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# 2005 Government Program Payments and Non-agricultural Returns Affect Land Values

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For centuries agricultural profits or rents have driven agricultural land values. Since at least the 1930's, government farm program payments have bolstered land values above what they otherwise would have been. More recently, it has become especially apparent that non-agricultural features of agricultural land also have substantially impacted land values in many parts of the U.S. This brief paper reveals a few of the highlights of a study that examined the interaction of agricultural returns, non-agricultural returns, and government payments in driving agricultural land values in 39 states in the U.S.[1] Details behind the study are provided in *Valuing and Buying Farmland, with a Consideration of Non-ag Features*, which is available for download at the website www.agmanager.info.

Competition among farmers ensures that agricultural cash rents reflect returns to land used in agricultural production. Of course, for many crops, agricultural rents reflect both government payments and returns to the agricultural production process. If agricultural land only had value as an input to the farming business, an agricultural capitalization rate could be calculated by dividing cash rent by land value. To compute such ag cap rates by state, we considered the average rent-to-value ratios over the 1951-1972 time period, which we considered to be a period when land values were largely dominated by farming-only activities. Then, those ag cap rates can be applied to current (2005) agricultural cash rents to determine what today's land value would have been in an ag-only environment.

Using the calculations just described, Figure 1 shows the percent of 2005 agricultural crop land values that is actually due to agriculture (i.e., due to the business of farming). These calculations are referred to as the agricultural market value percentage (AMVP). According to the figure, were it not for non-ag attributes of agricultural land, North Dakota's land value would be 79.9% of what it is today. Land values in most of the Great Plains states are clearly dominated by agricultural features, as are Corn Belt states such as Iowa and Illinois. On the other hand, it is not surprising that farmers in many states regularly note that they see little connection between farming returns and land values in their areas. For example, the agricultural portion of land value in states along the eastern coast generally is below 20%.

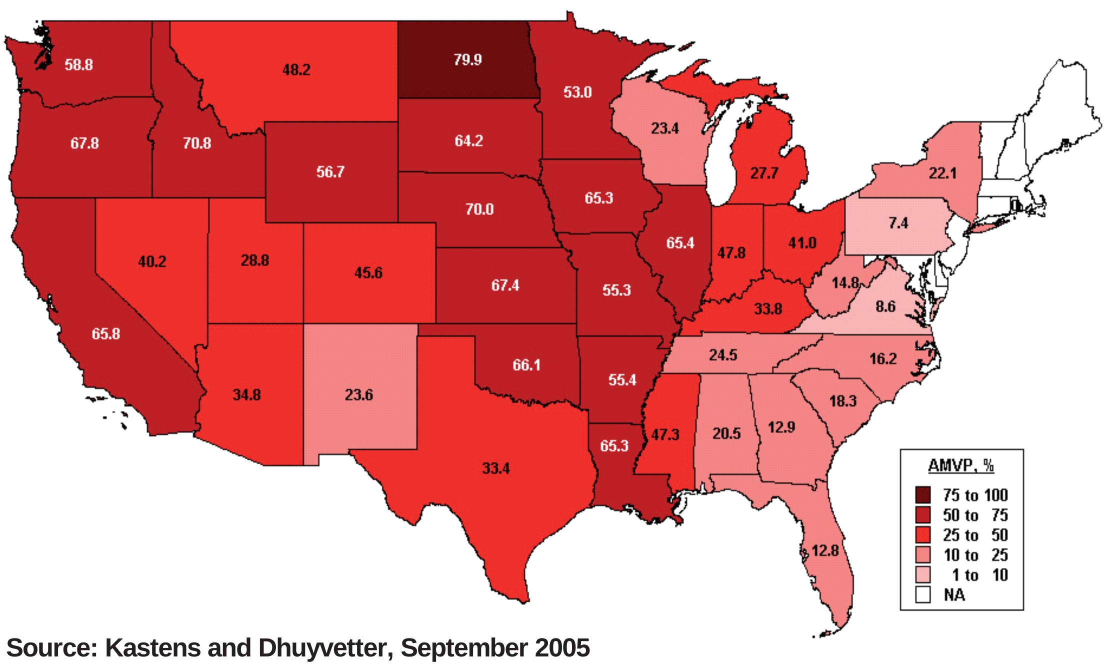
The ag-only value of land could be computed by taking 2005 land values times the appropriate percentages in Figure 1. Then, we might ask, What percent of this ag-only value should be attributed to government payments? Figure 2 shows those results. The figure is based off the average relationship between government payments and crop land cash rents over the 1951-2005

[1] While reference is made in this paper to land values and rents somewhat generically, it should be noted that the land values and cash rents analyzed for this paper were those reported for *crop* land (as opposed to pasture or all land). Additionally, in most cases the crop land values and rents analyzed were non-irrigated, with the only exception being for the few states that report only irrigated crop land.

time period. The substantial contribution of government subsidies to Southern agriculture is most apparent. But, in this regard, Great Plains agriculture is not far behind. One interpretation of this figure is that this is the percent agricultural rents would fall in the absence of government payments.

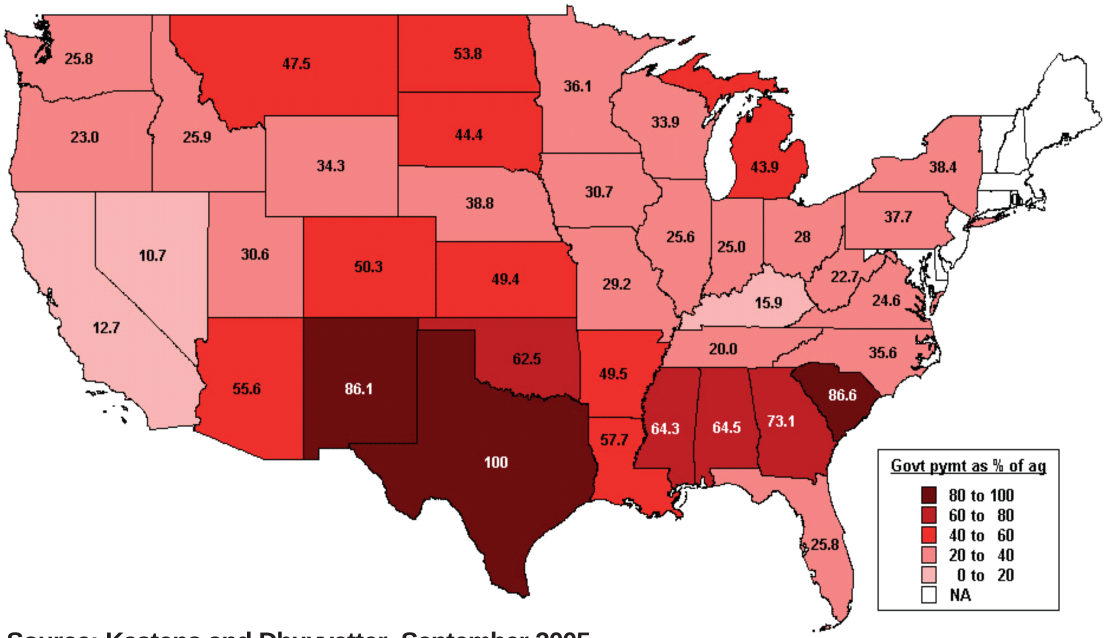
How far crop land values might fall in the absence of government payments is a function of how much agricultural rents are impacted by government payments (shown in Figure 2). But, it is also a function of how much of land's value is due to agriculture in the first place (shown in Figure 1). Figure 3 shows these results. Clearly, it is the Great Plains and Arkansas, Louisiana, and Mississippi that likely would be most impacted by a sudden elimination of government programs supporting agricultural commodities. Interestingly, states like Alabama, whose agriculture has been much more dominated by government subsidies than say Kansas, would see a much smaller reduction in land values. That is because agriculture is much less important to Alabama land values than it is to Kansas land values. It is important to recognize that the values in Figure 3 essentially assume that 100% of government payments are capitalized into the value of land and thus this should be viewed as an upper limit as to how much land values would actually fall. See *Valuing and Buying Farmland, with a Consideration of Non-ag Features*, available for download at the website www.agmanager.info, for our explanation as to why we believe values would fall less than that reported in Figure 3.

**Figure 1**. Portion of 2005 Crop Land Value Attributed to Agriculture (AMVP)



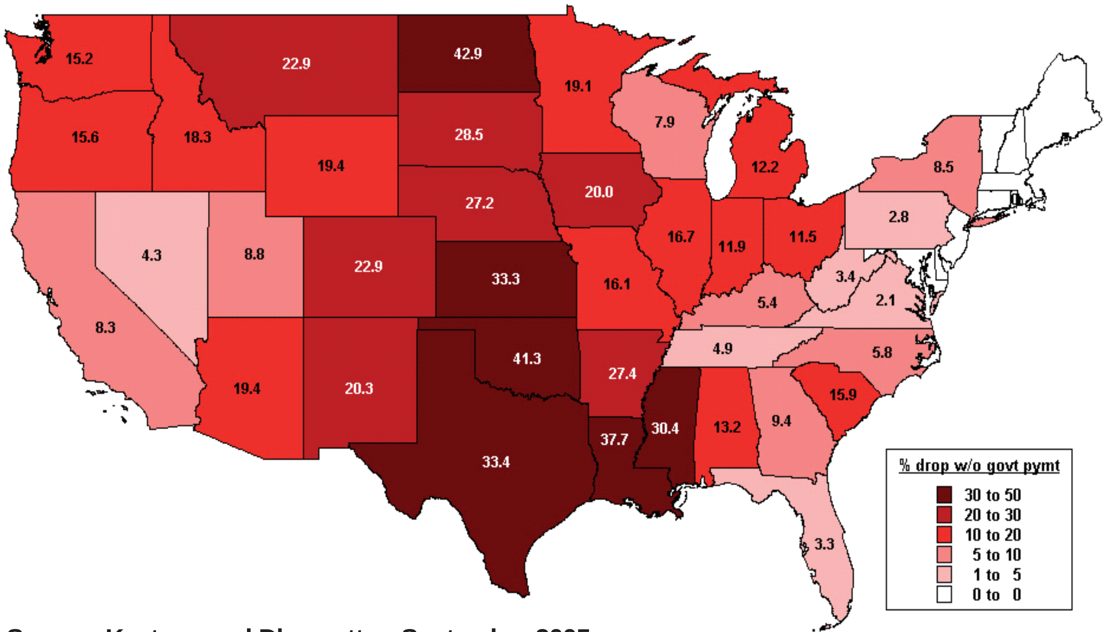

Source: Kastens and Dhuyvetter, September 2005

**Figure 2**. Portion of 2005 Agricultural Crop Land Value Attributed to Government Payments




Source: Kastens and Dhuyvetter, September 2005

**Figure 3**. Estimated Reduction in 2005 Crop Land Values with the Elimination of Government Payments




Source: Kastens and Dhuyvetter, September 2005