

A historical primer on the US farm bill: Supply management and conservation policy

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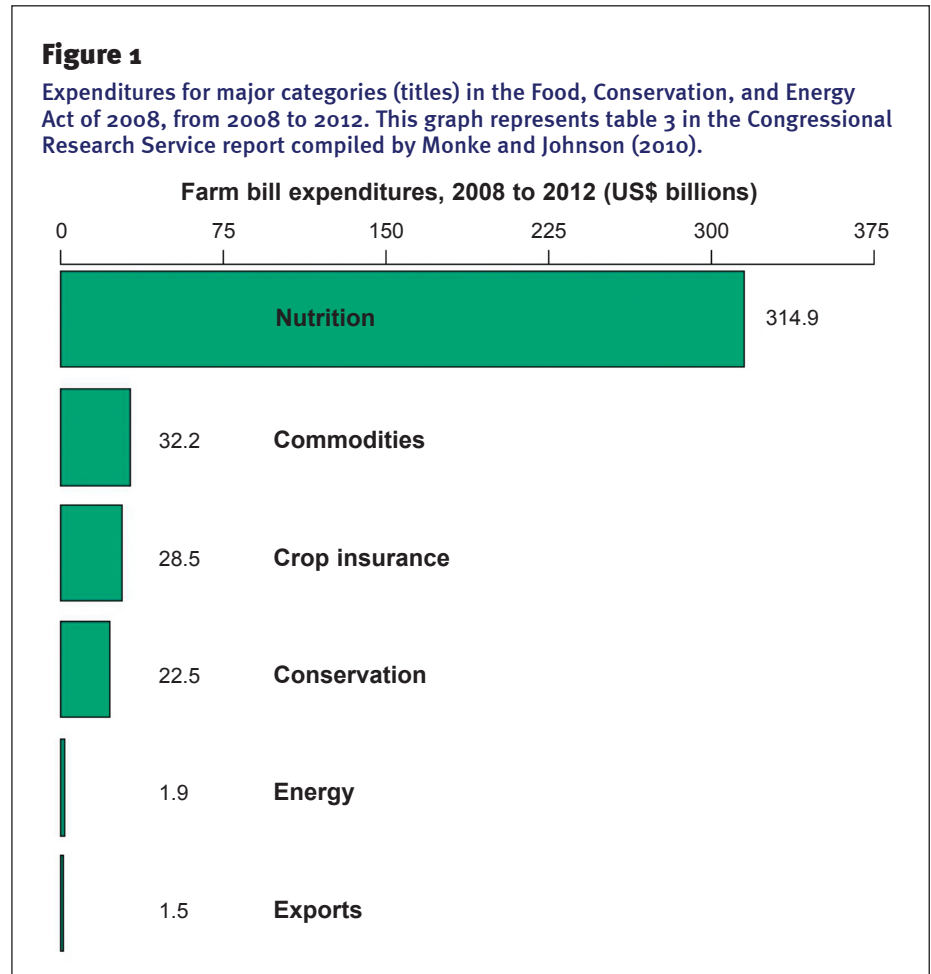
While Americans are accustomed to US Congress revisiting the farm bill every five to seven years, less familiar is the breadth of influence agricultural policy has in today's society. For example, as 2012 waned without a new farm bill, surprised consumers learned milk prices could nearly double if agricultural supply management programs reverted to default policies established in 1949 (Editorial Board 2012). Furthermore, nutrition programs received over two-thirds of the US\$400+ billion allocated by the 2008 farm bill (figure 1), indicating that agricultural policy extends well beyond the farm. Farm bills are particularly relevant to soil and water conservation, as their conservation programs have become the dominant source of public funds for private lands conservation (Burger et al. 2006). The number and complexity of farm bills, however, make it difficult to comprehend the scope and impact of this legislation.

Here we provide a historical primer on US agricultural policy as a foundation for understanding current food, energy, and environmental policy discussions. This retrospective marks the 80th anniversary of the first comprehensive farm bill—the Agricultural Adjustment Act of 1933 (table 1). Given the emphasis of this journal, we focus on agricultural policies with direct, environmental impact; specifically, we focus on commodity production and conservation programs.

AGRICULTURAL POLICY ANTECEDENTS TO FARM BILL LEGISLATION: 1862 TO 1932

During the late nineteenth and early twentieth centuries, American agriculture

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expanded geographically and developed technologically. Although couched in the Jeffersonian language of the agrarian ideal, federal policies in the nineteenth century significantly expanded commercial agriculture (Efland 2000). A series of Homestead Acts (1862 to 1916) granted settlers ownership of Western farmland. A land-grant complex of education, research, and extension was established to increase agricultural knowledge and keep farmers and farm families abreast of new farm and home technology (Efland 2000). The Morrill Act of 1862 granted saleable federal land to states to establish public, postsecondary education in the agricultural and mechanical arts. The Hatch Act of 1887 launched a system of agricultural research stations under the direction of a state's land-grant university. The state cooperative extension service was estab-

lished under the Smith-Lever Act of 1914 to transfer land-grant university research to both farm and home.

Supplying wheat to Europe and other allies during and immediately after World War I launched American agriculture onto the international scene (Worster 2004). Claiming "wheat will win the war," the Food Control Act of 1917 encouraged production with a fixed market price for farmers (Worster 2004). However, reliance on exports created an unstable postwar market once European production recovered (Winders 2009). Farm states sought government intervention in market conditions but lacked broad political will for national supply management policy. The Agricultural Marketing Act of 1929 barely stabilized farm prices, demonstrating that effective supply management required production controls (Hurt 2002; Winders

Table 1

Ten important pieces of farm legislation, 1933 to 2002. For more information about these and other farm bills, see the National Agricultural Law Center at <http://nationalaglawcenter.org/assets/farmbills/glossary.html>.

Legislation	Year	Description
Agricultural Adjustment Act (Pub. L. 73-10)	1933	<ul style="list-style-type: none"> Introduced price support and supply management programs Incorporated the Commodity Credit Corporation, which is still active today The funding mechanism—a tax on agricultural processors—was declared unconstitutional in 1936
Soil Conservation and Domestic Allotment Act (Pub. L. 74-46)	1936	<ul style="list-style-type: none"> Authorized government to pay farmers—this time from the public treasury—to reduce production by planting “soil conserving” rather than “soil depleting” crops Created the Soil Conservation Service, known today as the USDA Natural Resource Conservation Service Soil conservation was more permanently incorporated into legislation in the 1938 Agricultural Adjustment Act
Agricultural Act (Pub. L. 81-439)	1949	<ul style="list-style-type: none"> Designated price support for several commodities at near-parity with prices from 1910 to 1914, a period of prosperity for US farmers The 1938 Agricultural Adjustment Act (Pub. L. 75-430) and the 1949 Agricultural Act constitute permanent US agricultural legislation; subsequent farm bills modify these standing acts
Agricultural Trade Development Assistance Act (Pub. L. 83-480)	1954	<ul style="list-style-type: none"> “Food for Peace” Laid the foundation for expanded international trade to reduce domestic surplus
Agricultural Act (Pub. L. 84-540)	1956	<ul style="list-style-type: none"> Introduced the “Soil Bank” Created an acreage reserve program for select crops and a ten-year conservation reserve program
Agricultural and Consumer Protection Act (Pub. L. 93-86)	1973	<ul style="list-style-type: none"> Replaced price support payments with target prices and deficiency payments Authorized payments for losses following natural disasters
Food Security Act (Pub. L. 99-198)	1985	<ul style="list-style-type: none"> First farm bill to include a specific conservation title Introduced Conservation Reserve Program, Sodbuster, Swampbuster, and several other conservation initiatives Established cross-compliance; farmers and landowners were required to submit and implement a conservation plan for highly erodible lands to be eligible for federal farm programs Began the five-year structure that has largely provided the framework for subsequent farm bills
Food, Agriculture, Conservation, and Trade Act (Pub. L. 101-624)	1990	<ul style="list-style-type: none"> With 25 titles, FACTA represents the increasingly broad purview of modern farm bills Established the Environmental Benefits Index to help new projects in the Conservation Reserve Program contribute to multiple environmental outcomes
Federal Agriculture Improvement and Reform Act (Pub. L. 104-127)	1996	<ul style="list-style-type: none"> “Freedom to Farm” Acreage restrictions for commodity crops were removed Decoupled farm income support from market prices with a switch to direct payments Expanded conservation programs and created the Environmental Quality Incentives Program for cost-sharing and technical assistance
Farm Security and Rural Investment Act (Pub. L. 107-171)	2002	<ul style="list-style-type: none"> First farm bill with an energy title to support the biofuel industry Increased conservation funding and created the Conservation Security Program and Grassland Reserve Program

2009). After President Hoover urged farmers to voluntarily reduce production, five Southern states passed (but did not initiate) “cotton holiday” laws in 1932 to show that production restrictions were becoming politically tenable (Winders 2009).

THE NEW DEAL: 1933 TO 1941

The first 100 days of Franklin Delano Roosevelt’s administration was a whirl-

wind of ad-hoc emergency relief that shaped decades of American public policy (Saloutos 1974; Worster 2004). The Agricultural Adjustment Act of 1933 marked the beginning of federal supply management of agricultural products and represents America’s first comprehensive farm bill (Winders 2009). It addressed a specific list of commodity crops and livestock products to which dozens of other

farm products were added over time (Olson 2001). The federal government made payments based on parity with commodity prices from 1910 to 1914 to keep farmers’ purchasing power on par with that of other industries (Winders 2009). Henry A. Wallace’s vision for an “ever-normal granary” (Davis 1938) in 1933 became the Commodity Credit Corporation (CCC), which withheld surplus commodities from

the market at the government's expense and meted their release (Hurt 2002). The CCC irrupted on the landscape as clusters of "government bins" for the ever-normal granary (figure 2).

In 1936, the Supreme Court ruled the funding mechanism of the original Agricultural Adjustment Act unconstitutional, and Congress responded with the Soil Conservation and Domestic Allotment Act. Under this legislation, the federal government drew from the public treasury to pay farmers who planted "soil-conserving" crops instead of "soil-depleting" crops like corn and wheat; the constitutionality thereof ostensibly rested in the public's growing interest in soil protection (Winders 2009). These acreage restrictions and the CCC were permanently codified in the second Agricultural Adjustment Act of 1938.

The New Deal addressed environmental degradation that began during the previous era of agricultural expansion and worsened during the so-called "Dirty Thirties." The Soil Erosion Service, a temporary agency in 1933, provided soil conservation demonstrations and technical assistance. However, as drought worsened and fatal dust storms roiled, soil conservation gained political momentum. Hugh Hammond Bennett marshaled both environmental and political forces when, on April 19, 1935, he stalled his Congressional testimony in Washington, DC, until a massive "duster" from the Great Plains forced dust into the hearing chamber (Egan 2006). The Soil Conservation Service, known today as the Natural Resources Conservation Service, became a permanent USDA agency under the Soil Conservation Act of 1935.

The success of New Deal agricultural programs was mixed. Through bureaucratic expansion and spending, the New Deal addressed the Great Depression and the environmental devastation of the Dust Bowl. Farmers enjoyed immediate benefits, including a 50% increase in farm income from 1932 to 1935, a quarter of which was attributed to farm income payments (Olson 2001). However, the Agricultural Adjustment Act set precedents that continue today: farms that specialized in program crops benefitted more

Figure 2

Storing corn in "ever-normal granary" bins in Grundy Center, Iowa, in October 1939. Clusters of these bins were a feature of the rural landscape for decades as the Commodity Credit Corporation bought and stored grain to keep surplus grain off the market in an attempt to increase prices. (Photo credit: Arthur Rothstein, US Farm Security Administration. Public domain image from the Library of Congress.)



than diverse farms and were encouraged to remain specialized; short-term set-aside programs were weak in the face of rising commodity prices; and government programs focused on supply management over rural social reform (Olson 2001; Worster 2004; Winders 2009). While the designers of the New Deal sought to rethink how agricultural land is used, by the end of the era, American farmers learned to align their operations within a structure of government programs that lacked incentives to think ecologically (Worster 2004).

WAR, PEACE, AND PLENTY: 1942 TO 1955

World War II heralded an era of expansive production for American farmers. By 1942, surpluses were depleted and soil conservation programs were ignored as farmers took advantage of higher prices (Cain and Lovejoy 2004). Ironically, government programs designed to smooth fluctuations in agricultural markets gave farmers confidence to increase production (Winders 2009). Productivity increases from this era accelerated through the 20th century as technologies like commercial

seed, petroleum-based inputs, and mechanization were widely adopted. These gains in per-acre productivity increased commodity surpluses and counter-acted acreage reduction programs (Hurt 2002).

To assure farmers scarred by the economic disasters of the 1920s and 1930s, Congress increased income support in the Stabilization Act of 1942. Initially written to expire in 1947 and revert to the 1938 Agricultural Adjustment Act, Congress extended price supports in 1948, 1949, and 1952. The Agricultural Act of 1949 made permanent amendments to the Agricultural Adjustment Act of 1938, and together the 1938 and 1949 farm bills comprise the permanent legislation that undergirds American agricultural policy to this day (Hurt 2002).

By the early 1950s, farmers faced similar market conditions as after World War I: European production increased, American surpluses grew, and the whole US economy risked recession. President Eisenhower and Secretary of Agriculture Ezra Taft Benson sought free-market solutions to the farm problem but met Congressional resistance from farm states (Winders 2009).

Benson admonished farmers to “get big or get out” (Beeman and Pritchard 2001), the latter option facilitated by a 1955 amendment to the Smith-Lever Act that charged extension services to help unproductive farmers arrange alternative work (Berry 1977).

Congress adopted a market-oriented approach in the Agricultural Act of 1954, which based payments on a sliding scale rather than parity (Winders 2009). This policy shift followed two developments: the Farm Bureau, which primarily represented the corn-producing Midwest and advocated market-oriented policies, and international export markets expanded after World War II (Winders 2009).

Export subsidies were added as a third pillar of supply management alongside the two previously-established pillars—acreage controls and price supports to reduce surplus commodities—after World War II. Beginning in 1948, the United States helped rebuild the European agricultural sector through the Marshall Plan. Emerging countries became new markets: between 1945 and 1954, decolonization and other political shifts created 45 new nations, which expanded export opportunities for US commodities (Winders 2009). The Agricultural Trade Development Assistance Act of 1954—known as Food for Peace or simply Public Law 480—laid the foundation for these exports.

SOIL BANK AND FOOD SECURITY: 1956 TO 1971

Policymakers reinstated production control in response to mounting surpluses in the mid-1950s. Congress rejected Benson’s free-market solutions, which drove three million Americans from farms and reduced farm income (Giglio 1987). The Agricultural Act of 1956 created a two-part Soil Bank program that removed, or set aside, 12 million ha (4.9 million ac) from production (Olson 2001; Cain and Lovejoy 2004).

The success of the Soil Bank was mixed. Small farmers used program payments to help retain ownership of their land and farm less intensively (Schmid 1958). The Soil Bank helped address the mini-Dust Bowl that simmered in the early 1950s (Olson 2001; Worster 2004),

Figure 3

Corn harvest on an experimental research farm near Columbia, Missouri. Corn production increased dramatically in the 1970s as technology improved yields and new export markets increased demand. (Public domain image from the USDA Agricultural Research Service.)



and set-aside farmland created wildlife habitat (Erickson and Wiebe 1973). However, the set-aside programs did little to advance the primary goal—commodity surplus reduction. Much of the farmland enrolled in the conservation reserve was low in productivity; low rental rates did not justify setting aside highly-productive land (Kaldor 1957). Thus, commodity crop production on productive farmland and Soil Bank programs had little effect on production (Bottum 1957; Olson 2001). Yet again, acreage reduction failed to reduce crop surpluses because in-field technology increased overall productivity more than withdrawing land could reduce it (Hurt 2002).

By 1961, commodity crop surpluses became the focal point of agricultural policy, and supply management replaced market-oriented policies for the rest of the decade (Olson 2001). John F. Kennedy sought to reintroduce New Deal era marketing and production controls; the Emergency Feed Grains Act of 1961 was well received and was renewed for several years (Giglio 1987; Cain and Lovejoy 2004). The conservation trend of the era continued through the 1960s, but with respect to commodity surplus control,

acreage reductions were again offset by increased farm productivity (Giglio 1987).

FENCEROW TO FENCEROW: 1972 TO 1984

International geopolitics and transitions in domestic policy precipitated another tumultuous era of agricultural production in America. In 1972, the United States arranged to export to the Soviet Union a quantity of wheat that exceeded 80% of America’s domestic wheat demand. Dubbed the “Russian grain robbery,” this policy challenged domestic demand, tripled wheat prices, doubled corn and soybean prices, and increased several livestock prices in the United States by mid-1973 (Luttrell 1973). Secretary of Agriculture Earl Butz implored American farmers to plant “fencerow to fencerow” to increase the supply of agricultural commodities and to capture perceived economies of scale necessary to combat high production costs (Hurt 2002). The environment suffered in result: soil erosion increased and wildlife populations decreased as marginal land and permanent vegetation were reverted to row-crop production (Taylor et al. 1978; Olson 2001).

The combination of production-oriented policies and improvements in

agricultural technology created almost immediate surpluses in commodity crops, especially corn (figure 3). Secretary Butz believed that the free-market approach would reduce crop prices and spur exports, and the United States again leaned on free-market policies and exports to absorb surpluses (O'Connor 2012). The Agriculture and Consumer Protection Act of 1973 replaced the New Deal era concept of parity with target payments and deficiency payments to support farmers' incomes as prices were allowed to fall (Winders 2009).

Reliance on a global, market-oriented policy had risks. In 1980, President Carter retaliated against the Soviet invasion of Afghanistan with a partial grain embargo. Although members of Carter's own administration warned that American agriculture would be caught in the cross-fire (Hurt 2002), they likely did not foresee just how much US farmers would suffer from other economic factors on top of the embargo. The 1980s Farm Crisis developed into the worst financial situation in agriculture since the 1930s. Unfortunately, the Agriculture and Food Act of 1981 was enacted before the emerging crisis was fully understood; rather than address the crisis, the bill extended Butz-era farm programs for another four years (Olson 2001).

A bumper crop in 1982 set record surpluses and the CCC's inventories reached new highs. In 1983, the Reagan administration implemented a payment-in-kind program as an alternative to direct market sale: farmers could redeem certificates for CCC-stored grain as payment if they also reduced production of that commodity (Olson 2001). The program reduced surplus but at enormous cost—tens of billions of federal dollars per year—just as the American economy was facing recession (Olson 2001).

FARM CRISIS AND RECOVERY: 1985 TO 2002

Depressed commodity prices and farm incomes, record carryover crop inventories, and a worsening global economic situation shaped US farm policy in the mid-1980s. Familiar policies were joined by novel, successful conservation programs

Figure 4

This buffer strip in Peoria County, Illinois, is an example of the popular conservation programs provisioned by the conservation title of the 1985 farm bill. Long-term set-aside enhances soil and water quality and provides wildlife habitat. (Photo credit: Bob Nichols, USDA Natural Resources Conservation Service, May 2000.)



that remain popular today. The Food Security Act of 1985 was the first farm bill to include a specific category, or title, for conservation. Unlike prior conservation programs that used set-aside to control production, the 1985 farm bill explicitly sought natural resource protection in addition to supply management (Cain and Lovejoy 2004).

Conservation programs in the 1985 farm bill initially sought to remediate environmental degradation caused by farming marginal land in the 1970s, but also create wildlife habitat (figure 4) (Olson 2001; Cain and Lovejoy 2004; Conover et al. 2011). Swampbuster and Sodbuster programs were designed to protect wetlands and grasslands, respectively, by preventing their cultivation (Cain and Lovejoy 2004). The Conservation Reserve Program paid farmers to retire erosion-prone land for at least 10 years, and eventually enrolled 15 million ha (6.1 million ac) (Cain and Lovejoy 2004). The Food, Agriculture, Conservation, and Trade Act of 1990 created two additional conservation programs—the Wetland Reserve Program and the Agricultural Water Quality Program (Cain and Lovejoy 2004).

Two new policy tools increased the effectiveness of federal conservation programs: conservation compliance and the Environmental Benefits Index. Conservation compliance made eligibility for commodity programs contingent on conservation practices to prevent production and conservation programs from working against each other (Claassen 2007). The 1985 farm bill made eligibility for federal farm programs contingent upon implementation of conservation plans for highly erodible land by 1995 (Cain and Lovejoy 2004). The Environmental Benefits Index was established in the Food, Agriculture, Conservation and Trade Act of 1990 to assess multiple environmental outcomes from conservation projects (Osborn 1997). The index included several environmental criteria to determine how Conservation Reserve Program projects enhance water and habitat quality in addition to controlling soil erosion (Ribaudou et al. 2001).

While the 1985 and 1990 farm bills revolutionized conservation programs, the 1996 farm bill brought major reform to commodity programs. The main outcome of the Federal Agriculture Improvement

and Reform Act of 1996 is underscored by its popular name: “Freedom to Farm.” This policy increased flexibility by removing acreage restrictions from commodity production; it also decoupled income support payments from crop prices and replaced deficiency payments with direct compensatory payments (Olson 2001; Hurt 2002; Winders 2009).

THE CURRENT SITUATION: AGRICULTURE IN THE EARLY 21ST CENTURY

Without several decades of historical perspective, it is difficult to determine how recent farm bills contribute to the long-term trajectory of US farm policy. Two potentially important issues—biofuels and crop insurance—merit discussion here, because each relate to themes seen throughout the history of US farm policy.

The biofuel industry brought American agriculture into new market territory. The Farm Security and Rural Investment Act of 2002 became the first farm bill to explicitly include an energy title (Schnepf 2011). Farm bill energy programs focused primarily on development of the biofuel industry through research, grants, and loans, while separate energy bills in 2005 and 2007 expanded mandates for biofuel use (Schnepf 2011). The Food, Conservation, and Energy Act of 2008 adjusted previous policies to focus more specifically on the development of energy from lignocellulosic sources, rather than from corn grain (Schnepf 2011).

Whether this biofuels era will be characterized by production or conservation remains to be seen. So far, demand for grain-based biofuel has increased both commodity crop production and environmental degradation (Altieri 2009). The critical question is whether “second-generation” biofuels, developed from lignocellulosic sources, can be profitable and competitive in existing energy markets (Tilman et al. 2009). On one hand, collecting post-harvest residue from conventional row crops might disrupt organic matter cycles and reduce soil quality (Wilhelm et al. 2007). On the other hand, adopting perennial crops for cellulosic biofuel would constitute a radical shift in American agriculture and provide additional incentive

for set-aside programs (Piñeiro et al. 2009). Perennial crops represent a deviation from the annual crops promoted by farm bill commodity programs and could benefit wildlife habitat and natural resource conservation (Fargione et al. 2009).

Crop insurance subsidies have received recent attention for their increased proportion of farm bill expenditures. The federal government subsidizes crop insurance to reduce the need for after-the-fact payments when farmers lose crops and/or revenue from natural disasters (GAO 2012). The Federal Crop Insurance Program began with the Federal Crop Insurance Act of 1980 and received a major funding increase under the Agricultural Risk Protection Act of 2000 (Glauber et al. 2002). In 2011, crop insurance subsidies totaled US\$8.7 billion of federal spending (GAO 2012). Revenue insurance subsidies might also incentivize risky production, such as farming flood- or drought-prone areas (Glauber 2004). Many conservation groups call for the conservation compliance concept to apply to federally-subsidized crop insurance policies to discourage farmers from assuming that subsidized crop insurance will cover losses on marginal land.

CONCLUSION

Through the history of the farm bill, conservation and commodity programs have often worked at cross purposes. Although the primary goal of supply management policy from 1933 through the present has been surplus control, supply management schemes have generally failed at this mission (Olson 2001; Hurt 2002; Winders 2009). Instead, improvements in agricultural technology—mechanization, synthetic inputs, and improved genetics—have ensured that the productivity of farmed land offsets acreage reductions (Hurt 2002). Furthermore, environmental protection programs almost wholly focus on reducing or mitigating negative externalities that are direct outcomes of commodity production policies (Baylis et al. 2008; Broussard and Turner 2009; Broussard et al. 2012).

Policy makers appreciate the broad purview of agricultural legislation and seek to integrate the multiple intended outcomes

of food, energy, and environmental protection. The 2008 farm bill contained 15 titles, including Commodities, Conservation, Trade, Nutrition, Rural Development, and Energy, among others. Satisfying this breadth of needs for a growing population puts tremendous pressure on land, water, and biodiversity resources, and all levels of agriculture—from producers to processors, to politicians, to the public—would benefit from a holistic approach to agricultural policy that reconciles agricultural productivity with environmental integrity (Robertson and Swinton 2005). This is a timeless lesson of the Dust Bowl overlooked each time commodity prices rise (Worster 2004).

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