
Chapter 5

Effects of Further Payment Limitations

This chapter examines the effects of further payment limitations on farm income, land values, rural communities, agribusiness infrastructure, producer planting decisions, and supply and prices of agricultural commodities. The chapter begins by summarizing the effects of government payments on farm income, which provides a basis for analyzing the effects of further payment limitations on other factors. The effects of further limitations on farm income vary, depending on the reduction in the various limits, the payments affected by further payment limitations, and the ways in which affected producers respond to the further limits, including the extent to which they may be able to restructure their farming operations to avoid further limitations. Despite the many uncertainties and vast number of possible options for further limiting payments to producers, this chapter attempts to draw some general conclusions as to the range of effects of further payment limitations.

Effects of Further Payment Limitations on Farm Income

Background

Past studies are in agreement that government payments increase farm income (farm cash receipts plus government payments less production expenses) and several studies indicate that \$1 billion in government payments increases farm income by \$600-\$900 million (FAPRI, 2002; Westcott and Price). Furthermore, a payment that is decoupled from production is thought to increase farm income more than an equivalent payment that is linked to the volume of production of a specific crop. Payments that are directly tied to the volume of production of a specific crop provide an incentive for producers to expand production by increasing total returns (market returns plus government payments) on each unit of production. In addition, farm programs reduce risk and the reduction in risk may also lead to increased investment and greater agricultural production. An increase in production raises aggregate production costs and lowers prices to producers, partially offsetting the additional income derived from government payments.

Government payments also raise producers' production expenses by increasing land values and land rents (see the next section of this chapter for a discussion of the relationship between government payments, land values, and land rents). Higher land values increase interest expenses for those producers who purchase land that is eligible for government payments. For producers who rent land eligible for government payments, higher land rents increase operating costs.

In the case of decoupled payments, payments are not tied to current production of a particular crop. Rather payments are determined by a producer's historical production. Since payments are not tied to the volume of current production, they do not increase with production and the incentive for producers to expand production of the crop receiving payments is greatly muted. Even though payments are decoupled from current crop-specific production, the link

between payments and historical production may create an incentive for some producers to increase production in the belief that higher production will eventually lead to larger payments in the future (see the final section of this chapter for a discussion of the relationship between government payments and the supply and prices of agricultural commodities).

Discussion

Since government payments raise farm income and reduce risk, further payment limitations would likely lower aggregate farm income and may increase risk. The magnitude of the decline in farm income and the effects on risk would depend on the reduction in the various limits, the payments affected by further payment limitations, the effects on supply and prices of agricultural commodities, and the extent to which affected producers may be able to restructure their farming operations to lessen the effects of further limitations. The effects of further payment limitations on farm income and risk are expected to vary across producers and regions and over time. As indicated earlier, a decoupled payment is expected to increase farm income by a larger amount than an equivalent payment tied to production. As a result, a payment limit that reduces decoupled payments is expected to reduce farm income more than a limit on payments tied to current production, assuming both payment limits reduce payments by an equivalent amount.

Short-run effects

In the short run, producers directly affected by further payment limits may have limited opportunity to restructure. For example, if further limitations are imposed only a few months prior to planting, affected producers may not have time to review the regulations, seek out legal advice, and develop and implement a restructuring plan that minimizes the potential effects of further limitations on farm income. Because of the short amount of time between imposition of further limitations and planting, many producers may have decided how much land they are going to plant to various crops in the coming year and pre-purchased fertilizer, seed, and chemicals. Nevertheless, lower payment limits could make it more difficult for those producers affected by further limitations to borrow money to cover operating expenses, causing some producers to adjust plantings. In the short run, producers may have entered into cash and crop share rental agreements, which establish who receives government payments and how those payments are to be divided between the landowner and the tenant.

In this instance, the effects of further limitations on farm income would largely depend on the number of producers affected and the amount of either historical or current production that would no longer be eligible for payments. If further limitations apply to payments and benefits that vary with market prices, such as counter-cyclical payments and marketing loan benefits, the decline in farm income from further payment limitations would also vary depending on market conditions.

Assuming producers do not restructure further, current payment limitations are estimated to reduce direct payments by 1.6 percent annually. When market prices for eligible crops are near each crop's national average loan rate, current payment limits are also estimated to lower

counter-cyclical payments by 1.6 percent. In total, the two limits are projected to reduce government payments by about \$210 million when market prices for eligible crops are near each crop's loan rate and \$85 million annually when counter-cyclical payments fall to zero.

The 1996 Act authorized nearly \$5.2 billion in PFC payments for the 2000 crops and payments were limited to \$40,000 per person. Under the 2002 Act, direct payments are also projected to be about \$5.2 billion and are limited to \$40,000 per person. Since the limit and value of payments are nearly the same for PFC payments in 2000 and direct payments for the 2002-07 crops, the Commission requested that the FSA use the data on the distribution of 2000-crop PFC payments to analyze the effects of further payment limitations. Two alternative scenarios were analyzed. Under the first scenario, the payment limitation on 2000 PFC payments was reduced from \$40,000 to \$30,000. The FSA analysis indicated that the reduction in the payment limit to \$30,000 would have reduced 2000-crop PFC payments by \$264 million. A total of 37,314 producers (payees) would have payments reduced under this scenario.

The second scenario reduced the payment limitation on 2000-crop PFC payments from \$40,000 to \$20,000. Lowering the payment limit from \$40,000 to \$20,000 would have reduced payments to an estimated 74,610 producers and reduced 2000-crop PFC payments by \$792 million. The estimated reductions in payments under the \$30,000 and \$20,000 payment limit scenarios are in addition to the reduction in payments caused by the \$40,000 limit on PFC payments.

The analysis of FSA PFC payment data for 2000 indicates that if the per-person limit on direct payments is reduced from \$40,000 to \$30,000, and assuming producers reaching the limit on payments have the same organizational structure as in 2000, direct payments would be reduced by 5 percent or by \$255-\$275 million annually (table 5.1). Reducing the payment limit on counter-cyclical payments from \$65,000 to \$50,000 would lower counter-cyclical payments by about 5 percent or by \$400-\$425 million annually when market prices for eligible crops are at or below each crop's national average loan rate. Under these payment

Table 5.1. Estimated annual reduction (increase above current limits) in payments under various payment limits, assuming no further restructuring

Payment limit	Direct payments	Counter-cyclical payments ¹	Marketing loan benefits ²
	Million dollars		
Direct payments			
\$30,000	255-275		
\$20,000	780-800		
Counter-cyclical payments			
\$50,000		400-425	
\$35,000		1,100-1,200	
Marketing loan benefits			
\$75,000			400-500

¹ Assumes market prices are at or below each eligible crop's national average loan rate.

² Assumes market prices are at 1999-2001 levels.

Source: Commission estimates

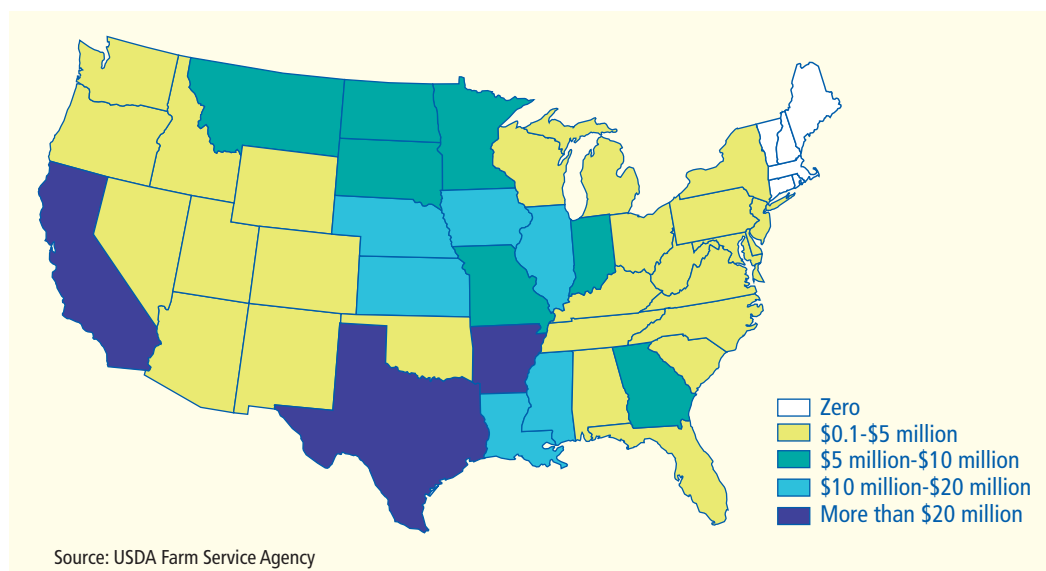
limits, the number of producers who would have payments reduced would increase to 35,000-40,000 or from about 1 percent under current payment limits to about 3 percent of all producers eligible to receive direct and counter-cyclical payments.

Lowering the payment limit on direct payments from \$40,000 to \$20,000 would reduce payments by 15 percent or by \$780-\$800 million annually. Assuming market prices for eligible crops are at or below each crop's national average loan rate, lowering the payment limit on counter-cyclical payments from \$65,000 to \$35,000 would reduce counter-cyclical payments an estimated \$1.1-\$1.2 billion or about 15 percent. The further reduction in payment limits would increase the number of producers reaching the payment limit to 75,000 or about 6 percent of all producers eligible for direct and counter-cyclical payments.

If marketing loan benefits, including certificate exchanges and loan forfeitures, were made subject to the current \$75,000 limitation on marketing loan benefits and market prices fell back to 1999-2001 levels, government payments could decline by as much as \$400-\$500 million or 4-5 percent annually. Again, the effects on government payments and farm income depend greatly on the level of market prices for crops eligible for marketing assistance loans, with the loss in income dropping off sharply as loan repayment rates approach each eligible crop's loan rate.

As noted in Chapter 4, the producers affected by payment limits produce a variety of crops and nearly every State has some producers whose payments are reduced because of payment limits. The FSA analysis on PFC payments for 2000 suggests that producers in 42 States would have payments reduced under current payment limitations. The number of States in which producers would have payments reduced could increase to 43 if the payment limit on direct payments or counter-cyclical payments is reduced by 50 percent (figures 5.1 and 5.2).

Figure 5.1. Reduction in payments under \$30,000 limit on 2000-crop PFC payments



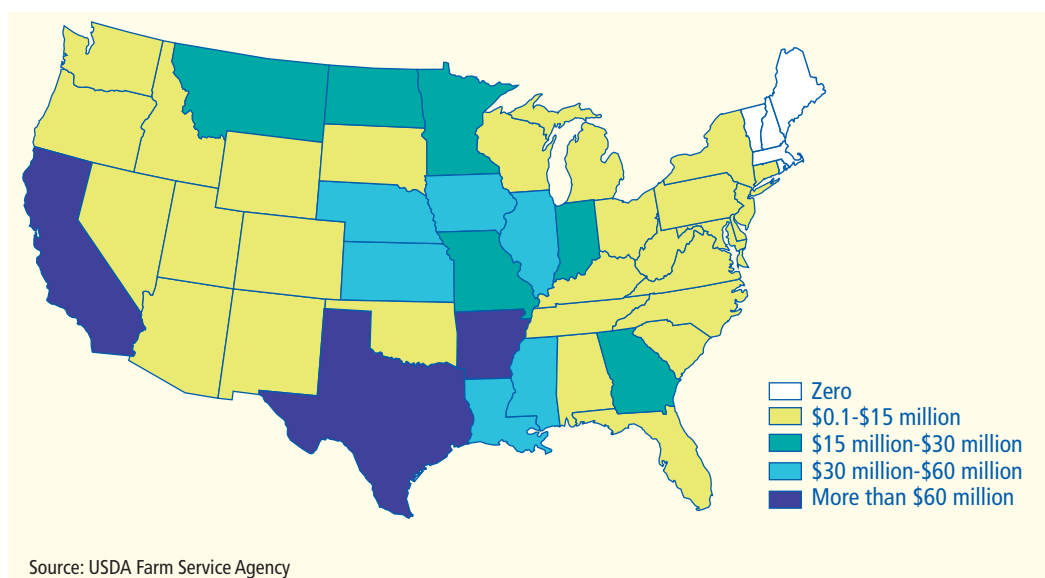
The FSA analysis of lowering the payment limit on 2000-crop PFC payments may provide an indication of the regional declines in government payments and farm income that would occur under further payment limitations for direct and counter-cyclical payments. As mentioned earlier, the value of PFC payments for the 2000 crops is nearly identical to the projected value of direct payments for the 2002-07 crops. In addition, the FSA data on payments to producers for the 2000 crops provide the best information available on the distribution of payments to producers eligible for direct and counter-cyclical payments. Since oilseeds were not eligible for PFC payments, lowering the payment limit on 2000-crop PFC payments likely understates the effects of further payment limits in areas where there is a high level of concentration of production of these crops.

The FSA analysis of lowering the payment limit on PFC payments indicates that lowering the payment limit from \$40,000 to \$30,000 on direct payments PFC could reduce payments to Texas producers by \$36 million, the most of any State (appendix table 5.1). California and Arkansas producers could have payments reduced by \$28 million and \$25 million, respectively. Producers in Illinois, Iowa, Kansas, Louisiana, Mississippi, and Nebraska could have direct payments reduced by \$10-\$20 million.

Lowering the payment limit from \$40,000 to \$20,000 on direct payments could lower payments to Texas producers by \$103 million and Arkansas and California producers could have payments reduced by \$70-\$80 million. Producers in Illinois, Iowa, Kansas, Louisiana, Mississippi, and Nebraska could have payments reduced by \$30-\$60 million.

Depending on the severity of the reduction in payment limits, many producers who in the past were unaffected by payment limits could see their payments reduced for the first time. In the short run, many of these producers may be unaware that their current business structure may dictate how much they are eligible to receive in government payments.

Figure 5.2. Reduction in payments under \$20,000 limit on 2000-crop PFC payments



The above estimates of the reduction in government payments from further limitations do not take into account any farm restructuring or adjustment in supply and prices of agricultural commodities that might occur under further payment limitations. Furthermore, as indicated earlier, the drop in government payments from further payment limitations could be partially offset by lower production expenses, reducing the decline in farm income. As mentioned earlier, those further payment limitations that reduce direct and counter-cyclical payments are expected to have much smaller effects on supply and prices of agricultural commodities than further payment limitations that reduce marketing loan benefits. As a result, the reduction in direct and counter-cyclical payments may closely approximate the short-run reduction in farm income that would occur under further limitations on direct and counter-cyclical payments.

There are no empirical estimates of how many producers could restructure or would choose to restructure under further payment limitations. In the short run, producers that have payments reduced under further payment limitations may be limited in their ability to restructure the farming operation and lessen the effects of further limitations on farm income. Nevertheless, there is no way to gauge how much restructuring may occur in the short or long run.

Long-run effects

To examine the long-run effects of further payment limitations, several example farms were constructed to illustrate the effects of further payment limitations and the actions producers might take in response to further payment limitations. These example farms included a 3,000-acre Midwest corn and soybean farm, a 4,500-acre Northern Plains wheat and barley farm, a 3,000-acre Mississippi cotton farm, a 2,000-acre Delta rice farm, and a 1,000-acre Georgia peanut farm (peanuts are generally produced in combination with other crops, but because peanuts have a separate payment limitation other crops are not included on this farm). These farms represent the largest 1 percent of farms in each region according to the 1997 Census of Agriculture. Each example farm is assumed to have two persons qualifying for payments. Market prices for determining counter-cyclical and marketing loan benefits are assumed to reflect the experience of 1999–2001, a period in which crop prices were generally low for a variety of reasons (good weather, strong dollar, slow world economic growth, etc.).

For the Midwest corn and soybean, Northern Plains wheat and barley, and Georgia peanut farms, payments are generally below the current payment limits for two persons of \$80,000 (\$40,000 per person) for direct payments and \$130,000 (\$65,000 per person) for counter-cyclical payments. The only exception is counter-cyclical payments for the Georgia peanut farm, which are estimated to exceed the limit for two persons by \$2,600. Lowering the payment limits to \$30,000 per person for direct payments and \$50,000 per person for counter-cyclical payments would not reduce payments going to the Midwest corn and soybean or the Northern Plains wheat and barley farms, while payments to the Georgia peanut farm would be reduced by \$30,000 or \$30 per acre (table 5.2). Since marketing loan benefits are projected to be less than \$150,000 for the Midwest corn and soybean farm, Northern Plains wheat and barley farm, and the Georgia peanut farm, limiting marketing loan benefits, including certificate exchanges and loan forfeiture, to \$75,000 per person would not reduce

marketing loan benefits to producers on these farms. Some large feed-grain, wheat, and oilseed farms would have payments and income reduced under further payment limitations by a larger amount than suggested by the three examples. Nevertheless, the example farms suggest that further payment limits may not lead to a sharp reduction in payments and income for many large feed-grain, wheat, and oilseed farms.

Further payment limitations would lead to a much sharper reduction in payments on the example cotton and rice farms. Assuming each farm has two persons, current limitations reduce direct payments by nearly \$51,000 on the 3,000-acre Mississippi cotton farm and by nearly \$84,000 on the 2,000-acre Delta rice farm. Current limitations lower counter-cyclical payments by nearly \$140,000 on the Mississippi cotton farm and by over \$13,000 on the Delta rice farm. Lowering per-person payment limits to \$30,000 for direct payments and \$50,000 for counter-cyclical payments would reduce payments going to both farms by \$50,000. The drop in payments would reduce per-acre net returns by 40 percent on the Mississippi cotton farm and 60 percent on the Delta rice farm.

Table 5.2. Effects of alternative payment limits and various example farms¹

	Current limits	\$30,000 limit on direct payments	\$30,000 limit on direct payments and \$50,000 limit on counter-cyclical payments	\$30,000 limit on direct payments, \$50,000 limit on counter-cyclical payments, and \$75,000 limit on marketing loan benefits
3,000-acre Midwest corn/soybean farm				
Government payments	265,533	264,843	264,543	264,843
Net cash income	372,783	372,093	372,093	372,093
Return per acre	124	124	124	124
4,500-acre Northern Plains wheat and barley farm				
Government payments	144,521	144,521	144,521	144,521
Net cash income	105,071	105,071	105,071	105,071
Return per acre	23	23	23	23
3,000-acre Mississippi cotton farm				
Government payments	487,200	467,200	437,200	310,000
Net cash income	125,700	105,700	75,700	-51,500
Return per acre	42	35	25	-17
2,000-acre Delta rice farm				
Government payments	479,500	459,500	429,500	310,000
Net cash income	82,500	62,500	32,500	-87,000
Return per acre	41	31	16	-44
1,000-acre Georgia peanut farm				
Government payments	258,400	258,400	228,400	228,400
Net cash income	192,400	192,400	162,400	162,400
Return per acre	192	192	162	162

¹ Each farm is assumed to have two persons qualifying for payments.

See appendix tables 5.2 to 5.6 for additional information.

Source: Commission estimates

If, in addition, marketing loan benefits, including the gains realized from using certificates and through forfeitures of marketing assistance loans, are limited to \$75,000 per person, payments going to the cotton and rice farms would be further reduced by more than \$100,000. For both farms, the lower payment limits on direct and counter-cyclical payments coupled with the \$75,000 per person limit on marketing loan benefits would cause returns per acre to go negative. Thus, under more restrictive payment limits, the cotton and rice farms could be under financial pressure unless they restructure. Cotton and rice farms of similar size in other regions would likely face similar financial pressure, and farms in areas with higher yields, such as those in Arizona and California, would have payments reduced more than the two example cotton and rice farms. Also, higher yielding grain and oilseed farms, such as those in irrigated areas, could have payments reduced much more than indicated by the example farms.

The Food and Agricultural Policy Research Institute (FAPRI) analyzed the possible implications of limiting a farm operation as defined by the Census of Agriculture to no more than \$40,000 in direct payments, \$60,000 in counter-cyclical payments, and \$175,000 in marketing loan benefits. FAPRI examined the effects of this stylized payment limitation scenario on the supply and prices of agricultural commodities, government payments, and farm income over the 2004-12 period. The assumptions supporting FAPRI's analysis are:

- The payment limit applies to a farming operation as defined by the Census of Agriculture.
- Producers are unable to avoid further limitations simply by “paper” reorganizations, certificates cannot be used to redeem marketing loans, and producers are prohibited from using loan forfeitures to avoid limitations.
- The size distribution of farms has changed since 1997 in much the same way as it changed between 1992 and 1997.
- The estimates of production ineligible for payment can be used to estimate both crop supply response and payments to producers.
- Limitations on direct payments have little effect on crop supplies, limitations on counter-cyclical payments have only a modest effect, and limitations on marketing loan benefits have much larger consequences.
- Producers adjust so that 50 percent of the acreage that would otherwise be ineligible for payments would retain eligibility for payments the first year and this proportion increases to 75 percent after 5 years.

In calendar year 2004, FAPRI estimates the stricter payment limits would reduce government payments by \$464 million or 2.5 percent and farm income by \$352 million or 0.7 percent (table 5.3). Farm income declines less than government payments as lower production costs, including rent paid to non-operators, more than offset lower crop marketing receipts. Over the period 2004-12, FAPRI projects government payments would decline on average

by \$435 million (2.5 percent) per year and farm income would drop by an average of \$238 million (0.5 percent) per year. The largest annual decline in government payments is projected to occur in 2005 with government payments declining by over \$700 million.

FAPRI indicates that the results of their analysis are very sensitive to the level of market prices, and the changes in government payments and farm income could be much more or less than indicated by the above averages. To indicate the sensitivity of the results to underlying assumption on market prices, FAPRI provided information on the likelihood that gov-

Table 5.3. FAPRI estimated average impacts of stricter payment limitations¹

	2004				2004-2012 Average			
	Current policy	Stricter limits	Absolute difference	Percentage difference	Current policy	Stricter limits	Absolute difference	Percentage difference
Crop area planted	Million acres				Million acres			
				Percent				Percent
Cotton	13.98	13.47	-0.51	-3.66%	13.65	13.45	-0.20	-1.48%
Rice	3.14	2.89	-0.25	-7.92%	3.14	3.07	-0.07	-2.23%
Corn	79.64	79.65	0.01	0.01%	80.72	80.70	-0.02	-0.03%
Soybeans	73.41	73.52	0.11	0.15%	73.67	73.71	0.03	0.04%
Wheat	62.01	61.99	-0.02	-0.04%	61.40	61.35	-0.05	-0.08%
Sorghum	9.68	9.74	0.06	0.61%	9.51	9.51	-0.01	-0.07%
6 major crops	241.85	241.25	-0.61	-0.25%	242.10	241.79	-0.32	-0.13%
Crop prices, marketing year	Dollars				Dollars			
Cotton/lb.	0.482	0.493	0.011	2.30%	0.514	0.520	0.006	1.13%
Rice/cwt.	4.845	5.243	0.399	8.23%	5.475	5.620	0.146	2.66%
Corn/bu.	2.097	2.096	-0.001	-0.04%	2.181	2.182	0.001	0.06%
Soybeans/bu.	5.008	4.999	-0.008	-0.17%	5.201	5.199	-0.002	-0.04%
Wheat/bu.	3.091	3.092	0.002	0.05%	3.230	3.232	0.002	0.07%
Sorghum/bu.	1.959	1.955	-0.004	-0.19%	2.060	2.062	0.002	0.07%
Government outlays, fiscal year	Million dollars				Million dollars			
Cotton	2,899	2,841	-57	-1.98%	2,513	2,321	-192	-7.63%
Rice	1,305	1,223	-82	-6.29%	1,142	1,044	-98	-8.60%
Corn	4,954	4,926	-28	-0.57%	5,304	5,225	-79	-1.49%
Soybeans	2,163	2,156	-8	-0.36%	2,044	2,032	-12	-0.59%
Wheat	2,290	2,269	-21	-0.91%	2,124	2,084	-40	-1.89%
Sorghum	393	389	-4	-0.94%	413	404	-9	-2.11%
Net CCC+Conservation	19,933	19,733	-200	-1.00%	19,952	19,520	-431	-2.16%
Farm income, calendar year	Million dollars				Million dollars			
Government payments	18,832	18,368	-464	-2.46%	17,648	17,213	-435	-2.47%
Crop marketing receipts	103,408	103,302	-106	-0.10%	112,767	112,761	-6	-0.01%
Other income plus inventory change	134,222	134,092	-130	-0.10%	138,446	138,423	-22	-0.02%
Rent to non-operators	13,135	13,047	-89	-0.68%	14,108	13,998	-110	-0.78%
Other production costs	194,165	193,906	-259	-0.13%	205,316	205,202	-114	-0.06%
Net farm income	49,162	48,810	-352	-0.72%	49,437	49,198	-238	-0.48%
	Dollars per acre				Dollars per acre			
Land value, end of year	1,335.21	1,332.71	-2.50	-0.19%	1,485.32	1,479.55	-5.78	-0.39%

¹ Results represent average of stochastic results for 500 alternative futures.

ernment payments and other variables would fall within a prescribed range. FAPRI indicated that during the period FY 2004-12 average annual government payments are projected to fall by \$325 to \$600 million 95 percent of the time under their stylized payment limit scenario.

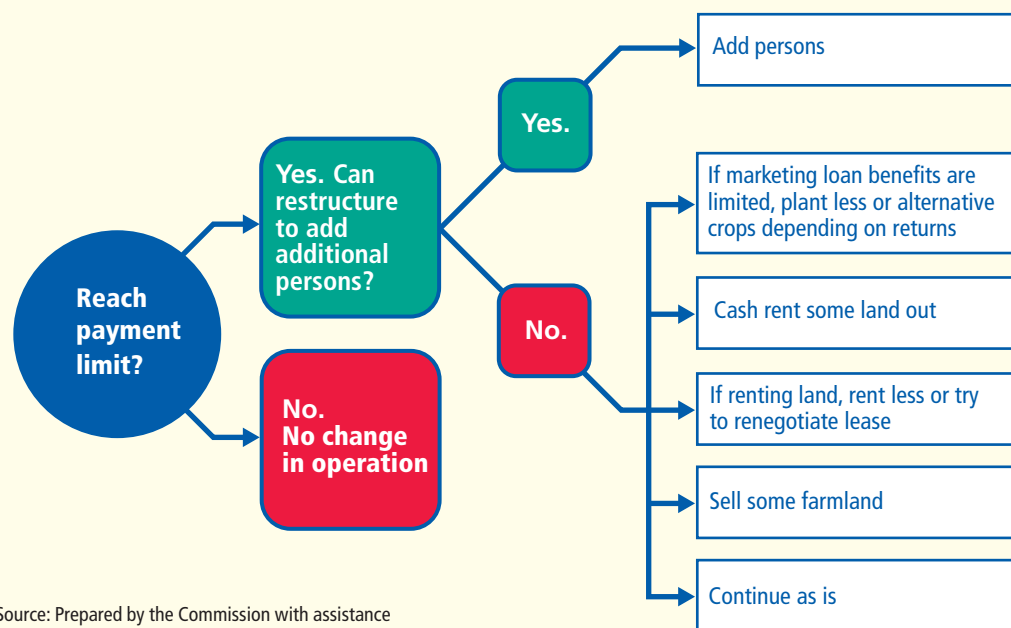
Assuming the same payment limitation applies to all crops, a higher percentage of upland cotton and rice producers would be affected by further limitations, and payments to these producers would likely decline by a larger percentage than payments to producers of other crops. Under FAPRI's stylized scenario, 44 percent of rice, 23 percent of cotton, and 1-3 percent of grain and oilseed Census of Agriculture farms would have payments reduced if direct payments were limited to \$40,000, counter-cyclical payments were limited to \$60,000, and marketing loan benefits were limited to \$175,000.

Over time, lawyers, consultants, business analysts, and affected producers may develop a range of strategies to restructure farming operations to lessen the effects of further payment limits. These strategies could involve adding additional partners or other entities to the farming operation, thereby increasing the number of persons eligible for payments and the amount of payments going to the farm operation.

Another strategy by owner-operators to reduce the effects on farm income of further payment limitations would be to try to recapture any loss in payments through cash or crop-share rental agreements (figure 5.3). Alternatively, an owner-operator could choose to sell the acreage subject to further limitations. For many of those affected by further payment limitations, selling or renting out land may be a difficult decision.

If a producer cash rents most of the land being farmed and is affected by further payment limitations and unable to add persons to the operation, the producer may choose to operate less land, share rent with the landowner, or try to negotiate a lower cash rental rate (figure

Figure 5.3. Payment limit decisions for an owner-operator



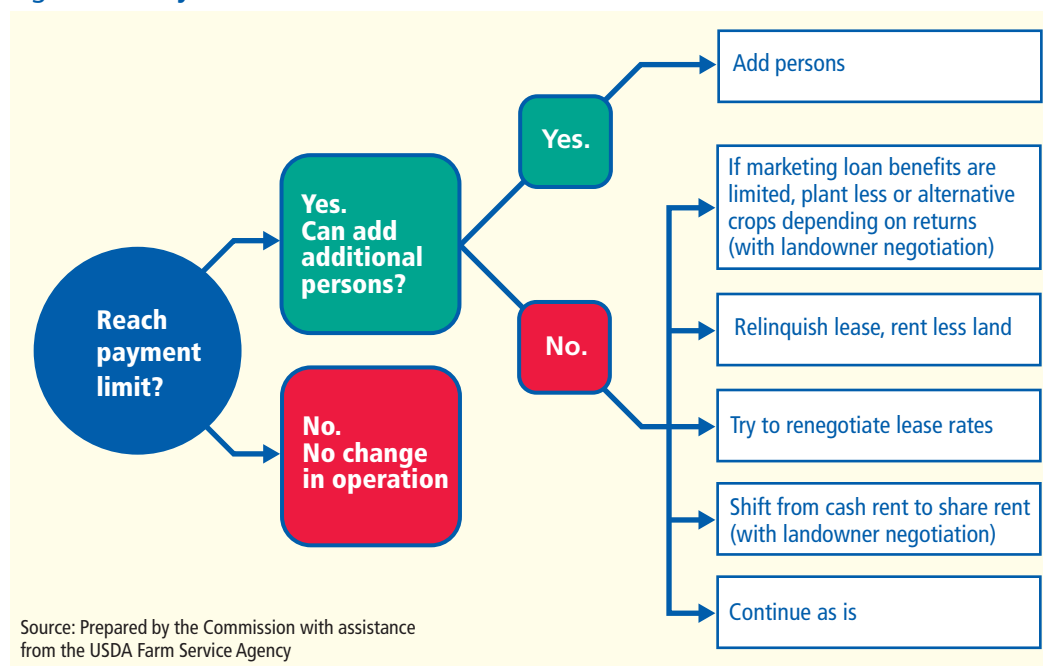
Source: Prepared by the Commission with assistance from the USDA Farm Service Agency

5.4). Lowering the amount of rent paid or the portion of the crop going to the landowner under a crop share lease could put the renter who reaches the payment limitation at a competitive disadvantage relative to other renters. If the landowner chooses not to share rent or reduce the cash rent, the landowner could seek out another renter who is not subject to further payment limitations, not grow a crop and, if eligible, receive direct and counter-cyclical payments, or, if practical, farm the land and be eligible for direct and counter-cyclical payments and marketing loan benefits.

A share-rent landowner who is affected by further payment limitations may be able to add persons by transferring some of the land to a family member or someone else (figure 5.5). Alternatively, the share-rent landowner could shift from share rent to cash rent on some of the land, sell some farmland, or try to renegotiate the lease. The ability of the landowner to renegotiate the lease would depend on the strength of the land rental market, which varies considerably from region to region.

Landowners who cash rent out their land and whose tenant is affected by further payment limitations could elect under further payment limitations not to rent and receive direct and counter-cyclical payments so long as the landowner keeps the land in agricultural uses. During a period of low prices, direct and counter-cyclical payments for rice and to a lesser extent for upland cotton may be large enough to cause some landowners to decide not to rent out their land, as evidenced in rice areas in Texas in recent years (ERS rice study). This option could become more appealing to some landowners in some high-cost producing areas, especially if increasing numbers of renters have payments reduced because of further payment limitations. In this instance, the payments that previously went to the farm operator would now go to the landowner.

Figure 5.4. Payment limit decisions for a tenant

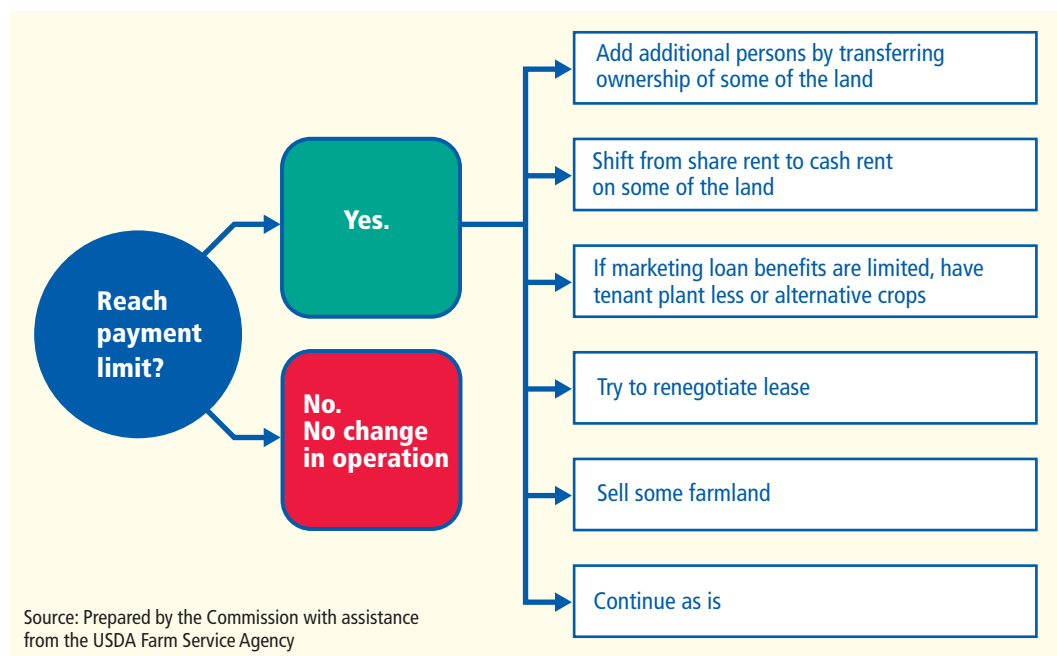


In many instances, payments would be redistributed from producers affected to producers unaffected by further limits, partially negating the effects of further payment limits on government payments and aggregate farm income. In addition to payments being redistributed, the sharing of production and price risk also may be affected by further payment limitations. For example, a share-rent landowner reaching the payment limit could decide to cash rent, shifting more of the production and price risk to the renter.

Producers affected by further payment limitations could alter their farming operation by reducing production of crops that receive government payments and planting more profitable crops that either are not eligible for government payments or that have per-acre payments that are lower than the crops currently produced. These shifts in crop acreage could increase cash receipts and lower payments for those crops in which farmers reduce acreage and lower cash receipts and raise payments for those crops in which farmers increase acreage. These effects are discussed later in this chapter.

If the most efficient producers reduce production in response to further payment limitations, economic efficiency could be reduced, although the principal effect is expected to be a reduction in the profits attributed to economies of scale. However, smaller, less efficient producers may expand production as they purchase or rent additional land from those affected by further payment limitations and in the process become more efficient. Presently, there is not sufficient information on how farms might adjust to further payment limitations or on cost differences by farm size to reach a conclusion as to the effects of further payment limitation on economic efficiency (Gardner).

Figure 5.5. Payment limit decisions for a share-rent landowner



Conclusions

- Past studies indicate that for each \$1 billion reduction in government payments farm income declines by \$600-\$900 million. The magnitude of the decline in farm income would depend on the reduction in the various limits, the payments affected by further payment limitations, the effects on crop supplies and prices, and the extent to which affected producers may be able to restructure and lessen the effects of further limits. A payment limit that reduces decoupled payments tends to lead to a greater reduction in farm income than a payment limit that reduces payments tied to current production.
- Initially, producers affected by further payment limits may have limited opportunity and limited information on which to develop a restructuring plan that lessens the effects of further limits on payments and farm income. Over time, many affected producers in consultation with business advisors, lawyers, and others are likely to develop a range of strategies to lessen the effects of further payment limitations.
- In 2000, PFC payments of nearly \$5.2 billion were authorized and payments were limited to \$40,000 per person. Since direct payments are projected to be \$5.2 billion annually and subject to a \$40,000 limit, FSA data on the distribution of PFC payments for 2000 were used to analyze the effects of further payment limits. Based on the FSA data for 2000, reducing the limit on direct payments from \$40,000 to \$30,000 and assuming producers reaching the limit do not restructure further, direct payments would be reduced by \$255-\$275 million or 5 percent per year. Reducing the limit on counter-cyclical payments from \$65,000 to \$50,000 could lower counter-cyclical payments by as much as \$400-\$425 million or 5 percent annually, assuming prices are at or below each eligible crop's loan rate. These reductions in payments would be in addition to savings under current payment limits.
- Reducing the payment limit on direct payments to \$30,000 would likely increase the number of producers reaching the payment limit from about 12,300 currently to 35,000-40,000. A similar number of producers would reach the limit on counter-cyclical payments if the limit were reduced from \$65,000 to \$50,000 and crop prices fell back to 1999-2001 levels.
- Lowering the limit on direct payments to \$20,000 and counter-cyclical payments to \$35,000 could reduce direct payments by \$780-\$800 million annually and counter-cyclical payments by as much as \$1.1-\$1.2 billion annually. The lower payment limits would reduce payments by about 15 percent. The number of producers reaching the payment limit on direct payments would increase to about 75,000 or 6 percent of all producers eligible for direct and counter-cyclical payments.
- If marketing loan benefits, including certificate exchanges and loan forfeitures, are limited to \$75,000 and assuming no supply response, marketing loan benefits could decline by as much as \$400-\$500 million annually.

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- The decline in government payments resulting from limits on counter-cyclical payments and marketing loan benefits is extremely sensitive to the level of market prices. As market prices increase, the decline in payments and farm income from further payment limits drops off sharply. Conversely, as prices decline, payments increase, providing an income safety net, but further payment limitations would tend to reduce the safety net that is provided to some, or perhaps, many producers.
 - Generally, payment limits more adversely affect the incomes of cotton and rice producers than feed-grain, oilseed, and wheat producers. And, it would appear that further payment limitations could put financial pressure on upland cotton and rice farms unless they are able to restructure. Even so, further payment limitations would also lower payments and incomes of many large feed-grain, wheat, and oilseed farms. Nearly every State would have some producers that would have payments and incomes reduced under further payment limits.
 - In the short run, producers in some regions previously unaffected by payment limits may be unaware that their current business structure may dictate how much they are eligible to receive in government payments. They also may be unaware of viable restructuring options that would lessen the effects of further payment limits.
 - Producers affected by payment limits have a number of options for mitigating the effects of payment limits on farm income. Options available to owner-operators include increasing the number of persons eligible for payments, increasing the acreage cash rented, or selling some or all of the acreage for which the producer is ineligible for payments because of payment limits. In many instances, payments would be redistributed from the producers affected to producers unaffected by further payment limits, partially negating the effects of further payment limits on government payments and aggregate farm income. Also, any further limitation could affect who shares in production and price risk.
 - Producers who rent land and have their payments reduced because of further payment limits would likely be unable to compete with other renters for that land on which they are no longer eligible to receive payments. In addition, landowners could elect to not grow a crop and collect direct and counter-cyclical payments rather than leasing the land out.
 - During a period of low prices, direct and counter-cyclical payments for rice and to a lesser extent for upland cotton may be large enough to cause some landowners to decide not to rent out their land. This option could become more appealing to landowners if increasing numbers of renters have payments reduced because of further payment limitations. In this instance, a large portion of the payments previously going to the farm operator would go to the landowner.
 - Payment limitations affect the largest producers and these producers generally have lower per-unit production costs than other producers. Smaller, less efficient producers may expand production and become more efficient under further payment limitations. Lack of

information on how farms might adjust to further payment limitations and on cost differences by farm size prevent reaching any conclusion on the effects of further payment limitations on economic efficiency.

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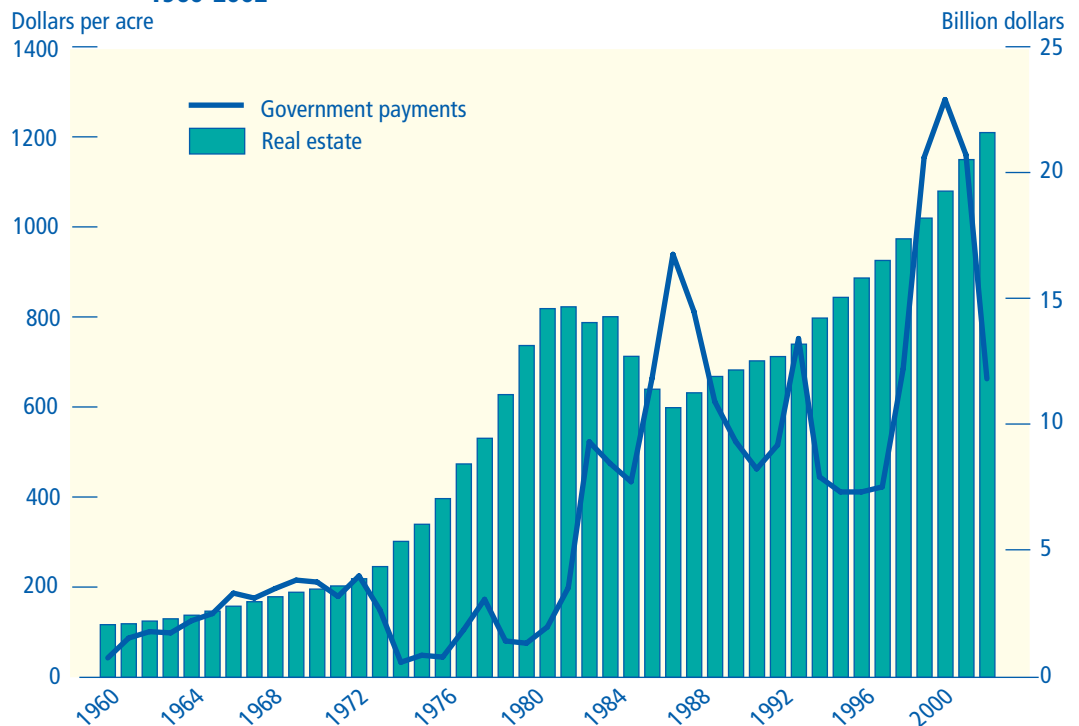
Effects of Further Payment Limitations on Farmland Values

Background

Farm real estate, essential for agricultural production, is a crucial factor affecting the equity and well-being of farm households. Today, land in farms accounts for over one-half of the total area of the contiguous 48 States. Most farms continue to be owned by the operator; however, these wholly owned farms are smaller than the national average farm size and thus account for only about one-third of the total land in farms. Producers who rent all or a portion of the land they farm account for the remaining two-thirds of the land in farms. About 40 percent of all the land in farms is rented out by landowners who are not directly engaged in farming. Thus, much of the benefits of higher land values go to landowners, many of whom are not directly involved in the production of agricultural products.

This section uses the term “non-operator landlords” to be consistent with the farm operator concept used by USDA in reporting economic data on farms and farm operator households. A farm operator is the person who makes the day-to-day management decisions on the farm, and there is one primary operator per farm. For the purposes of payment limits, non-operator landlords may not make the day-to-day management decisions on the farm, but they may be actively engaged in agriculture and eligible for farm program payments, if they own the land and share in the risk of production by receiving rent in the form of the crop produced on the land. Many non-operator landlords have a strong association with agriculture—29 percent live on the farm rented out and another 28 percent live within 5 miles (Barnard et al. 2001).

Figure 5.6. Average value of U.S. farm real estate and direct government payments, 1960-2002



Source: USDA Economic Research Service and USDA National Agricultural Statistics Service

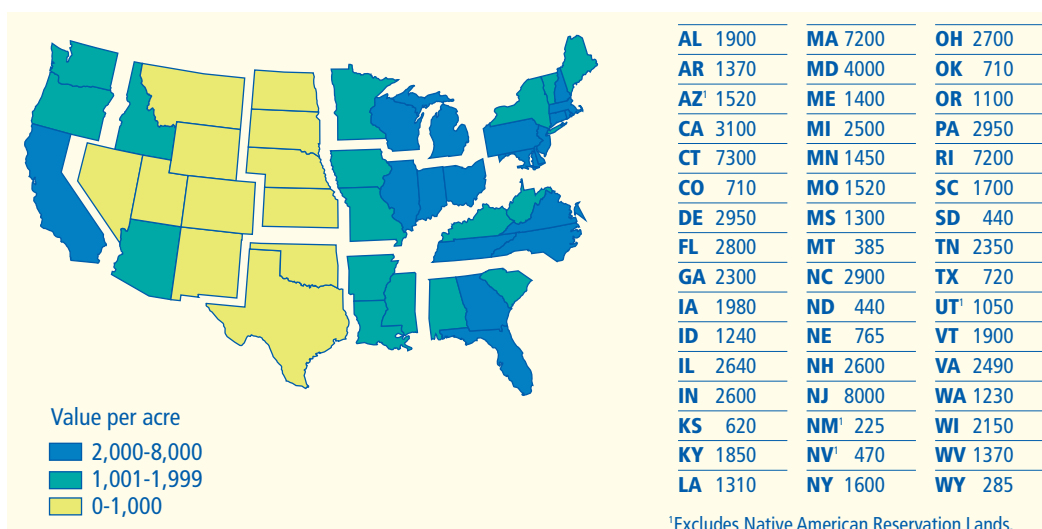
As a productive asset, the land generates income in the form of rental payments to the non-operator landlord and in the form of returns to the land from the sale of agricultural products for the owner-operator. Landlords usually receive a cash rental payment (cash rent) or a share of the crop (share rent) from the renter in exchange for the right to produce crops on the land.

The value of U.S. farmland at the end of 2002 is estimated at \$1,039 billion, accounting for nearly 80 percent of the total asset value of farms. The value of farmland has steadily risen since the farm credit crisis of the mid-1980s (figure 5.6). Farmland increased at an annual average rate of 4 percent during the 1990s and rose 4 percent last year.

The value of an income-producing asset generally is expected to reflect the present value of the anticipated income that can be earned from that asset over its life, which for land is long into the future. The present value of the expected income stream from owning farmland depends on the market value of the products that can be produced on the land each year into the future, other income, including government payments, that may be associated with the land, the cost of production, the cost of maintaining the land and adhering to any regulations related to the use of the land, and the discount rate or rate of interest. These concepts depend on many factors, such as yield per acre or productivity, land quality, production risks, expected future market prices of farm products, expected future prices of production inputs, expected environmental requirements, expected government farm program payments or benefits, and others (e.g., Roka and Palmquist, Gardner).

The value of farmland is also influenced by its value in nonagricultural uses. For example, the value of farmland may exceed the present value of the expected income stream in agricultural use if the land has a greater expected value for its use in a housing development, a commercial business, recreational use, or other such nonfarm uses. ERS estimates that urban influence affects the value of an estimated 17 percent of U.S. farmland (Barnard, 2001). Because there are many factors that influence the value of farmland, farmland values vary substantially by region (figure 5.7) and the relationship with total government payments is quite variable as reflected in figure 5.6.

Figure 5.7. Average value per acre of farm real estate, January 1, 2002



Source: USDA National Agricultural Statistics Service

A number of studies have examined government payments as a factor in explaining farmland values. The logic for how land values are affected by government payments is generally this: if government payments are directly associated with the land, then returns from investing in that land would be higher than investing in other land, and a land buyer would be willing to pay more for the land that is directly eligible for government payments. The effects of government payments on farmland values are particularly strong when the eligibility to receive farm commodity program payments is attached to specific land or the production of specific crops, payments make up a substantial portion of producers' net returns, and payments are expected to continue several years into the future.

Farmland is often the principal source of collateral for farm loans. Higher farmland values increase the wealth of those who own farmland, enabling farm operators who own farmland to more readily finance operating expenses and the purchase of additional land and equipment. But, higher farmland values increase the amount of capital needed to purchase farmland, making it more difficult for farmers with limited assets to obtain the financing needed to expand their farming operation. In addition, higher farmland values may be of little benefit to operators farming mostly rented land.

In early 1997, professional farm managers indicated that in areas where competition for rental land was intense, PFC payments were almost immediately captured by landowners and reflected in rental rates and land values. Given the intense competition for leased land in many areas, tenants operating on cash leases found their lease rates being bid up until the landowner had captured most of the tenant's share of PFC payments. Producers with share leases reported that some landowners reduced their share of expenses, retained a larger crop share, or converted from share leases to cash leases. However, in areas where competition for rental land was less intense, tenants retained much of their PFC payments (Ryan et al). Goodwin and Mishra estimate that each additional dollar per acre of PFC payments increased U.S. average rents by \$0.81 to \$0.83 per acre during 1998-2000.

Barnard et al. (2001) estimated that \$62 billion or 20 percent of the value of the land producing the 8 major program crops (wheat, rice, corn, sorghum, barley, oats, soybeans, and cotton) was due to PFC payments, market loss assistance, disaster payments, and marketing loan benefits under the provisions of the 1996 Act and subsequent disaster legislation. The study also found that most of the increase in land values due to government payments accrued to non-operator landlords, since they owned over 60 percent of the land planted to the 8 major program crops. Another study examined the likely effect of a permanent decoupled payment of \$6 billion per year, similar to production flexibility contract payments or direct payments, and concluded that average U.S. farmland values would be 8 percent higher (Burfisher and Hopkins).

The effects of farm commodity payments on cropland values vary geographically, reflecting differences in relative productivity, cost of production, payments for crops eligible for direct and counter-cyclical payments and marketing loan benefits, and the influence of nonagricultural uses on farmland values. A number of counties do not produce any crops eligible for direct and counter-cyclical payments and marketing loan benefits, and thus do not receive any farm commodity payments. Regions receiving the largest amount of direct and counter-cyclical payments and marketing loan benefits in 2001 were the Corn Belt, Delta,

Plains, and West Coast. Barnard et al. (2001) found that farm commodity program payments raised the value of the land producing the 8 major program crops by nearly 25 percent in the Corn Belt and the Plains States and about 15 percent in the Delta, but 10 percent or less in the Northeast, Southeast, and most Western States.

Discussion

Since government payments raise land values and cash rents, further payment limitations would likely lower land values and cash rents by some amount. The magnitude of the change in land values and cash rents would depend on the reduction in the various payment limits, the effects on production and prices of agricultural commodities, the strategies selected by those affected by further payment limits, and the competition for land in agricultural and nonagricultural uses. The effects of further payment limitations on land values and cash rents are expected to vary considerably from region to region, reflecting regional differences in land markets and the number of producers and amount of payments affected by further limitations.

Currently, about 1 percent of all producers have payments reduced under current payment limits. In other words, 99 percent of all producers are not affected by current payment limits. Since the vast majority of producers are unaffected by current limits and their earnings from additional land purchases would include government payments, it is very unlikely land values and cash rents are reduced by current payment limits. A possible exception could be upland cotton and rice acreage in some areas. About 2 percent of upland cotton producers and 5 percent of rice producers have payments reduced under current limits, and in some areas the percentage is much higher. In 2000, 14 percent of Arizona producers, and 10 percent of California producers, 4 percent of Arkansas producers, and 3 percent of Mississippi producers reached the \$40,000 limit on PFC payments. In all of the remaining States, less than 2 percent of producers reached the limit on PFC payments. The majority of producers reaching the payment limit in Arizona, California, Arkansas, and Mississippi were upland cotton and rice producers. Still, the vast majority of producers in these States were unaffected by payment limits.

Under further payment limitations, increasing numbers of producers could have payments reduced. As more and more producers have their payments reduced, competition for land could decline, leading to lower cash rents and land values. Landowners whose payments are reduced because of payment limits would be ineligible to receive payments on purchased land. For those operators who rent land and whose payments are reduced by further payment limitations, the amount of rent they would be able to pay would decline unless they accepted a reduced return. As a result, further payment limits could reduce the extent to which government payments become capitalized into cash rents and land values.

Further payment limits may have little effect on cash rents and land values when averaged over all regions, for a variety of reasons. As mentioned earlier, land values in many areas are influenced by nonagricultural uses and in certain areas crops eligible for direct and counter-cyclical payments and marketing loan benefits are either not grown or make up a relatively small proportion of total farmland. In these areas, it is very unlikely that further payment limitations would reduce cash rents and land values.

In areas that primarily grow crops eligible for government payments, the effects of further payment limits would depend on the number of producers affected by further limits, the reduction in payments, and importance of government payments in determining the value of farmland and cash rents. The FSA analysis of lower payment limits on 2000-crop PFC payments suggests that reducing the payment limit on direct payments from \$40,000 to \$30,000 per person would increase the percentage of producers whose payments are reduced because of payment limitations from about 1 percent currently to about 3 percent, assuming producers do not restructure further. The 3 percent of producers who would have payments reduced under a \$30,000 limit on direct payments account for an estimated 25-30 percent of the value of program crop production. Lowering the payment limit on direct payments to \$20,000 per person would increase the percentage of producers whose payments are reduced to about 6 percent. These farms are estimated to account for 40-50 percent of the value of program crop production. The substantial share of the value of program crop production on farms subject to

Figure 5.8. Percentage of producers having payments reduced under \$30,000 limit on 2000-crop PFC payments

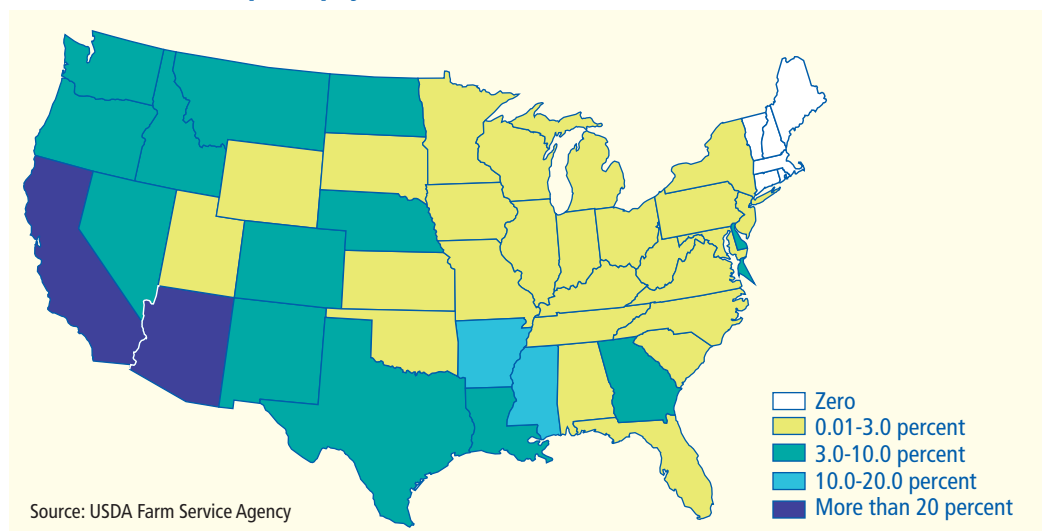
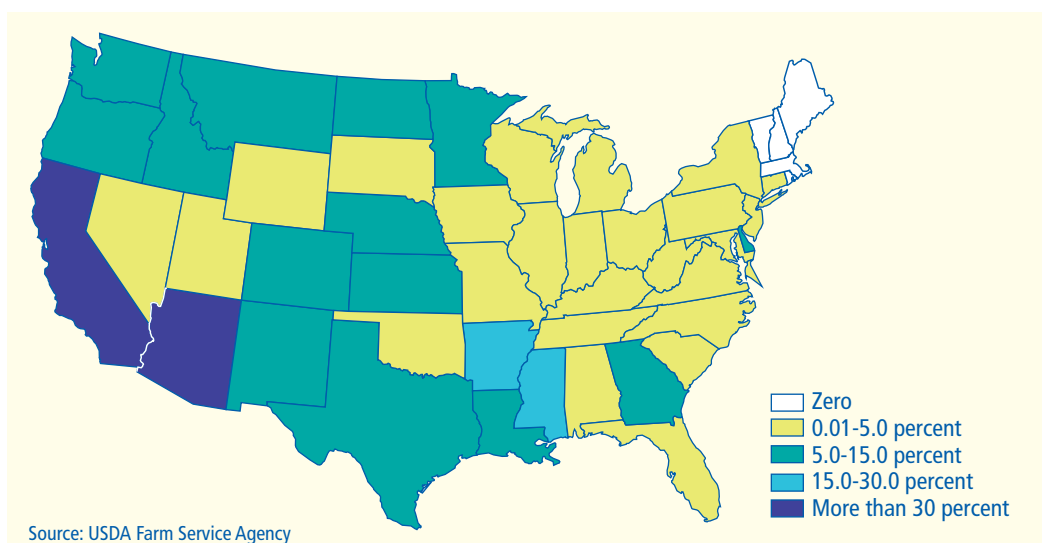


Figure 5.9. Percentage of producers having payments reduced under \$20,000 limit on 2000-crop PFC payments



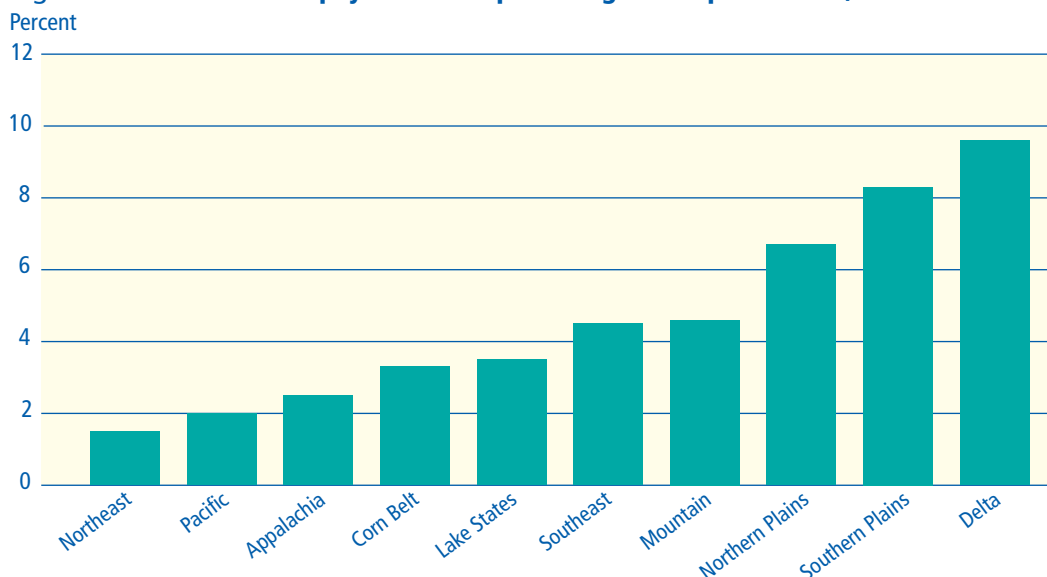
further payment limits could reduce the competition for land to produce program crops and land values, especially in areas where a high percentage of the cropland is devoted to program crop production.

Assuming affected producers do not restructure their farming operations, the percentage of producers reaching the payment limit in some States could rise sharply under further payment limitations, causing cash rents and land values to decline. For example, lowering the limit on direct payments from \$40,000 to \$30,000 could raise the percentage of Arizona and California producers reaching the limit on direct payments to 30 percent or higher (figure 5.8). Producers reaching the limit on direct payments in these two States could account for over 60 percent of the value of program crop production in these two States. If the limit on direct payments was reduced to \$20,000, over three-fourths of Arizona producers could have payments reduced and nearly one-half of California producers, and these producers could account for over 85 percent of the value of program crop production (figure 5.9). In these two States, competition for land for the production of nonprogram crops and nonagricultural uses may limit the decline in land values under further payment limits.

Increasing numbers of producers in States other than Arizona and California would also have their payments reduced under further payment limits. Further payment limitations could reduce cash rents and land values more in the Plains and Delta than in other regions. In these two regions, government payments are an important source of income and cropland is primarily used in the production of program crops. In 2001, government payments averaged 5 percent or less of total cropland value in all regions except the Northern Plains, Southern Plains, and Delta (figure 5.10). Within these three regions, the effects of further payment limits would be more pronounced in areas in which there is little competition for land for the production of nonprogram crops and nonagricultural uses.

Northeast	CT, DE, ME, MD, MA, NH, NJ, NY, PA, RI, VT
Pacific	CA, OR, WA
Appalachia	KY, NC, TN, VA, WV
Corn Belt	IL, IN, IA, MO, OH
Lake States	MI, MN, WI
Southeast	AL, FL, GA, SC
Mountain	AZ, CO, ID, MT, NV, NM, UT, WY
Northern Plains	KS, NE, ND, SD
Southern Plains	OK, TX
Delta	AR, LA, MS

Figure 5.10. Government payments as a percentage of cropland value, 2001¹



¹Payment data for calendar 2001 from ERS; cropland value for 2002 from NASS.

Barnard et al. (2001) estimate that government payments in the Northern Plains, Southern Plains, and Delta account for 15-25 percent of the value of cropland and about 10 percent of the value of cropland in Arizona and California. Since further payment limits would not completely eliminate all payments, farmland values would certainly fall by less than 15-25 percent in the Plains and Delta and by less than 10 percent in Arizona and California under further payment limits. In addition, the extent to which further payment limits reduce farmland values would also depend on the ability of producers to restructure their farming operations and lessen the decline in payments. As indicated in the previous section, producers may have limited opportunity to restructure in the short run. In the long run, increasing numbers of producers may find ways to restructure, lessening the effects of further payment limits on farm income, cash rents, and farmland values.

Economists invited to testify before the Commission concluded that farmland prices would decline under further payment limits, but that the declines would be variable (Sumner) and likely modest overall (Gardner, Ray, and FAPRI). FAPRI estimated the effects on land values and cash rents of payment limits of \$40,000 for direct payments, \$60,000 for counter-cyclical payments, and \$175,000 for marketing loan benefits (with no loan forfeiture gains above this level) per farm. Under this payment limit scenario, FAPRI estimated that land values would average 0.39 percent lower and rental rates would average 0.78 percent lower nationally during 2004-12 (table 5.4). On average, FAPRI estimates land values would decline by about \$6 per acre and the decline is estimated to range from slightly over \$4 to about \$8 per acre with 95 percent confidence. The largest regional declines in land values and rental rates were predicted to occur in the Delta, Southern Plains, Far West, and Southeast. In each of these regions, FAPRI projected land values would decline on average by 0.78 percent or more and rental rates would fall on average by 1.57 percent or more during 2004-12. In all of the remaining regions, land values on average were projected to fall by 0.22 percent or less and rental rents on average were projected to fall by 0.44 percent or less.

Table 5.4. FAPRI's estimates of stricter payment limitations on land values and rental rates¹

	Land values		Rental rates	
	2004	2004-12 average	2004	2004-12 average
	Percentage change from baseline			
United States	-0.19	-0.39	-0.68	-0.78
Corn Belt	-0.09	-0.18	-0.33	-0.37
Central Plains	-0.11	-0.22	-0.39	-0.44
Delta States	-0.49	-1.18	-1.79	-2.38
Far West	-0.38	-0.85	-1.36	-1.72
Lake States	-0.09	-0.17	-0.31	-0.34
Northeast	-0.09	-0.19	-0.34	-0.39
Northern Plains	-0.10	-0.20	-0.37	-0.41
Southeast	-0.39	-0.78	-1.39	-1.57
Southern Plains	-0.49	-1.02	-1.76	-2.05

¹Limitation of \$40,000 in direct payments, \$60,000 in counter-cyclical payments, and \$175,000 in marketing loan benefits per Census of Agriculture farm. Results assume producers adjust so that 50 percent of acreage otherwise ineligible remains eligible for payments in the first year, rising to 75 percent in 5 years.

Government payments increase land values and cash rents. Since land is used as collateral to finance purchases of farmland and equipment, some argue that farm programs promote the growth of large farms, and the competitive advantages of large farms are putting financial pressure on small and medium-size farms. Others counter that the competitive advantages of large farms are not enhanced by government payments and growth in large farms largely reflects the efficiencies that can be garnered through larger operations. Large operations would exist in the absence of government programs because of their increased efficiencies. This group also argues that government payments help to support small and medium-size farms and this support leads to more small and medium-size farms and less concentration in agriculture. Farm structural issues are examined further in the next section.

Conclusions

- About 40 percent of all farmland is rented out by landowners who do not operate farms (non-operator landlords). Thus, a substantial portion of benefits of higher land values and cash rents go to individuals who are not directly involved in the production of agricultural products.
- The value of farmland depends on the market value of the products that can be produced on the land in the future, the cost of producing those products, other income, including government payments that may be associated with owning the land, the value of the land in nonagricultural uses, and the discount rate.
- Higher farmland values increase the wealth of those who own farmland, enabling them to more readily finance the purchase of additional land. Higher farmland values may also make it more difficult for farmers with limited resources to purchase cropland.
- In areas where competition for rental land is intense, government payments are almost immediately captured by landowners and reflected in rental rates. In areas where competition for rental land is less intense, rental rates are slower to adjust and tenants may retain some of the benefits of government payments.
- Government payments in the form of direct payments, counter-cyclical payments, and marketing loan benefits affect the value of farmland and land rents. Several studies indicate that government payments in recent years have increased farmland values nationally by 15-25 percent. The effects on farmland values vary regionally reflecting regional differences in productivity, cost of production, payments for crops eligible for direct and counter-cyclical payments and marketing loan benefits, and the influence of nonagricultural uses on farmland values.
- Under further payment limitations, more producers could have payments reduced, which could reduce competition for land, leading to lower cash rents and land values. The effects of further payment limitations on land values are likely to vary considerably from region to region, reflecting regional differences in land markets and rental arrangements, and the number of producers and the amount of payments affected by further limitations.

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- Further payment limits may have little effect on farmland values when averaged over all regions. Land values in many areas are influenced by nonagricultural uses and crops eligible for direct and counter-cyclical payments and marketing loan benefits are either not grown or account for a small portion of total cropland. In many areas that primarily grow crops eligible for government payments, further payment limitations may not affect enough producers to materially reduce competition for farmland, helping to maintain land values.
 - Assuming affected producers do not restructure their farming operations, the percentage of producers reaching the payment limit could rise sharply in some regions under further payment limitations, causing cash rents and land values to decline. In Arizona and California, the percentage of producers reaching the limit on direct payments could rise to 30 percent or more if the payment limit on direct payments is reduced from \$40,000 to \$30,000 and 50 percent or more of producers could have payments reduced if the limit on direct payments is lowered to \$20,000 per person. In these two States, competition for land for the production of nonprogram crops and nonagricultural uses may limit the decline in land values under further payment limits.
 - Increasing numbers of producers in States other than Arizona and California would also have their payments reduced under further payment limits. Further payment limitations could reduce cash rents and land values more in the Northern Plains, Southern Plains, and Delta States than in other regions. In these three regions, government payments are an important source of income and cropland is primarily used in the production of program crops.
 - FAPRI estimated that land values would average 0.39 percent lower and rental rates would average 0.78 percent lower nationally during 2004-12, if each Census of Agriculture farm was limited to receiving \$40,000 in direct payments, \$60,000 in counter-cyclical payments, and \$175,000 in marketing loan benefits. The largest regional declines in land values and rental rates were predicted to occur in the Delta, Southern Plains, Far West, and Southeast, with land values declining 0.78 percent or more and rental rates declining by 1.57 percent or more in each of these regions.

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Effects of Further Payment Limitations on Rural Communities and Agribusiness Infrastructure

This section evaluates the implications of further payment limitations for rural communities and agribusiness infrastructure. In the following discussion, rural areas are defined as outside of metropolitan areas. Metropolitan areas are counties having at least one city of at least 50,000 residents, or are urbanized areas as determined by the Census Bureau, and include counties that are economically tied to metropolitan counties. The effects of further payment limits on a rural area and its infrastructure depend on the effects of the further limits on farm income, land values, and agricultural production, and the importance of these factors to the overall economic activity of the area, as well as economic opportunities off the farm.

Background

Rural America consists of about 80 percent of the Nation's land and in 2001 was home to 56 million people, about 20 percent of the U.S. population (Hamrick). Throughout much of the Nation's history, the term "rural" was interchangeable with agriculture. Today, many rural areas continue to be defined by agriculture, both in terms of its visibility on the landscape and its contribution to economic activity and growth. However, rural areas differ widely across the United States in terms of population density, available resources, income levels, and sources of economic growth, including farming (Gale). In the 20th century, the farm economy grew much more slowly than the nonfarm economy, progressively reducing the dependence of many rural areas on agriculture for job creation and income growth. Population moved off the farm and into the nonfarm economy in both urban and rural areas. Both the urban and rural population grew as the number people living on farms declined. The farm share of the U.S. rural population fell from about two-thirds to about one-tenth during the 20th century.

Despite the decline in farming in relation to the U.S. economy and the rural economy, agriculture continues to make a substantial contribution to U.S. economic activity in terms of the more broadly defined food and fiber system. The food and fiber system includes the economic activity in farm input, production, processing, distribution, wholesaling, and retailing industries. The agribusiness infrastructure accounts for the vast majority of the economic activity and jobs generated by the food and fiber system. In 2001, the food and fiber system accounted for 12.3 percent of total U.S. gross domestic product (GDP) and 16.7 percent of total U.S. employment. In 2001, farming accounted for 0.7 percent of GDP; farm production inputs, 4.2 percent; and food manufacturing and distribution, 7.4 percent (table 5.5).

Nationally, farming accounted for about 8 percent of employment in farm and farm-related industries in 2001. In comparison, food service accounted for 27 percent; wholesale and retail trade, 34 percent; food manufacturing and transportation, 8 percent; and farm production inputs, 19 percent. There is some difference regionally in these shares, such as textiles accounting for over 7 percent total employment in farm and farm-related industries in the South but less than 1 percent in the North Central States, and wholesale and retail trade accounting for 39 percent of total employment in farm and farm-related industries in the Northeast but about 30 percent in the Midwest (Schluter et al). Despite these differences, the relative shares of employment provided by various segments of the food and fiber system are similar by region.

The declining trend in the importance of farm income to the U.S. and rural economy is illustrated in figure 5.11. Net farm income fell as a share of the personal income of rural areas from about 10 percent in the early 1970s to under 2 percent by 2001. While this decline occurred during most of the 20th century, the household incomes of farm families steadily improved relative to that of both urban and rural nonfarm families.

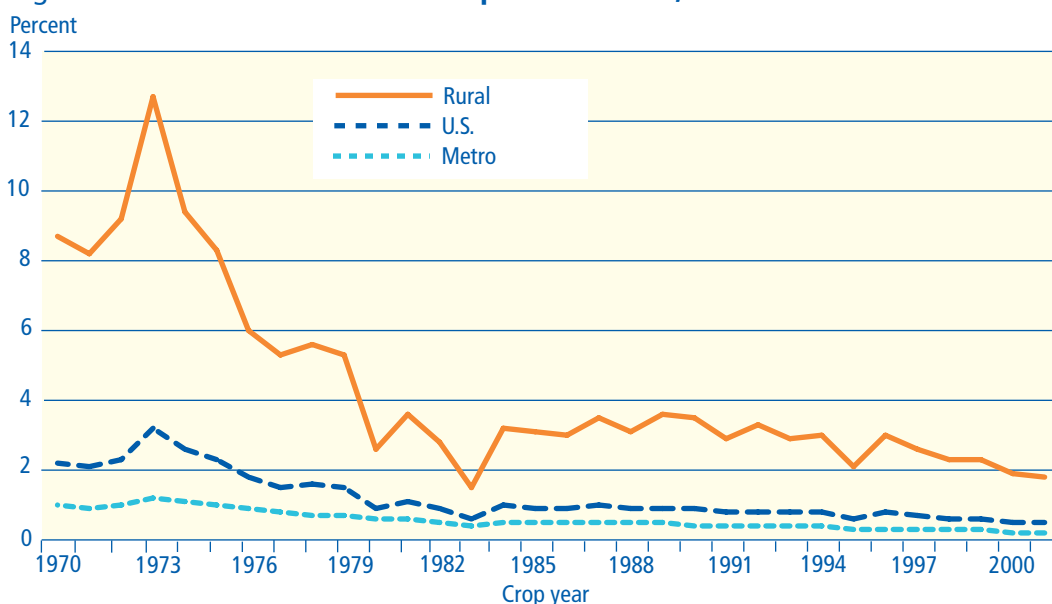
Although the growth of the nonfarm economy has been responsible for the bulk of the job creation in most rural areas, farming remains the primary economic activity in many counties. In 1997, farm and farm-related industries accounted for 23 percent of employment in nonmetro

Table 5.5. Contribution of the food and fiber system (FFS) to the U.S. economy, 2001

	Value added to GDP	Share of FFS contribution to GDP	Share of GDP	Number of workers	Share of FFS employment	Share of total U.S. employment
	Billion dollars	Percent	Percent	Thousands	Percent	Percent
Farming	73.8	5.9	0.7	1,922	8.1	1.4
Total inputs	422.781	34.0	4.2	4,528	19.1	3.2
Mining	17.1	1.4	0.2	59	0.2	--
Forestry, fishing, and agricultural services	14.5	1.2	0.1	394	1.7	0.3
Manufacturing	84.0	6.8	0.8	1,128	4.8	0.8
Services	307.2	24.7	3.0	2,947	12.4	2.1
Manufacturing and distribution	748.4	60.1	7.4	17,295	72.9	12.2
Manufacturing:						
Food processing	168.3	13.5	1.7	1,278	5.4	0.9
Textiles	30.3	2.4	0.3	810	3.4	0.6
Leather	0.1	--	--	1	--	--
Tobacco	16.8	1.3	0.2	26	0.1	--
Distribution:						
Transportation	41.3	3.3	0.4	568	2.4	0.4
Wholesaling and retailing	334.4	26.9	3.3	8,145	34.3	5.7
Foodservice	156.9	12.6	1.6	6,461	27.2	4.6
Total food and fiber system	1,244.6	100.0	12.3	23,740	100.0	16.7

Source: USDA Economic Research Service

Figure 5.11. Farm income as a share of personal income, 1970-2001



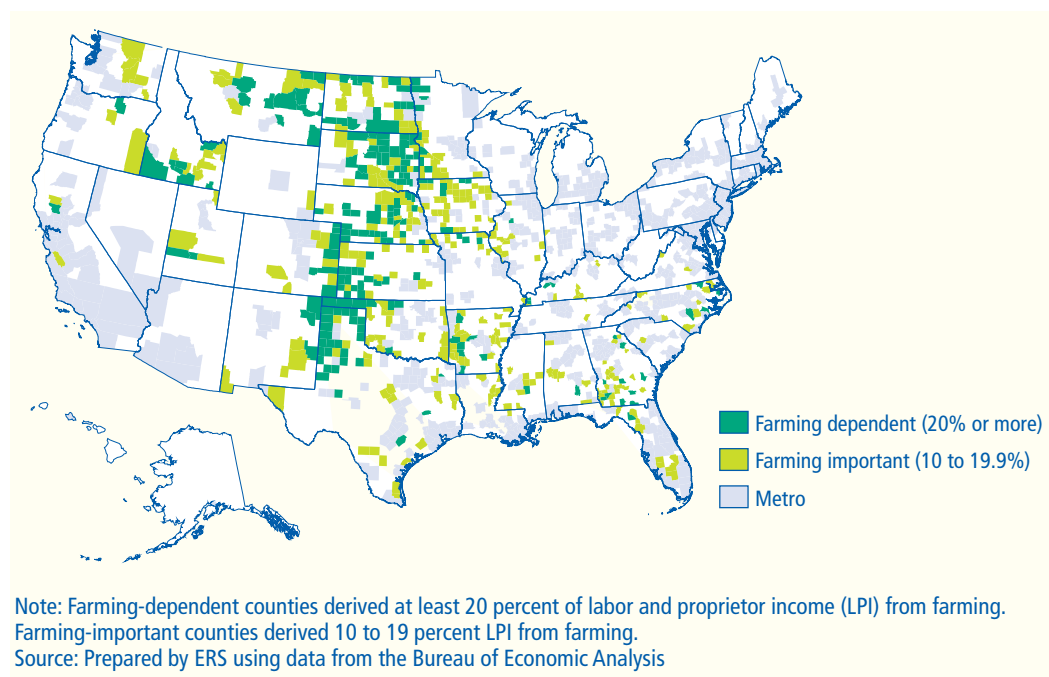
Source: USDA Economic Research Service and Bureau of Economic Analysis, Department of Commerce

counties, ranging from a low of 12.3 percent in Nevada to a high of 31.2 percent in Nebraska (Majchrowicz). The share of farm and farm-related industry jobs in nonmetro counties was generally lowest in the coastal States but 20 percent or more in 31 States.

Another measure of the importance of farm production to a local economy is the portion of local income derived from farming. ERS classifies nonmetro counties that receive 20 percent or more of labor and proprietors' income from farming as "farming-dependent" counties (figure 5.12). In the mid-1990s, there were 316 farming-dependent counties, down from 556 in 1989 (Kassel et al.). In another 312 counties, farming accounted for 10 and 20 percent of total labor and proprietor income ("farming-important" counties) in the mid-1990s. In 1997, the farming-dependent and farming-important counties accounted for about one-fourth of the Nation's rural counties but only 16 percent of the rural population, contained 400,000 farms, and produced one-third of U.S. agricultural production.

The dramatic decline in the number of producers over the past several decades has been accompanied by readily observable impacts on rural communities. The market for crop inputs has been largely unaffected but the market for inputs related to the number of people involved in farming has generally declined. In addition, the decline in the number of people living on farms, particularly in farming-dependent counties, has had an effect on the delivery of public services in rural areas including education, health care, and a range of other social services. The decline in public services has been exacerbated to the extent that State and Federal assistance is based on population. At the same time, the size of trade territories has shifted toward larger and more distant cities and towns, with a consequent further impact on the level of economic buoyancy of smaller communities.

Figure 5.12. Nonmetro counties with at least 10 percent of income from farming



Discussion

Examining the role of payments in all rural areas and in farming-dependent and farming-important counties may provide insight into the potential effects of further payment limits on rural communities and agribusiness infrastructure. Farm program payments were equal to only 1.3 percent of total personal income in all U.S. rural counties in 2001 (table 5.6). However, in a few States, notably in the Northern Plains, Western Corn Belt, and Southern Plains, farm program payments were equal to 3 to 10 percent of total personal income in rural counties. In 2001, farm program payments accounted for 3 percent or more of non-metro personal income in Illinois, Iowa, Kansas, Minnesota, Montana, Nebraska, North Dakota, and South Dakota. The FSA analysis of 2000 PFC payment data suggests that reducing the limit on direct payments from \$40,000 to \$30,000 would reduce payments going to these States by 3-5 percent and reducing the payment limit to \$20,000 would lower payments to these States by 8-16 percent. While many producers would have payments reduced, the reduction in payments probably would have very limited effects on most rural communities in these States.

Within a State, the effects of further limits on rural economies would be greater in counties where farm program payments are an important source of farm income and farming is important to the local economy. The rural farming-dependent and farming-important counties are

Table 5.6. Farm program payments as a share of State nonmetro personal income, 2001

State	Percent	State	Percent
Alabama	0.5	Montana	3.3
Alaska	0.0	Nebraska	6.3
Arizona	0.2	Nevada	0.1
Arkansas	2.5	New Hampshire	0.0
California	0.7	New Jersey	0.0
Colorado	1.5	New Mexico	0.6
Connecticut	0.0	New York	0.1
Delaware	0.3	North Carolina	0.4
Florida	0.2	North Dakota	10.0
Georgia	0.7	Ohio	0.9
Hawaii	0.0	Oklahoma	1.3
Idaho	1.1	Oregon	0.4
Illinois	3.0	Pennsylvania	0.1
Indiana	1.5	Rhode Island	0.0
Iowa	4.5	South Carolina	0.3
Kansas	3.7	South Dakota	5.6
Kentucky	0.5	Tennessee	0.5
Louisiana	1.6	Texas	2.1
Maine	0.0	Utah	0.3
Maryland	0.4	Vermont	0.1
Massachusetts	0.1	Virginia	0.2
Michigan	0.4	Washington	1.0
Minnesota	3.0	West Virginia	0.0
Mississippi	1.4	Wisconsin	0.6
Missouri	1.8	Wyoming	0.4
		U.S.	1.3

Source: Bureau of Economic Analysis, Department of Commerce

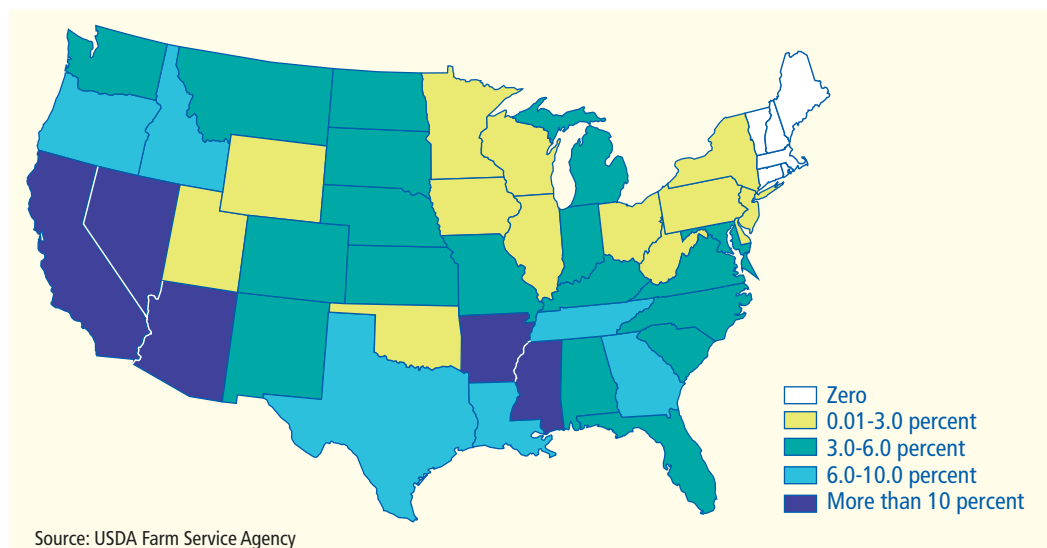
located in the same areas where direct government payments are concentrated. The dependence on farming and the high share of government payments in farm income make these counties especially sensitive to changes in farm programs. Payments in 2000 were equal to 25 percent or more of cash receipts in many counties throughout the Corn Belt, Northern and Southern Plains, Delta, and Southeast.

Farm programs provide a stable source of income to producers of program crops and benefit other agriculture-related businesses. Increased farm income generated in part by the payments results in additional goods and services purchased in the local economy, which contributes to economic expansion in the nonfarm economy. Over time, government payments are capitalized into higher farmland values, stabilizing the property tax base for rural communities.

Based on the concentration of payments, the dependency on farming, and the reduction in payments that could occur under further payment limitations (which depends on market prices and the levels at which limits are established), further payment limitations would likely have the greatest effect on the rural communities and agribusiness infrastructure located in the Delta States of Arkansas, Louisiana, and Mississippi; in west Texas; and in rural areas of Arizona and California. The FSA analysis of 2000-crop PFC payments indicates that lowering the payment limit on direct payments to \$30,000 could reduce payments in these States by 8-15 percent and reducing the limit to \$20,000 could lower payments by 24-40 percent (figure 5.13 and 5.14). Depending on the reduction in payments under further payment limitations, some rural counties in several other States would be affected as well.

The nature of the effects would depend on what adjustments are made by producers affected by further limits. The largest negative impacts would occur if program payments decline and producers reduce production. Under a stylized payment limit scenario of \$40,000 for direct payments, \$65,000 for counter-cyclical payments, and \$175,000 for marketing loan benefits, FAPRI estimated that cotton acreage could decline by 0.2-1.4 million acres (1-10 percent) and rice acreage could fall by 0.1-0.6 million acres (3-19 percent) in 2004 compared with baseline levels (95-percent confidence interval).

Figure 5.13. Percentage reduction in payments under \$30,000 limit on 2000-crop PFC payments

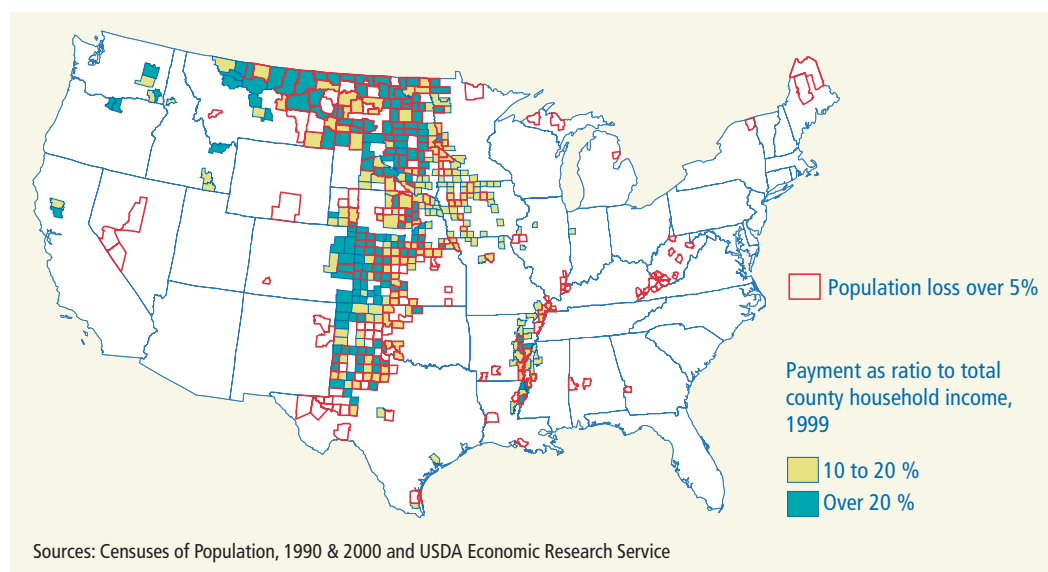


crops (which could be viewed as a proxy for program payments) did not explain growth in agriculture in the county. In testimony before the Commission on the effects of further payment limits, Gardner concluded, “Therefore, we are quite in the dark about consequences for rural communities” (Gardner, 2003).

Research examining counties that have lost population also provides some insight on the possible long-run effects of payments and payment limits. Although the rural population grew overall during the 20th century, many counties experienced population declines tied to the decline in the farm population. Population decline reduces the demand for and the ability to provide public services and threatens long-term community survival. During the 1990s, over half of the farming-dependent counties and about 40 percent of farming-important counties lost population, compared with only about 20 percent for other rural counties. Population losses occurred mainly in the Plains States, in areas where the concentration of payments is high (figure 5.15). Population increases occurred in the eastern Corn Belt, the South, the Mountain States, and some other areas. ERS associates the population increases with non-farm job opportunities, new value-added agricultural processing, and natural amenities.

Goetz and Debertin discuss various ways farm program payments affect outmigration from agriculture. Farm program payments may affect outmigration through the capitalization of payments into land values. Two outcomes are possible: higher land values may act as a deterrent to farm consolidation by increasing the capital needed to finance expansion or, alternatively, higher land values may act as a barrier to entry to new farmers and hasten consolidation by those already in farming. Government payments may also affect outmigration by increasing investment in agriculture, thereby fostering expansion and farm consolidation. The authors concluded, based on data for 1980-90, that outmigration increased as government payments made up a larger share of farm market receipts. The effects of farm structure on outmigration generally indicated that the greater the proportion of farms in high sales categories, the smaller the county population loss.

Figure 5.15. Rural population loss, 1990-2000, and farm program payments, 1999-2000 average



A study by Huang, Orazem, and Wohlgemuth examined the causes of rural population change during 1950-90. They concluded that there is no evidence that higher farm income raises rural county population. Their analysis indicates that higher farm income is associated with higher farm population, but higher farm income does not lead to an increase in the rural nonfarm population and thereby results in no significant increase in the rural population. Their results indicate that rural economies that are more diversified have stronger population growth than rural economies that depend on a few industries for the bulk of their employment and economic activity.

Conclusions

- Farming's role in rural economies has declined over time as growth in the nonfarm sector has exceeded that in farming. The number of farming-dependent counties—those where farming accounts for 20 percent or more of personal income—has declined as well, falling from 556 in 1989 to 316 in the mid-1990s, out of 2,450 rural U.S. counties.
- While farming has declined as a share of rural economic activity, and the farm population has declined, the rural population has grown and average farm household income has risen to the point where it is on a par with average urban household income and exceeds average nonfarm rural household income.
- Despite the long-term decline in farming in the rural economy overall, agriculture, more broadly defined as farming plus input-supplying industries and processing, distribution, and delivery to consumers domestically or abroad, remains a crucial part of the rural and national economy, accounting for 17 percent of U.S. employment and 12 percent of U.S. gross domestic product in 2001.
- In addition, many rural counties that are farming-dependent (20 percent or more of income coming from farming) or farming-important (10 to 20 percent of income from farming) continue to depend heavily on government payments. Large areas of the Plains States, Corn Belt, and Delta have farm program payments equal to 25 percent or more of farm cash receipts and 50 percent or more of net farm income. The greatest effects of further payment limitations on rural communities and agribusiness infrastructure potentially occur in counties where payments are most concentrated, farm income is most dependent on payments, and the likelihood of producers being affected by further payment limits is highest. Such areas are found in: the Delta States of Arkansas, Louisiana, and Mississippi; in west Texas and the rice-growing regions of the upper Gulf Coast; and in rural areas of Arizona and California, where rice and cotton payments are concentrated. Depending on the reduction in payments under further payment limitations, counties in western Kansas, central and eastern Nebraska and South Dakota, western Iowa, and a few other areas could potentially be affected as well.
- In the short run, further payment limitations are expected to affect negatively rural communities and agribusiness infrastructure. If producers reduce planted acreage, which economic modeling suggests would most likely occur if marketing assistance loan benefits are limited, including certificate and loan forfeiture gains, and prices are below the loan rate

for program crops, then in the most affected counties, farm income declines, farm input use declines, purchases of agribusiness services decline, and farm land values decline. These negative effects on rural communities and agribusiness infrastructure would be partially offset by higher prices for commodities whose acreage is reduced, increased acreage of alternative crops, and lower production costs to the extent cash rents decline.

- The long-run effects on rural economies of further payment limits are generally unknown. The short-run negative effects on rural communities and agribusiness infrastructure are likely to diminish over time as producers adjust in a variety of ways to further payment limits. While the competitive position of small farms relative to large farms may be enhanced, little is known as to whether that would translate into positive rural community and agribusiness effects over time. Economic studies do not suggest that farm structure is an important factor explaining a county's economic or population growth. Instead, studies suggest other factors, ranging from nonfarm technology developments (from roads to telecommunications), to economic diversity, to natural amenities, to human capital investment, are prime factors.

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Effects of Further Payment Limitations on Planting Decisions and the Supply and Prices of Crops

Background

Many studies have examined the effects of government payments on producers' planting decisions and the supply and prices of crops. While the estimates vary considerably, past studies generally conclude that government payments increase crop production and lower crop prices. Depending on the relative levels of government support and the extent to which such support is tied to current production, government payments may increase production of one crop at the expense of another. For example, the 2002 Act raised marketing assistance loan rates for wheat and feed grains relative to soybeans. This change in relative loan rates provides an incentive for producers to switch some acreage formerly planted to soybeans to wheat and feed grains. Increased plantings of wheat and feed grains would lead to lower prices for those crops, while reduced plantings of soybeans would lead to higher prices for soybeans.

Westcott et al., analyzed the impacts of the 2002 Act on commodity markets. The analysis assumed that direct and counter-cyclical payments did not affect production. Direct and counter-cyclical payments are paid on historical acreage and yield and do not depend on current plantings. Production could be affected because of increased wealth and investment and reduced risk provided by direct and counter-cyclical payments. However, Westcott et al., argue the effects of direct and counter-cyclical payments on production are small and conclude that most of the impacts on commodity markets of the 2002 Act initially come from the change in marketing assistance loan rates, since these benefits are fully coupled to current production. With higher loan rates for most commodities, total plantings for major crops are projected to increase about 2 million acres per year, or less than 1 percent, during 2002-04 and by a lesser amount thereafter. Acreage is projected to increase for wheat, corn, and sorghum but decline for soybeans, reflecting the relative change in loan rates under the 2002 Act.

FAPRI (2002) also conducted an analysis of the 2002 Act. FAPRI projects total plantings of major crops would increase on average by 1.8 million acres per year during 2002-04. Reflecting the relative change in loan rates, soybean acreage declines while plantings of other major crops increase in the short run. Soybean prices are forecast to average about \$0.08 per bushel higher in response to the decline in plantings. Larger plantings of wheat and feed grains cause prices for those crops to average about \$0.05 per bushel lower during 2002-04.

The FAPRI and Westcott et al., studies provide estimates of the change in crop supplies and prices under the 2002 Act as opposed to continuation of the 1996 Act. Several studies have also examined the impacts on commodity markets of completely eliminating all farm programs. Elimination of all farm programs would lead to larger adjustments in planted acreage and prices of major crops. Various studies indicate that government payments increase crop production by 1 to 6 percent (Tweeten). However, the estimates depend heavily on the time period of analysis. During periods of relatively strong market prices, government payments have much less effect on crop production and market prices than when market prices are historically weak.

Discussion

Further payment limitations will likely lead to some reduction in total acreage planted to major crops and a relative shift in acreage away from those crops most adversely affected to crops less adversely affected by further payment limitations. The magnitude of the change in total acreage and shifts between crops would depend on the payments affected by further limitations, the level of prices for crops affected by further payment limits, the extent to which producers may be able to restructure to avoid further limitations, and the competition for land in agricultural and nonagricultural uses.

A drop in acreage of crops affected by further payment limitations would boost prices for those crops. The price increases would raise the cash receipts of producers not directly affected by the tighter limits and help cushion the drop in income by those directly affected. Returns to producers who continue to plant these crops would likely be affected only modestly, because higher prices would reduce marketing loan benefits and counter-cyclical payments. If producers affected by further payment limitations shift to the production of other program crops, the income of producers who traditionally plant these crops would likely be only modestly reduced because lower prices would increase marketing loan benefits and counter-cyclical payments for those crops. Increased plantings of crops that are not eligible for payments and marketing loan benefits would lower returns to producers of those crops.

Decoupled payments, such as direct and counter-cyclical payments, are generally believed to be much less production-distorting than payments that are directly linked to current production, such as marketing loan benefits. Under the 2002 Act, participating producers are permitted to plant all the acreage eligible for direct and counter-cyclical payments to any crop, except for some limitations on plantings of fruits, vegetables, and wild rice. As a result, producers' planting decisions are expected to be largely unaffected by direct and counter-cyclical payments and producers are expected to select the mix of crops to plant based on relative market returns and agronomic considerations. In contrast, marketing loan benefits do depend on how much and which crops are planted and, thereby, alter producers' planting decisions. Marketing assistance loans and to a lesser extent counter-cyclical payments reduce risk, which may be an important factor farmers use in deciding how much acreage to allocate to various crops. This suggests that further limitations that reduce direct and counter-cyclical payments would tend to have considerably less impact on crop supplies and prices than further limitations that reduce marketing loan benefits.

The elimination of marketing loan benefits may provide an upper bound for the adjustment in acreage and prices that could occur under further payment limits, since further limits on direct and counter-cyclical payments are expected to result in considerably less adjustment in acreage and prices. Westcott and Price analyzed the effects of eliminating marketing loans on production and prices of major crops over the period from 1998 through 2005. The baseline used for the analysis was the USDA 2000 baseline, which did not anticipate the sharp decline in cotton price for 2001 crop year. That study suggests that elimination of marketing loan benefits would have reduced plantings of major crops by 2 to 4 million acres (1-2 percent). Elimination of marketing loan benefits would have lowered cotton acreage by an esti-

mated 1.5 million acres in 2000 or by over 10 percent, the largest percentage decline in acreage for all major crops. In response to the decline in acreage, cotton prices would have been about 5 cents per pound higher. Lower rice acreage would have raised rice prices by 10 to 20 cents per hundredweight.

The Commission requested that the above study be updated to take into account the sharp decline in cotton prices for the 2001 crop (Westcott). The updated analysis indicated that elimination of marketing loan benefits for the 2001 crop would have lowered cotton acreage by 2.5 to 3.0 million acres or 15-20 percent and reduced rice acreage by 300,000 acres or 10 percent. The much larger decline in cotton acreage projected in the updated analysis indicates that the effects of further payment limitations on marketing loan benefits on supply and prices of agricultural commodities and on producer income are very dependent on the level of market prices.

FAPRI (2003) examined the possible implications of limiting any operation as defined by the Census of Agriculture to no more than \$40,000 in direct payments, \$60,000 in counter-cyclical payments, and \$175,000 in marketing loan benefits over the period 2004-12. In 2004, FAPRI estimates the stricter payment limitation would reduce the area planted to cotton by about 510,000 acres and the area planted to rice by about 250,000 acres (table 5.3). Cotton acreage is estimated to decline by 4 percent and rice acreage drops by 8 percent while acreage of other major crops changes by less than 1 percent. Longer-run impacts on planted acreage are assumed to be much smaller as producers adjust to the stricter limits on payments and reduced acreage leads to higher market returns. In response to the drop in acreage, FAPRI projected cotton prices would increase by 2 percent and rice prices would increase by 8 percent in 2004, while prices for other major crops would not change significantly (table 5.3). The effects on prices also tend to moderate after 2004, reflecting the smaller adjustment in planted acreage.

The effects of further payment limits on marketing loan benefits, acreage, and commodity prices depend on the level of market prices for major crops. If the loan repayment rate is at or above the loan rate for a crop, further payment limits would have essentially no effect on marketing loan benefits. In this situation, acreage for the crop could increase if further limits reduce marketing loan benefits for competing crops. In contrast, if the loan repayment rate is considerably below the loan rate for a crop, further payment limits on marketing loan benefits could lead to a significant reduction in planted acreage.

FAPRI examined the adjustment in cotton acreage that would occur under further limits at different cotton prices. If cotton prices average below 40 cents per pound as they did during the 2001 crop year, cotton acreage would have declined by 1.2 million acres in 2004, up from 0.5 million acres under the higher baseline price of 40-50 cents per pound. If cotton prices average over 50 cents per pound, FAPRI projects cotton acreage would fall by 0.2 million acres under stricter payment limits. This suggests that higher cotton prices combined with higher prices for other program crops could lead to little or no change in cotton acreage

under further payment limits. The sensitivity of acreage adjustments under further payment limits to the level of market prices increases the difficulty of drawing definitive conclusions on the effects of further payment limitations on the supply and prices of crops.

Producers affected by further payment limits could decide to increase production of crops that are relatively less affected by further payment limits. For rice and upland cotton producers, competing crops might include grains, oilseeds, hay, or other nonprogram crops. The decision to shift acreage to another crop would depend on relative returns, share rental agreements, the additional investment and machinery needed to plant an alternative crop, and other agronomic considerations. For many producers, planting alternative crops may not be a feasible option because climatic conditions may restrict which crops can be profitably grown. In addition, further payment limitations may restrict a producer's ability to finance new equipment that would be needed to plant and harvest crops not currently grown on the farm.

FAPRI's analysis of stricter limits suggests that most of the acreage affected by further payment limitations would not be planted to alternative crops. Instead, most of the acreage affected by further payment limitations would continue to be planted to the same crop by either the producer affected by further payment limitations or rented to another producer not affected by further payment limitations who also chooses to plant the same crop. For example, FAPRI's analysis of limiting any operation as defined by the Census of Agriculture to no more than \$40,000 in direct payments, \$60,000 in counter-cyclical payments, and \$175,000 in marketing loan benefits indicates that cotton and rice acreage would decline by 760,000 acres in the first year, while acreage of other major crops would increase by 150,000 acres. These acreage adjustments also suggest that some producers may elect to not to grow a crop on some acreage under further payment limits.

If a producer who rents land is subject to further payment limitations, lower payments would reduce the amount of rent the producer could pay unless the producer elected to accept a lower return. If the producer elects to reduce the amount of rent paid on the land no longer eligible for payments, the landowner could decide to either rent that land to another producer not affected by further payment limits or not grow a crop and receive the payments that previously went to the renter. Not growing a crop and receiving payments previously going to the renter could be an option for landowners in some areas, especially if many renters have payments reduced under further payment limitations. However, this option is generally less desirable than renting out all the land that would not qualify for payments to another producer who is not affected by further payment limitations. Thus, the decline in total planted area under further limitations would depend on the number of producers affected by further payment limitations and the strength of land rental markets, which could vary considerably from region to region.

Producers affected by further payment limitations may consider planting fruits, vegetables, hay, or other crops that are not eligible for direct and counter-cyclical payments or marketing assistance loans. Although fruits and vegetables are produced commercially in every State, this industry is concentrated in some key cotton-producing regions (Arizona State University, National

Food and Agricultural Policy Project). California is currently the second largest cotton-producing State and the largest producer of fruits and vegetables. In fact, the value of fruit and vegetable production in California exceeds the Nation's total value of cotton production. In California, the leading cotton-producing counties with significant fruit and vegetable production are Fresno, Kern, Kings, and Merced counties. In addition to cotton, each county has large areas committed to the production of several fruit and vegetable crops, such as grapes, tomatoes, almonds, cantaloupes, oranges, walnuts, peaches, and sweet potatoes. Arizona is another leading producer of cotton and fruits and vegetables, as is Texas (table 5.7). In these three States, many producers would have payments reduced under further payment limitations.

Under the 2002 Act, producers receiving direct and counter-cyclical payments may plant any commodity on base acres except fruits, vegetables, and wild rice (planting flexibility provision). Producers in regions where there is a history of double cropping fruits, vegetables, and wild rice can expand plantings of these crops without giving up eligibility for direct and counter-cyclical payments. In addition, producers with a history of planting those crops can expand plantings of them, but lose direct and counter-cyclical payments on each base acre planted to fruits, vegetables, and wild rice. Producers who violate these exceptions to planting fruits, vegetables, and wild rice on base acres are generally ineligible for direct and counter-cyclical payments. It is unclear whether these provisions, if retained, would be effective in limiting the expansion in acreage devoted to fruits, vegetables, and wild rice under further payment limitations. Other factors, such as the increase in investment and equipment, availability of market outlets, and volatility in prices and returns, may be more important in limiting the expansion in area planted to fruits, vegetables, and wild rice under further payment limitations.

There is no available research that indicates the extent to which further payment limitations would lead to an increase in supplies of fruits, vegetables, hay, or other nonprogram crops and the resulting adjustment in prices and returns that would occur in those markets. Even so, small shifts in acreage out of upland cotton or other crops affected by further payment

Table 5.7. Cotton and fruit and vegetable production in leading cotton-producing States, 2001

State	Cotton			Fruits and vegetables		
	Production value	National rank	U.S. share of production	Production value	National rank	U.S. share of production
	Million dollars		Percent	Million dollars		Percent
Texas	1,001	1	20	604	7	2
California	706	2	14	13,412	1	49
Georgia	570	3	12	499	10	2
Arkansas	503	4	10	42	36	--
North Carolina	412	5	8	356	12	1
Mississippi	370	6	7	49	33	--
Louisiana	271	7	5	102	27	--
Alabama	217	8	4	65	31	--
Missouri	215	9	4	45	34	--
Arizona	209	10	4	927	4	3

-- Denotes less than 0.5 percent.

Source: National Food and Agricultural Policy Project, Arizona State University

limits could have negative effects on some fruit and vegetable producers. For example, there are more than 300,000 acres of upland cotton in Fresno and Kern counties of California and less than 30,000 acres of garlic. Shifting just 1 percent of the cotton acreage to garlic would cause a 10-percent increase in garlic acreage, which could reduce already depressed garlic prices by 25 percent (Sumner).

Further payment limitations could lead to an increase in acreage devoted to hay. Producers can plant hay on base acres with no reduction in direct and counter-cyclical payments. In addition, many producers already devote some acreage to hay, market outlets are readily available, and little additional investment would be required to expand the area devoted to hay. In 2002, 64.5 million acres were planted to hay. Some shifting of acreage from program crops into hay under further payment limitations probably would not have much effect on hay prices.

Conclusions

- Various studies indicate that government payments increase crop production by 1 to 6 percent. However, the estimates depend on the time period of analysis. During periods of strong market prices, government payments have much less effect on crop production and market prices than when market prices are historically weak.
- Decoupled payments, such as direct and counter-cyclical payments, are generally believed to be much less production-distorting than payments that are directly linked to current production, such as marketing assistance loan benefits. This suggests that further limitations that reduce direct and counter-cyclical payments would have considerably less impact on crop supplies and prices than further limitations that reduce marketing assistance loan benefits.
- The elimination of marketing assistance loan benefits may provide an upper bound to the adjustment in acreage and prices that could occur under further payment limits. During 1999-2000, a period of very weak crop prices and record marketing loan benefits, the elimination of marketing loan benefits would have reduced plantings of major crops by an estimated 2.5 to 3.0 million acres in 2000, with cotton acreage falling by an estimated 1.5 million acres or by over 10 percent, the largest percentage decline in acreage for all major crops. In response to the decline in acreage, cotton prices would have been about 5 cents per pound higher and lower acreage would have raised rice prices by 10 to 20 cents per hundredweight.
- FAPRI (2003) examined the possible implications of limiting any operation as defined by the Census of Agriculture to no more than \$40,000 in direct payments, \$60,000 in counter-cyclical payments, and \$175,000 in marketing loan benefits over the period 2004-12. In 2004, FAPRI estimates the stricter payment limitation would reduce the area planted to cotton by about 510,000 acres and the area planted to rice by about 250,000

acres. In response to this drop in acreage, FAPRI projected cotton prices to increase by 2 percent and rice prices increase by 8 percent in 2004, while prices for other major crops would not change significantly.

- If cotton prices average below 40 cents per pound as they did during the 2001 crop year, cotton acreage could decline by 1.2 million acres in 2004, up from FAPRI's estimate of 0.5 million acres under the higher baseline price of 40-50 cents per pound. If cotton prices average over 50 cents per pound, FAPRI projects cotton acreage could fall by 0.2 million acres under stricter payment limits. Another study examined the effects of elimination of marketing loan benefits for the 2001 crop year, when cotton prices averaged 30 cents per pound, and concluded that cotton acreage would have fallen by 2.5 to 3.0 million acres. The sensitivity of acreage adjustments under stricter payment limits to the level of market prices increases the difficulty of drawing definitive conclusions as to the effects further payment limitations would have on the supply and prices of crops.
- Producers affected by further payment limits could decide to increase production of crops that are relatively less affected by further payment limits. The decision to shift acreage to another crop would depend on relative returns, share rental agreements, the additional investment and machinery needed to plant an alternative crop, and other agronomic considerations. For many producers, planting alternative crops may not be a feasible option because climatic conditions restrict which crops can be profitably grown.
- Not growing a crop may be an option under further payment limitations for some producers when market prices are considerably below the loan rate. This option is generally less desirable than renting out all the land that would not qualify for payments to another producer who is not affected by further payment limitations. Thus, the decline in total planted area under further limitations would depend on the number of producers affected by further payment limitations and the strength of land rental markets, which could vary considerably from region to region.
- Many of the producers affected by further payment limitations would be located in States that also produce a wide variety of nonprogram crops, including fruits, vegetables, and hay. The 2002 Act's limitations on planting fruits and vegetables along with other factors, such as the increase in investment and equipment, availability of market outlets, and volatility in prices and returns, may prevent many producers affected by further payment limitations from shifting additional acreage into fruits and vegetables. Nevertheless, small shifts in acreage into fruits and vegetables could have negative price effects on some fruit and vegetable crops.
- Further payment limitations could lead to an increase in acreage devoted to hay. Some shifting of acreage from program crops into hay, such as alfalfa in western States, probably would occur. The effect on hay prices may be limited, since nearly 65 million acres were planted to hay in 2002.

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