**Data Notes for Appendix**

**December 20, 2020**

**Alexandra Thompson**

* **Working panel dataset:**
  + N counties: 3,074 (all CONUS counties in the raw NRI data, which exclude DC and Virginia incorporated cities)
  + Years: 1982, 1987, 1992, 1997, 2002, 2007, 2012
* **National Resources Inventory**
  + Data source: land-use\raw\_data\NRI\nri15\_cty\_082019.csv
  + Variables from the metadata file “nri15\_layout\_csv\_082019.xlsx”:
    - riad\_id: “Unique id”
    - xfact: “Number of acres the point represents (in 100s)”
    - state, county, fips
    - broad[year]: “Broad Cover/Use for 1982 (1 = Cultivated cropland, 2 = Noncultivated cropland, 3 = Pastureland, 4 = Rangeland, 5 = Forest land, 6 = Other rural land, 7 = Urban and built-up land, 8 = Rural transportation, 9 = Small water areas, 10 = Large water areas, 11 = Federal land, 12 = Conservation Reserve Program (CRP))”
      * Years: 1982, 1987, 1992 ,1997, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015
    - lcc[year]: “Land Capability Class & Subclass for 1982 - source: current linked soil mapunit/component (The first character is the soil suitability rating for agriculture, between 1 and 8 - class 1 soil has few restrictions that limit its use, class 8 soil has limitations that nearly preclude its use for commercial crop production. The second character is the chief limitation of the soil: Blank = Not applicable, E = Erosion, W = Water, S = Shallow, drought, or stony, C = Climate)”
      * Years: 1982, 1987, 1992, 1997, 2002, 2007, 2012, 2015
  + About the “Other rural land” broad cover/use: This includes the following specific land cover uses: Other farmland/Farmsteads; Other farmland/Other land; Barren/Salt flats; Barren/Bare exposed rock; Barren/Strip Mines, etc.; Barren/Beaches; Barren/Sand dunes; Barren/Mixed barren lands; Barren/Mud flats; Barren/River wash; Barren/Oil wasteland; Barren/Other barren land; Other rural/Permanent snow-ice; Other rural/Marshland; All other land.
  + Our data management:
    - Broad land use category aggregations
      * “Cultivated cropland” and “cultivated cropland” aggregated into “cropland”
      * “Rural transportation” and “Other rural land” aggregated into “ruralland”
      * “Census water” and “Small water areas” aggregated into “waterland”
      * Land use categories: CRP, Crop, Federal, Forest, Pasture, Range, Rural, Urban, Water
    - land use and LCC areas aggregated up to county-year level
    - Data reshaped into county-year panel
* **Crop, Urban, and Forest net returns**
  + Data source: land-use\raw\_data\net\_returns\lewmis-mihiar\landuse\_net\_returns.csv
  + Notes from Mihiar and Lewis 2019 (An Econometric Analysis of the Impact of Climate Change on Broad Land-Use Change in the Conterminous US)
    - “annualized dollars per acre of land”
    - “per acre measures in 2010 dollars”
    - Forest net returns: “Our final measure … is comparable across counties and interpreted as the current average annual net return to forestry for an acre of bare forestland.”
    - Crop net returns: “net income deriving from crop production”
    - Urban net returns: “derived from the average price per acre of recently developed land”
    - Years in dataset: 1982, 1987, 1992, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013
  + Our data management: No changes / transformations of source data
* **Conservation Reserve Program**
  + Data source
    - CRP County Enrollment and Rental Payments, 1986-2019
    - Collected November 6, 2020 by Alexandra Thompson (RFF)
    - from: <https://www.fsa.usda.gov/programs-and-services/conservation-programs/reports-and-statistics/conservation-reserve-program-statistics/index>
  + From the raw data excel workbook:
    - Variable: CONSERVATION RESERVE PROGRAM—AVERAGE (per acre) RENTAL PAYMENTS BY FISCAL YEAR ($); BY FISCAL YEAR LANDS WERE UNDER CONTRACT
    - Note: Payments based on contract data, not actuals. Payments made in fiscal year following performance. Fiscal years end September 30.
  + Our data management:
    - We adjusted to 2010USD, renamed variable “CRP\_nr”
* **NASS pasture rents**
  + Data source
    - Dataset: qs.economics\_20201117.txt
    - Contents: USDA NASS Census and Survey Data, Economics Sector
    - Collected from: <ftp://ftp.nass.usda.gov/quickstats/>
    - On: November 17, 2020
    - By: Alexandra Thompson, RFF
  + From the raw dataset text file:
    - Variable: “RENT, CASH, PASTURELAND - EXPENSE, MEASURED IN $ / ACRE”
    - Years: 1994-2020
    - Spatial unit levels, from most to least precise:
      * County
      * Agricultural Statistics District / Other Combined Counties
      * State
      * Multistate region (USDA Farm Production Regions)
    - Spatial unit levels by year:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | **Pasture rents (NASS) data level** | |  |  |  |  |  |
| **year** | asd | asd\_2008 | county | county\_2008 | multistate | multistate\_2008 | nodata | othercombcounties | state | state\_2008 | **Total** |
| 1982 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| 1987 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| 1992 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| 1997 | 0 | 0 | 0 | 0 | 0 | 0 | 997 | 0 | 2076 | 0 | **3073** |
| 2002 | 0 | 0 | 0 | 0 | 887 | 0 | 0 | 0 | 2186 | 0 | **3073** |
| 2007 | 0 | 1969 | 0 | 747 | 0 | 95 | 0 | 0 | 0 | 262 | **3073** |
| 2012 | 3 | 0 | 1781 | 0 | 42 | 0 | 0 | 1089 | 158 | 0 | **3073** |
| **Total** | **3** | **1969** | **1781** | **747** | **929** | **95** | **997** | **1089** | **4420** | **262** | **12292** |

* + Our data management:
    - We took the most precise aggregation level available for each county-year
    - Adjusted to 2010 USD, renamed variable “pasture\_nr”
    - Substituted 2007 values with 2008 values, because 2008 values had significantly more spatial resolution.
* **Inflation adjustments**
  + Source: <https://www.bls.gov/data/inflation_calculator.htm>
  + Access Date: December 8, 2020
  + Input period: July, year of interest
  + Target period: July, 2010
  + “About the CPI Inflation Calculator: The CPI inflation calculator uses the [Consumer Price Index](https://www.bls.gov/cpi/) for All Urban Consumers (CPI-U) U.S. city average series for all items, not seasonally adjusted. [This data](https://data.bls.gov/timeseries/CUUR0000SA0) represents changes in the prices of all goods and services purchased for consumption by urban households.