of the Treasury, the vast majority of farms engaged in cane production by 1935 were under 25 acres, and 45%—around 3,500 in total—were under 3 acres in size. However, farms under 25 acres accounted for only 16.7% of total area in cane-growing farms, 11.7% of total cane acreage and 7.5% of total cane production. Farms of over 500 acres—which, if corporate-owned, were in violation of the 500-Acre Law—accounted for 55% of farmland, 57.7% of cane acreage and 67% of cane production. It must be noted, however, that although not all farms of over 500 Acres were American corporate plantations, conversely, the vast majority of farms under 500 Acres were Puerto Rican-owned.

Second, although many Puerto Rican sugar workers were “pure” landless proletarians completely divorced from peasant production, agrarian social relations in the sugar sector actually differed significantly by region. Sidney Mintz's early work on Puerto Rico's sugar plantation economy (Mintz, 1956), which was formative in scholarly understandings of agrarian social structure in the sugar industry, was based on his ethnographic fieldwork in the municipality of Santa Isabel, the most extreme case of American corporate dominance and complete proletarianization in the sugar industry. While corporate sugar production and pure wage relations predominated in the American corporate sugar sector in Santa Isabel, they were by no means representative of the island's sugar sector as a whole (Ayala & Bergad, 2020, pp. 89–90).

Instead, wage workers in Puerto Rico's sugar industry existed on a spectrum in which wage labour and peasant production varied in relative importance and in which Santa Isabel constituted an extreme case. Juan Giusti, for example, in his extensive historical study of the northern sugar-producing community of Piñones in the municipality of Loíza, describes the subjects of his study not as pure wage labourers but rather as “peasant-proletarians” (Giusti-Cordero, 1994, pp. 9–17). These peasant-proletarians worked in the cane fields of the American-owned Fajardo Sugar Company during half of the year, and then engaged in a variety of forms of subsistence peasant production during the “dead season” (Giusti-Cordero, 1994, pp. 32–38).

Ayala and Bergad, meanwhile, in their recent study of land tenure in Puerto Rico in the early 20th century, emphasize the differences in agrarian social relations between American corporate plantations like the one that dominated Santa Isabel on the one hand and those on sugar plantations owned by Puerto Rican elites on the other. Thus, they examine the municipality of Vieques, off the east coast of Puerto Rico's main island, as a sort of counterexample to the case of Santa Isabel. Here, there was a similar level of concentration in land tenure, with the local Benítez family owning 15,000 acres of sugar land. Yet labour relations were different from those predominating in Santa Isabel. The cane-cutters on the Benítez lands were mostly not pure wage labourers but rather *agregados*—worker-tenants who received, in addition to wages, small plots of land for subsistence production (Ayala & Bergad, 2020, pp. 74–90, esp. 88–90). Similarly, José Solá, in his study of the sugar economy in the east-central municipality of Caguas, notes that “middle” *colonos* there—who owned between 175 and 500 acres—usually kept *agregados* on their sugar farms, which normally also produced other crops as well. He gives the example of one Antonio Grillo Santiago, who “had one hundred thirty *agregados* living in eighteen dwellings” (Solá, 2011, p. 360).

In examining agrarian social structure in Puerto Rican sugar production during the period from annexation up to the agrarian reform, three important points are thus in order. First of all, Puerto Rican capital played a strong role in the industry and accounted for the majority of raw cane production and sugar milling. Second, the expansion of sugar production in the first three decades of the 20th century allowed for the entry of a large number of new Puerto Rican farmers into cane production, the *colonos*, and these were polarized between a large number of small farmers and a small number of large farmers. Finally, although pure wage relations did exist in sugar production, they did not constitute the dominant type of labour relation. Especially among Puerto Rican landowners, labour relations ran a spectrum that included tenantry, usufruct rights and wage labour.

3 | THE ORIGINS OF THE LAND REFORM: THE CRISIS OF THE 1930S AND THE NEW DEAL

In March of 1934, Rexford Tugwell, then Undersecretary of the US Department of Agriculture, travelled to Puerto Rico along with Eleanor Roosevelt and various other New Deal officials. In his diary, he noted a conversation with two officials of the pro-independence Liberal Party, Luis Muñoz Marín and Antonio Barceló, in which the two explained “a kind of complicated scheme” of agrarian reform. “It will bear looking into further,” Tugwell concluded briefly (Namorato, 1992, p. 100). Tugwell's visit was the beginning of a massive expansion in the activities of the New Deal in Puerto Rico, largely as a response to social unrest sprouting from the Great Depression and a collapse in sugar prices. In the early 1930s, strikes occurred all over the island, sometimes featuring bloody confrontations with the police. In neighbouring Cuba, the dictator Gerardo Machado was overthrown in 1933, contributing to a perception of social unrest in the region and further unsettling the US government. The situation seemed to worsen in 1934, when Puerto Rican sugar workers holding a general strike called on the leader of the radical pro-independence Nationalist Party, Pedro Albizu Campos, to represent them.³

³The cane workers' call to the Nationalist Party was a reaction to the increasingly conciliatory position of the main trade union confederation, the *Federación Libre de Trabajadores*, which was linked to the increasingly conservative *Partido Socialista* that was in government at the time; see *Huelga en la caña!* (Taller de Formación Política, 1982, esp. 119–123).

The federal government responded to this growing instability in Puerto Rico with a two-pronged approach. On the one hand, it appointed Blanton Winship, a US Army general, as governor to oversee a crackdown on nationalist and labour insurrection. On the other hand, it vastly expanded federal aid and investment programmes on the island through the Puerto Rico Emergency Relief Administration (PRERA) in 1933, later renamed and expanded as the Puerto Rico Reconstruction Administration (PRRA) in 1935 (Ayala & Bernabe, 2007, pp. 96–97, 102).

This expansion in federal programmes initiated a long pattern of collaboration between New Deal officials and local technocrats and politicians. Soon after he first visited Puerto Rico, Tugwell joined the Inter-Departmental Committee for the Economic Rehabilitation of Puerto Rico—also known as the Puerto Rico Policy Committee and the Puerto Rico Policy Commission. Created by the Roosevelt administration, the Policy Committee absorbed the existing “Chardón group” made up of local technocrats and politicians, most of whom were members of the Liberal Party.⁴ In 1934, the committee came out with the first major land reform proposal in Puerto Rico, the Chardón Plan (Burrows, 2014, pp. 96–97). The plan called for the creation of 10,000 subsistence farms in “marginal” sugar cane lands, the resettlement of existing sugar growers in these areas to “good” lands, and the establishment of thousands of additional small farms in areas of coffee, tobacco and fruit cultivation (Descartes, 1943, p. 401). The project thus sought both to appease large *colonos* as a political base of support and to conduct limited land redistribution.

The work of the Chardón Committee was folded into the PRRA, as were most of its members. The PRRA was practically a parallel Puerto Rican bureaucracy; over 90% of its administrative personnel were Puerto Ricans (Burrows, 2014, p. 92). As a federal programme, the PRRA was not subject to the political power of the insular legislature, which was controlled by a coalition of the pro-statehood Socialists and Republicans. This and the tremendous financial resources controlled by the PRRA made the organization a perfect opportunity for Liberal politicians and technocrats to channel power and patronage. In 1938—in the wake of a political whirlwind including the assassination of Police Commissioner Francis Riggs in 1936 and the infamous Ponce Massacre of 1937—these dissident Liberal politicians, led by Luis Muñoz Marín, split off to form the PPD. Ultimately, the PPD successfully channelled PRRA patronage in its campaign during the 1940 elections, winning control of the colonial legislature (Burrows, 2014, pp. 81–84, 104, 107). Muñoz Marín would go on to become the island's first elected governor in the 1950s.

Meanwhile, in the midst of the social unrest and institutional transformations of the 1930s, agrarian reform became a salient issue in Puerto Rican politics. Various plans and proposals—the Chardón Plan among them—circulated among Puerto Rican political forces. Little evidence suggests, however, that any of these forces called for large-scale state-owned operations as the best option for expropriated sugar lands. PPD politician Rafael Picó, a US-trained geographer who served as the first chairman of the Puerto Rico Planning Board created by Tugwell in 1942 and later served in the colonial Senate, would reflect with some regret over the decision to create the PPFs in a lecture he later delivered in 1963 at Western Michigan University: “Reviewing briefly the type of tenure, I would say that collective farms have failed throughout; even in Puerto Rico where the ‘proportional-profit’ farms show perhaps the best results.... Someday I think we will have to go back to the individual farms; that, in my opinion, is the best type of tenure, provided there is not extreme pressure of population on the land.” Picó demonstrated a clear preference for the “individual” family farm as the ideal, invoking the US Homestead Act as “a great land reform that influenced the course of that nation for over a century” (Picó, 1964, p. 155).

Picó was not alone in seeing family farms as the ideal pursuit of land reform. Descartes claimed that in the 1930s, there was “noteworthy agreement in the programs or platforms of all major parties in regard to agrarian

⁴As far as electoral politics were concerned, there was roughly a three-party system during this period. The *Unión Republicana* party was the main pro-statehood force. The *Partido Liberal*, meanwhile, espoused a brand of cultural nationalism and a gradualist approach to independence, verging on “autonomism”, that would later be taken up by Muñoz Marín's PPD. Although different in their approaches to the status issue, the *Liberales* and the *Republicanos* competed for support among the propertied and professional classes of the island (see Ayala & Bernabe, 2007, pp. 53–71; and Wright, 2014, p. 56). The *Partido Socialista*, meanwhile, also held a pro-statehood platform. It was linked to the *Federación Libre de Trabajadores*, the main trade union confederation, which organized according to the “the AFL brand of conservative business unionism”, making the Party much more favourable to US colonialism than its name would suggest (Ayala & Bernabe, 2007, p. 62). The legislature at the time was dominated by a coalition of the Socialists and Republicans (popularly referred to as the *Coalición*) on a shared pro-statehood platform.

reform and the desirability of the small, or family, farm” (Descartes, 1946, p. 131). The radical pro-independence Nationalist Party demonstrated the most fervent support for the ideal of the family farm. Claiming that US colonialism caused the disappearance of a “legion of proprietors” that had existed before 1898—a narrative that has since been proven false (Ayala & Bergad, 2002, pp. 72–73)—it argued for the 500-Acre limit to be reduced to 300 acres (Bothwell, 1979, p. 463). Yet even the coalition controlling the legislature during the 1930s—an alliance of the conservative *Partido Republicano* and the moderate labour party, the *Partido Socialista*, around a shared pro-statehood platform—promised, in its 1936 programme, “to continue our program of extension and development of subsistence farms,” referring ostensibly to efforts the colonial government had made, beginning in 1921, to promote family farms through the creation of a Homestead Commission, which leased and titled small farms to agricultural labourers (Descartes, 1946, pp. 131–132).

Not all local politicians saw the family farm as the ideal, however. Indeed, some politicians in what became the PPD coalition were opposed to bringing expropriated cane lands into large-scale state operations not because they idealized the family farm but rather because they were allied with the interests of large *colonos* who wanted land reforms that would strengthen the medium and large *colono* class. An example of this view can be found in the case of the Lafayette cooperative, formed by the PRRA on lands bought from a sugar plantation in 1936. The fate of the project foreshadowed the PPD’s own land reform. An initial plan for the lands devised in 1934 by Luis Muñoz Marín and Carlos Chardón, who at the time was Chancellor of the University of Puerto Rico and would later go on to run the PRRA, called for the purchase and division of the Lafayette sugar estate into 300 plots of 50 acres each for distribution to *colonos*, who would in turn cede their marginal lands for the establishment of 2,000–3,000 small subsistence farms.

Later in 1936, however, when the two men had the organizational power of the PRRA to execute the project, Ernest Gruening, head of the Division of Insular Possessions and Territories of the US Department of the Interior and co-director of the PRRA, went over their heads to inform them of a plan to establish cooperatives on the land instead. In response, Rafael Fernández García, head at the time of rural rehabilitation at the PRRA, wrote an angry letter of resignation, claiming that “The main support for our fight against the sugar corporation was the *colono* class ... By going into this experiment ... we are inciting the workers to rebel and unite against the *colono*”—“*colono*” here meaning large capitalist farmers (Nazario Velasco, 2014, p. 49).

Among prominent Puerto Rican politicians and political parties in the 1930s, then, two positions are clear. On the one hand, one wing of the PPD, as well as the Nationalist Party, which pushed for more radical land reforms, saw the family farm as the ideal unit of social organization in agriculture. The PPD’s conservative wing, more connected to local capitalist farmers, saw land reform as an opportunity to strengthen the large *colonos*. None of the major political forces of the period, however, seemed particularly attached to the idea that only very large-scale operations could guarantee the continuation of sufficiently high sugar yields, much less proposed the establishment of large state-owned farms as the solution.

4 | TUGWELL AND THE OBSESSION WITH SCALE

In 1941, shortly before he would take office as governor and a month before the Land Law was passed, Tugwell convened a committee to study the prospects of enforcement of the 500-Acre Law, which the PPD had made an essential part of its platform in the run-up to its electoral victory in the colonial legislative elections of 1940. In the committee’s report, Tugwell framed the necessity of preserving large-scale operations in expropriated sugar lands as a conclusion of the hearings held by the committee (Tugwell, 1941).⁵ In these hearings, a variety of witnesses presented the case that “medium property” was less efficient than large-scale plantations in applying scientific knowledge

⁵Dietz and Edel also present the necessity of scale as a concept introduced by the hearings (Dietz, 1986, p. 195; Edel, 1962, pp. 35–37).

to cultivation, in the logistical coordination between harvesting and grinding cane, and in the application of tractors, irrigation and other technologies and inputs in production (Nazario Velasco, 2014, pp. 51–56).

Indeed, the attachment to scale of one of the witnesses—Marcelo Oben, General Manager for Luce and Company⁶—was so firm that when he was asked about state ownership of plantations, he stated that “if the government is going to do exactly like Luce & Company is doing, they might be able to do it just as efficiently, but not if each individual with smaller units of land is going to operate by himself.” As Tugwell himself put it, “the sugar technicians, who, it might have been thought, would defend private operations at any cost, were so clear in their minds as to the necessity for large scale operations that they appeared to be for preserving the integrity of the going enterprise even at the cost of approving collectives” (Tugwell, 1941, pp. 31–33).

Yet the question still remains of exactly how the PPFs ended up as such an important part of the Land Law. As late as the end of March 1940, in a radio speech made in response to the US Supreme Court's decision to validate the enforcement of the 500-Acre Law, PPD leader Luis Muñoz Marín, although acknowledging that some landless workers might not prefer land, stated that “to those that, due to previously having been farmers, or for reasons of their experience or personal character, prefer the possession of a small piece of land to cultivate and live off of, the enforcement of the 500 Acre Law offers the opportunity for them to acquire that piece of land” (Muñoz Marín, 2005, p. 301).

If we are to read these words as indicative of Muñoz's continued openness to a significant place for family farms within the Land Law, then his opinion on the matter seems to have changed quite late and quite rapidly. In fact, in his memoir Muñoz describes the critical decision as having been made in the meetings held to draw up the Land Law, which, given that the law was passed in April of 1941, must have been held later in 1940 or early in 1941: “in a meeting of economists, held in the building of [Liberal newspaper] *La Democracia*, the conclusion was reached that redistributing cane lands in small farms would reduce production and there would be less wealth to distribute. Economic production and social justice found themselves, at that point, at a crossroads. I conceived of the idea that we would later name the Proportional Profit Farms” (Muñoz Marín, 1992, p. 24).

It is hard to believe that the PPD decided to scrap the family farm idea in one meeting Muñoz had with some economists. Why would he decide to forgo land redistribution if it was seemingly a consistent goal, in one form or another, of the party? It seems more likely, instead, that US New Deal technocrats—Tugwell especially—were responsible. It is very plausible that they simply imposed the idea; after all, of the 11 members of Tugwell's 500 Acre committee, only one, Rafael Menéndez Ramos, was Puerto Rican (Tugwell, 1941), and PPD politicians' federal New Deal superiors had already demonstrated their willingness to unilaterally impose terms in the previous case of the Lafayette lands. In fact, in his memoirs, Tugwell would admit that when the Land Law was first passed in April 1941, he almost advised the governor at the time, Guy Swope, to veto it, because it only targeted American corporations, which Tugwell saw as good employers, and not individual Puerto Rican landowners, which he saw as exploitative (Tugwell, 1947, pp. 101–102).

5 | THE MANAGERIAL CLASS

An understanding of the PPF programme as a product of the intervention of Tugwell and of the New Deal bureaucracy more broadly makes more sense if we place Tugwell's own ideological profile and interests in better relief. Tugwell's conviction that only large-scale operations could maintain productivity and generate sufficient income was not a simple empirical conclusion drawn from the committee hearings. It was part of a much deeper conviction. As an agricultural economist, Tugwell had always adhered to an economic philosophy that paired an idealization of the large-scale enterprise with an emphasis on the importance of “planning” that bordered on obsession. These ideas

⁶Luce and Company was an affiliate of the Aguirre Sugar Company conglomerate, one of the main American sugar corporations on the island and the main presence in Santa Isabel, where Mintz performed his fieldwork (Ayala & Bergad, 2020, p. 87; Diffie & Diffie, 1931, pp. 48–49).

applied as much to agriculture as to industry and as much to the mainland United States as to Puerto Rico. In a later 1949 article, focusing on agriculture in the United States, for example, Tugwell spoke on the one hand of the “inescapable socialization of agriculture” but lamented, on the other, that “the family-farm preference, so prevalent in the United States,” would “hinder progress toward an efficient scale of operations” (Tugwell, 1949, pp. 30, 40).

In his own writings, Tugwell consistently portrayed land division and redistribution as based on a misguided political idealization of the yeoman farmer. In the 500-Acre report, for example, Tugwell dismissed ideologues enamoured with the idea of a “sturdy peasantry.” Declaring that “there had never been a case in the long history of seizure and division in which efficiency had been maintained under the new system”, he warned that wherever division of the land had taken place, “the costs of production had risen frighteningly” (Tugwell, 1941, pp. 14, 18). In his memoir of his governorship, *Stricken Land*, he also cited the case of the Haitian Revolution as an example of how land division would lead to agrarian backwardness. As Tugwell saw it, moreover, the politicians of the PPD did not share his suspicion of land division, at least initially. Instead, they were “holding out to their followers ‘a piece of land,’ at once the most attractive and most betraying promises a leader can make.... But when put into practice it had always made the economy weaker by lowering total income.” Tugwell thus framed himself as “something of a missionary” when it came to the scale issue (Tugwell, 1947, pp. 19–20).

Tugwell's emphasis on the importance of scale and planning was part of a wholistic understanding of society in which he saw government as the ultimate planner. Indeed, Puerto Rican political scientist, Leonardo Santana Rabell, in his historical analysis of planning and public administration in Puerto Rico, describes Tugwell's thinking as based on a sort of corporatist organic theory of society where “each part serves a specific and specialized function, but to guarantee the continuity and harmonious functioning of the social system, it is necessary to coordinate and direct its different organisms” (Santana Rabell, 1984, pp. 73–74).

In understanding why Tugwell's line of thinking included such a strong stance in favour of large-scale production in agriculture, it is useful to understand it as a particular iteration of New Deal liberalism. New Deal liberalism differed from earlier forms of American liberalism on the issue of scale, seeing it as necessary for efficiency (Atkinson & Lind, 2018, pp. 168–170). The US labour movement also favoured scale; it was much easier to organize large industrial conglomerates than thousands of small establishments (Atkinson & Lind, 2018, p. 164). Indeed, agencies like the National Recovery Administration (NRA) were institutional manifestations of this model of liberalism. The pro-scale, anticompetition inclinations of New Deal ideology ranged from “associationalist” views favouring greater cooperation among organized industrial interests in the organization of production and prices to an emphasis on government indicative planning to even quasi-corporatist ideas of harmonious collaboration between organized capital, labour and agriculture led by the state (Brinkley, 1996, pp. 34–40).

Tugwell himself was the product of the Department of Agriculture, “the real stronghold for the planners of the post-NRA period” and for the left-wing of the New Deal, led by Henry Wallace. The general consensus among the “planners” of the Department of Agriculture was that competition was waning in the American economy, which was controlled by a narrowing set of large-scale industrialists and business leaders, but that the solution to this problem was not an antitrust model of breaking up large-scale operations—such a policy would “impair efficiency”—but rather to increase government planning and coordination in the economy (Hawley, 1995, pp. 172–175).

A seemingly ubiquitous attachment to scale yielded speculation in the United States that the world was undergoing a “managerial revolution” and moving toward a type of society in which managers, not capitalist owner-managers or workers, were to become the ruling class (Ayala, 1989, pp. 103–104). In fact, political philosopher James Burnham—one of those American intellectuals who veered from the Trotskyist left to the neoconservative right—argued that there was “not a formal identity, but a historical bond uniting Stalinism (communism), Nazism (fascism), and New Dealism. Against differing developmental backgrounds and at different stages of growth, they are all *managerial* ideologies” (Burnham, 1941, p. 196). Burnham cautioned against misconstruing his analysis as analogous to the tirades conservatives made at the time comparing the New Deal to fascism and communism. Nevertheless, there was something to be said that an emphasis on planning and scale transcended economic systems in the 1930s.

Indeed, Tugwell himself visited the Soviet Union in the 1920s, where he was “impressed by what he called ‘the power of the collective will’” (Krebs, 1979).

Burnham's analysis helps put into context the attitude of Tugwell and administrators of agencies like the PRRA toward land reform in Puerto Rico, particularly regarding the conviction that scale was linked to “efficiency” in agriculture. It explains why Tugwell and Oben, the manager from Luce and Company, were in strange agreement regarding the future of Puerto Rican agriculture.

Indeed, the notion of a “managerial class” transcending the boundaries between state and capital seem particularly applicable to Tugwell in this case. In 1936, after retiring initially from Roosevelt's “brain trust”, Tugwell took a job as vice-president of the American Molasses Company. Notably, the company's president at the time, Charles William Taussig, had also been a member of the brain trust, had advised the US government during the Cuban Revolution of 1933 and was sent by Roosevelt to the Virgin Islands in 1936 in his advisory role. Taussig and Tugwell were joined on the company board by none other than Columbia law professor Adolf Berle, co-author with Gardiner Means of *The Modern Corporation and Private Property* (1933) and a proponent of the “managerial thesis” (“Tugwell Asset to Any Trade, Taussig Asserts,” 1936). Certainly, Tugwell was a product of the more reformist wing of the New Deal. But his ideology and career as a “planner” were evidently amenable to a comfortable relationship with American corporate capital and in this case to corporate capital with entrenched interests in the Caribbean.

The outcome of the land reform—the nationalization of sugar cane lands—is thus not explicable solely or even mainly by insular class dynamics. Instead, it was the result of the direct intervention of a colonial “managerial class”—the Taussigs and Tugwells of the New Deal. The colonial “managerial class” was not at the whim of American capital—this was the New Deal, and American bureaucrats were open to a certain degree of state intervention even at the expense of private property. But it was not entirely separate from it either, as the example of the American Molasses Company neatly illustrates. Indeed, the structure of the PPFs was not unlike that of corporate plantations, as urban planner Harvey Perloff observed in 1950:

The farms are ‘leased’ to and run by experienced managers on a salary and percentage-of-profits basis. The manager receives a portion of the net profits, ranging from 1 to 15 per cent; and the remainder is distributed among the field workers according to days worked and wages received. The Land Authority supplies the land and the operating capital, receiving up to 3 per cent of gross income on the investment, audits all accounts, and supervises the fulfilment of the contract (Perloff, 1950, p. 38).

This was the “ingenious answer” (Perloff, 1950, p. 38) to the Puerto Rico's land problem. It is not hard to see how the PPD's (admittedly vague) calls for land redistribution ran into a wall: not of American corporate capital—which was interested in maintaining *ownership* of its lands—but of a managerial class interested in maintaining a certain *organization* of production. The notion of a “managerial class” explains Tugwell and Oben's confluence of interests regarding agrarian reform. Oben would certainly have been able to adapt to the PPF system without much change in his position in the division of labour.⁷

Most importantly, the colonial managerial class, embodied in the figure of Tugwell and the New Deal bureaucrats, had in Puerto Rico an amount of arbitrary power unimaginable in mainland politics. Only taking into account this colonial arbitrariness does it make sense that the managerial class was able to override the interests of small farmers or, more importantly, the better-organized rural proletariat and the powerful *colonos*.

⁷Instead, he would meet a most unfortunate end in 1946, killed in a murder-suicide by a cane worker. Edel suggests that “the circumstances of Oben's death could have been construed to support the view found in the play *Tiempo Muerto* that *mayordomos* [sugar plantation managers] interfered with workers' women.” The PPD had attacked Oben several years earlier for his alleged role in a massacre of sugar cane workers. Now “*La Democracia's* obituary praised Oben, and the executive director of the Land Authority stood silently in his honor at a meeting of sugar technicians” (Edel, 1962, p. 54). His death was, in this sense, another example of the triumph of the managers.

6 | EXPLAINING PPD ACQUIESCENCE: THE PARCELAS

Expropriations in accordance with the Land Law continued through the mid-1940s, funded mainly by a rum excise tax that benefitted from a wartime boom in rum exports. Most of the lands were acquired through expropriation of corporate landholdings in excess of the 500-acre cap (Dietz, 1986, pp. 198–199). By 1948, when the Land Authority had just about ended its purchasing of property in enforcement of the law as rum tax revenues dried up, only about half of the lands fit for expropriation—that is, corporate-owned lands in excess of 500 acres—had been bought (Stahl, 1971, p. 19). By 1952, the Land Authority had acquired a total 102,400 *cuerdas* at a cost of \$15 million. It operated 68,700 *cuerdas* in PPFs, of which 39,400 were planted in cane and the rest included lands in pineapples, coconuts, food crops and pastures, as well as some unusable lands. The lands were organized into 83 farms ranging in size between 300 and 2,700 acres, which in total accounted for about 10% of the island's total raw sugar production by 1950–51. In addition, the Land Authority came to own two sugar mills, Central Cambalache and Central Plazuela, which in 1950–51 turned profits of \$270,000 and \$200,000, respectively (Koenig, 1953, pp. 252–257). By 1958, the mills were grinding almost 10,000 tons of cane a day (Hunter, 1959, pp. 675–676).

It seems that the PPD ultimately accepted the opposition to land redistribution, couched in evidently “scientific” language about productivity, as a *fait accompli*. Indeed, in the years following the passage of the Land Law, the scale idea began to be repeated by local technocrats. Descartes himself claimed in a 1943 article that “there was a parallel preoccupation and a fundamental agreement between the colonial leaders who drafted the Land Law of Puerto Rico and the Tugwell Committee as to the desirability of some form of tenure that would combine efficiency with wider distribution of profits” (Descartes, 1943, p. 410). The ostensible reason was that the “large farms of the *centrales* used ... more labour per *cuerda* and produced more gross income” (Descartes, quoted in Nazario Velasco, 2014, p. 49). Raúl Gándara, a member of the PPD administration and long-serving fire chief of Puerto Rico, firmly defended the PPF part of the land law, stating at a conference at the University of Puerto Rico in 1942 that it

should bring to their senses those who wish for the failure of the Land Reform program and believe that the Land Authority will destroy the sugar industry because it will divide the unity of production. Nothing is further from the truth. The Land Authority will maintain the economic principle of mass production in those lands where production will produce the maximum benefit when conducted on a large scale (Gándara, 1942, p. 52).

In the end, the decision to scrap a role for either family farms or large *colonos* in the agrarian reform programme seems to have been acceptable to the PPD because the Land Law still achieved, at least in theory, two of the party's fundamental goals. One was economic: the desire to stem the repatriation of profits from Puerto Rico due to the strong presence of US corporations in the sugar industry. The PPD had used strong language against the absenteeism of US corporations in its 1940 platform, promising to “approach the problem of absenteeism with the aim of ‘eliminating totally its disastrous consequences’” (Santana Rabell, 1984, p. 63). The placement of a considerable amount of sugar lands into the state's hands, although it implied no real change in the organization of production, did result in some positive changes. Most notably, a later analysis of the PPFs found that by overstaffing them, the state was able to use them for an employment-generating “social” purpose (Stahl, 1971, p. 18).

The second, and perhaps most important, goal of the reform was political. If the PPFs were one end of the land reform, the other end consisted of distribution of small plots for the construction of houses and the growing of some food crops. This part of the reform gained the PPD tremendous popular support. Puerto Rico's landless *agregados* usually lived on the plantations where they worked; voting against the wishes of the plantation owner could mean losing one's house and subsistence plot. Receiving a plot of land from the PPD government not only led *agregados* to support the party but also gave them the freedom to vote for it. The language of the PPD in executing the land reform was thus couched heavily in the terms of political liberation. One typical piece of propaganda featured a picture of a man pulling a title to a *parcela* out of a hat, with a caption stating that “from this very instant, don Antonio

ceased to be an *agregado* and became a free man" (Gándara, 1942, p. 23). The Land Law, in the form of the *parcelas* programme, achieved not only an admirable goal of political emancipation but also, conveniently, created a source of party patronage. The tens of thousands of *parcelas* distributed translated into tens of thousands of votes, and no doubt helped keep the PPD in power for 28 years.

In addition to a mission of political emancipation, the *parcelas* programme, and the land reform in general, was predicated on a particular vision of wage labour, as evident in the Exposition of Motives of the Land Law itself: "the legislature declares the fundamental human right of all those who live exclusively off of working the land, to be at least owners of a piece of land to lift over themselves ... their own home, liberating them from coercion and *leaving them free to sell their labour in fair and equitable negotiation*" (emphasis added) (Ley de Tierras de Puerto Rico, Pub. L. No. 26, 1941). The main social-justice aim of the law, in short, was to free a class of landless labourers from extraeconomic exploitation and transform them into a "free" peasant-proletariat able to negotiate wages without the threat of dispossession or starvation. To this end, by 1965, almost 65,000 landless families had been established in over 360 organized communities of *parcelas* with a total population accounting for 15% of the island's total; largely as a result of this transformation, the number of *agregado* families had decreased to just over 20,000 from 125,000 in 1940. Settled families were guaranteed secure tenure on the *parcelas*—usually of around an acre—without need of payment, and selling the plots was prohibited to prevent land reconcentration (Wells, 1969, pp. 173–174, 137).

The *parcelas* were undoubtedly the most important part of the Land Law from the standpoint of social justice. They made a great stride toward eliminating landlessness in Puerto Rico and helped attack the problem of extraeconomic coercion of landless *agregados*. Yet even a cursory examination of Puerto Rico's agrarian structure points toward an evident demand for land among small agricultural producers for the more than 100,000 acres that ultimately ended up in PPFs. Let us not forget that, as illustrated in Table 1 above, over 5,500 sugar-growing farms, or 70% of the total, were less than 10 acres in size, while as of 1935 farms—regardless of crops grown or type of tenure—of under 20 acres numbered almost 40,000, over 70% of the total (Ayala & Bergad, 2020, pp. 198, table 8.10). It is not hard to conclude that there was a significant constituency of small farmers of different types of tenure who were already familiar with the technical requirements of family farm production and would have benefitted greatly from the redistribution of those 100,000 acres, not to mention semipeasant *agregados*.

TABLE 1 Area and production of farms growing sugar cane, by size of farm, Puerto Rico, 1934–35

Size of farm (cuerdas in sugar cane)	Number of farms		Area in farms		Area planted in sugar cane		Estimated production	
	Farms	Percent (%)	Cuerdas (%)	Percent (%)	Cuerdas	Percent (%)	Tons	Percent (%)
0.01–3	3,486	45.2	27,253	3.5	5,566.00	1.9	100,882	1.1
3.01–6	1,329	17.2	25,847	3.4	6,277.00	2.1	115,441	1.3
6.01–10	839	10.9	26,271	3.4	6,904.00	2.3	131,997	1.5
10.01–25	989	12.8	49,031	6.4	16,090.00	5.4	330,454	3.7
25.01–50	472	6.1	54,487	7.1	16,932.00	5.7	376,251	4.2
50.01–75	175	2.3	28,094	3.7	10,855.00	3.7	250,815	2.8
75.01–100	104	1.3	25,649	3.3	9,136.00	3.1	220,926	2.4
100.01–200	144	1.9	43,680	5.7	20,365.00	6.9	514,480	5.7
200.01–299.99	111	1.4	66,090	8.6	33,457.00	11.3	928,976	10.3
500 and over	59	0.8	421,409	54.9	171,337.00	57.7	6,070,190	67.1
Total	7,708	100.0	767,811	100.0	296,919.00	100.0	9,040,412	100.0

Note. S.L. Descartes, Organization and Earnings on 130 Sugar Cane Farms in Puerto Rico, 1934–35 (University of Puerto Rico, Division of Agricultural Economics, May 1938), p. 11.

As we have seen, all major political organizations in the 1930s at least timidly supported land redistribution as a measure to strengthen this class of small farmers. Some of them—the right wing of the PPD in particular—had significant class interests in a land reform that would strengthen local capitalist cane farmers; others genuinely envisaged a legion of family farmers as the ideal option in agricultural production. Ultimately, New Deal intervention, rather than direct pressure from the US corporate sugar industry or a sudden moment of technocratic enlightenment, imposed on the PPD the idea of large-scale state farms as the answer to the problem of how to deal with expropriated cane lands.

7 | FAMILY FARMS: A MISSED OPPORTUNITY

The decision to nationalize rather than redistribute cane lands was ostensibly based on the superior productivity of scale. Whether this decision was justifiable on the scientific grounds that it invoked, however, is still an open question. As illustrated in Table 2, existing data on the relationship between farm size and yields in Puerto Rican sugar production during the period of the 1930s do not tell a straightforward story. *The Sugar Economy of Puerto Rico* (Gayer, Homan, & James, 1938), a study commissioned by the sugar industry, cited data showing the largest farms as having much higher sugar yields than the smallest farms. Farms of between 200 and 500 *cuerdas* had yields over 40% higher than the smallest farms of less than 10 *cuerdas*; farms of over 500 *cuerdas* had yields almost 70% higher than the smallest farms. However, data from a study conducted by the Puerto Rico Minimum Wage Board (*The Sugar Industry in Puerto Rico, 1942*)—a colonial government entity—in 1942 showed rather different results. While in the sugar industry data sugar yields in farms of between 200 and 500 *cuerdas* were 45% higher than those in farms of under 10 *cuerdas*, the Minimum Wage Board study had sugar yields of farms between 200 and 300 *cuerdas* as only 23% higher than those of farms under 10 *cuerdas*. Moreover, in the Minimum Wage Board data, sugar yields did not increase monotonically with farm size; yields for farms between 100 and 200 *cuerdas* were actually lower than those of farms between 25 and 100 *cuerdas*. Data on cane yield, rather than sugar yield, were even less suggestive of a large productivity difference; the largest farms posted yields only 16% greater than the smallest ones. As far as income was concerned, the net income per *cuerda* was only 9% higher in the largest farms than in the smallest farms (*The Sugar Industry in Puerto Rico, 1942*, p. 82).

TABLE 2 Sugar yields by area planted in cane, sugar industry and minimum wage board studies

Cuerdas planted in sugar cane ^a	Average tons of sugar per cuerda, sugar industry study	Average tons of sugar per cuerda, minimum wage board study	Average tons of cane per cuerda, minimum wage board study
Less than 10.0	2.7	2.95	23.9
10.1–25.0	2.89	3.07	24.7
25.1–100	3.39	3.47	26.7
100.1–200	3.46	3.12	24.6
200.1–300	—	3.63	27.7
200–500	3.9	—	—
Over 500	4.57	—	—

Note. Gayer et al, *The Sugar Economy of Puerto Rico*, 77, 122–23; and Minimum Wage Board, *The Sugar Industry in Puerto Rico*, 74.

^aNote that in the sugar industry data, the categories are 10–25 *cuerdas*, 26–100, 101–200 and so forth. For convenience, the Minimum Wage Board categories have been used, and it has been assumed that the data in the categories are more or less equivalent.

The question of the empirical viability of Tugwell's claim is particularly interesting given an existing debate among development scholars over the so-called "inverse relationship" in agriculture. Some argue that in developing countries that are labour-abundant and capital-scarce, smaller-sized farms show higher crop yields than larger ones due to more intensive land use (Lipton, 2009, p. 65).⁸ Land-to-the-tiller reform—that is, land reform based on distribution of smaller plots to family farms—has also been associated with other broader positive effects for economic development. In East Asia in particular, it is credited with expanding the market for manufactured goods and thus enhancing import-substitution industrialization, and with creating "complementarities" and "dynamic linkages" between agriculture and industry (Kay, 2009, pp. 118–120).

In fact, despite all the claims of the supposed efficiency and high level of mechanization of the US corporate sugar industry in Puerto Rico, some evidence suggests that even corporate US sugar production on the island was not very technologically advanced. A 1952 study by the US Department of Agriculture, for example, concluded that despite the higher level of technological development of the sugar sector relative to other agricultural sectors, "the mechanization of sugarcane production in Puerto Rico did not continue as rapidly as might have been expected largely because of the abundance of cheap labour" (Koenig, 1953, p. 176). It also pointed to a 1950 study that found that cane production in Puerto Rico involved an average of 109.8 man-hours of labour per ton of raw sugar, compared with 86.5 in Louisiana, 46.6 in Florida and 26.6 in Hawaii (Koenig, 1953, p. 179).⁹

The question of how family farms would have fared in a land reform that gave them a more central role, and of how such a reform would impact long-term development in Puerto Rico, are somewhat speculative. Yet something of a counterfactual—of distribution of land to cane-producing family farms—does exist. A particular case in point is the Tenant Purchase Program, set up by the US Department of Agriculture's FSA in Puerto Rico in 1938 to help "farm laborers, sharecroppers, and tenants" to purchase land for farms and set up physical facilities on the farms. The programme also provided technical assistance and financial advice. The selection of candidates was made by a committee of farmers according to "the qualifications of the family and the suitability and value of the farm" and generally the programme involved "purchase and subdivision of large tracts of land by groups of borrowers" (Will, 1946, pp. 183–184).

As a matter of fact, the FSA was not the only agency to conduct a land reform programme in Puerto Rico based on family farms. In a 1948 study of FSA farms, Puerto Rican agronomist, Guillermo Serra, listed a series of scattered reform programmes: the colonial Homestead Commission, succeeded by the Homestead Division of the colonial Department of Labor, under a programme to lease small farms to agricultural labourers, created 2,074 farms starting in 1921 with a total of 24,459 *cuerdas*. After the failure of the Lafayette cooperatives in 1940, in addition to the sale of some lands to *colonos*, the PRRA established 315 farms of between 3 and 33 *cuerdas* and 507 "subsistence farms" of one *cuerda* on the land as well—quite ironic given the initial decision to forgo distribution of the land to *colonos* and family farms in favour of cooperatives. The PRRA also established, in other areas, an additional 607 farms of between 4 and 20 *cuerdas* totalling 5,849 *cuerdas*, 8,457 small farms of 2 to 3 *cuerdas*, and 1,062 1-*cuerda* subsistence plots. Finally, the Tenant Purchase Programme of the FSA established 600 farms totalling 21,000 *cuerdas* between 1938 and 1946 (Serra, 1948, pp. 5–7). Of course, not all the lands distributed were cane lands. But if Serra's data are correct, and assuming no overlap in land distributed between programmes, these programmes would in total consist of the distribution of over 13,000 farms and over 70,000 *cuerdas* over more than 20 years, a programme rivalling the PPF programme in size if not in speed, and more than deserving further study beyond the scope of this analysis.

⁸There was especially heavy debate over the inverse relationship in the 1980s with special attention to the case of India (Barbier, 1984; Carter, 1984; Deolalikar, 1981). Studwell argues, in his comparison of export agriculture in Japan, Korea and Taiwan on the one hand and Malaysia, the Philippines and Indonesia on the other, that land reforms and the preponderance of family farms in the former favoured productivity and overall economic development (Studwell, 2013, pp. 1–56).

⁹The low level of mechanization of the Puerto Rican sugar industry seems to have persisted well after the land reform and the decline of the sugar industry beginning in the 1960s. A 1971 report of the US Department of Agriculture, for example, found that of 276 sugar cane farms it surveyed "55 reported all manual operations" (An Economic Report on the Sugarcane Farming Industry and the Sugar Manufacturing Industry in Puerto Rico, 1972, p. 42).

TABLE 3 Data from 198 surveyed farm security administration farms in Puerto Rico, 1944–45

Average farm size (cuerdas)	33.44
Average net area in crops (cuerdas)	17.43
Average area planted in cane (cuerdas)	11.15
Average sugar cane yield (tons per cuerda)	22.74
Average net farm cash income 1944–45 (not including labour income)	\$1,300.77
Average expenses on labour (% total)	54.74%
Average expenses on fertilizer (% total)	14.78%
Average expenses on purchase, operation of equipment and machinery (% total) ^a	2.78%
Average percent of labour done by hired labour (labour months per year)	53.94%

Note. Serra, *An Economic Study of Family-Sized Farms in Puerto Rico*, pp. 68, 70, 77, 92–94, 133, 135, 141, 153–55, 194, 195, 201, 213–215, 244, 260, 264, 266–269, 292, 306, 308, 327–28.

^aExcludes Aibonito and Corozal.

Serra gave a glimpse of the economic conditions of the “family farms” created by the Tenant Purchase Programme in his 1948 study summarizing a survey of 206 of the farms. Of these, 198, located near the sugar mills of San José in Caguas, Monserrate in Manatí, La Plata in San Sebastián and Victoria in Carolina, as well in the municipalities of Aibonito and Corozal, produced cane (Serra, 1948, pp. 23, 98, 159, 218, 272). According to Serra, “most of the families were ‘agregados’ before being established as farm owners by the administration” (Serra, 1948, p. 333). This point is significant, as one of the main justifications used by Tugwell to discard the family farm option in land reform was that beneficiaries, particularly *agregados*, would be ill-equipped to exploit the land they would receive.¹⁰

Table 3 summarizes some key statistics aggregated from the five sets of FSA farms surveyed in Serra's study. With the exception of the 40 farms near the Victoria sugar mill in Carolina, for which the data cover the year 1946–7, the data generally cover the year 1944–5. Serra's survey yields several important points. First of all, the average size of the farms surveyed was quite large, at over 30 acres. An average of about 17 acres, or just over half the average total farm size, were planted in crops, and of this, an average of 11.15 acres were planted in cane. It is clear that cultivation included a combination of cash and food crops—in Aibonito and Corozal, the main cash crop was tobacco, whereas in the rest of the areas surveyed, it was sugar cane. Food products varied, but they generally included plantains; tubers such as sweet potatoes and yuca; and beans, rice, corn and dairy products.

Sugar cane yields were not terribly high, at an average of 22.74 tons of cane per *cuerda*; in contrast, average yields in 1945–46 were 31.1 on the newly created PPFs, and 30.3 in private farms over 200 acres (Koenig, 1953, p. 256). However, this may have been in part due to the fact that the farms had been just recently established at the time of the study. Indeed, yields in the year 1944–45 were a significant increase on the average of the previous year. In the San José farms, for example, they had risen from 15 tons per *cuerda* in 1943–44 to 23.7 in 1944–45 (Serra, 1948, p. 52). In any case, the farms were quite successful on the income front. Average net farm cash income was \$1,300, or almost \$19,000 in 2019 dollars.

By contrast, prevailing wages for cane workers, the highest among agricultural workers, were about \$2.90 to \$3.40 per day at the time, but cane workers were usually only employed for about half of the year (Koenig, 1953, p. 18). Assuming a 5-day work week and 26-week work year, the yearly wage of \$442 would be a third of the average FSA farm income. Moreover, landless workers would presumably spend larger portions of their income for food,

¹⁰When arguing that sugar plantations should shoulder a larger burden of food production during food shortages in World War II, Tugwell emphasized that “small farms generally lack sufficient capital, modern equipment, management and organization”; on the other hand, large plantations “have the best land, they have the labour, they have the necessary equipment, and they have the organization and the managing skill.” See “Statement to Sub-Committee of Senate Appropriations Committee, July 1942” (Tugwell, 1945, p. 99). There seems to have been little consideration, however, of providing small farms with better land, capital, equipment or management advice.

whereas FSA farmers could engage in substantial subsistence production. In his 1937 study of the sugar industry, Esteban Bird estimated that cane cutters could spend as much as 94% of their wages on food, amounting to a daily expense, accounting for the dead season, of 12 cents per family member, "only four cents more than the food expense required for feeding a hog in the United States!" (Ayala, 1999, p. 182). The FSA farms demonstrated, then, that it was not simply the sugar cane yields from Puerto Rico's farms—which Tugwell was so concerned about—that mattered. It mattered as well how the structure of cane production was organized and where the profits from such production went.

The expenses side of the FSA farm accounts indicates that they were actually solidly middle-class farms rather than small market producers. The farms spent almost 55% of their total expenses, on average, on hired labour, which performed 54% of the total labour performed on the farms as measured in labour-months per year. Average labour expenses ranged from a low of \$422 on the Monserrate farms to \$1,301 in the San José farms and \$1,327 in the Victoria farms (Serra, 1948, pp. 70, 135, 306). In contrast, less than 15% of average total expenses were spent on fertilizer and less than 3% on equipment and machinery.

The FSA farms constitute one counterfactual, then, regarding the potential of family farms in cane production. Another counterfactual lies in one of the only regions in which family farms were the main foundation for sugar production: Taiwan.¹¹ Precolonial Chinese settlement of the island had developed a land tenure system based on "permanent tenant" family farms. The Japanese colonial state preserved this system in the early 20th century and established a sugar industry based on family farms. It created zones of production in which sugar mills had monopsony power—growers were only allowed to sell cane to the mill in their district (Koo, 1968, pp. 15–16). These monopsonist sugar producers fixed the price of cane in terms of rice, a subsistence crop with low market value (Ka, 1995, pp. 2–7). Increase in Japanese demand for rice changed this situation, however, and allowed farmers to exert some market power by choosing which crop to grow (Ka, 1995, p. 178). As Koo explains, "if not for the substitutability of rice and sugar growing, the price of sugar cane could be arbitrarily set to cover the cost of sugar-cane growers, with no reference to the price of sugar" (Koo, 1968, p. 20).

Taiwanese sugar-producing family farms demonstrated impressive levels of productivity. Average cane output on the island peaked in 1938–9 at about 35 tons/acre before falling to a trough of 11.9 tons per acre in 1946–7, likely due to World War II, and recovering to 33 tons per acre by 1952–3 (Koo, 1968, p. 134). Moreover, average land productivity of family farms as a percentage of the productivity of plantations increased from about 75% between 1917 and 1920 to 92% between 1936 and 1940 (Ka, 1995, p. 107). It seems that the gap in productivity between big capitalist farms and small family farms was bigger in Puerto Rico than in Taiwan, and, given the relatively high yields displayed in Taiwan overall, that this was likely a result of higher productivity among Taiwan's family farms rather than lower yields on its plantations.

The impressive performance of Taiwanese family farms in sugar production was a product both of the highly labour-intensive nature of production and of a massive programme of agricultural extension promoted by the colonial government. Data on labour expenditure—in units defined as 10 h of work by a male worker—indicate that labour intensity decreased monotonically as farm size increased, with farms of less than 0.51 hectares spending 387 units per crop hectare and farms larger than 2.07 hectares spending 146 labour units per crop hectare (Koo, 1968, p. 76). Evidently, making productive enterprises out of such small plots required very intensive use of family labour.

Assistance provided by the colonial state was equally important in cane production. Initially, the use of fertilizer on Taiwanese family farms was promoted by sugar mills, which in turn experimented with fertilizers on their own sugar plantations. In the early 1900s, the mills "had to pass out fertilizers to the farmers free of charge because most of the farmers had little knowledge of the value of fertilizers and refused to use them when they had to pay for them" (Koo, 1968, p. 15). What came to constitute the Taiwanese colonial agricultural extension system included the

¹¹Java seems to be second in the literature as a case of large-scale sugar production coexisting with the persistence of a landed peasantry, although it was distinct from Taiwan in that peasants, although largely retaining their landholdings, which were planted in other crops, did not plant cane on their own personally managed farms (see Knight, 1992, pp. 72–74).

Agricultural Research Institute, which set up experiment stations throughout the island; farmers associations set up in districts throughout the island, which provided agronomical expertise and improvements; and farmers' cooperatives, which provided credit and fertilizer (Thorbecke, 1979, pp. 136–137). This extension system seems to have had a long-term impact, as in 1960, there were still 79 agricultural extension workers for every 100,000 workers in agriculture in Taiwan, whereas the rate was 60 in Japan and 1.6 in the Philippines (Kuo, Ranis, & Fei, 1981, p. 56).

Taiwanese family farms also portrayed very different production structures than even the “family farms” established by the FSA in Puerto Rico. The average farm size, to begin with, was much smaller than even the average of 33 acres among the FSA farms. In 1921, 84.5% of land under cultivation in Taiwan was held in farms under 10 *chia*, or roughly 24 acres, and “land cultivated by wage labour, predominantly cane-growing land managed by sugar companies, in 1920, accounted for only 41,706 hectares, 5.6% of the total arable land” (Ka, 1995, pp. 101–102). Moreover, family labour constituted the large majority of total labour in small farms, with hired labour much less important. A 1936 survey of 116 peasant households, for example, found that in the subset of farms of approximately 7 to 12 acres,¹² the largest category measured, family labour averaged 918 labour days per year, whereas labour hired from outside averaged 277 (Ka, 1995, p. 104). Only 23% of total labour performed on these farms was done by hired workers, compared with over half in the FSA farms. On the other hand, although the FSA farms spent an average of 14% of expenses on fertilizer, a 1957 study of Taiwanese farmers found that they “spent 22 per cent of their total farm expenditure on fertilizer, which was the largest item of expenditures” (Koo, 1968, p. 120).

An agricultural export economy based on small farmers and a large government network of extension were key for Taiwan's development in the postcolonial era. Taiwanese farmers successfully diversified into other cash crops besides sugar, such as asparagus and bananas. Processed agricultural goods fuelled Taiwan's initial phase of industrialization, and small farmers constituted a reliable market for domestic manufactures. Financial transfers from this class of small farmers fuelled capital accumulation in the industrial sector as well (Studwell, 2013, pp. 32–33).¹³

To suggest that land reform in Puerto Rico could transform a stratified system of land tenure into a system resembling Taiwan's would ignore the importance of entrenched historical realities. Puerto Rico had inherited large inequalities in land tenure from Spanish colonialism that largely continued under American colonialism (Ayala & Bergad, 2020), whereas the dispersed land tenure system found in Taiwan was a product of hundreds of years of settlement from Mainland China. Moreover, the full implementation of the monopsonist system of capitalist sugar production instituted under Japanese colonialism, with the high degree of colonial state intervention it entailed, was unfeasible under liberal American colonialism in Puerto Rico. What the Taiwanese counterfactual does provide, however, is further proof that the Tugwellian fear that breaking up sugar estates would damage productivity and hurt Puerto Rico's economy was unfounded and that an important role for family farms in a land reform, including in the redistribution of the tens of thousands of acres of sugar lands expropriated from American corporations, was entirely compatible with successful capitalist agricultural production.

The case of the FSA farms established among *agregados* and surveyed by Serra, as well as the example of Taiwanese sugar production based on the family farm, yields two key points, then. One is that land reform based on distribution to family farms was not simply feasible in Puerto Rico; it was, albeit in scattered fashion, actually tried successfully. The other is that sugar production in small family farms, particularly assuming a robust programme of agricultural extension, was economically feasible, much to the contrary of what Tugwell and other New Deal administrators claimed. The Taiwanese example provides another counterpoint, however; it highlights the importance of the state in *creating* the conditions in which market-oriented small farmers prospered. As an opportunity to alter agrarian social structure in a way that was favourable to economic development, then, Puerto Rico's agrarian reform failed.

¹²Converted from Taiwanese *chia*, corresponding to 3–5 *chia*.

¹³The point about crop diversification is particularly interesting, given that Tugwell argued in his 500-Acre report that “rather extensive promotion of new crops by the government can only be done through State farms” (Tugwell, 1941, p. 48).

8 | CONCLUSION

What of the PPFs themselves? A 1971 report by the US Department of Agriculture acknowledged that the PPFs employed more workers than they needed to and that efforts to develop “decentralized management” and “worker participation” failed. On the other hand, the state did look at the farms with a “social point of view” insofar as it used them to ameliorate unemployment through overstaffing (Stahl, 1971, pp. 19–20). Despite this, labour productivity was actually higher than on large private farms; between 1950 and 1961, it averaged two hundredweights of sugar per man-day, as opposed to 1.64 in private farms (Stahl, 1971, p. 11).

Between 1950 and 1962, PPF profits decreased, and losses increased, possibly as a result of changing weather patterns and labour shortages at the end of the period that disrupted production. It seems, however, that the decline of the PPFs was more a product of a large-scale decline in the profitability of the sugar industry over the course of the 1950s and 60s than of anything particular to the farms themselves (Stahl, 1971, pp. 5–7, 11). Indeed, the average price paid for raw sugar without duty—Puerto Rico's main export—in New York grew by 288% between 1940 and 1950 but by only 6.7% between 1950 and 1960 (Sugar Statistics and Related Data: Compiled in the Administration of the U.S. Sugar Acts, 1961, p. 175).

The PPFs did not perform worse than their large-scale counterparts in private industry. Yet they were also not the “ingenious compromise” between wealth redistribution and efficiency that they were made out to be by figures like Muñoz Marín and Tugwell. The PPFs were unimpressive not because they failed to perform in terms of productivity or profits but rather because they did not substantially alter the structure of production in the sugar industry and did not solve the problem of Puerto Rican agriculture's reliance on sugar monoculture. This is particularly clear when we consider the significantly more diversified production, particularly with respect to food products, of the family farms set up by the FSA. Thus, the developmental advantages to be derived from land reform—in the form of the expansion of the internal market and diversification of agricultural production—were not provided by the PPFs. Nevertheless, they constituted an improvement, marginal as it may have been, for those who worked on them compared with conditions on private farms, and they allowed the insular government more leverage in the sector, at least through employment generation.

The Puerto Rican land reform experience is instructive, first of all, in understanding the relationship between changes in agrarian structure and development. Indeed, for a development studies literature that has lauded a certain iteration of agrarian reform—land-to-the-tiller—as beneficial for long-term economic development, Puerto Rico should serve as a counterfactual, an example of a land reform that, despite its significant scale, did very little on this front. The *parcelas* programme was immensely impactful as a housing project, but not as an economic one. The PPFs, on the other hand, did little to reduce Puerto Rico's reliance on sugar monoculture, create a domestic market for manufactures or enhance linkages between agriculture and industry.

The PPD intended to use land reform to address the problem of US absentee ownership in the Puerto Rican economy and create, in Muñoz Marín's own words, an “independent economy” that was “as far as possible planned and autonomous” (Ayala & Bernabe, 2007, p. 101). The agrarian reform programme, through the PPFs, addressed the problem of absentee ownership in the short-term. But in the long-term, the industrialization programme of the PPD ultimately replaced a sugar economy in which Puerto Rican capital accounted for the majority of production both in raw material production and initial industrial processing with a manufacturing economy overwhelmingly reliant on foreign capital, such that by the early 2000s, 36% of Puerto Rico's GDP left the island in the form of repatriated profits (Bosworth & Collins, 2006, p. 23).

The results of land reform in Puerto Rico call for a re-examination of the role of the federal government in Puerto Rico during the New Deal era. Existing studies of the period have emphasized the role of the federal government as a provider of economic stimulus through agencies like the PRRA. In this vein, the New Deal and figures like Tugwell embody progress, reform and the improvement of the lot of Puerto Rico's poor. Indeed, significant foundations were laid for massive poverty alleviation during this period through collaboration between local and federal administrators, the *parcelas* being just one example. Yet the case of land reform should also show the imperial

arrogance behind the New Deal's operations in Puerto Rico. There is no doubt that land reform would not have turned out the way it did without the intervention of mainland administrators—from Lafayette to the PPFs—and would likely have involved a more important role for smallholders. The New Deal did much to alleviate poverty in Puerto Rico, but the case of agrarian reform suggests that it also played a role in laying down a particular model of dependent development and industrialization.

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