

R Street Policy Study No. 284

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# The Shaky Foundations of Modern Farm Policy

By Nan Swift

We can no longer afford to continue offering the same farm safety net that was designed for a different time.

#### **Executive Summary**

The current federal agriculture safety net is based on outdated ideas from an entirely different agriculture economy. Modern farms bear little resemblance to the small, inefficient farms of the 1920s and 30s that the current policies were initially designed to support. Worse, the foundations of today's farm policies were laid by individuals looking to the failed command-and-control economic models of the Soviet Union, imitating policies that contributed to starvation and persistent food shortages throughout that country's history.<sup>1</sup>

In contrast, many of today's farms are large and successful, with farm households earning far above the average nonfarm household income. Technological breakthroughs from tractors to refrigeration have transformed the domestic food chain into one of maximum production and consumer choice. But agriculture innovators outside the traditional farm model cannot compete on a level playing field, and current policies favor out-of-date, unsustainable practices. In addition, the exorbitant cost of the national farm insurance program is contributing to our rising national debt, which poses a significant threat to America's fiscal prosperity.

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<sup>1.</sup> Lewis Siegelbaum, "Food Supply," Seventeen Moments in Soviet History, last accessed March 13, 2023. https://soviethistory.msu.edu/1917-2/food-supply.



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This paper looks at the origins and intent of the current federal agriculture safety net and explains why we can no longer afford to continue offering the same farm safety net that was designed for a different time.

#### Introduction

When Franklin Delano Roosevelt took office in 1933, the country had been in the grips of the Great Depression for over three years.<sup>2</sup> But economic uncertainty had been a persistent reality for the agricultural sector since the start of the previous decade. The sector had been plagued with the Farm Depression of 1920 to 1921; low prices and high yields; changing farm technology; and a crippling drought ravaging the plains states.<sup>3</sup> Up to that point, federal intervention had failed to alleviate the farmers' woes, but rather than shifting course, the new president doubled down.

What follows in Part 1 is a chronological retelling of how the foundations were laid for current federal agriculture policies. Part 2 is a point-by-point comparison of how current farms, farm economies and global contexts have evolved in the nearly 100 years since the events of Part 1. Together, these sections illustrate that the farm bill policies put into place during the early 1900s are no longer relevant, effective or tenable in the context of contemporary farming realities and the country's current economic challenges.

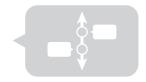
#### **Part I: Historical Perspective**

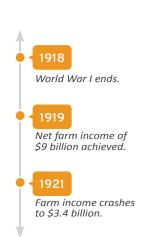
#### **Coolidge and Hoover Years: The Seeds of Disaster**

The end of World War I in 1918 brought with it the end of food aid exports to Europe and federal price supports for wheat and hogs.<sup>4</sup> Earlier, when young, cheap labor had marched off the fields and into the trenches of war, farmers had to incorporate new, more efficient farm machinery (made possible by the Federal Farm Loan Act) to maintain the high rates of production needed to meet the high demand.<sup>5</sup> Just two years later, inflation was rising, land prices were tumbling, and farmers had to grow more to satisfy the mortgage payments and other debts that had been accrued during better times, exacerbating already low prices.<sup>6</sup> More prairie sod was plowed and even marginal land was planted in the hopes of a harvest.<sup>7</sup> In 1919, net farm income was just over \$9 billion.<sup>8</sup> By 1921, farm income had crashed to \$3.4 billion, and it would sink further in the 1930s as the depression deepened and expanded across the economy, not reaching its previous high again until 1943.<sup>9</sup>



When Franklin Delano Roosevelt took office in 1933, the country had been in the grips of the Great Depression for over three years. But economic uncertainty had been a persistent reality for the agricultural sector since the start of the previous decade.





- 2. Gary Richardson, "The Great Depression," Federal Reserve History, November 2013. https://www.federalreservehistory.org/essays/great-depression.
- 3. Linda A. Cameron, "Agricultural Depression, 1920–1934," MNopedia, June 30, 2022. https://www.mnopedia.org/agricultural-depression-1920-1934.
- Wayne D. Rasmussen, "Historical Overview of U.S. Agricultural Policies and Programs," U.S. Department of Agriculture, July 1985. https://www.ers.usda.gov/webdocs/publications/40556/50960\_aer530b.pdf.
- 5. Linda A. Cameron, "Agricultural Depression, 1920–1934," MNopedia, June 30, 2022. https://www.mnopedia.org/agricultural-depression-1920-1934.
- 6. Ibic
- 7. "The Dust Bowl," National Drought Mitigation Center, last accessed March 8, 2023. https://drought.unl.edu/dustbowl.
- 8. Cheryl D. Johnson, "A Historical Look at Farm Income," U.S. Department of Agriculture, May 1990. https://ageconsearch.umn.edu/record/154702/files/sb807.pdf.
- 9. Ibid.



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Early in the Coolidge administration, Sen. Charles McNary (R-Ore.) and Rep. Gilbert Haugen (R-Iowa) began promoting farm relief legislation that would prove to be the template for modern agriculture policy: subsidized loans, elevated prices for certain favored crops, supply controls and a price floor. This would be accomplished through the establishment of a Federal Farm Board that could purchase surplus corn, wheat, rice, cotton and swine—"basic agricultural commodities"—which would then be resold in foreign markets.<sup>10</sup> After an early failed attempt to garner support for the bill in 1924, the legislation went on to pass in both the House and Senate in 1927 and 1928 only to be vetoed by President Calvin Coolidge each time.<sup>11</sup>

In his 1927 veto message, Coolidge issued a prescient warning that the extracongressional tax the board could apply would be unconstitutional, noting that farmers would be subject to "bureaucratic tyranny" and that the policies would lead to price fixing and could hurt consumers. <sup>12</sup> He explained:

[F]rom before the day of modern agricultural science—balanced and diversified farming has been regarded by thoughtful farmers and scientists as the safeguard of our agriculture. The bill under consideration throws this aside as of no consequence. It says in effect that all the agricultural scientists and all the thinking farmers of the last fifty years are wrong, that what we ought to do is not to encourage diversified agriculture but instead put a premium on one-crop farming. The measure discriminates definitely against products which make up what has been universally considered a program of safe farming. The bill upholds as ideals of American farming the men who grow cotton, corn, rice, swine, tobacco, or wheat, and nothing else. These are to be given special favors at the expense of the farmer who has toiled for years to build up a constructive farming enterprise to include a variety of crops and livestock that shall, so far as possible, be safe, and keep the soil, the farmer's chief asset, fertile and productive [...] Surely, a real farm relief measure must be just and impartial and open the way to aid for all farmers. Surely, it must not contemplate, as this measure inescapably does, that farmers in some regions should be penalized for the benefit of those in other regions. Surely, it must be aimed to promote the welfare of the community at large. There is no thoughtful man who does not fully appreciate how vital a prosperous agriculture is to this nation. It must be helped and strengthened. To saddle it with unjust, unworkable schemes of governmental control is to invite disaster worse than any that has yet befallen our farmers. 13

Unfortunately, the impulse to exert federal control over the agriculture industry did not end with the 70th Congress. McNary-Hauganism, as it was called, persisted into the Hoover administration, when the country was on the brink of the Great Depression. As Secretary of Commerce in the Coolidge White House, President Herbert Hoover had also opposed the legislation, but this had more to do with his opposition to subsidies than any doubts about the capacity of proper management and organization to resolve complicated problems. <sup>14</sup> Known as the "Great Engineer"



Farm relief legislation does not garner support.

#### 1927-2

Farm legislation is passed by the House and Senate but is vetoed each time by Coolidge.

<sup>10. &</sup>quot;The McNary-Haugen Bill," CQ Researcher, Feb. 10, 1927, p.104. http://library.cqpress.com/cqresearcher/cqresrre1927021000.

<sup>11. &</sup>quot;Chapter 3: From the 'Golden Age' to the Great Depression: 1900-1929," GovInfo.com, Dec. 31, 1998. https://www.govinfo.gov/content/pkg/GPO-CDOC-105sdoc24/html/ch3.html.

Calvin Coolidge, "Message to the Senate Returning Without Approval S. 4808—The McNary-Haugen Farm Relief Bill," The American Presidency Project, Feb. 25, 1927. https://www.presidency.ucsb.edu/node/328767.

<sup>13.</sup> Ibid.

<sup>14.</sup> John Hendrickson, "Coolidge and the Battle Over McNary-Haugen," Calvin Coolidge Presidential Foundation, Nov. 10, 2014. https://coolidgefoundation.org/blog/coolidge-and-the-battle-over-mcnary-haugen; David E. Hamilton, "Herbert Hoover: Domestic Affairs," Miller Center, last accessed March 8, 2023. https://millercenter.org/president/hoover/domestic-affairs.



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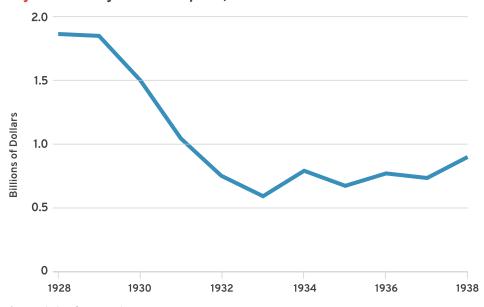
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for his international success in mining and later in humanitarian relief following World War I, Hoover was confident that modern methods of planning and collaboration would improve the farmers' lot.<sup>15</sup> Therefore, soon after assuming office, he called a special session of Congress to pass a farm relief bill.<sup>16</sup>

What emerged from that session was the Agricultural Marketing Act—a version of the McNary-Haugan bill that maintained the funding and primary role of a Federal Farm Board to provide loans and assist in the formation of cooperatives that could buy and store surplus crops.<sup>17</sup> The bill was signed into law on June 15, 1929, the board was organized one month later, and the first cooperative, the Farmers' National Grain Corporation, was incorporated on October 29—also known as Black Tuesday and the unofficial start of the Great Depression.<sup>18</sup>

The following year, in a new attempt to boost farm income and protect farmers from foreign competition, Congress passed and Hoover signed the infamous Smoot-Hawley tariff into law, over the opposition of 1,028 economists and numerous other experts. Other countries swiftly retaliated with their own tariffs, many aimed squarely at U.S. farm exports, which then plummeted, putting to rest—at least for the time being—McNary-Hauganist hopes of dumping underpriced surplus goods on foreign markets (Figure 1). Other countries are supplied to the time being—McNary-Hauganist hopes of dumping underpriced surplus goods on foreign markets (Figure 1).

Figure 1: U.S. Agriculture Exports, 1928-1938\*



<sup>\*</sup>Not including forest products.

Source: "Farm Production and Related Statistics," U.S. Census Bureau, 1939, p. 646. https://www2.census.gov/library/publications/1940/compendia/statab/61ed/1939-07.pdf.

Agricultural Marketing Act is signed into law.

#### 1930

The Smoot-Hawley tariff is signed into law; other countires retaliated with their own tariffs aimed at U.S. farm exports. The impact is reflected in Figure 1.

<sup>15.</sup> Tom Longden, "The Biography of Herbert Hoover," Hoover Presidential Foundation, April 20, 2008. https://hooverpresidentialfoundation.org/herbert-hoover.

<sup>16.</sup> Herbert Hoover, "Message to the Special Session of the Congress on Farm Relief, Tariff, antedating Emergency Legislation," The American Presidency Project, April 16, 1929. https://www.presidency.ucsb.edu/documents/message-the-special-session-the-congress-farm-relief-tariff-antedating-emergency.

<sup>17. &</sup>quot;The Federal Farm Board," CQ Researcher, Jan. 24, 1930, pp. 57-72. https://library.cqpress.com/cqresearcher/document.php?id=cqresrre1930012400.

<sup>18.</sup> Ibid

<sup>19.</sup> Herbert Hoover, "Message regarding the Smoot-Hawley Tariff Act," Miller Center, June 16, 1930. https://millercenter.org/the-presidency/presidential-speeches/june-16-1930-message-regarding-smoot-hawley-tariff-act; "1,028 Economists Ask Hoover To Veto Pending Tariff Bill," *The New York Times*, May 5, 1930. https://www.nytimes.com/1930/05/05/archives/1028-economists-ask-hoover-to-veto-pending-tariff-bill-professors.html.

Kris James Mitchener et al., "The Smoot-Hawley Trade War," The Economic Journal 132:647 (October 2022), pp. 2500-2533. https://academic.oup.com/ej/article/132/647/2500/6519264.



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In December 1932, the Federal Farm Board painted a discouraging picture of the farm economy in its third report to Congress:

No system of organization, however, would have been sufficient to offset the drastic decline in demand for farm products, which characterized the year, and which largely overshadowed the benefits of cooperative efforts [...] With more than 10,000,000 workers in the United States alone out of work, with wage payments as a whole cut in half from their earlier levels, and with exports reduced by two-thirds, no organization on the part of producers could maintain their incomes or prices.<sup>21</sup>

In short, Hoover's Board was no match for a global depression. Consumer spending fell from \$77.5 billion in 1929 to \$45.9 billion in 1933, and poorer consumers had less to spend on farm products, buying just enough to stave off hunger.<sup>22</sup>

And then the rain stopped.

#### Roosevelt Years: A New Day and a New Deal

Dark clouds of desiccated soil, whipped up by merciless winds from overplowed lands choked the people and livestock of the plains and blotted the sun in eastern cities, debriding 1.2 billion tons of precious topsoil from what had been some of the most productive acres in the country.<sup>23</sup>

Against the backdrop of the worsening Dust Bowl, President Hoover's "New Day" was eclipsed by Roosevelt's "New Deal." The U.S. economy—and the farm economy in particular—sunk to new lows.<sup>24</sup> Between 1929 and 1933, farm incomes collapsed by 50 percent.<sup>25</sup> Some frustrated farmers resorted to violence, vigilante action against other farmers to keep products from market and strikes.<sup>26</sup> Responding to the fragile state of the farm sector was a centerpiece of the New Deal Roosevelt had promised on the campaign trail.<sup>27</sup>

But this new approach was not so different from that of the "Great Engineer." "We must have," vowed Roosevelt, "I assert with all possible emphasis, national planning in agriculture." Like Hoover, the new president and his closest advisors—a group of academics referred to as the "Brains Trust" (and later "Brain Trust" by journalists) who shaped core New Deal policies—shared the conviction that government control, if they could just get it right, could remake and rescue U.S. farmers.<sup>29</sup>

One key member of the famous Brains Trust, Adolf Berle, Jr., was a lawyer who blasted individualism and recommended state planning as a remedy to the



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<sup>21.</sup> First [-Third] Annual Report of the Federal Farm Board for the Year Ending June 30, 1930[-1932], University of Michigan Library, Dec. 2, 2010, p. 197. https://babel.hathitrust.org/cgi/pt?id=mdp.39015031328837&view=1up&seq=197.

<sup>22. &</sup>quot;Consumer Advertising During the Great Depression: A Resource Guide," Library of Congress, last accessed March 8, 2023. https://guides.loc.gov/consumer-advertising-great-depression; U.S. Bureau of Labor Statistics, "100 Years of U.S. Consumer Spending: Data for the Nation, New York City, and Boston," U.S. Department of Labor, May 2006. https://www.bls.gov/opub/100-years-of-u-s-consumer-spending.pdf.

<sup>23. &</sup>quot;Dust Bowl," Britannica, Nov. 11, 2022. https://www.britannica.com/place/Dust-Bowl.

<sup>24.</sup> Hamilton. https://millercenter.org/president/hoover/domestic-affairs.

<sup>25.</sup> Robert F. Martin, "The National Income, 1933," Survey of Current Business (January 1935), p. 16. https://fraser.stlouisfed.org/files/docs/publications/SCB/pages/1935-1939/2961\_1935-1939.pdf.

<sup>26.</sup> Bill Ganzel, "Radical Farm Protests," Wessels Living History Farm, 2003. https://livinghistoryfarm.org/farminginthe30s/money\_11.html.

<sup>27.</sup> Franklin D. Roosevelt, "Campaign Address in Topeka, Kansas on the Farm Problem," The American Presidency Project, Sept. 14, 1932. https://www.presidency.ucsb.edu/documents/campaign-address-topeka-kansas-the-farm-problem.

<sup>28.</sup> Ibid.

<sup>29. &</sup>quot;FDR's Brains Trust," The Eleanor Roosevelt Papers Project, last accessed March 30, 2023. https://webcache.googleusercontent.com/search?q=cache:5Ufzl6lq3MQJ:https://www2.gwu.edu/~erpapers/teachinger/glossary/brains-trust.cfm&cd=16&hl=en&ct=clnk&gl=us.



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economic crisis imposed by the free market.<sup>30</sup> Another, Rexford Guy Tugwell, was an economist sometimes mocked as "Rex the Red" for his socialist leanings.<sup>31</sup> He extolled the benefits of planning, "which he thought could eliminate most economic ills, particularly in agriculture."<sup>32</sup> During a 1927 visit to the Soviet Union, he lauded what he saw as the "power of the collective will."<sup>33</sup> Tugwell would go on to serve as Undersecretary of Agriculture in the Roosevelt administration, an extremely influential role where he could implement the New Deal policies inspired by his admiration of the USSR's centralized planning schemes.<sup>34</sup>

Though not an official Brains Trust member, perhaps the most influential contributor to Roosevelt's farm policies was Henry A. Wallace, who served as Secretary of Agriculture from 1933 to 1940 and Vice President from 1941 to 1945.<sup>35</sup> Unlike the lawyer Berle and economist Tugwell, Wallace had extensive agricultural experience. His father had been Secretary of Agriculture under President Warren G. Harding, and his family hailed from Iowa where Wallace helped develop higher-yielding corn hybrids and edited the family's farm journal, *Wallaces' Farmer*.<sup>36</sup>

In the early 1920s, Wallace advocated for voluntary quotas to cut corn production in response to low prices and large surpluses, which is ironic given his background in hybrid corn development (one of the main factors in maximizing corn production on modern farms).<sup>37</sup> He called for "Less corn, less work, more money," followed by "[m]ore clover, less work, and more money," as well as crop diversification.<sup>38</sup> Wallace also recommended an "economic withdrawal" from Europe and a focus on planting for the "home market"—the same tactic that would send farm profits into a nosedive under Hoover.<sup>39</sup>

Over time, though, Wallace increasingly embraced a role for the federal government to improve the viability of agriculture. First, he backed McNary-Hauganism as a compromise measure. <sup>40</sup> Then, in a 1933 speech touting moderation, he paradoxically decried the "vomit of capitalism" and urged listeners to "shake off the leadership of discredited capitalists." <sup>41</sup>

As vice president, this shift to left-leaning ideology accelerated. Speaking to the Congress of American-Soviet Friendship at Madison Square Garden in 1942, Wallace claimed he had lost faith in "political or bill of rights democracy." He later



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<sup>30.</sup> William Wilson Bratton and Michael L. Wachter, "Shareholder Primacy's Corporatist Origins: Adolf Berle and The Modern Corporation," *The Journal of Corporation Law* 34:1 (2008). https://repository.law.miami.edu/cgi/viewcontent.cgi?article=1875&context=fac\_articles.

<sup>31.</sup> Albin Krebs, "Rexford Tugwell, Roosevelt Aide, Dies," *The New York Times*, July 24, 1979. https://www.nytimes.com/1979/07/24/archives/rexford-tugwell-roosevelt-aide-dies-recruited-for-inner-circle-in.html.

<sup>32.</sup> Ibid.

<sup>33.</sup> Ibid.

<sup>34.</sup> Lisa Thompson, "Rexford Tugwell (1891-1979)," The Living New Deal, March 3, 2017. https://livingnewdeal.org/glossary/rexford-tugwell-1891-1979.

<sup>35. &</sup>quot;An Uncommon Man," Wallace Centers of Iowa, last accessed March 8, 2023. https://wallace.org/who-are-the-wallaces/henry-a-wallace.

<sup>36.</sup> Ibid.

<sup>37.</sup> Richard S. Kirkendall, "Henry A. Wallace's Turn Toward the New Deal, 1921–1924," *The Annals of Iowa* 49 (1988), pp. 221-239. https://pubs.lib.uiowa.edu/annals-of-iowa/article/10699/galley/119275/view.

<sup>38.</sup> Ibid.

<sup>39.</sup> Ibid.

<sup>40.</sup> Ibid.

<sup>41.</sup> Michael W. Schuyler, "The Hair-Splitters: Reno and Wallace, 1932-1933," *The Annals of Iowa* 43:6 (Fall 1976), pp. 403-429. https://doi.org/10.17077/0003-4827.11297.

<sup>42.</sup> Gardner Jackson, "Henry Wallace: A Divided Mind," The Atlantic, August 1948. https://cdn.theatlantic.com/media/archives/1948/08/182-2/132325340.pdf.



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explained that although he detested the idea of dictatorships, the dictatorship of the Soviet Union was the exception to the rule, and he anticipated an abundant future of government-run collectivism in the Soviet style.<sup>43</sup>

Wallace got to see Soviet dictatorship in person during what would become an embarrassing trip to Siberia in 1944.<sup>44</sup> There, he was repeatedly impressed by a Potemkin-style charade organized by Soviet officials in which starving prisoners were hidden away, the trappings of prison camps torn down and typically empty store shelves were filled with goods.<sup>45</sup> Not only did the horrors of the Gulag escape Wallace's notice, even when observing first-hand the misuse of U.S. goods and machines demonstrably obtained via the Lend-Lease Program and intended for use in war-fighting against Axis powers, he accepted the fiction that they had been purchased previously with cash.<sup>46</sup> This was the man who would administer Roosevelt's ambitious remaking of the U.S. farm sector—a man who was easily fooled and found increasing admiration for despots who created farm policies at odds with a market-based economy.

Like his predecessor, upon assuming office, Roosevelt acted quickly to call a special session of Congress to address mounting emergencies, including the farm economy crisis.<sup>47</sup> In his message to Congress accompanying the draft of what would become the 1933 Agricultural Adjustment Act (AAA), the president clearly explained that circumstances called for "the trial of a new means to rescue agriculture." However, this "trial" would soon become the foundation of a permanent, colossal expansion of bureaucracy, executive power and federal engagement in agriculture.

The AAA was signed into law only a few weeks later on May 12, 1933.<sup>49</sup> The legislation aimed to boost the prices of "basic commodities" like wheat, corn and rice by limiting acreage or in some cases tilling under healthy crops like cotton.<sup>50</sup> Hogs were purchased and destroyed to reduce oversupply. Surplus products like cheese, milk and flour were purchased by the government and redistributed to the needy, marrying food aid and agriculture policy for the first time.<sup>51</sup> In a moment of insight, Wallace would recall, "The plowing under of 10 million acres of cotton in August, 1933, and the slaughter of 6 million little pigs in September, 1933, was not an act of idealism in any sane society," but he noted that it was justified due to the state of emergency.<sup>52</sup>



1933

The 1933 AAA is signed into law.

The legislation aimed to boost the prices of "basic commodities" by limiting acreage or tilling under healthy crops like cotton.

<sup>43.</sup> Ibid.

<sup>44.</sup> Vadim J. Birstein, "Three Days in 'Auschwitz without Gas Chambers': Henry A. Wallace's Visit to Magadan in 1944," Wilson Center, last accessed March 8, 2023. https://www.wilsoncenter.org/publication/three-days-auschwitz-without-gas-chambers-henry-wallaces-visit-to-magadan-1944.

<sup>45.</sup> Ibid.

<sup>46.</sup> Ibid.

<sup>47. &</sup>quot;Chapter 4: Crisis and Activism: 1929-1940," U.S. Senate, S. Doc. 105-24, Dec. 31, 1998. https://www.govinfo.gov/content/pkg/GPO-CDOC-105sdoc24/html/ch4.

<sup>48.</sup> Franklin D. Roosevelt, "Message to Congress on the Agricultural Adjustment Act," The American Presidency Project, March 16, 1933. https://www.presidency.ucsb.edu/documents/message-congress-the-agricultural-adjustment-act.

 <sup>&</sup>quot;May 1933: U.S. and World Events plus Additional Resources," Franklin D. Roosevelt Day by Day, last accessed March 30, 2023. http://www.fdrlibrary.marist.edu/daybyday/event/may-1933.

<sup>50.</sup> Wayne D. Rasmussen et al., "A Short History of Agricultural Adjustment, 1933-75," Agriculture Information Bulletin No. 391, March 1976. https://naldc.nal.usda.gov/download/CAT87210025/PDF.

<sup>51.</sup> Ibid.

<sup>52.</sup> John C. Culver and John Hyde, American Dreamer: A Life of Henry A. Wallace (W. W. Norton & Company, Sept. 17, 2001).



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Alongside the AAA, through a combination of executive orders and acts of Congress, a parallel banking system for agriculture was established.<sup>53</sup> First, the Farm Credit Administration supplanted the Federal Farm Board. This was quickly followed by the passing of the Emergency Farm Mortgage Act and the Farm Credit Act of 1933, which provided low-interest-rate loans with generous repayment terms for production, marketing and other needs.<sup>54</sup> Subsequent amendments to the AAA also gave executive authority to enact import quotas, and broad powers were bestowed on the Secretary of Agriculture.<sup>55</sup>

Although the AAA was struck down by the U.S. Supreme Court in 1936 as unconstitutional, this did not faze the Roosevelt administration.<sup>56</sup> They quickly shifted tactics to continue providing government payments to farmers. This time, instead of paying farmers *not* to plant, they would pay farmers to plant nitrogenfixing legumes and soil-building grasses via the Soil Conservation and Domestic Allotment Act of 1936.<sup>57</sup> This was followed by the 1937 Marketing Agreement Act, which created a legal basis for government price-setting and supply controls via marketing orders for key crops and dairy.<sup>58</sup> By 1938, comprehensive farm relief was back. The new and improved AAA programs to prevent overproduction were now insulated from judicial pushback by the elimination of the earlier tax, and were joined by features common to the modern farm policy legislative process, including crop insurance, school lunch and milk programs, and food stamps.<sup>59</sup>

Centralized command-and-control federal farm policy was now firmly entrenched both in the farm industry and American politics.

#### Part II: Today

Eighty-five years later, the same underlying features of the 1938 AAA persist in current farm policies. However, by almost any measure—be it size, methodology, technology or economy—and because of innovations across virtually every conceivable part of the domestic food chain, contemporary farms could not be more different from those of the 1920s and 30s. Not only has public policy not kept pace with these changes, but we are also now much more aware of the environmental and fiscal cost imposed by federal policies' perverse incentives and market distortions. Unfortunately, once an industry has become the recipient of government largess, it becomes difficult to walk back, and popular perception adheres to a long-gone mirage of the past.

#### The Truth About Modern Farms

The public's perception—or better yet, imagination—of modern farming is at odds with reality. For example, recall that in 2013, 108.7 million people watched a Super

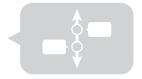
1936

The 1933 AAA is struck down by the U.S. Supreme Court.

1938

Comprehensive farm relief is back.

Centralized commandand-control federal farm policy is now firmly entrenched both in the farm industry and American politics.



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The same 1938 AAA features persist in current farm policies. Public policy has not kept pace with innovations.

Unfortunately, once an industry has become the recipient of government largess, it becomes difficult to walk back.

<sup>53.</sup> Lisa Thompson, "Farm Credit Act (1933)," The Living New Deal, Nov. 18, 2016. https://livingnewdeal.org/glossary/farm-credit-act-1933.

<sup>54.</sup> Ibid.

<sup>55.</sup> Rasmussen et al., "A Short History of Agricultural Adjustment, 1933-75." https://naldc.nal.usda.gov/download/CAT87210025/PDF.

<sup>56.</sup> United States v. Butler, 297 U.S. 1 (1936). https://supreme.justia.com/cases/federal/us/297/1/#tab-opinion-1934959.

<sup>57.</sup> Rasmussen et al., "A Short History of Agricultural Adjustment, 1933-75." https://naldc.nal.usda.gov/download/CAT87210025/PDF.

<sup>58.</sup> Ibid.

<sup>59.</sup> Ibid.



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Bowl commercial for a pickup truck featuring a late radio broadcaster's folksy narration of his famous "So God Made a Farmer" speech over images of weathered, sepia-toned farm life. 60 The lengthy commercial played into many current stereotypes about the farm industry, family farms and federal farm policy. For many Americans and the legislators who represent them, the image of a small family farm where people wake up with the chickens is more than a wholesome image—it is an identity that needs to be preserved. 61 And when the U.S. Department of Agriculture (USDA) reports certain statistics, like the fact that in 2021, 98 percent of all U.S. farms were family farms and 89 percent of farms were small family farms (defined as less than \$350,000 in annual Gross Cash Farm Income or GCFI), it only further cements a dated origin story featuring an archetypical red barn surrounded by fields, denim overalls and clean, friendly animals, perhaps with a savvy spider who spells words in the corner. 62 This is despite the fact that much larger family farms (\$1 million or more GCFI), which account for only 3 percent of farms, make up nearly half (47 percent) of U.S. production. 63

The farms of the 1920s and 30s—when the federal farm safety net we have today was first emerging—were a lot like that hardscrabble story the motor vehicle company played up for truck sales. Without the benefit of modern labor-saving machines; farsighted weather and soil information; and finely tuned crop and livestock genetics, farming was certainly an extremely difficult and extremely risky endeavor that was compounded by global events and environmental havoc. The farms of today, however, which make up the bulk of agricultural economic activity, bear little resemblance to the farms for which the drastic relief measures of the past were prescribed.<sup>64</sup>



In the 1920s, when the story of the modern farm safety net begins, the U.S. population was split nearly evenly between rural and urban areas. That began to change dramatically soon after, in part because of the severe hardships facing rural communities, such as the farm depression and drought (Figure 2).<sup>65</sup> Families also left rural areas in response to changing labor conditions for new economic opportunities and to escape racial injustice.<sup>66</sup> Today, only 14 percent of the U.S. population lives in rural areas.<sup>67</sup>



For many Americans and the legislators who represent them, the image of a small family farm where people wake up with the chickens is more than a wholesome image—it is an identity that needs to be preserved.

<sup>60. &</sup>quot;Super Bowl XLVII Draws 108.7 Million Viewers, 26.1 million Tweets," Nielsen, February 2013. https://www.nielsen.com/insights/2013/super-bowl-xlvii-draws-108-7-million-viewers-26-1-tweets; "Farmer," Ram Trucks, Feb. 3, 2013. https://www.youtube.com/watch?v=AMpZ0TGjbWE; Paul Harvey, "'So God Made a Farmer' Speech to the FEA," American Rhetoric, November 1978. https://www.americanrhetoric.com/speeches/paulharveysogodmadeafarmer.htm.

<sup>61.</sup> Sarah Taber, "America Loves the Idea of Family Farms. That's Unfortunate.," Intelligencer, June 16, 2019. https://nymag.com/intelligencer/2019/06/america-loves-the-idea-of-family-farms-thats-unfortunate.html.

<sup>62.</sup> Economic Research Service, "Farming and Farm Income," U.S. Department of Agriculture, March 14, 2023. https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/farming-and-farm-income.

<sup>63.</sup> Ibid.

<sup>64.</sup> Ibid.

<sup>65.</sup> Bill Ganzel, "Okies," Wessels Living History Farm, 2003. https://livinghistoryfarm.org/farminginthe30s/water\_06.html.

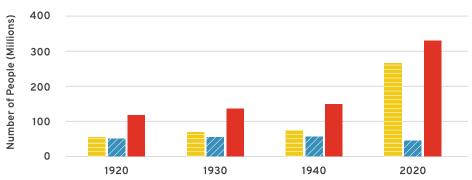
<sup>66. &</sup>quot;The Great Migration (1910–1970)," National Archives, last accessed March 13, 2023. https://www.archives.gov/research/african-americans/migrations/great-migration.

<sup>67. &</sup>quot;2020 Census Urban Areas Facts," United States Census Bureau, Feb. 9, 2023. https://www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural/2020-ua-facts.html.

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Figure 2: 100 Years of Rural and Urban U.S. Populations

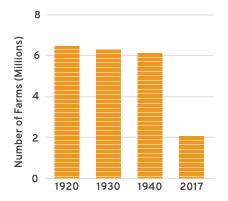


\*Total U.S. population includes territories and possessions. Source: "2020 Census Urban Areas Facts," United States Census Bureau, Feb. 9, 2023. https://www.census. gov/programs-surveys/geography/guidance/geo-areas/urban-rural/2020-ua-facts.html; "Statistical Abstract of the United States: 1944-45," United States Census Bureau, October 1945, p. 13. https://www.census.gov/ library/publications/1945/compendia/statab/66ed.html; "Statistical Abstract of the United States, 1939, United States Census Bureau, 1939, p. 6. https://www2.census.gov/library/publications/1940/compendia/ statab/61ed/1939-02.pdf.

In addition, despite having fewer people to work on them, farms have gotten much larger than they were a century ago.

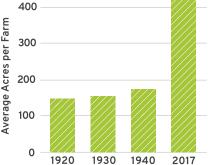
Although the number of farms has dwindled and the size of remaining farms has grown, overall land use for agriculture has decreased, going from 63 percent in 1949 to 52 percent today (Figures 3 and 4).68 However, this has not dampened the ability of U.S. agriculture to meet the food and energy demands of today's much larger population.<sup>69</sup> The ability to grow more with less (less labor, fewer farms) is the result of labor-saving changes (e.g., electrification, tractors); improved technology; and better animal, crop and weather science.<sup>70</sup>

Figure 3: Number of Farms

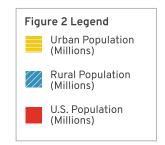


400 300

Figure 4: Average Acres Per Farm



Sources: "Statistical Abstract of the United States, 1939," United States Census Bureau, 1939, p. 605. https:// www2.census.gov/library/publications/1940/compendia/statab/61ed/1939-07.pdf; "Statistical Abstract of the United States, 1944," United States Census Bureau, 1944, p. 597. https://www2.census.gov/library/ publications/1945/compendia/statab/66ed/1944-09.pdf; National Agriculture Statistics Service, "2017 Census of Agriculture: United States Summary and State Data," U.S. Department of Agriculture, April 2019, p. 7. https:// www.nass.usda.gov/Publications/AgCensus/2017/Full\_Report/Volume\_1,\_Chapter\_1\_US/usv1.pdf.





Daniel Bigelow, "A Primer on Land Use in the United States," U.S. Department of Agriculture, Dec. 4, 2017. https://www.ers.usda.gov/amber-waves/2017/ december/a-primer-on-land-use-in-the-united-states; Economic Research Service, "Land Use, Land Value & Tenure: Overview," U.S. Department of Agriculture, May 21, 2021. https://www.ers.usda.gov/topics/farm-economy/land-use-land-value-tenure.

Daniel Gross, "U.S. farms still feed the world, but farm jobs dwindle," Strategy+Business, Aug. 2, 2016. https://www.strategy-business.com/blog/US-Farms-Still-Feed-the-World-But-Farm-Jobs-Dwindle

Economic Research Service, "Farming and Farm Income," U.S. Department of Agriculture, March 14, 2023. https://www.ers.usda.gov/data-products/ag-and-foodstatistics-charting-the-essentials/farming-and-farm-income.



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For example, take the explosion in crop yields, particularly for corn. In 2004, the USDA reported that the "[a]verage per acre yields for corn in the United States rose from 20 bushels in 1930 to about 70 bushels in 1970 and reached 140 bushels by the mid-1990s."<sup>71</sup> The report credited improved genetics for "50 percent or more of the overall yield gain."<sup>72</sup>

Today's highly prosperous farms are in a strikingly different financial position to the farms in crisis in the 1920s and 30s. Comparing farm to nonfarm household income, an agriculture economist found that the "[a]verage income of U.S. farm households has exceeded average income of all U.S. households every year since 1996 [...] since 1972, income of farm households has exceeded income of all households in 67 percent of the years."<sup>73</sup> More recently, the USDA explained that farm households are "neither low income *nor low wealth* [emphasis added]," with 80 percent of operators and 62 percent of spouses contributing off-farm income.<sup>74</sup>

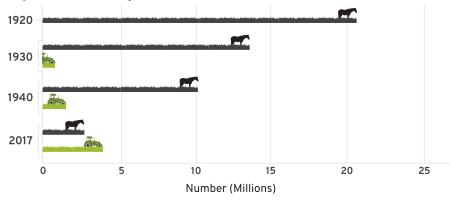
The ability to grow more with less (less labor, fewer farms) is the result of labor-saving changes; improved technology; and better animal, crop and weather science. For example, average per-acre corn yields have grown exponentially:

1930: 20 bushels 1970: 70 bushels 1990s: 140 bushels

#### **Farm Technology Changes**

Perhaps the most visible example of changing technology is the widespread adoption of tractors (Figure 5). In 1920, horses and other draft animals were the prime movers on farms, assisting with everything from basic transportation to plowing, planting and threshing. The decennial U.S. census counted just over 20 million horses on farms that year; by 1940, that number had dropped by half.<sup>75</sup> In addition, the 2017 USDA Census of Agriculture found 4,038,099 tractors across 1,623,762 farms, with many farms having two, three, or even four or more tractors.<sup>76</sup>





Sources: "Statistical Abstract of the United States, 1940," United States Census Bureau, 1940, pp. 663-676. https://www2.census.gov/library/publications/1941/compendia/statab/62ed/1940-07.pdf; "Statistical Abstract of the United States, 1944," United States Census Bureau, 1944, p. 641. https://www2.census.gov/library/publications/1945/compendia/statab/66ed/1944-10.pdf; National Agriculture Statistics Service, "2017 Census of Agriculture: United States Summary and State Data," U.S. Department of Agriculture, April 2019, pp. 26-57. https://www.nass.usda.gov/Publications/AgCensus/2017/Full\_Report/Volume\_1,\_Chapter\_1\_US/usv1.pdf.



<sup>71.</sup> Jorge Fernandez-Cornejo, "The Seed Industry in U.S. Agriculture: An Exploration of Data and Information on Crop Seed Markets, Regulation, Industry Structure, and Research and Development," U.S. Department of Agriculture, January 2004, pp. 5-6. https://www.ers.usda.gov/webdocs/publications/42517/13616\_aib786\_1\_.pdf?v=5916.9.

<sup>72.</sup> Ibid.

<sup>73.</sup> Carl Zulauf, "Farm Policy Background: Income of U.S. Farm vs. Nonfarm Population," Farmdoc Daily 3:128 (July 3, 2013). https://farmdocdaily.illinois.edu/2013/07/farm-policy-income-farm-nonfarm.html.

<sup>74.</sup> Christine Whitt, "A Look at America's Family Farms," U.S. Department of Agriculture, July 29, 2021. https://www.usda.gov/media/blog/2020/01/23/look-americas-family-farms.

<sup>75. &</sup>quot;Statistical Abstract of the United States, 1940," U.S. Department of Commerce, 1940, p. 676. https://www2.census.gov/library/publications/1941/compendia/statab/62ed/1940-07.pdf.

<sup>76.</sup> National Agriculture Statistics Service, "2017 Census of Agriculture: United States Summary and State Data," U.S. Department of Agriculture, April 2019, p. 57. https://www.nass.usda.gov/Publications/AgCensus/2017/Full\_Report/Volume\_1,\_Chapter\_1\_US/usv1.pdf.



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The role of the tractor in transforming not only the farm economy, but also the broader U.S. economy and modern life cannot be overstated. One renowned agriculture economist estimated that early tractors, with only 20 or 30 horsepower, could replace five horses or mules. This saved an enormous amount of labor and time. As Wessel's Living History Farm recalls, "[i]t took a farmer an hour and a half to till an acre of ground with five horses and a gang plow. With a 27-horsepower tractor and a moldboard plow, it took only a half-hour to plow an acre and only 15 minutes with a 35-horsepower tractor."

Tractors also freed up land for cash crops. In 1915, it was estimated that "93 million acres of cropland (27 percent of the total harvested) were used to grow feed for horses and mules."<sup>79</sup> The declining use of these animals meant that the land used to feed them could instead be used for more lucrative agriculture.

Furthermore, tractors do not get tired, making it possible to farm more land with fewer workers, which contributed to the rural population exodus. According to one scholar who studied the economic history of tractors in this country, "[t]he U.S. would have been 10 percent poorer in 1955 in the absence of the farm tractor."80

Along with a boom in productivity, the tractor sparked its own technological revolution, rapidly evolving alongside other farm must-haves like trucks and combines to perform more and more critical tasks with relative ease. By 1978, *The New York Times* was extolling the virtues of the enclosed cab that protected farmers from the elements and came with such luxuries as air conditioning, FM radio and cassette players. And those marvels pale in comparison to 2011 features, which included:

Touch-screen display consoles, capable of streaming live video. Heated seats that swivel. Remote vehicle-monitoring systems. Automatic climate control. Wireless Internet. Intelligent cab suspension. Hookups for MP3s. USB ports and Bluetooth technology. Even a refrigerator under the seat to keep your drinks cold. 82

In addition, infrared sensors can help operators avoid harming wildlife.<sup>83</sup> Live video feeds and other monitoring systems deliver instant information to in-cab touchscreens.<sup>84</sup> And, in 2022, a major farm equipment manufacturer announced the release of a fully autonomous, self-driving tractor that can be controlled by smartphone.<sup>85</sup>



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<sup>77.</sup> DBK Admin, "Agricultural Economics professor Bruce Gardner, 67, is dead," *The Diamondback*, March 23, 2008. https://dbknews.com/2008/03/23/article\_e4b2274f-16c1-5044-9487-01f2c5a3412b-html.

<sup>78.</sup> Claudia Reinhardt and Bill Ganzel, "Tractors," Wessels Living History Farm, last accessed March 13, 2023. https://livinghistoryfarm.org/farminginthe20s/machines\_08.htm.

<sup>79.</sup> Colleen Kottke, "The disappearance of horse power on the farm," Wisconsin State Farmer, July 31, 2019. https://www.wisfarmer.com/story/news/2019/07/31/disappearance-horse-power-american-farm/1871073001.

<sup>80.</sup> William J. White, "Economic History of Tractors in the United States," EH.net, March 26, 2008. https://eh.net/encyclopedia/economic-history-of-tractors-in-the-united-states.

<sup>81.</sup> Andrea Auricheo, "Luxury Tractors Take the Toil Out of Tilling the Land," *The New York Times*, May 7, 1978. https://www.nytimes.com/1978/05/07/archives/brooklyn-pages-luxury-tractors-take-the-toil-out-of-tilling-the.html.

<sup>82.</sup> Jodie Wehrspann, "New tractor cabs: the latest in creature comforts," FarmProgress, Dec. 6, 2011. https://www.farmprogress.com/farming-equipment/new-tractor-cabs-the-latest-in-creature-comforts.

<sup>92</sup> Ihid

<sup>84.</sup> See, e.g., Realag Machinery Insider, "Wildlife sensor automatically lifts mower to avoid young deer," realagriculture, Dec. 29, 2017. https://www.realagriculture.com/2017/12/wildlife-sensor-automatically-lifts-mower-to-avoid-young-deer; "AFS Pro 1200," Case IH, last accessed March 13, 2023. https://www.caseih.com/apac/en-int/products/advanced-farming-system/displays/afs-pro-1200.

<sup>85.</sup> Shara Tibkin, "John Deere breaks new ground with self-driving tractors you can control from a phone," CNET, Jan. 6, 2022. https://www.cnet.com/tech/mobile/john-deere-breaks-new-ground-with-self-driving-tractors-you-can-control-from-a-phone.



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Automation is saving time and labor in the barn as well. Not all dairy farmers have to get up before dawn. On some modern farms, cows milk themselves—or, at least, decide when they would like to be milked, and then the robots get to work—and when that cow returns to its stall, it may have been cleaned by a Roomba-like, automatic manure-scooping machine.<sup>86</sup>

Even smartphones are improving the agriculture game. A growing library of smartphone apps are helping farmers integrate and control vast amounts of information from soil health to harvesting conditions, market prices, disease, pests and business records.<sup>87</sup> Together, this vast assemblage of data points is helping farmers plan better, avoid over fertilizing or watering, increase sustainability and maximize profits.<sup>88</sup> Robust data, improved machinery and even artificial intelligence are helping farmers reduce costs, waste and risk with precision farming.<sup>89</sup>

#### **Off-Farm Innovations**

Off-farm innovations across the food supply chain from seed to table have also helped significantly change the face of the modern farm. These innovations include the widespread adoption of motorized vehicles, industrial food storage modernization and new farming strategies such as vertical farming. They have changed the way people eat and have made consumers less reliant on subsistence farming and seasonal goods.

The wider adoption of motorized vehicles has decreased the cost and time required to take products from the farm to market. Refrigerated tractor trailers, which appeared in the late 1930s, helped goods stay fresh and move further. Electric refrigerators also became more common in homes in the 1930s, being used in 44 percent of U.S. households by the end of the decade. These now ubiquitous machines could keep food fresh longer, particularly if preserved frozen.

Similarly, industrial food storage innovation changed the relationship between consumers and farmers and between farmers and their business practices. Although canning had been practiced since 1810, in 1924, flash freezing expanded consumer access to a wider variety of foods that retained more vitamins and minerals than canned or even sometimes fresh produce.<sup>93</sup>



Off-farm innovations across the food supply chain have also helped significantly change the face of the modern farm. These innovations include the widespread adoption of motorized vehicles and industrial food storage modernization.

<sup>86.</sup> Dan Charles, "When Robots Milk Cows, Farm Families Taste Freedom," NPR, April 7, 2018. https://www.npr.org/sections/thesalt/2018/04/07/599259931/when-robots-milk-cows-farm-families-taste-freedom; Andrew Tarantola, "This Agricultural Roomba Is a Robotic Pooper Scooper for Dairy Farms," Gizmodo, June 30, 2014. https://gizmodo.com/this-agricultural-roomba-is-a-robotic-pooper-scooper-fo-1593821474.

<sup>87.</sup> Matt Hopkins, "Best Agriculture Apps for 2023 (Updated)," CropLife, March 1, 2023. https://www.croplife.com/editorial/matt-hopkins/best-agriculture-apps.

<sup>88.</sup> See, e.g., National Institute of Food and Agriculture, "Precision, Geospatial and Sensor Technology Programs," United States Department of Agriculture, last accessed March 13, 2023. https://www.nifa.usda.gov/grants/programs/precision-geospatial-sensor-technologies-programs.

<sup>89.</sup> Graeme Hammer, "Artificial Intelligence And Precision Farming," CropForLife, Oct. 31, 2022. https://cropforlife.com/artificial-intelligence-and-precision-farming; Meaghan McDonald-Pool, "The future of farming," Montana State University, May 19, 2022. https://www.montana.edu/news/mountainsandminds/22121/the-future-of-farming.

<sup>90.</sup> Robert Lacy, "Wheels of Change: The Automotive Industry's Sweeping Effects on the Fifth District," Federal Reserve Bank of Richmond, Winter 2003. https://www.richmondfed.org/publications/research/econ\_focus/2003/winter/economic\_history.

<sup>91. &</sup>quot;The History of Refrigerated Trucking," ABCO Transportation, Inc., March 23, 2015. https://www.shipabco.com/history-refrigerated-trucking.

<sup>92.</sup> Matt Novak, "The Great Depression and the Rise of the Refrigerator," Pacific Standard, Oct. 9, 2012. https://psmag.com/environment/the-rise-of-the-refrigerator-47924.

<sup>93.</sup> Jerry James Stone, "How Canning Was Invented, and How It Changed the Way We Eat," kitchn, April 14, 2015. https://www.thekitchn.com/breakthroughs-in-food-science-canning-218083; "Who invented frozen food?," Library of Congress, Nov. 19, 2019. https://www.loc.gov/everyday-mysteries/technology/item/who-invented-frozen-food; "Frozen vs. Canned Vegetables," Mana Medical Associates, last accessed March 13, 2023. https://www.mana.md/frozen-vs-canned-vegetables.



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Today, a growing abundance of shelf-stable packaging using aseptic processing has once again created a food and farm revolution.<sup>94</sup> This type of processing uses less energy and less packaging; does not require refrigeration in delivery or storage; takes up less space; and stays fresh longer.<sup>95</sup>

Improved food storage at so many points of the food chain has helped smooth out supply gluts due to over production and food waste, typically allowing for more consistent supplies and prices for both farmers and consumers.

Another significant off-farm innovation bears little resemblance to traditional farming at all, whether from the 1920s and 30s or today: indoor vertical farming. This innovation is a recent addition to the agriculture economy that has rapidly grown into a \$6.9 billion global industry. Finis approach entails raising primarily leafy greens and herbs under LED lights in structures stacked to the roof of a warehouse or shipping container. It is on the cutting edge of agriculture technology—melding genetics, computer science, robotics and engineering—and has many benefits. For example, vertical farms can respond quickly to consumer demand, and the threat of pests, drought and storms occurring inside are low. Vertical farms can also get produce to consumers rapidly, preserving essential nutrients. In addition, they use less water than traditional farms and have a lower risk of foodborne illnesses than what is typically associated with fresh fruits and vegetables.

Unfortunately, some major hurdles remain to continue vertical farming innovations. The industry has outsized energy consumption—keeping the grow lights glowing is currently preventing vertical farming from being the environmental and economic boon investors had hoped.<sup>99</sup> Of course, it is expected that time, technological improvement and continued tinkering with the business model will bring better results.<sup>100</sup>

#### **U.S. Fiscal Challenges**

The United States' debt crisis is another issue that is markedly different than it was in the early 20th century and exacerbated by outdated, costly farm policies (Table 1).



Another significant offfarm innovation bears little resemblance to traditional farming at all: indoor vertical farming. This innovation is a recent addition to the agriculture economy that has rapidly grown into a \$6.9 billion global industry.

<sup>94. &</sup>quot;Global Shelf-Stable Packaging Market 2022-2026 - ResearchAndMarkets.com," *Business Wire*, July 6, 2022. https://www.businesswire.com/news/home/20220706005589/en/Global-Shelf-Stable-Packaging-Market-2022-2026---ResearchAndMarkets.com.

<sup>95.</sup> Jesse Sparks, "Shelf-Stable Milk Is the Answer to Those Infrequent Grocery Trips," bon appétite, May 4, 2020. https://www.bonappetit.com/story/what-is-shelf-stable-milk.

<sup>96. &</sup>quot;Vertical Farming Market Analysis By Structure, By Component (Hardware, Software, Services), By Growing Mechanism (Aeroponics, Hydroponics), By Crop Category (Fruits Vegetables, & Herbs, Flowers & Ornamentals) And Segment Forecasts, 2023 - 2030," Grand View Research, 2022. https://www.grandviewresearch.com/industry-analysis/vertical-farming-market/segmentation.

<sup>97.</sup> Ben Lawson, "Vertical farming: from Babylon to New York," Cambridge Consultants, June 4, 2018. https://www.cambridgeconsultants.com/insights/opinion/vertical-farming-babylon-new-york.

<sup>98.</sup> Ibid.

<sup>99.</sup> Adele Peters, "The vertical farming bubble is finally popping," Fast Company, Feb. 27, 2023. https://www.fastcompany.com/90824702/vertical-farming-failing-profitable-appharvest-aerofarms-bowery; Matt Reynolds, "Vertical Farming Has Found Its Fatal Flaw," Wired, Dec. 22, 2022. https://www.wired.com/story/vertical-farms-energy-crisis.

<sup>100.</sup> Jennifer Marston, "Startups and scientists weigh in on future of vertical farming: 'A lot of it is still a DIY hobby industry right now,'" AgFunderNews, Jan. 26, 2023. https://agfundernews.com/vertical-farming-future-it-is-a-diy-hobby-industry-startups-and-scientists-weigh-in.



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Table 1: Outstanding Debt Held by the Public

Year	Billions of Dollars
1920	25.95
1930	16.19
1940	42.97
2023	31,460.53

Sources: "What is the national debt?" FiscalData.Treasury.gov, last accessed March 13, 2023. https://fiscaldata.treasury.gov/americas-finance-guide/national-debt; "Historical Debt Outstanding," FiscalData.Treasury.gov, last accessed March 13, 2023. https://fiscaldata.treasury.gov/datasets/historical-debt-outstanding/historical-debt-outstanding.

The "Budget and Economic Outlook: 2023-2033" released by the Congressional Budget Office (CBO) in February 2023 was grim—debt held by the public is expected to top 98 percent of gross domestic product in 2023 and is expected to continue to climb to an estimated 118 percent in 2033, the highest percentage ever recorded with no end to the increase in sight. Carrying this much debt from year to year tends to create a rolling debt snowball: greater debt slows economic growth and leads to higher interest rates, which in turn requires ever-increasing debt. Without significant changes, the debt will continue to accumulate at a more rapid rate, pushing us closer to fiscal crisis. 102

This debt crisis makes it imperative that lawmakers reevaluate spending priorities. Major farm safety net programs add significantly to our federal outlays, as indicated in Table 2.

Table 2: 10-Year Outlays for Select Farm Safety Net Programs

Program	Billions of Dollars (Fiscal Year 2023-2033)
Price Loss Coverage (PLC)	\$32.1
Agriculture Risk Coverage (ARC) (county and individual)	\$16.8
Crop Insurance	\$112.5

Source: "CBO's February 2023 Baseline for Farm Programs," Congressional Budget Office, February 2023. https://www.cbo.gov/system/files?file=2023-02/51317-2023-02-usda.pdf.

According to recommendations made by CBO, even minor reforms could yield much-needed savings. For example, reducing crop insurance premium subsidies and limiting both crop insurer expenses and rate of return could save \$28.3 billion over 10 years. 103 Reducing ARC and PLC base acreage payments could save \$24.4 billion

#### **KEY TAKEAWAY**

Debt held by the public is expected to top 98 percent of gross domestic product in 2023 and is expected to continue to climb to an estimated 118 percent in 2033.

Carrying this much debt from year to year tends to create a rolling debt snowball: greater debt slows economic growth and leads to higher interest rates, which in turn requires everincreasing debt.

<sup>101. &</sup>quot;The Budget and Economic Outlook: 2023 to 2033," Congressional Budget Office, February 2023. https://www.cbo.gov/system/files/2023-02/58848-Outlook.pdf. 102. lbid.

<sup>103. &</sup>quot;Reduce Subsidies in the Crop Insurance Program," Congressional Budget Office, Dec. 7, 2022. https://www.cbo.gov/budget-options/58640.



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over 10 years.<sup>104</sup> The fact that the underlying assumptions of these costly policies is out of step with the current farm economy makes it all the more reasonable to pursue savings that would bring these programs in line with both modern farming and the pressing need to address growing debt.

#### Conclusion: Historic Policies for a Modern Farm?

The architects of our early federal farm policies were strangely optimistic about the prospect of taming what was perceived as a wild farm economy, prone to speculation and overproduction. Whether it was Hoover's confidence in management, McNary and Haugen's supply controls, or the Soviet-based strictures of FDR's Brains Trust and the USDA, it was the height of hubris to conceive of applying top-down, highly regulated order on such a complicated and varied industry.

From an economic perspective, government overreach, like the price controls and subsidies of the AAA, can only lead to unintended consequences. <sup>105</sup> In the case of commodity supports, this has contributed to decades of continued overproduction of a handful of favored crops over products that consumers might have preferred or that might grow better in a certain region. <sup>106</sup> It has also led to environmental issues that were not considerations in the 1920s and 30s, but that will have to be taken into account as future reforms are discussed. <sup>107</sup>

Likewise, economic concerns exist about the affordability of a costly agriculture safety net in light of our growing debt, particularly when those policies have questionable utility in the modern farm economy.

Given how tremendously difficult it is to wrest a benefit away from a politically powerful electorate, policies rooted in the past tend to persist and continue to favor the business models of the past, regardless of how circumstances may have changed. This is the case with the current U.S. farming environment. Despite how different farms of today are from their predecessors, government has a thumb on the scale that disadvantages innovators, forcing them to compete with producers who have a golden parachute and little to lose.

The U.S. farm industry has changed dramatically over the last century. Our federal farm policies should reflect that shift.



Despite how different farms of today are from their predecessors, government has a thumb on the scale that disadvantages innovators, forcing them to compete with producers who have a golden parachute and little to lose.

#### **About the Author**

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<sup>104. &</sup>quot;Limit ARC and PLC Payment Acres to 30 Percent of Base Acres," Congressional Budget Office, Dec. 7, 2022. https://www.cbo.gov/budget-options/58641.

<sup>105.</sup> Hugh Rockoff, "Price Controls," Econlib, last accessed March 13, 2023. https://www.econlib.org/library/Enc/PriceControls.html.

<sup>106.</sup> Ruben N. Lubowski et al., "Environmental Effects of Agricultural Land-Use Change: The Role of Economics and Policy," United States Department of Agriculture, August 2006, pp. 1-5. https://www.ers.usda.gov/webdocs/publications/45609/17593\_err25\_1\_.pdf.

<sup>107.</sup> Malai Escamilla, "Harmful exposure: The risks and dangers of toxic algae blooms," EWG, Aug. 23, 2022. https://www.ewg.org/news-insights/news/2022/08/harmful-exposure-risks-and-dangers-toxic-algae-blooms.