

**Poverty in Frontier America:
Higher Rates of Poverty Document the Critical Need for Policy Changes**

RESEARCH BRIEF

July 30, 2007

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Exploring Data on Poverty in Frontier America

It is a truism that poverty rates continue to be higher in rural and frontier communities, and high poverty continues to be associated with "rural" lifestyles, despite the recognition of significant variability among rural and frontier communities. This brief reports results from an exploration of available poverty data and the association of poverty with frontier counties.

NOTE: References to frontier counties in this paper refer to counties meeting the criteria of the "Consensus Definition" of the National Center for Frontier Communities at <http://www.frontierus.org/2000census.htm>. More information on the Consensus Definition is available at <http://www.frontierus.org/defining.htm>.

Income-based poverty. Estimating the proportion of population "in poverty" is a complex formula based on income and household composition, with the federal poverty line revised annually for changes in cost of living (US Census Bureau 2007a). This is an example of "absolute poverty" indicator. Table 1 shows the poverty thresholds determined for 2006.

Table 1: Poverty Thresholds for 2006 by Size of Family and Number of Related Children Under 18 Years

Size of family unit	Related children under 18 years									
	None	One	Two	Three	Four	Five	Six	Seven	Eight or more	
One person (unrelated individual)										
Under 65 years	10,488									
65 years and over	9,669									
Two persons										
Householder under 65 years	13,500	13,896								
Householder 65 years +	12,186	13,843								
Three persons	15,769	16,227	16,242							
Four persons	20,794	21,134	20,444	20,516						
Five persons	25,076	25,441	24,662	24,059	23,691					
Six persons	28,842	28,957	28,360	27,788	26,938	26,434				
Seven persons	33,187	33,394	32,680	32,182	31,254	30,172	28,985			
Eight persons	37,117	37,444	36,770	36,180	35,342	34,278	33,171	32,890		
Nine persons or more	44,649	44,865	44,269	43,768	42,945	41,813	40,790	40,536	38,975	

Source: (US Census Bureau 2007b)

Based on these thresholds, in federal programs a "high poverty" county is one where 20% or more of households are under the official poverty line (there is no adjustment for regional differences in cost of living). Using this standard definition, 21% of frontier counties were "high poverty" in 1999, compared with 14% of non-frontier counties.

“Persistent high poverty,” a classification developed as part of USDA Economic Research Service (ERS) County Typology, indicates counties that have been “high poverty” for the past four decennial censuses between 1970 and 2000 (Beale 2006). Non-metro counties also exhibit greater persistent poverty (13% of micropolitan, 18% of noncore nonmetro counties) than metro counties (4%), with strong regional patterns (Jolliffe 2004). Sixteen percent of frontier counties are “persistent poverty,” compared with 11% of non-frontier counties.

Based on the Census Bureau’s poverty thresholds, the US Department of Health and Human Services releases a simplified version, “poverty guidelines”, for administrative (rather than statistical) purposes (US Department of Health and Human Services 2007). However, the HHS poverty guidelines do provide different guidance for Alaska and Hawaii:

Table 2: HHS Poverty Guidelines, 2007

Persons in Family or Household	48 Contiguous States and D.C	Alaska	Hawaii
1	\$10,210	\$12,770	\$11,750
2	13,690	17,120	15,750
3	17,170	21,470	19,750
4	20,650	25,820	23,750
5	24,130	30,170	27,750
6	27,610	34,520	31,750
7	31,090	38,870	35,750
8	34,570	43,220	39,750
For each additional person, add	3,480	4,350	4,000

Because the same formula for determining the poverty line has been used since the 1970s¹, many believe that the poverty line is too low and does not adequately capture the full extent of poverty in the United States. Beale and Gibbs describe households with incomes less than twice the poverty level as lacking “incomes high enough to provide personal savings, local capital, or substantial consumer spending power” (Beale et al. 2006, p. 10). That may be a generous assessment; the National Center for Children in Poverty (2007) calculates basic living costs in various localities, for rent and utilities; food; child care; health insurance; transportation; other necessities; payroll and income taxes. The resulting “Basic Needs Budget” demonstrates not only a major gap between the federal poverty threshold and the basic costs of living (on average, a family needed

¹ The original calculation of the poverty threshold in the 1960s was based on three times the cost of food as derived from the USDA’s “economy food plan”, because a 1955 study showed that the cost of food was approximately one-third of a household budget. These thresholds were adopted with minor revisions as the official statistical definition of poverty by the federal government in 1969. Although they are updated annually for cost-of-living changes, they are still based on the assumption of food costs being one-third of household expenses. See the HHS website, “Frequently Asked Questions Related to the Poverty Guidelines and Poverty, <http://aspe.hhs.gov/poverty/faq.shtml#programs>.

twice the amount of the federal poverty threshold to meet the basic costs of living) but also tremendous geographical variation:

Table 3: Comparison of HHS Poverty Guidelines and the NCCP Basic Needs Budget

Family of Four	Urban (New York, New York)	Urban (Houston, TX)	Suburban (Aurora, IL)	Rural (Alamosa County, CO)
HHS Poverty Guidelines	20,650	20,650	20,650	20, 650
NCCP Basic Needs Budget	55,140	35,502	43,079	31,455

In response to the perceived problems with the official poverty line, different organizations may use different thresholds for determining “high poverty.” For example, both the North Carolina Rural Economic Development Center and the Appalachian Regional Commission set a lower threshold than the 20% used in Federal analyses, classifying counties as “high poverty” if 18% or more of the population is below the poverty line. Others move the poverty line by classifying poverty or “low income” as being within 200% of the poverty line².

Map Series 1 shows poverty calculated using three overlapping county-level measures of high poverty. Counties with 40% or more of their populations within 200% of the poverty line were overlaid by counties with 18% or more of their population under the Federal poverty line. In turn these were overlaid by counties classified as “persistent poverty”(the most restrictive measure). The broader measures classify more counties as “high poverty,” however these counties generally cluster around the “persistent poverty” counties, amplifying the same patterns. They also identify some clusters of poverty that do not meet the strict definition of “persistent poverty.” Using the three high poverty definitions in combination, we found that 48% of frontier counties were high poverty, in comparison with 28% of non-frontier counties.

Beale found that three-fourths of non-metro high poverty counties reflected a population-level influence of non-white populations and subclassified high poverty counties to reflect racial/ethnic and regional characteristics (Beale 2004). These subclassifications are Black (210 counties; Southern region, former Plantation belt, includes the Mississippi Delta region); Hispanic (74 counties); and American Indian/Alaskan Native (40 counties, dispersed). The Southern Highlands subtype (93 counties) reflects the specific regional character of the mining regions of Appalachia. The remaining non-metro 27 high poverty counties were unclassified by race/ethnicity or region (USDA Economic Research Service 2004a). According to Beale and Gibbs, “Over half of non-metro poor Blacks and Native Americans live in persistent poverty counties” (USDA Economic Research Service 2004a; Beale et al. 2006). Race and ethnicity, as well as family composition, were highly correlated with poverty (Joliffe 2004).

Although these analyses suggest that regional variation can be explained by population characteristics, population data alone cannot explain why these patterns exist. The social,

² Some choose to refer to these alternatives measures as “low income” rather than “poverty” to avoid confusion with the “official” definition of poverty. For the combined poverty measure presented in this paper beginning with Map Series 1, we chose to use the word “poverty” but caution the reader that it is a non-standard experimental definition and is not associated with any official definition of poverty.

economic and political conditions underpinning poverty in the Mississippi Delta region and the Southern Highlands were two of three regions examined in-depth by Cynthia Duncan in *Worlds Apart: Why Poverty Persists in Rural America* (Duncan 1999).

Federal Lands and Poverty

It is a common belief in frontier areas that a predominance of federal land ownership results in greater local impacts of federal policy, and that external control often results in depressed local economic conditions. One hypothesis was frontier counties dominated by federal lands (and thus federal policies) would be associated with higher poverty. Federal lands may limit development potential, and therefore jobs and the local tax base. However, federal lands can also attract tourism, recreation, and amenities-related development. The USDA/ERS County Typology included a federal lands classification in its 1994 classification (Cook 1994). **Map Series 2** shows the relationship between these “federal lands” counties and poverty. The map reveals a general trend of lower poverty in federal lands counties, although there is a good deal of variation. In the frontier, the proportion of high poverty counties that were classified as “federal lands” (21%) was slightly higher than the total proportion (17%).

“Federal lands” is a broad category, however, that includes much more than recreation and tourism attractions; federal land management agencies include the Department of Defense, as well as Bureau of Land Management, National Park Service, the Forest Service, Fish and Wildlife. These different types of federal land management may have different socioeconomic impacts on local economies.

Recreational lands. In the 2004 County Typology, a new “nonmetro recreation” policy type classification was released (USDA Economic Research Service 2004b). This classification of recreation lands includes state and local public lands as well as federal lands. The data suggest that recreational development reduces poverty through economic development and population growth (Johnson 2003). Between 1990 and 2000, population growth in recreation counties averaged 20.2%, compared with 6.9% for other non-metro counties. However, others claim that this type of development creates unattractive low-wage jobs while driving up property values and increasing economic stress on long-term residents. Some have found mixed results, within places as well as between places (Kim 2005; Reeder 2005).

Non-metro recreation counties have been further subdivided into 11 different classes based on regional characteristics and predominant recreation type: Midwest lake and second home; Northeast mountain, lake, and second home; Coastal ocean resort; reservoir lake; ski resort; other mountain with ski resorts; West mountain excluding ski resort and national parks; South Appalachian mountain resort; Casino; National park; and Miscellaneous. Reeder and Brown found examined recreation counties by type and found that “Ski resort” counties had the highest economic and social indicators, while “casino counties” had the worst indicators in both categories (Reeder et al. 2005).

Using a geographic information system-based analysis, Lorah and Southwick compared income and population growth in non-metro counties in three categories: protected federal lands, other federal lands, and non-federal lands (Lorah 2003). Protected areas were defined as roadless areas along with national monuments, parks, and wilderness areas. They found that protected lands were associated with the rapid population, employment, and income growth, compared with the moderate growth of other federal lands counties and the low growth of non-federal lands counties. They concluded that the real problem with protected lands is that it *does* promote nearby growth, resulting in both environmental and social stress concentrated in “gateway” communities. This “Aspenization” leads to a “skyrocketing cost of living, and a shortage of jobs that pay well enough to allow those who work in a resort community to actually live there.” With the average price of a home in Aspen in the range of 3 million dollars,

. . . many middle class families are forced farther “down valley” to live in more affordable bedroom communities. This can result in fraying community ties, as teachers, police chiefs and others move out of the communities they serve while, at the same time, low-paying, seasonal jobs attract large numbers of transient workers... The arrival of relatively wealthy amenity migrants can also create tensions...” (Lorah et al. 2003, p. 270).

A number of explanations are possible for why the data indicate lower poverty rates for federal lands and recreation counties, in contrast with local popular perceptions. In recreation counties, population growth is more than three times the national average, at 20% or more between the 1990 and 2000 censuses. County-level measures of income cannot tell us about socioeconomic differences between established residents and newcomers. Immigration of new residents with higher incomes will raise aggregate measures of income (as well as overall cost of living), and give the appearance of improved economic conditions even if conditions have not improved for previous residents.

Other lands significantly influenced by federal policy. We also wanted to look at the association between poverty and other county types heavily influenced by federal policy, including the policy types in the ERS 2004 County Typology. We found no association between these policy classifications – including farming-dependent lands – and poverty when comparing frontier counties with non-frontier counties. However, Bureau of Indian Affairs (BIA) lands were strongly associated with high poverty. Consistent with the association of low economic and social development indicators for “casino counties” (Reeder et al. 2005), BIA lands were strongly associated with high poverty.

Income Inequality

Given the difficulties associated with regional / local variations in income and cost of living, measures of “relative income” (as opposed to absolute income) and poverty are also important. The Gini Index or Ratio is a statistical measure of income inequality, an index that represents the degree of income concentration within a given population (US Census Bureau 2007a). The lower the index, the more equal the distribution of income;

the higher the index, the less equal the distribution of income. Gini ratios higher than .4 are considered to represent significant income inequality; in the US, the national-level Gini ratio has been over .4 since 1976, and is the highest among Western developed nations (US Census Bureau; Wikipedia 2007).

Map Series 3 illustrates county-level income inequality in 2000. The pattern of high Gini ratios (the top quartile) is very similar to the pattern of high poverty. A comparison of frontier vs. nonfrontier using the top quartile of Gini ratios showed slightly higher income inequality in the frontier (27%) vs. non-frontier (24%). Using the bottom quartile, fewer frontier counties (23%) were in the lowest (most equal) quartile, compared with non-frontier counties (26%). However, the mean Gini ratio for frontier counties (.44) was not much different from that of non-frontier counties (.43).

Map Series 4 overlays the income inequality layer with a high poverty layer. The maps demonstrate the high degree of correspondence between the two phenomena. Approximately two thirds of each class overlapped with the other: 68% of high poverty counties were high inequality and 64% of counties with high inequality were also high poverty counties.

One analysis of income inequality in Colorado showed two types of high-inequality counties. Poverty-driven inequality (PDI) is one type is produced mainly by high proportions of households in poverty. Bipolar inequality (BPI) describes the co-presence of high poverty and high incomes, minus a significant middle class (Eckert 2003); both types were present in Colorado. Higher inequality was also associated with higher median incomes.

Summary

This brief compares poverty data between frontier and non-frontier counties in the US. While the data support a strong association between absolute poverty and frontier counties, a relative measure of poverty, the Gini index, did not differentiate between frontier and non-frontier counties. Further, an exploration of the impact of federal lands, recreation counties, and other policy types were not, on the whole, associated with higher levels of poverty or income inequality. The lone exception was the finding of higher rates of absolute poverty in counties with Bureau of Indian affairs lands.

While the data overall support the association of poverty with frontier residence, other measures failed to explain this association; they further reveal significant variations in frontier communities. Readers are again cautioned against generalizing about frontier communities, and instead recognizing how the diversity of “frontier” complicates the use of aggregate measures.

As with any single measure, the Gini ratio has its limitations. The ratio does not necessarily tell us how income is distributed, and distribution can change without a change in the ratio. Also, any measure based only on income neglects non-income assets and debts. This is important because international studies suggest that inequality in assets

has a greater (negative) impact on economic growth than income inequality (Deininger 1997). Income inequality is not the same as wealth or asset inequality. In 1998, wealth inequality in the United States had a Gini coefficient of .82, “which is pretty close to the maximum level of inequality you can have” (The Multinational Monitor 2003). Future work may explore the availability of asset-based wealth data.

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LIST OF MAPS

For each map series, there are four views: All counties in the continental US (48 contiguous states), all counties in all 50 states, frontier counties in the continental US, and frontier counties in the 50 states.

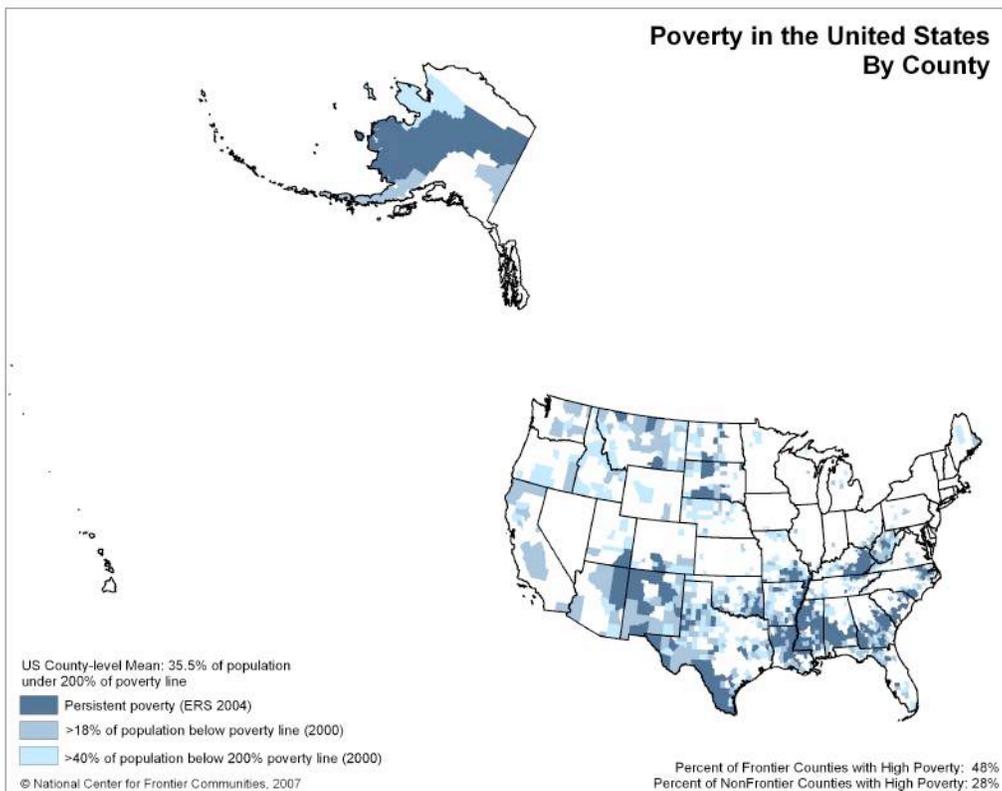
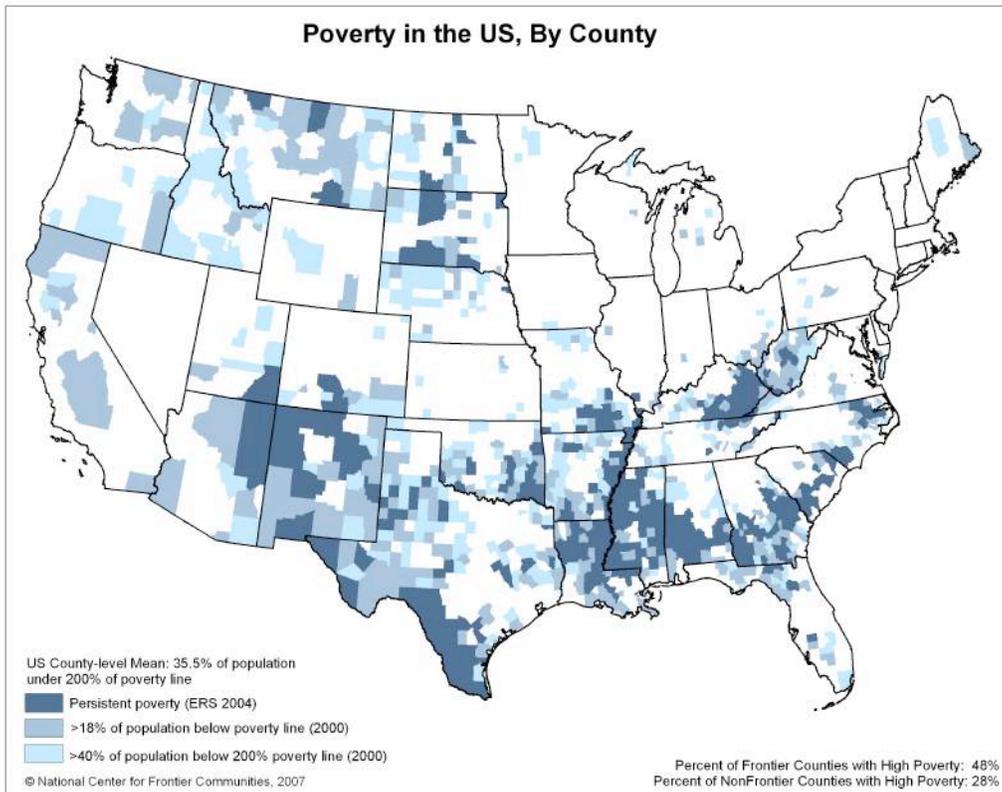
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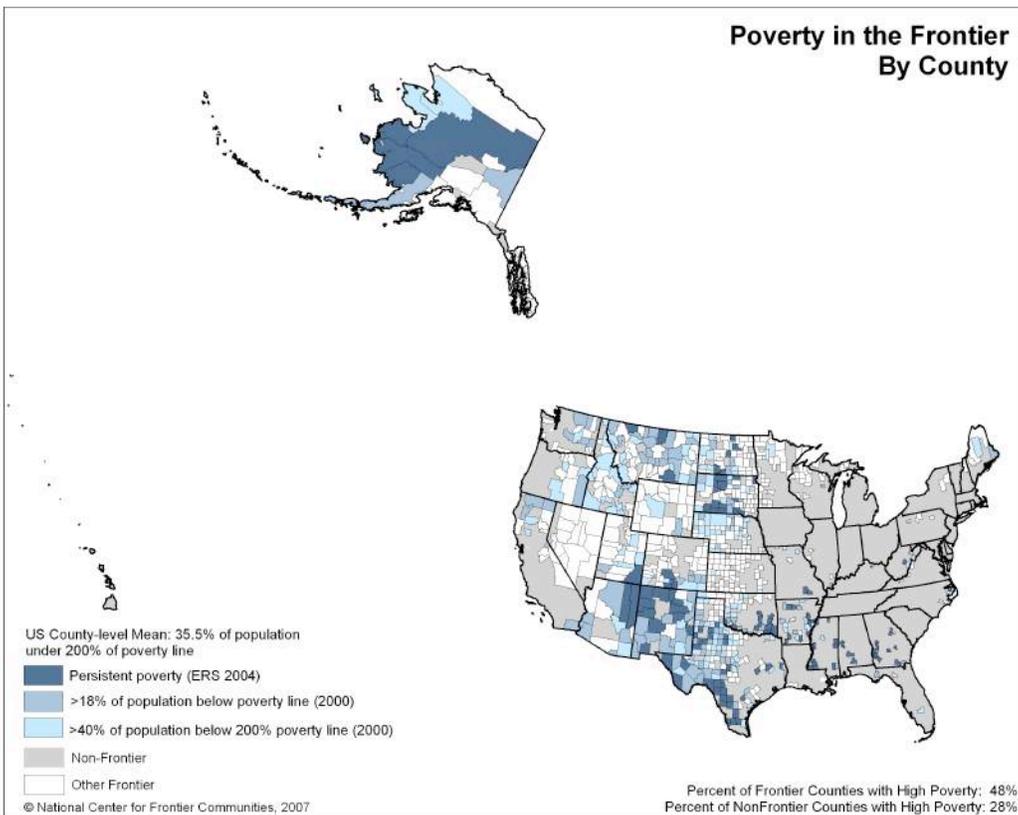
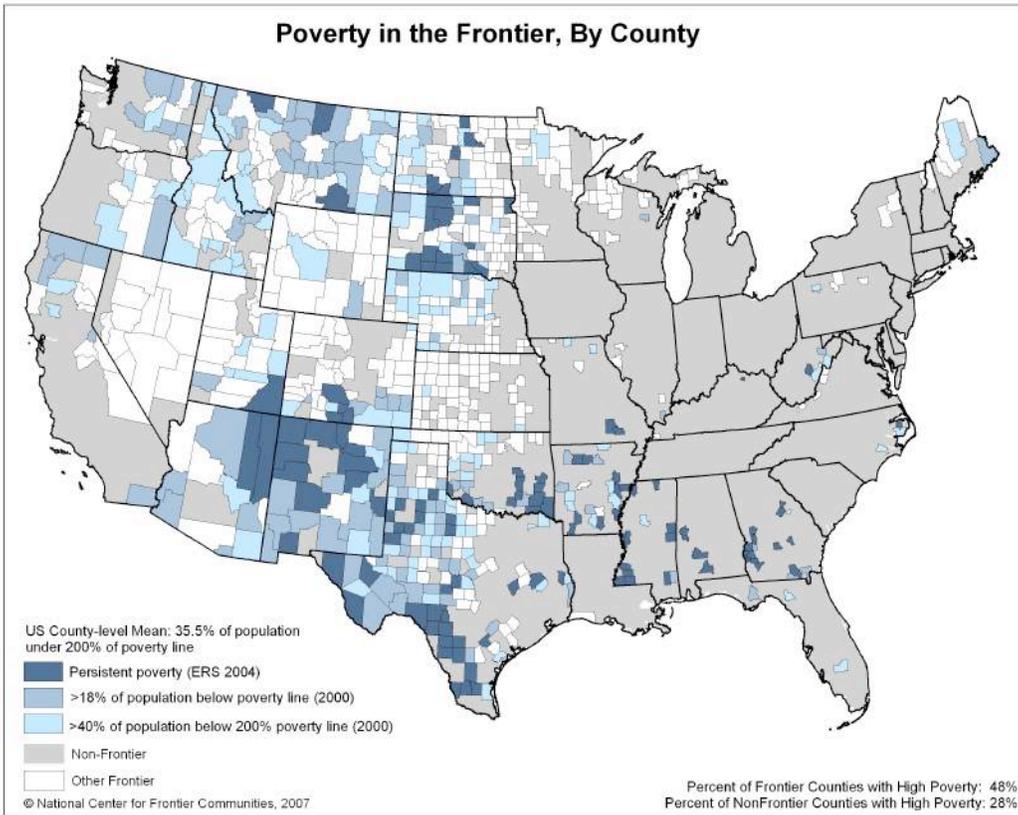
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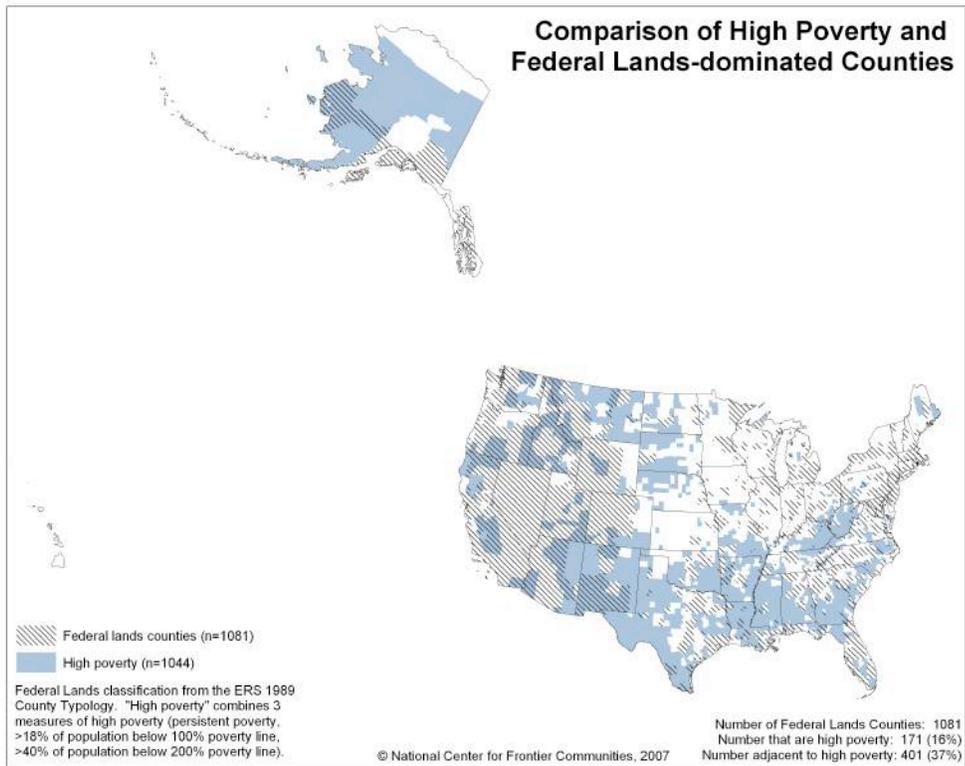
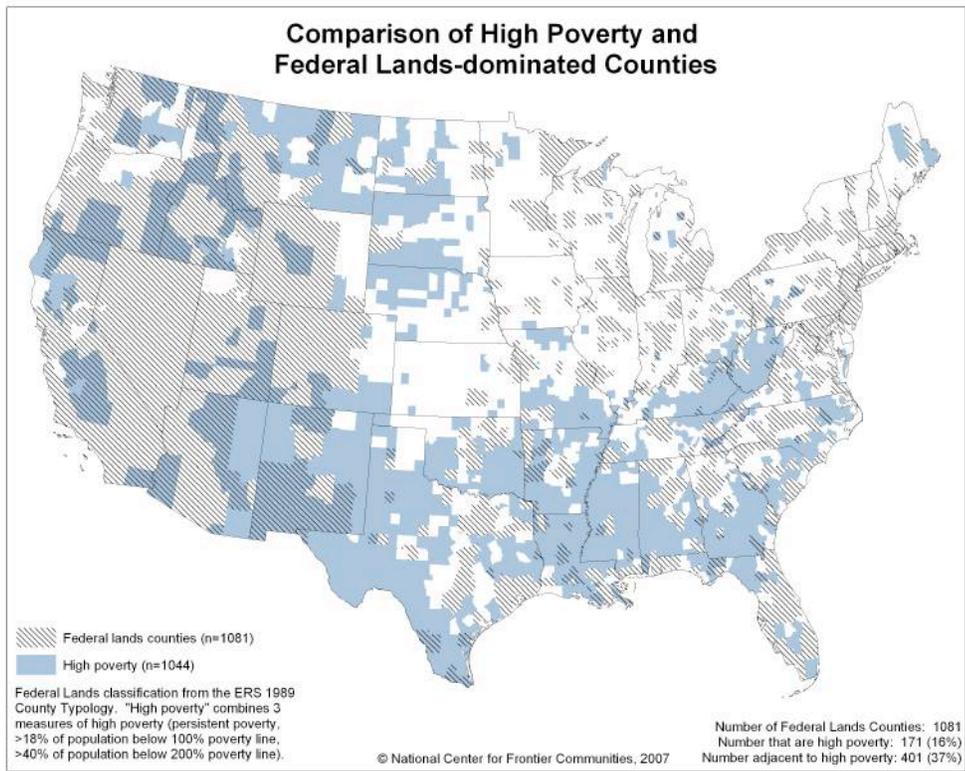
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Map Series 1: Distribution of High Poverty in the USA

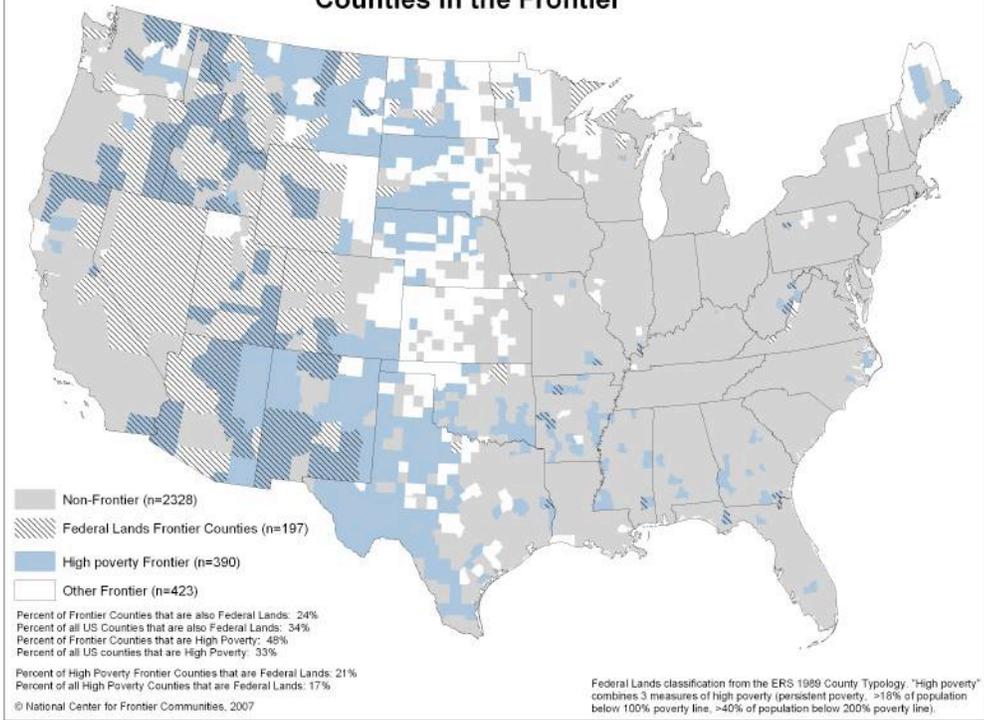




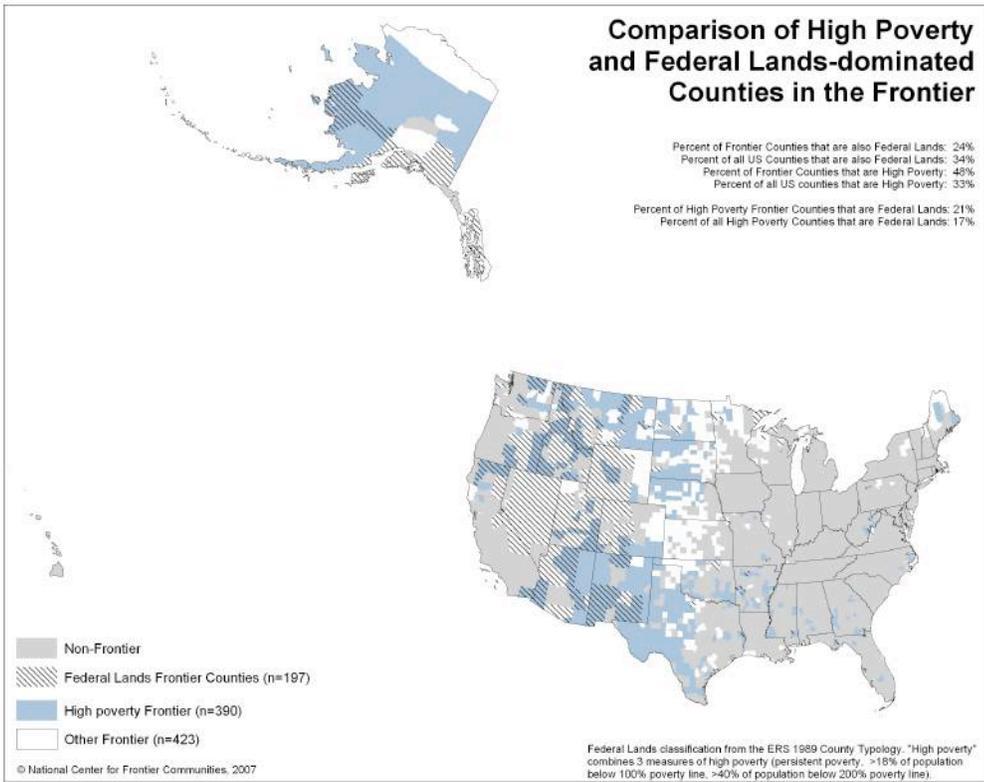
Map Series 2: Poverty and Federal Lands



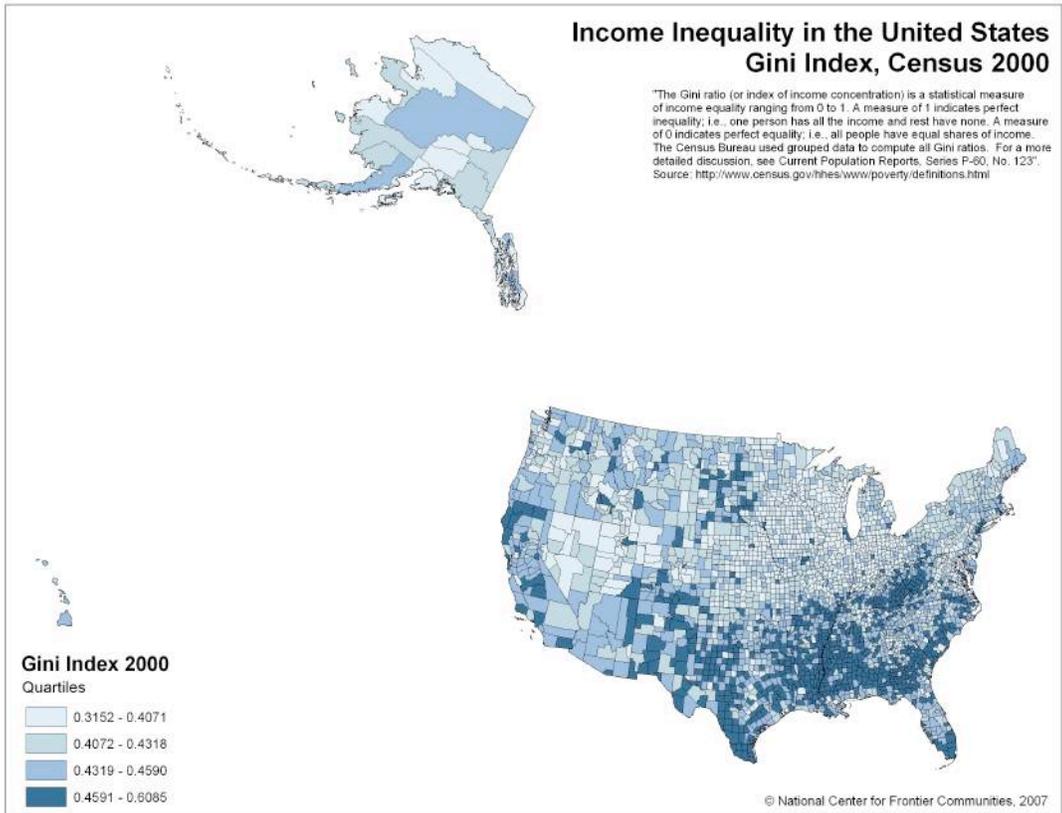
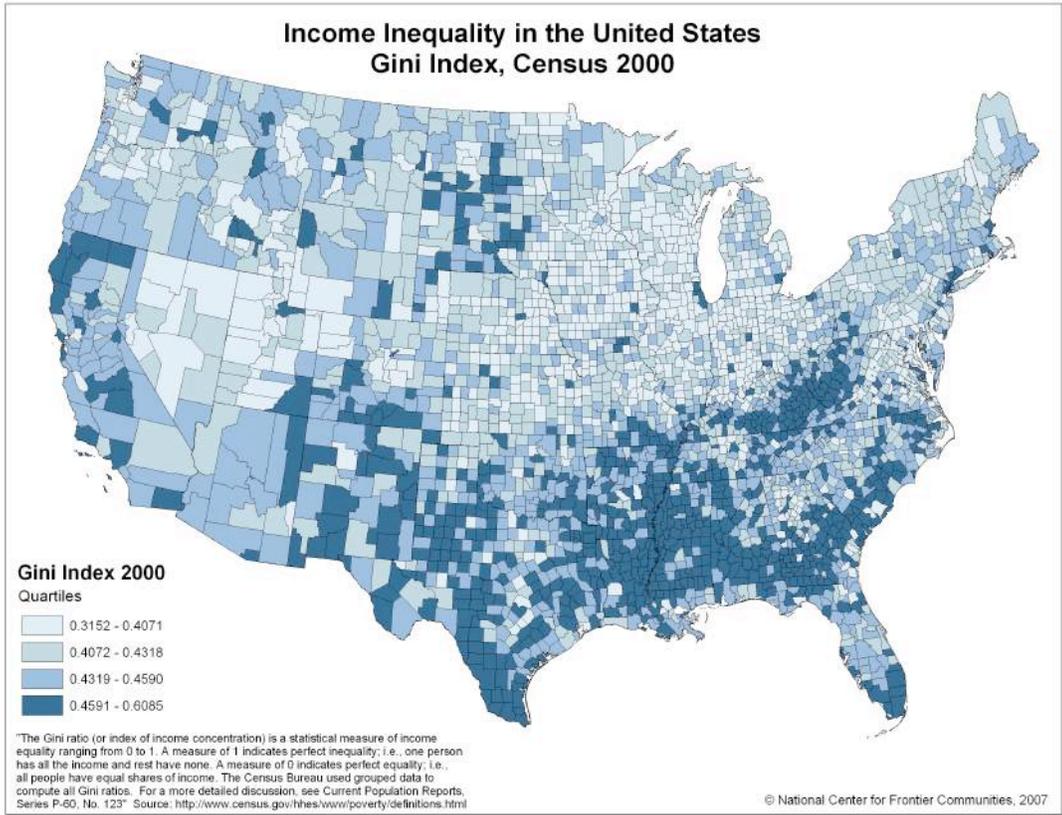
Comparison of High Poverty and Federal Lands-dominated Counties in the Frontier

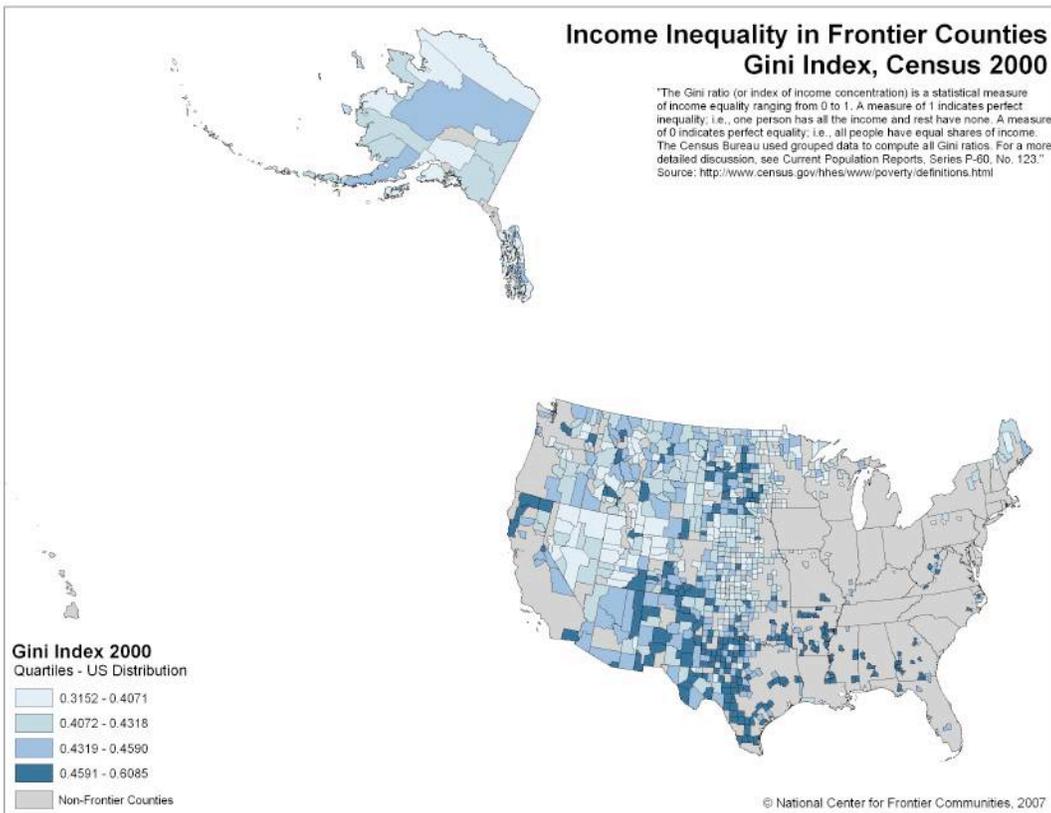
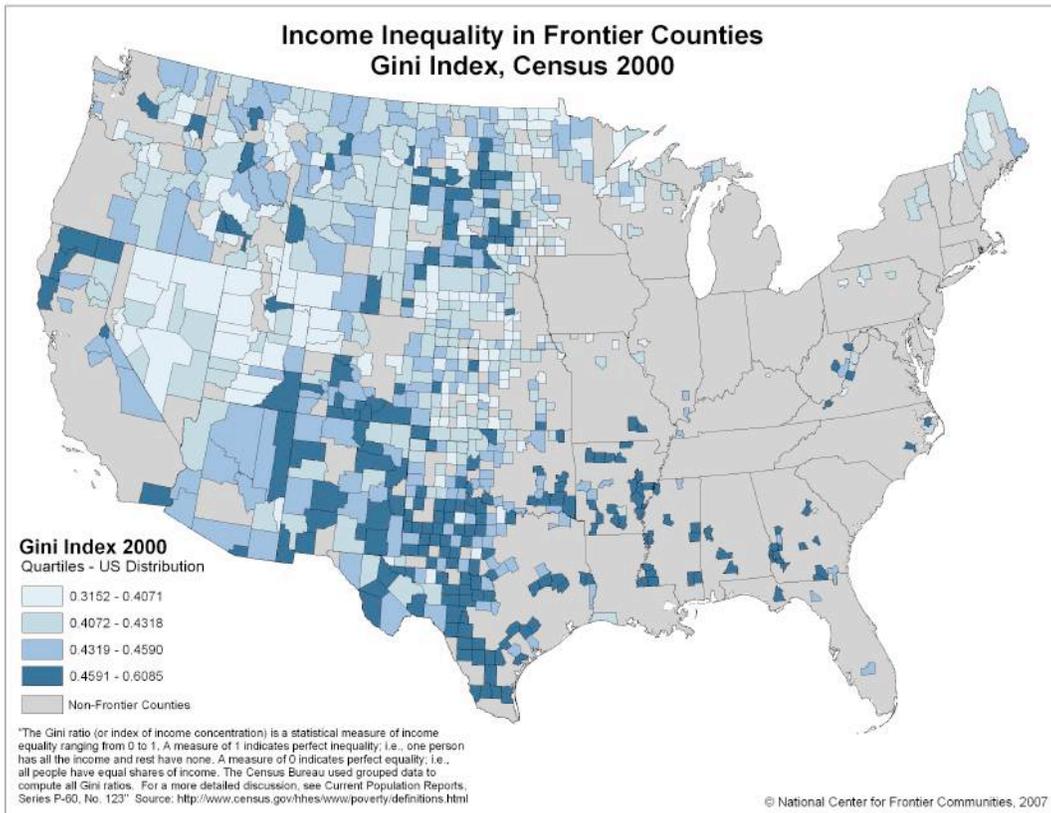


Comparison of High Poverty and Federal Lands-dominated Counties in the Frontier

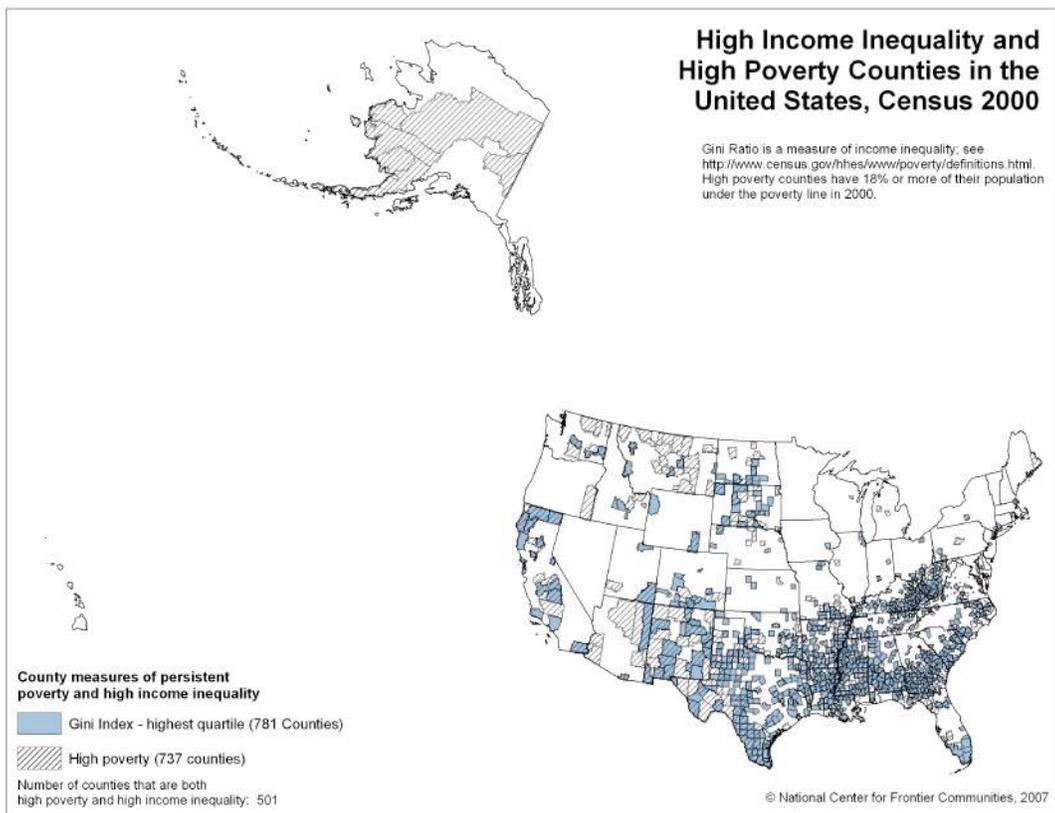
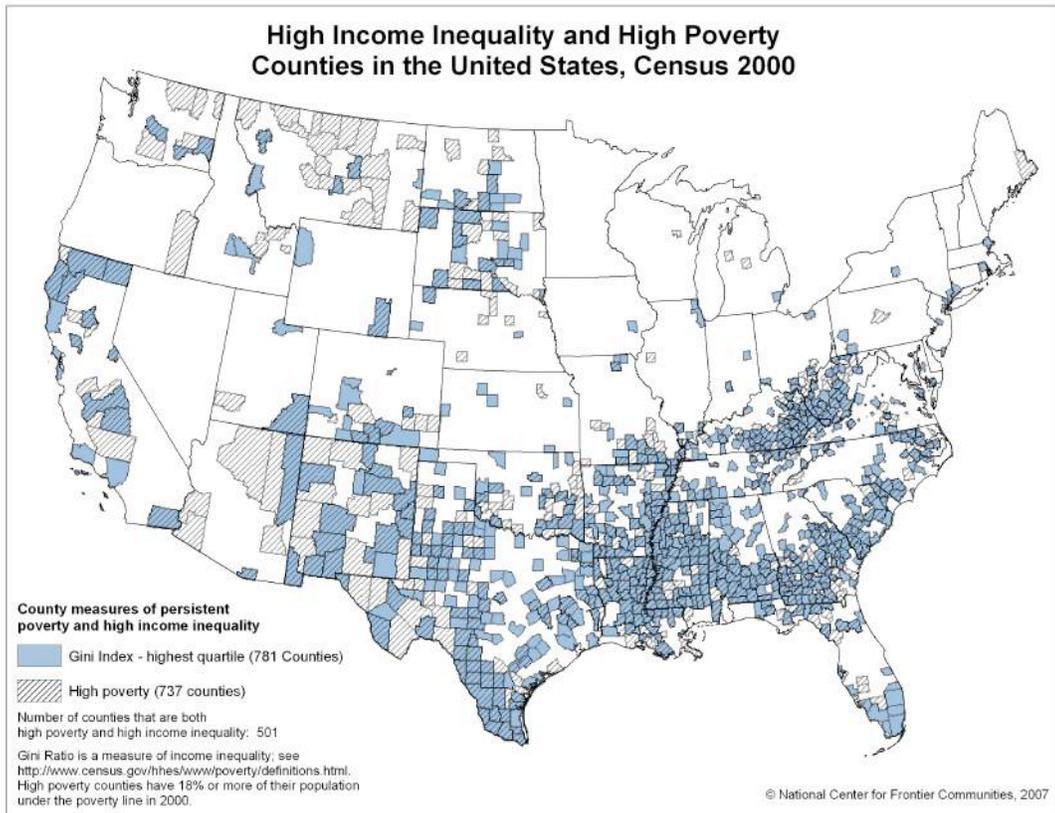


Map Series 3: Income Inequality

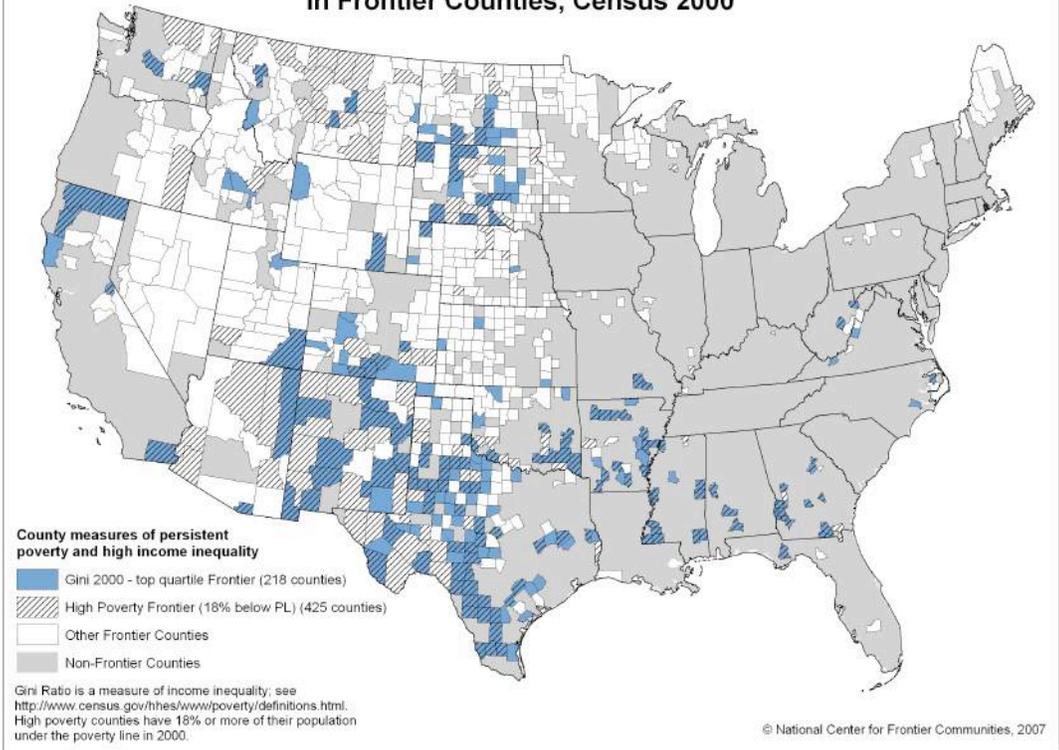




Map Series 4: Income Inequality compared with High Poverty



High Income Inequality and High Poverty in Frontier Counties, Census 2000



High Income Inequality and High Poverty in Frontier Counties, Census 2000

