

Public Abstract

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Title: Projecting Cropland Rental Rate and Asset Values: Using a Hybrid of Past Approaches to Harvest New Estimates

The net worth of farming operations has been boosted by increases in cropland values, but lower crop prices mean many are concerned that cropland prices could fall again. This thesis develops an economic model that can be used to project farmland values, cropland rental rates and other variables related to land markets. The demand and supply of land for cropland use was estimated to project cropland rental rate. It was determined that a 1% change in net crop receipts would change cropland rental rates by 1%. The projected cropland rental rate was then used in a present value formula to estimate cropland asset value, which in turn is used to estimate farmland real estate value. With net crop returns expected to decrease in the coming years cropland rent is projected to fall. With the decrease in cropland rent and an expected increase in interest rates, cropland asset value and farmland real estate value is expected to fall. The more interest rates increase the more value will fall, for example projected asset value in 2020 will be \$2,455/acre if the interest rate is 6% and \$2,204/acre if it is 7%. It was also determined that because government programs are a small portion of net crop receipts decreasing them by \$1 billion would decrease cropland rent by 1% and asset value by less than 1%, while crop acres would be virtually unchanged.