Social Security Beneficiaries and Aged SSI Recipients by State & County, 1970-2018: Description and Dataset[*]

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Abstract

Abstract: This paper describes the digitization of county-level data from Social Security Administration publications on Social Security Retirement and Survivors Insurance beneficiaries and Supplemental Security Income for the Aged. Data sets are created that begin in the 1970s and go through until 2018, which are merged with population data to create rates of receipt in the population. The variables are described and then used to analyze patterns in receipt across counties and over time. Other data are also merged with these data to examine what is correlated with the number of beneficiaries and recipients at the county level. The data will be made freely available for use in examining a wide variety of questions around retirement and social insurance at older ages.

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1. Introduction

There is substantial geographic variation in the receipt of federal income support to seniors, which is not surprising as these programs depend on working histories, asset levels and other requirements that vary across individuals. For example, Chaffin and Corder (2018) find strong connections between Social Security Retirement and Survivors Insurance and labor market characteristics.

There is also substantial geographic variation in the outcomes of older Americans, such as elderly poverty rates, health and life expectancy (e.g., Rosenberg and Wilson, 2000; Dwyer-Lindgren et al., 2017). For example, van de Water and Sherman (2012) argue that these Social Security programs play a key role in state differences in elderly poverty rates, with states with high claiming rates having relatively low poverty rates.

It is important to examine this variation in more detail. Current research primarily uses states, yet there is enormous variation within states that is missed in such analysis. Research on other programs that has used county-level data, such as Social Security Disability Insurance, has found far greater variation at that level than at the state level (McCoy, Davis, and Hudson, 1994).

This paper outlines the creation of county-level datasets containing the rates of Social Security Retirement and Survivors Insurance beneficiaries and SSI aged recipients in the general population. The Social Security Administration (SSA) publishes *OASDI Beneficiaries by State and County* and *SSI Recipients by State and County* each year, but these are underutilized because they have been in paper form until 1998 and subsequently as online state-specific PDF/Excel files. These data were collected, digitized and cleaned. Policy researchers will be able to use them for standalone analysis, merge it with other socioeconomic data, or use it to explore the potential of a topic before seeking more detailed administrative data.

The Social Security data is available from 1970 to 2018, with the exception of 1981. The SSI data is available from 1974 to 2018. These data also include information on payments and subgroups where available. Given there are more than 3,000 counties, this means that these data include between 100,000 and 150,000 observations for the main variables.

The features of the datasets are described in some detail. They are then used to examine how the distribution of benefit receipt varies over time, in terms of aspects like the location of counties with the highest rates of beneficiaries or recipients, relative dispersion across counties, and how much variation occurs across states and within states. These data are also merged with information on demographic characteristics, economic activity, population health and living costs/house prices. Different regression specifications are used to understand the correlations between these measures and Social Security beneficiary or SSI recipient rates. These results showcase the data and reveal potential avenues for research using these data.

2. State and county data on Social Security and SSI

For many decades, extracts of the Master Beneficiary Record have been used to produce a snapshot of Social Security beneficiaries in current payment status in each state and county in each year. This was called *Social Security Beneficiaries by State and County* until 1985, and has since been called *OASDI Beneficiaries by State and County*. A similar publication, *SSI Recipients by State and County*, has been created for SSI recipients using extracts from the Supplemental Security Record since SSI started in 1974.

Paper copies of the OASDI publication series were obtained from 1970 through to 1998, which the exception of 1981.[1] Online versions are available from 1999. Paper copies of the SSI

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[1] Searches for this publication occurred at a number of places, including SSA libraries at Woodlawn and in DC, and having SSA publications staff search their own archives.

publication series were obtained for 1974 to 1997, and online versions are available from 1998 to 2018. This means that the DI data is available from 1970 to 2018, with the exception of 1981, and the SSI data are available from 1974 to 2018.

The paper copies were digitally scanned and sent for data entry by Digital Divide Data. Two separate operators keyed the data into Excel files and a third operator conducted quality control, resulting in accuracy expected to be at least 99.5%. Once the files were provided, Federal Information Processing System (FIPS) codes were attached on the basis of county and state names. The data were further checked for transcription and other errors, and corrected where found.

The data are for December of each year. They are generally taken from 100% data extracts, although the OASDI data for 1986 is based on a 10% extract of the Master Beneficiary Record. Some information changes over the years; the appendix describes the benefit variables for seniors and the years they are present. The data sets include all of the available information, even if it appears for a limited period of time. The appendix also includes information on the rules under which data were suppressed to protect confidentiality. These also vary over time.

County-level population data were merged into the data sets to allow calculation of benefit and recipient rates. This comes from Census Bureau data that was compiled by the Surveillance, Epidemiology, and End Results program of the National Cancer Institute. The data includes annual estimated population counts by sex and single years of age. Data for county-equivalents in Alaska and Hawaii are not available in the earlier years.

Some county borders change over time, and that occurs at different times in different data sets. Counties that had border changes were merged together to create consistent geographical units over time. This affects relatively few counties; the changes are concentrated in Alaska and

in Virginia, where several of the independent cities and surrounding counties have changed over time. All of the details are provided in the appendix.

3. Data characteristics, data quality and summary statistics

In this section, I describe the basic characteristics of the data sets, including a comparison to statistics from other available SSA sources.

3.1 Social Security Retirement and Survivors Insurance data

Summary statistics for the cleaned Social Security data are presented in Table 1. There are 148,368 observations from 1970 to 2018, except for 1981. FIPS state and county identifiers are attached to all observations. For all of the variables, this table shows the number of observations, mean, standard deviation, lower and upper quartiles, and minimum and maximum values. All of the values have ranges that are reasonable and broadly consistent with other available data.

The only variable available for all observations is the number of primary beneficiaries receiving Retirement Insurance. In Figure 1, the annual sum of the number of these primary beneficiaries in the county data is compared to the national numbers for equivalent years, which is taken from statistics maintained by the SSA Office of the Chief Actuary.[2] The series are very similar; there is a slight undercount in the county data, but it is around 98% of the national total or higher. This is due to confidentiality restrictions and a small number of beneficiaries not being assigned to a county.

In Table 2, more detailed summary statistics are provided for the rate of Retirement Insurance primary beneficiaries per county population. For this and subsequent analyses, Alaska

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[2] Available at: https://www.ssa.gov/oact/STATS/OAbenies.html.

and Hawaii are dropped, as population data are not available throughout for these data. This creates a balanced panel of 147,456 observations, which consist of 3,072 county-equivalents for 48 years. The summary statistics for each year are provided. In line with national trends, the average rate of beneficiaries increases over time. It increases from 7.5% of the population in 1970 to 16.2% in 2018. The standard deviation increases over time, although the proportional increase is small relative to the increase in the average. As shown later in the paper, this suggests that some counties with relatively low rates of Retirement Insurance beneficiaries have exhibited "catch up" in terms of the changes in their rates over time.

Table 3 shows the equivalent summary statistics as Table 2, except it is for all adult beneficiaries of Survivors Insurance. The average number of people in a county receiving it has displayed interesting patterns over time; the average rate increased from 2.4% in 1975 to a peak of 2.8% in the early 1990s. Thereafter, the average rate has declined, and was at its lowest rate of 1.7% in 2018. This pattern has been noted previously using national data, and is partly due to both increasing labor force participation of women and changing marriage history patterns that affect eligibility (Weaver 2010; Iams and Tamborini 2012). For Survivors Insurance beneficiaries, the degree of dispersion is roughly proportional to the changes in absolute values.

Table 4 shows the more detailed summary statistics for all Retirement and Survivors Insurance beneficiaries per county population (including dependents). As the larger program, Retirement Insurance trends have the greatest influence on the overall numbers and the average rate increases steadily between 1980 and 2018. By 2018, counties have an average of around 20% of their population receiving Retirement or Survivors Insurance benefits.

In summary, the data seems consistent over time and closely matches statistics from SSA publications. This suggests that the data entry and processes involved in creating consistent county-equivalents and matching them to population data has worked well.

3.2 Supplemental Security Income Aged recipient data

Summary statistics for the cleaned SSI data are presented in Table 5. There are 138,739 observations from 1974 to 2018. FIPS state and county identifiers are attached to all observations. As for DI in Table 1, this table shows the number of observations, mean, standard deviation, minimum and maximum values for all of the variables. All of the values have ranges that are reasonable and broadly consistent with other available data.

The key measure is the number of Aged SSI recipients. In Figure 2, the annual sum of these measures in the county data is compared to published numbers for SSI recipients from the most recent *SSI Annual Statistical Report* (SSA, 2019b) OACT data. There is an undercount in the county data, that starts out at around 15% and reduces to around 4% by 2018. This is likely because some SSI recipients are not assigned to counties or the data sources are slightly different; more examination will be conducted to understand the source of these differences. The trends in the two series are similar.

In Table 6, more detailed summary statistics are provided for Aged SSI recipients per county population. For this and subsequent analyses, a balanced panel is used. To achieve this: (i) 1974 is dropped, because counties in four states are missing; (ii) Massachusetts is dropped, because its counties are missing through 1977; (iii) Alaska and Hawaii are dropped, as population data are not available throughout for these states; and (iv) dropping counties that are suppressed in some years.

This creates a balanced panel that consist of 2,268 county-equivalents each year for 44 years. The summary statistics for each year are provided. The average rate of SSI recipients decreases over time, from 1.7% of the population in 1975 to 0.2% by 2018. Like the Social Security data, the SSI data seems consistent over time. This suggests that the data entry and processes involved in creating consistent county-equivalents and matching them to population data has occurred at a fairly high rate.

4. Insights on benefit receipt

In this section, I describe some of the features of the data. These analyses can help to understand how Social Security benefits and SSI payments for seniors vary across counties and over time.

4.1 Social Security Retirement and Survivors Insurance

A key feature of the data is the dispersion in benefit rates across counties. It is well known that there is substantial geographic variation in disability benefit receipt, but less is known about how much beneficiary and recipient numbers vary among older Americans.

Figure 3 shows kernel densities for benefit rates for different years. Panel A shows the densities for the Retirement Insurance primary beneficiaries per population in counties in 1970, 1980, 2000 and 2018. As the number of these beneficiaries has increased over time, the absolute dispersion has increased and the positive skewness has increased. This suggests that there has been an increasing number of counties with disproportionately high levels of beneficiaries.

The patterns are very different for Survivors Insurance beneficiaries, which are shown in Panel B for 1975, 1980, 2000 and 2018. From 1975 to 2000, the distribution of the Survivor Insurance beneficiary rate is similar both in the mode and spread. The pattern in 2018 is very

different, with dispersion decreasing substantially. In Panel C, the rate for all Retirement and Survivors Insurance beneficiaries is displayed for 1980, 2000 and 2018. The distributions are similar for 1980 and 2000, while the 2018 distribution shifts to the right and the spread increases slightly. This exercise shows the importance of examining different measures for Retirement and Survivors Insurance, as the geographical patterns have been different over time.

To assess more clearly what is happening to relative dispersion, Figure 4 shows the ratios of the Retirement Insurance primary benefit rates at different percentiles of the annual distributions. The year 1986 is omitted, as the use of a 10% extract of the Master Beneficiary Record in that year creates a much higher level of dispersion that is not comparable to other years. Panel A shows the ratio of 75th percentile rate divided by the 25th percentile, showing the relative ratio at the upper quartile relative to the lower quartile. The ratio is just below 1.6 in 1970, decreases steadily throughout the entire period and is approximately 1.35 by 2018. This implies that a county at the upper quartile goes from having approximately 60% more beneficiaries than a county at the lower quartile in 1970 to having only 35% more in 2018. It also shows that the absolute dispersion in the kernel densities are related to increasing beneficiary numbers, but that in relative terms the dispersion has been decreasing. This suggests that more of the growth was in counties with relatively low rates of benefit receipt. The annual ratio of the 90th to the 10th percentile is shown in Panel B of Figure 4. This is measuring the relative dispersion further out in the tails of the distribution, and shows a similar pattern to those already described for Panel A.

The ratios of these percentiles of the annual distributions are repeated for Survivors Insurance adult beneficiaries in Figure 5. The patterns are quite different. Dispersion increases from 1975 until the late 1980s, is fairly stable until around 2005, and has been decreasing

thereafter. Figure 6 present similar information for all Retirement and Survivors Insurance beneficiaries. The relative differences in overall benefit rates have been declining over time, although the reductions are not as large as for Retirement Insurance primary beneficiaries by themselves.

It is interesting to compare the dispersion of rates for Retirement and Survivors Insurance to those for Disability Insurance presented in Moore (2020). For county-level Disability Insurance beneficiary rates, the ratio of the 75th to 25th percentile is between 1.31 and 1.39. This means that the dispersion is less for Disability Insurance than in Figure 4-6 here. However, the ratio of the 90th to 10th percentiles averages around 3.1 for Disability Insurance, which is substantially higher than in Figures 4-6. This suggests that Retirement and Survivors Insurance is more spread across counties than Disability Insurance until examining counties with very high and very low rates of receipt, where the geographic differences for Disability Insurance are much greater.

We can also measure persistence across the different time periods for all of the county sample by looking at the Spearman correlation in which counties rank in terms of the fraction of the population receiving Social Security benefits. A correlation of one means that counties stay in the same relative position between one time period and the next, while a correlation of zero means that there is no relationship in rankings between time periods. Table 7 shows the rank correlations between 1970, 1980, 1990, 2000, 2010 and 2018 for Retirement Insurance primary beneficiaries. The rank correlation between 1970 and 2018 is 0.54, which means there is substantial persistence in the rate over a long period. The diagonal values give the rank correlations over similar periods of time (e.g., every ten years). In the first ten years between 1970 and 1980, the rank correlation is 0.91. Over subsequent periods, the correlations are: 0.94

between 1980 and 1990; 0.91 between 1990 and 2000; 0.92 between 2000 and 2010; and 0.96 between 2010 and 2018. This and comparisons of the other diagonals suggest that the rank correlations have been similar over time.

Table 8 presents a similar set of rank correlation results for annual changes in Retirement Insurance primary benefit rates. These rank correlations are weak, and sometimes negative. However, the most recent annual change year from 2017 to 2018 has a correlation of 0.3 with the change between 2009 and 2010. This indicates that local factors may be becoming more important in explaining annual changes, although more time may be needed to determine if that is the case.

The equivalent Spearman rank correlations are presented for Survivors Insurance adult beneficiaries in Tables 9 and 10. While the 10-year correlations in rates is quite similar to those for Retirement Insurance, the long-term correlation between the 1975 and 2018 is slightly higher at 0.63. Again, when it comes to annual changes, there is little relationship over time. The patterns are also similar for overall rates of Retirement and Survivors Insurance beneficiaries, which are shown in Tables 11 and 12.

4.2 Supplemental Security Income

The analysis of SSI Aged recipients largely mirrors that conducted for Social Security beneficiaries. Figure 8 shows the kernel densities for 1975, 1980, 2000 and 2018; the dispersion decreases as the rates decline over time, with the starkest changes occurring in the 2000s.

Measure of relative dispersion are provided in Figure 9. Panel A shows the annual ratio of 75th percentiles to the 25th percentiles, while the annual ratio of the 90th to the 10th percentile is shown in Panel B. The first thing of note is how much larger these ratios are than for Social Security beneficiaries: the rate of SSI Aged recipients is roughly four times higher in

counties at the upper quartile than counties at the lower quartile. In terms of changes over time, the dispersion increased from 1975 to the early 1980s, before declining for the next 20 years and then remaining steady since around 2006. The patterns for the ratio of the 90th and 10th percentiles are similar.

Again, I measure persistence across the different time periods for all of the county sample through looking at the Spearman correlation in where counties rank in terms of the fraction of the population receiving SSI Aged payments. Table 13 shows the rank correlations between 1975, 1980, 1990, 2000, 2010 and 2018. The rank correlation between 1975 and 2018 is 0.57, suggesting some persistence over time. Interestingly, when compared to the rank correlation for SSI disability recipients of 0.76 that is presented in Moore (2020), this is much lower.

Table 14 presents a similar set of rank correlation results for annual changes in SSI Aged rates. These rank correlations are the strongest of any of the ones presented for annual changes in rates. Over the early 10-year periods, the annual changes have a correlation of around 0.4 or 0.5. Since the early 2000s, the correlation has become weaker although is still present. Given the overall rates have been declining, this means that the declines have been fairly persistent in terms of the county changes that have been driving them.

One interesting question is how much of the county-level SSI variation is explained by states, given the important role that state policies and other factors have on the program. The fraction of the total variation that is explained by variation between states – rather than the variation within them – is shown for each year in Figure 10. In 1970, about 60% of the variation occurs across states, so state differences alone explain the majority of the county differences in SSI Aged recipient rates. This fraction declines over time, so that by 2011 only about 28% of the total cross-county variation is explained by cross-state factors. One way to think about this is that

state factors were decreasing in importance between 1975 and 2011, after which they have had a stable influence.

It is also interesting to compare the rank correlation between Social Security Retirement Insurance primary beneficiary and SSI Aged recipient rates at the county level, as both programs are providing income to seniors on the basis of age. It is possible that they are substitutes, as SSI is available to people with limited or low work histories who are not insured for Social Security or not insured at high enough benefit levels to be higher than SSI payment rates. On the other hand, there are common county-level factors that may affect these numbers. It is clear from Figure 11 that the former effect dominates, with a negative correlation that is around -0.2 in the late 1970s and increases in absolute magnitude to around -0.34 by 2018. Counties with relatively high numbers of Social Security Retirement Insurance have relatively low numbers of SSI Aged recipients.

5. Insights from combining data with other county-level information

There is long-term persistence in county-level benefit rates, although there is movement of where counties rank. There is also variation over time in the level of dispersion across counties and the amount of variation of explained by states. It is interesting to merge these data with other socioeconomic data, to examine the correlations between benefit receipt and other county characteristics.

5.1 Data on socioeconomic characteristics

Data are drawn from a number of sources that have information over many years that are available at the county level.

Demographic data. Demographic measures can be created from the already-described population data from the Census Bureau that was compiled by the Surveillance, Epidemiology, and End Results program of the National Cancer Institute. The data includes annual estimated population counts by sex, race and single years of age. This is used to calculate the fraction of the population by sex and in different age and race groups. This is available throughout.

Mortality data. Mortality is a widely available measure of population health. I use a compilation of mortality data from the Institute for Health Metrics and Evaluation. The mortality rates are created from deidentified death records from the National Center for Health Statistics, who compile data from death certificates lodged with state vital statistics bureaus. Census population data are used to create the rates. Mortality rates are separately available for those aged 25 to 45, 45 to 65, and above 65. This is available from 1980 to 2014.

Housing price data. House prices are a widely available measure of local living costs. Housing price index data is available from the Federal Housing Finance Agency, which constructs an index of housing prices that starts in 1975 and is available at the county level (Bogin, Doerner, and Larson, 2016). It uses proprietary data held by the Agency on single family homes with roughly constant characteristics throughout the measurement period. It is constructed by regressing the change in log sale price of a home on period fixed effects and then taking the exponential of the fixed effects coefficients. The Index is available from 1975, although the coverage of the data is not complete in the earlier years.

Earnings and employment. Information on county-level measures is taken from the Regional Economic Accounts of the Bureau of Economic Analysis. The Bureau constructs statistics based primarily on data from the U.S. Bureau of Labor Statistics and the Internal Revenue Service, and then uses additional data and adjustments. Net earnings and jobs per capita

are measures of economic activity that are consistently available in the data. This is available from the mid-1970s.

In order to have all of the covariates in the analysis, the data is restricted from 1980 to 2014. This is merged separately into the Social Security and SSI data sets. This allows me to consider the relationship between beneficiary and recipient rates and these various measures in regressions where a benefit rate is the dependent variable and the other measures are used as independent variables. The regression model takes the form:

$$y_{it} = X_{it}\beta + \gamma_{it} + \epsilon_{it} \tag{1}$$

Where y_{it} is either the benefit/recipient rates in county i and year t. In terms of the independent variables on the right-hand side, X_{it} are county-level characteristics that are related to economic activity (earnings and employment); population health (mortality rates); living costs (housing price index values); and demographic characteristics (age, sex and race measures). I use three different sets of controls: (1) a complete set of year dummy variables, to control for common shocks; (2) year dummies plus county fixed effects, to control for permanent differences related to each county; and (3) year and county fixed effects, plus state-by-year fixed effects to control for time-varying state-level characteristics (such as state policies). There is no "right" specification; they are measuring the conditional correlations using different types of variation.

5.2 Social Security Retirement and Survivors Insurance

In this section, the dependent variables are the same as those that have been used for Retirement and Survivors Insurance: for Retirement Insurance primary beneficiaries, for Survivor Insurance adult beneficiaries, and for all Retirement and Survivors Insurance beneficiaries (including dependents).

Table 15 shows the results for the full sample of counties from 1980 to 2014 using Retirement Insurance primary beneficiary rates as the dependent variable. Column (1) shows the results with only year fixed effects. These correlations essentially show what sort of characteristics are associated with higher rates of Retirement Insurance beneficiaries. For the demographic characteristics, rates are negatively correlated with the proportion of residents who are younger and positively correlated with the proportion of residents who are older; and with the fraction white and the fraction black (relative to the fraction of another race).

The correlation with the mortality risks are mixed, with a negative one for mortality risk at ages 65 and over. There is a positive correlation with house prices. There is a negative correlation with average net earnings, meaning that areas where average earnings are low has relatively higher benefit rates. There is a positive correlation with employment. It is interesting that the R-squared is 0.82, suggesting that these measures explain a lot of the cross-county and temporal variation.

The results with county fixed effects added are in column (2), and results with the further addition of state-by-year fixed effects are in column (3). Most of the key takeaways are fairly similar across both of these columns, although the fraction female is now negatively correlated with Retirement Insurance rates in both columns, mortality risk at ages 65 and over is positively correlated with Retirement Insurance rates while no other mortality measure has a statistically significant relationship, and the sign on the housing price index switches from positive to negative. This suggests that, once controlling for time-varying state factors and permanent county characteristics, it is the counties where there has been a decrease in housing prices that have seen an increase in DI rates (although the relationship is not statistically significant once controlling for state-by-year factors).

The regression results for Survivors Insurance adult rates are shown in Table 16. There is a strong positive correlation between rates and the fraction female in all three specifications, which is not surprising given that many beneficiaries are widows. Age composition has a similar influence as it does for Retirement Insurance, while the fraction white and the fraction black have positive relationships with Survivor Insurance rates in the baseline specification but no statistically significant relationship with Survivor Insurance rates in the other two specifications. The mortality risk for ages 65 and over is negative, which is interesting as it suggests that higher mortality at older ages is associated with lower rates of benefit receipt. Across all three specifications, there are stable negative relationships for housing prices and average net earnings, and a stable positive relationship for jobs per capita. The baseline specification explains less of the county variation than it did for Retirement Insurance, although as the R-squared is 0.63 it still accounts for the majority of the variation.

Table 17 shows the results for the full sample of counties from 1980 to 2014 using all Retirement and Survivors Insurance rates as the dependent variable. The relationships are similar to those for Retirement Insurance in Table 15. In Table 18, the same regression results are presented but for two time periods: 1980 to 1997 and 1998 to 2014. I present the results from each specification side-by-side for ease of comparison, to see if relationships have changed over time. In the baseline specification, the fraction female has a positive relationship to Social Security rates in the 1980-1997 period but a negative one in the 1998-2014 period. Once county fixed effects are added the relationships for the fraction female become weaker and disappear in the final specification. The other relationships are generally stable over time.

5.2 Supplemental Security Income

A similar set of exercises are completed using the county-level rate of aged SSI recipients as the dependent variable. The results using the main sample is presented in Table 19, with the baseline results shown in column (1). The fraction female is associated with higher rates of SSI receipt, while the younger age variables unsurprisingly are negatively related to SSI for aged recipients. There is negative relationship between the fraction white and SSI receipt that is not statistically significant in the second specification. SSI receipt has a negative correlation with the mortality risk for those aged 65 and over in all three specifications. The housing price index has a positive relationship with the SSI rates. The relationships to the other economic variables are generally of the opposite sign to their relationship to Social Security outcomes – while earning relationship is negative in the first specification, it is positive once the county and state-year fixed effects are added; jobs per capita has a negative relationship to SSI receipt for all three specifications.

The results for the two different time periods are presented in Table 20. The relationship between mortality risk and housing prices differs over time in the second specification, changing from positive to negative over time. This again raises some interesting issues worthy of further exploration. The direction of the other relationships is fairly stable.

6. Conclusion

The Social Security Administration has developed some great resources for researchers and policy makers, including annual publications providing statistical information on program activity at the county level. This paper outlines the structure of the data and shows some

interesting patterns and uses of it. The data will be made available to everyone, providing a data asset for people interesting federal income support.

There is substantial geographic variation in the number of seniors who receive income support through the Social Security and SSI programs. Understanding this geographic variation is important to understand the value of these programs. There has been some change over time, but it is not uniform. This paper gives an overview of the data and its characteristics, paving the way for further research to examine specific issues in more detail.

7. References

Bogin, Alexander, William Doerner and William Larson. 2016. "Local House Price Dynamics: New Indices and Stylized Facts." *Federal Housing Finance Agency Working Paper 16-01*.

Chaffin, L.Y., & Corder, J.K. 2018. "How do social security expenditures vary by state? The surprising impact of unemployment." *Journal of Public Policy*, 38(3): 305-328.

Dwyer-Lindgren, L., Bertozzi-Villa, A., Stubbs, R.W., Morozoff, C., Mackenbach, J.P., van Lenthe, F.J., Mokdad, A.H., & Murray, C.J.L. 2017. "Inequalities in life expectancy among US counties, 1980 to 2014." *JAMA Internal Medicine*. 8 May 2017. doi:10.1001/jamainternmed.2017.0918.

Iams, Howard M. and Christopher R. Tamborini. 2012. "The Implications of Marital History Change on Women's Eligibility for Social Security Wife and Widow Benefits, 1990–2009." *Social Security Bulletin* 72(2): 23–38.

McCoy, John L., Miles Davis, and Russell E. Hudson. 1994. "Geographic Patterns of Disability in the United States." *Social Security Bulletin*, 57(1): 25–36.

Moore, Timothy J. 2020. "Disability Benefit Receipt by State and County, 1970-2018: Description and Dataset." *Working paper*, Prepared for the NBER Disability Research Consortium.

Rosenberg, M.W., & Wilson, K. 2000. "Gender, poverty and location: how much difference do they make in the geography of health inequalities?" *Social Science & Medicine*, 51(2): 275-287.

Social Security Administration. 2019a. *Annual Statistical Report on the Social Security Disability Insurance Program, 2018*. (Social Security Administration Publication No. 13-11826.) Washington DC: Social Security Administration Office of Retirement and Disability Policy, and Office of Research, Evaluation, and Statistics.

Social Security Administration. 2019b. *SSI Annual Statistical Report, 2018*. (Social Security Administration Publication No. 13-11827.) Washington DC: Social Security

Administration Office of Retirement and Disability Policy, and Office of Research, Evaluation, and Statistics.

Van de Water, P.N., and Sherman, A. 2012. *Social Security Keeps 21 Million Americans Out of Poverty: A State-by-State Analysis. Center on Budget and Policy Priorities*, cbpp.org (Accessed 19 April 2019).

Weaver, David A. 2010. "Widows and Social Security." *Social Security Bulletin* 70(3): 89-109.

Figure 1. Comparison of number of Social Security Retirement Insurance Primary Beneficiaries in County Data and National Statistics

Figure 2. Comparison of Numbers of Aged SSI Recipients in County Data and National Statistics
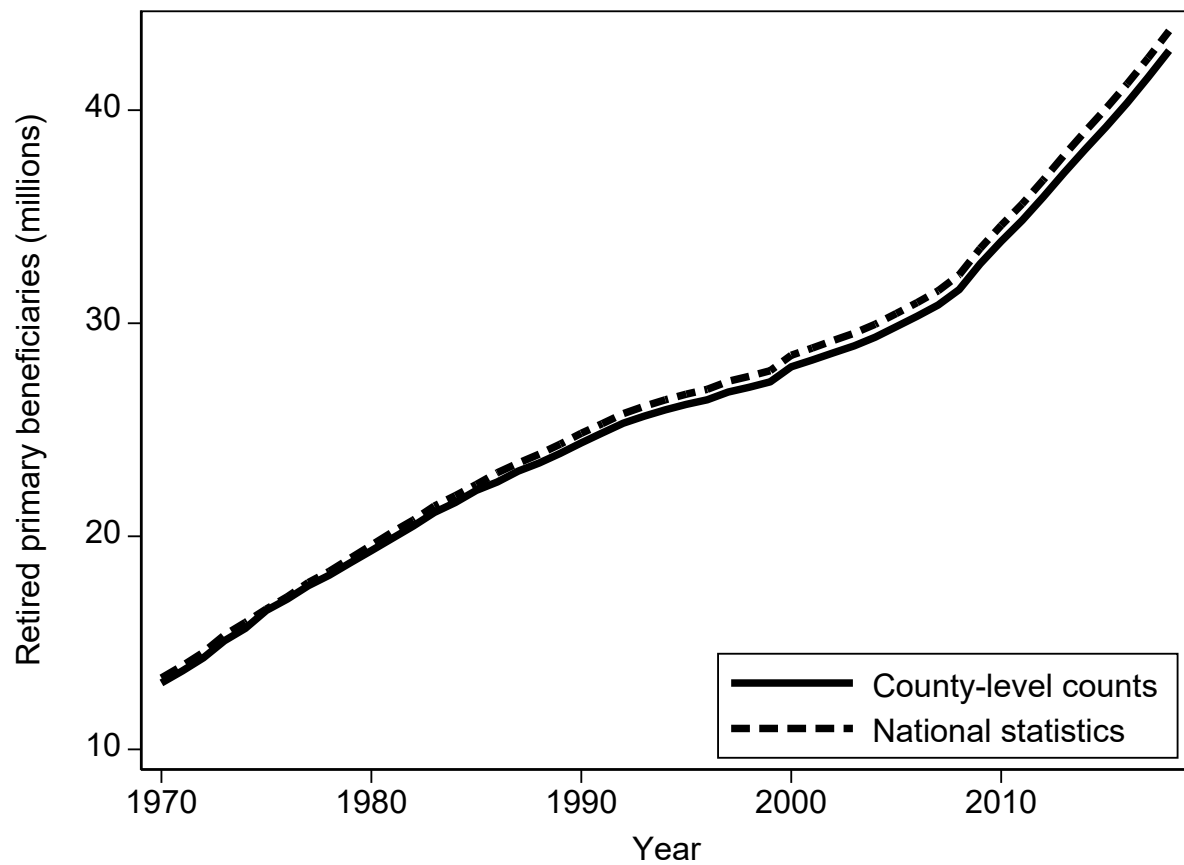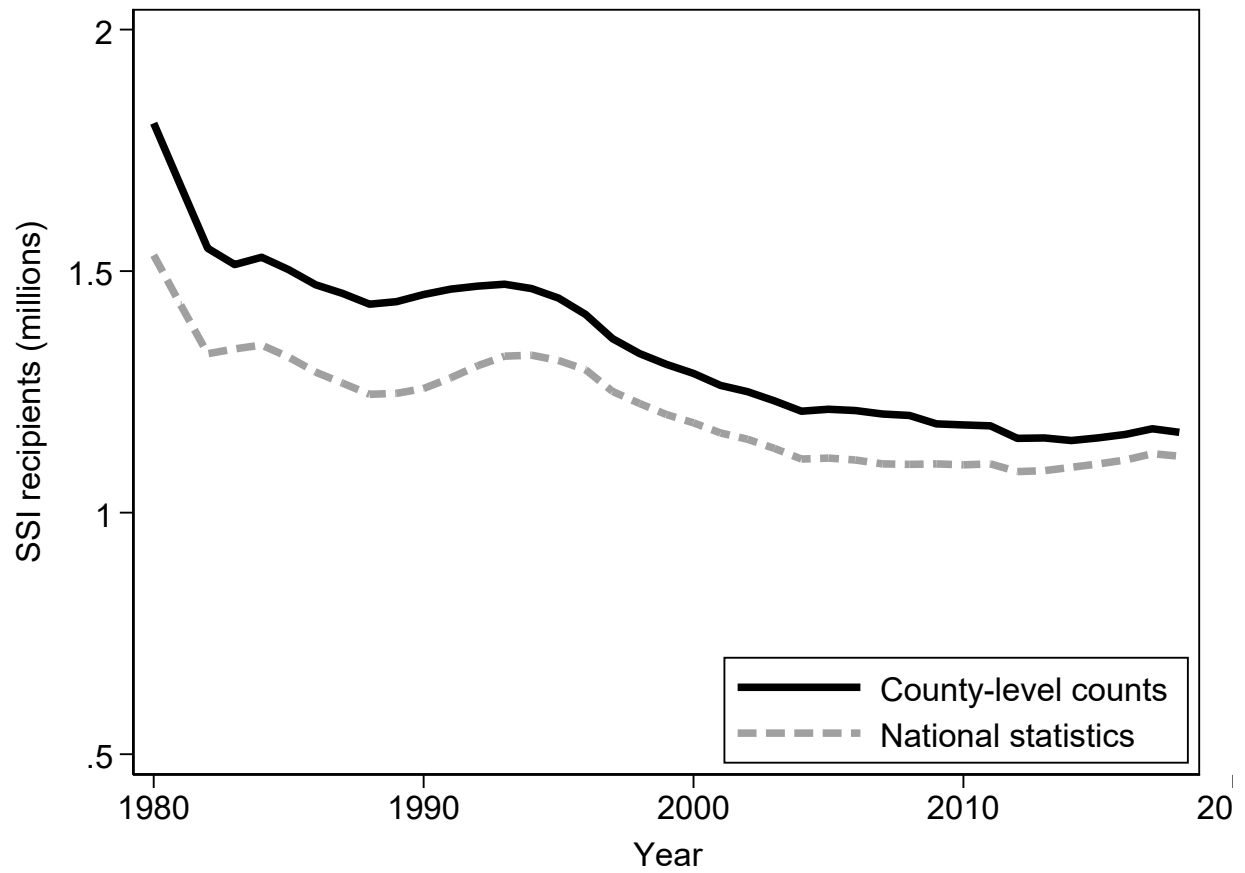
Sources: Author's own calculations and SSA (2019b).

Figure 3. Distribution of Social Security Retirement and Survivors Insurance Rates across Counties, Selected Years

A: Rate for Retirement Insurance Beneficiaries
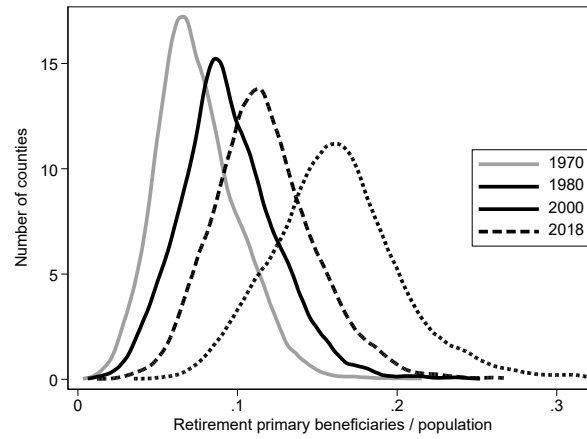
B: Rate for Survivors Insurance Beneficiaries
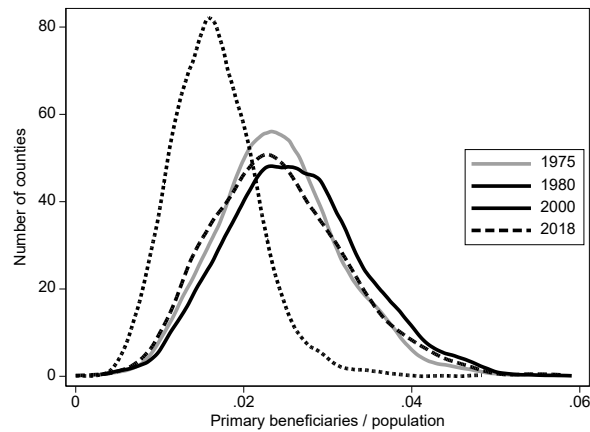
C: Rate for All Retirement and Survivors Insurance Beneficiaries
(including Dependents)
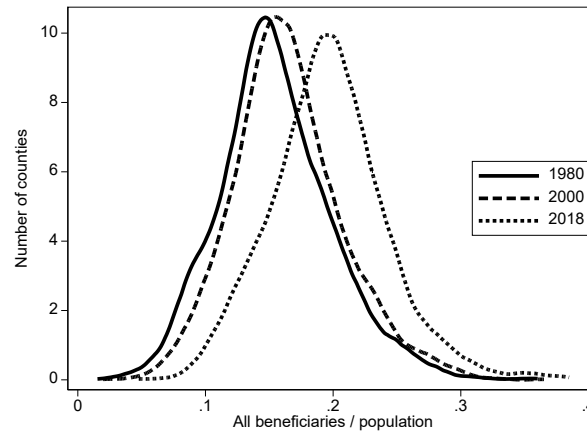
Notes: This figure shows the triangular kernel densities for the distribution of beneficiary rates in different years. This approximates the probability density functions of these data.

Figure 4. Dispersion of Social Security Retirement Insurance
Primary Beneficiary Rates over Time

A: Ratios of 75th/25th percentiles
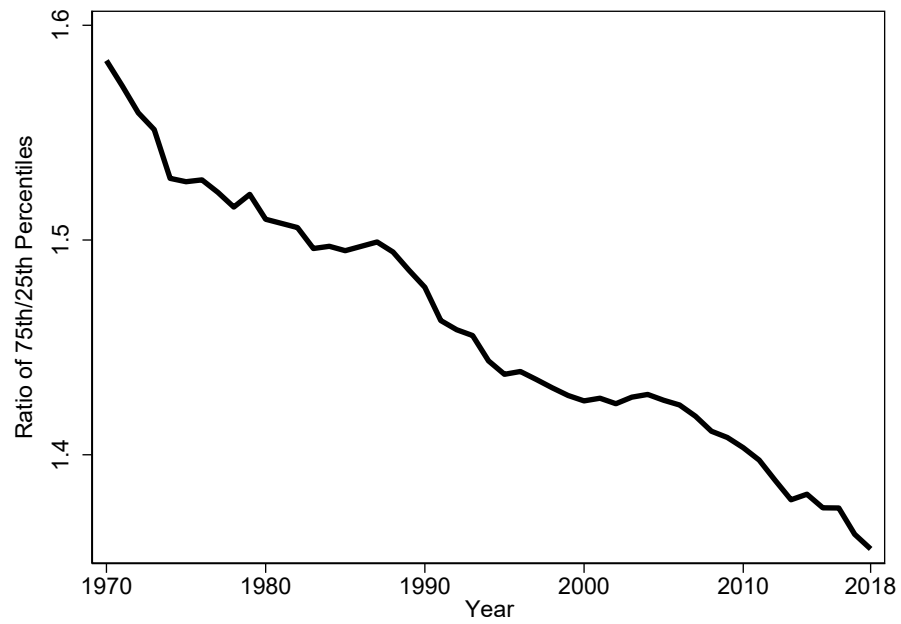
B: Ratios of 90th/10th percentiles
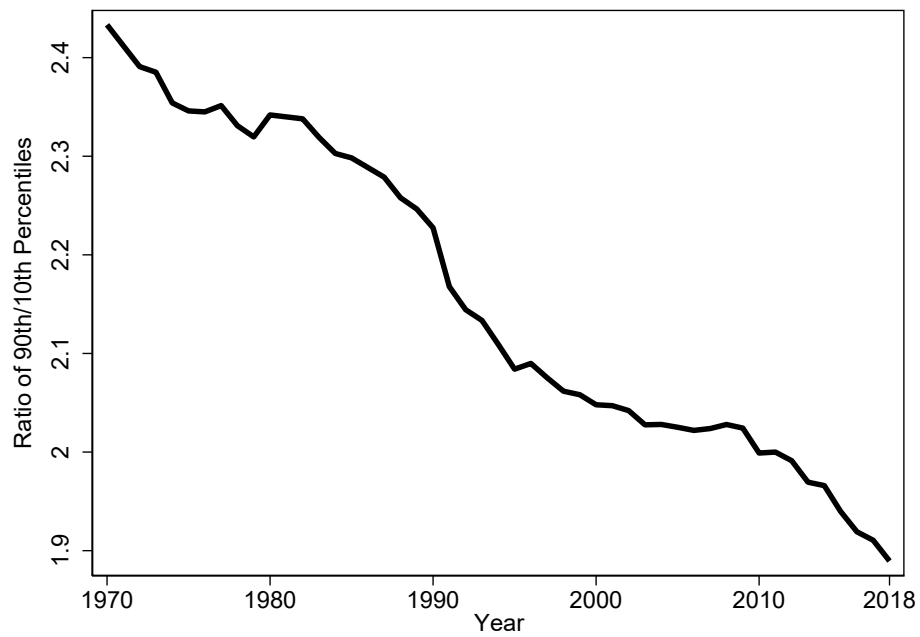
Figure 5. Dispersion of Social Security Survivors Insurance
Primary Beneficiary Rates over Time

A: Ratios of 75th/25th percentiles

B: Ratios of 90th/10th percentiles
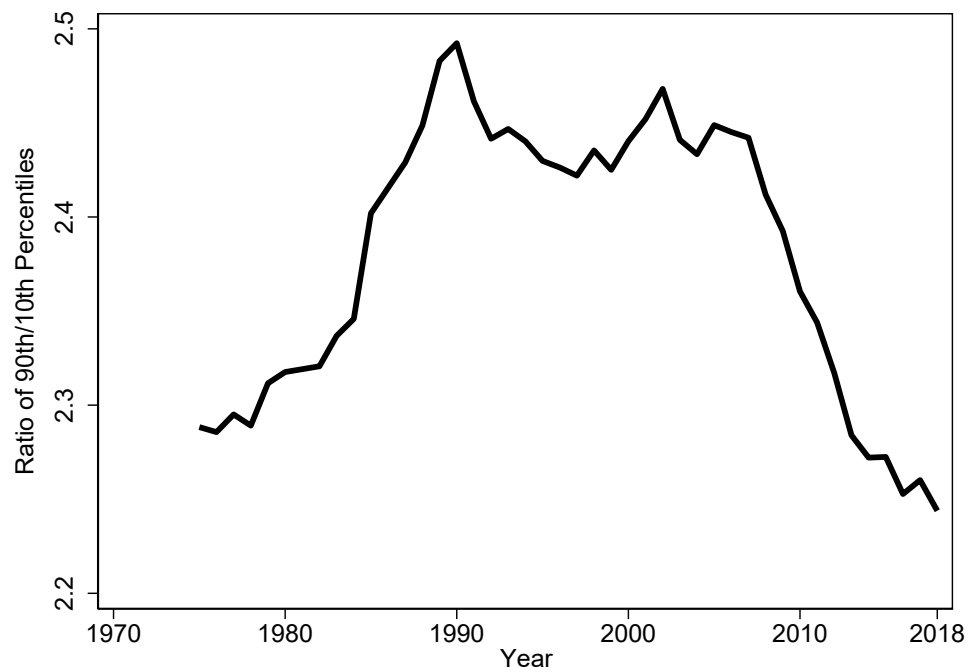
Figure 6. Dispersion of Rates for All Social Security Retirement and Survivors Insurance Beneficiaries over Time

A: Ratios of 75th/25th percentiles

B: Ratios of 90th/10th percentiles
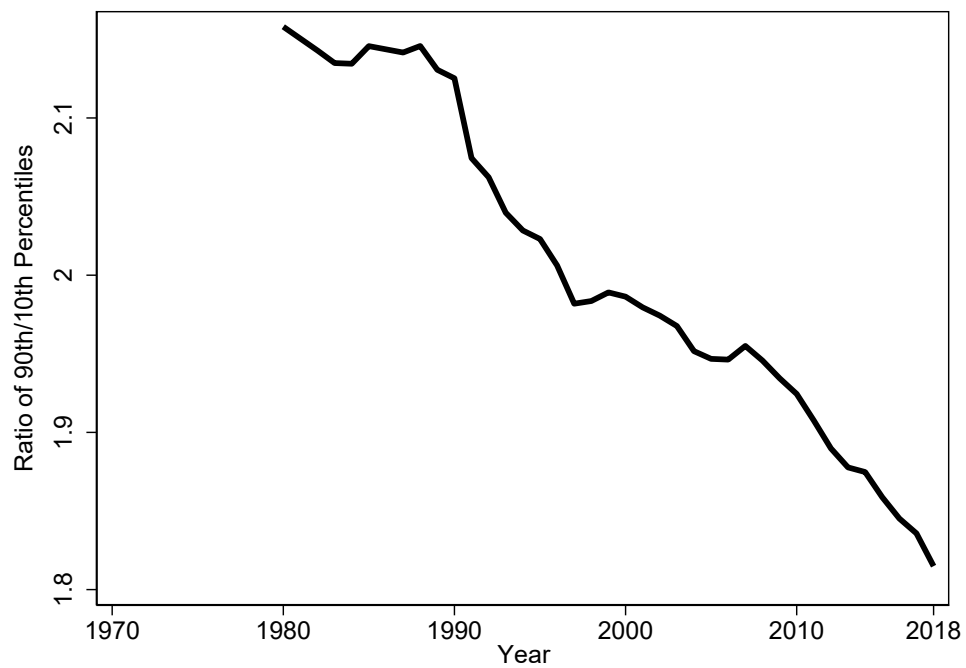
Figure 7. Correlation between the Social Security Retirement Insurance Beneficiary Rate and the Social Security Survivors Insurance Beneficiary Rate
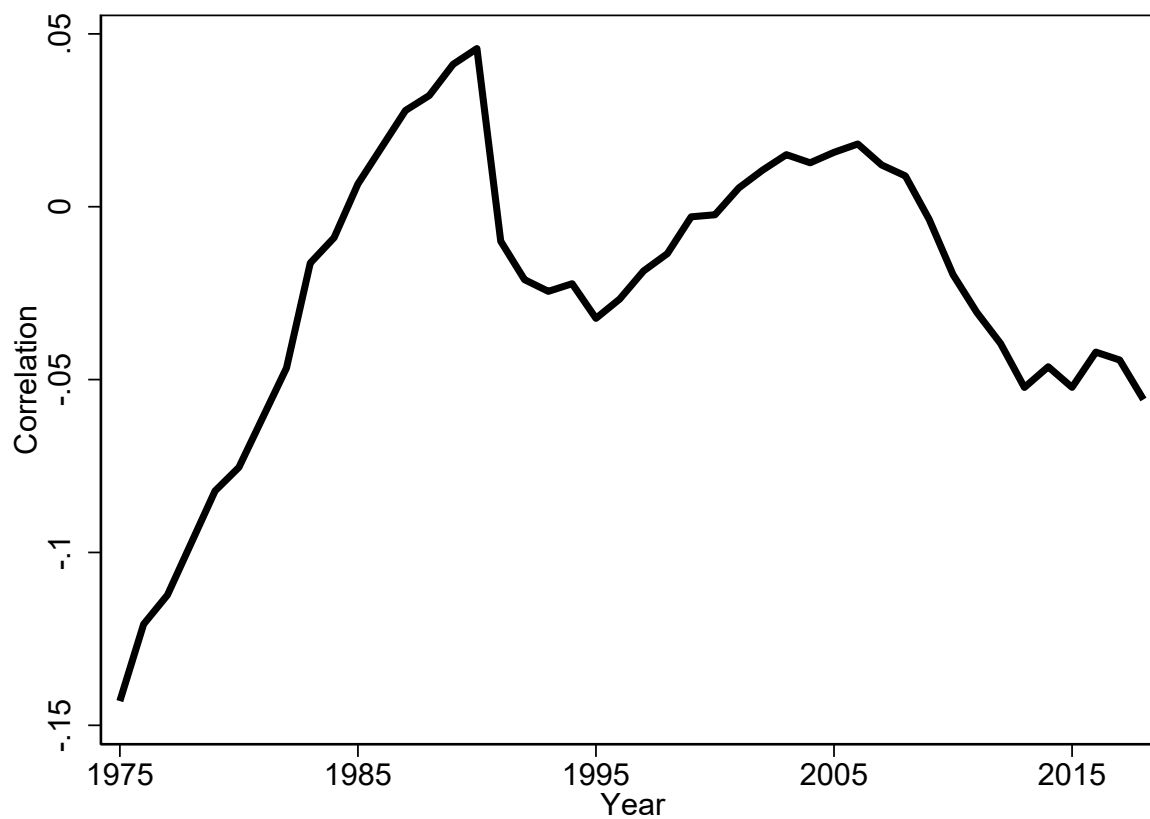
Figure 8. Distribution of SSI Aged Recipient Rates across Counties, Selected Years
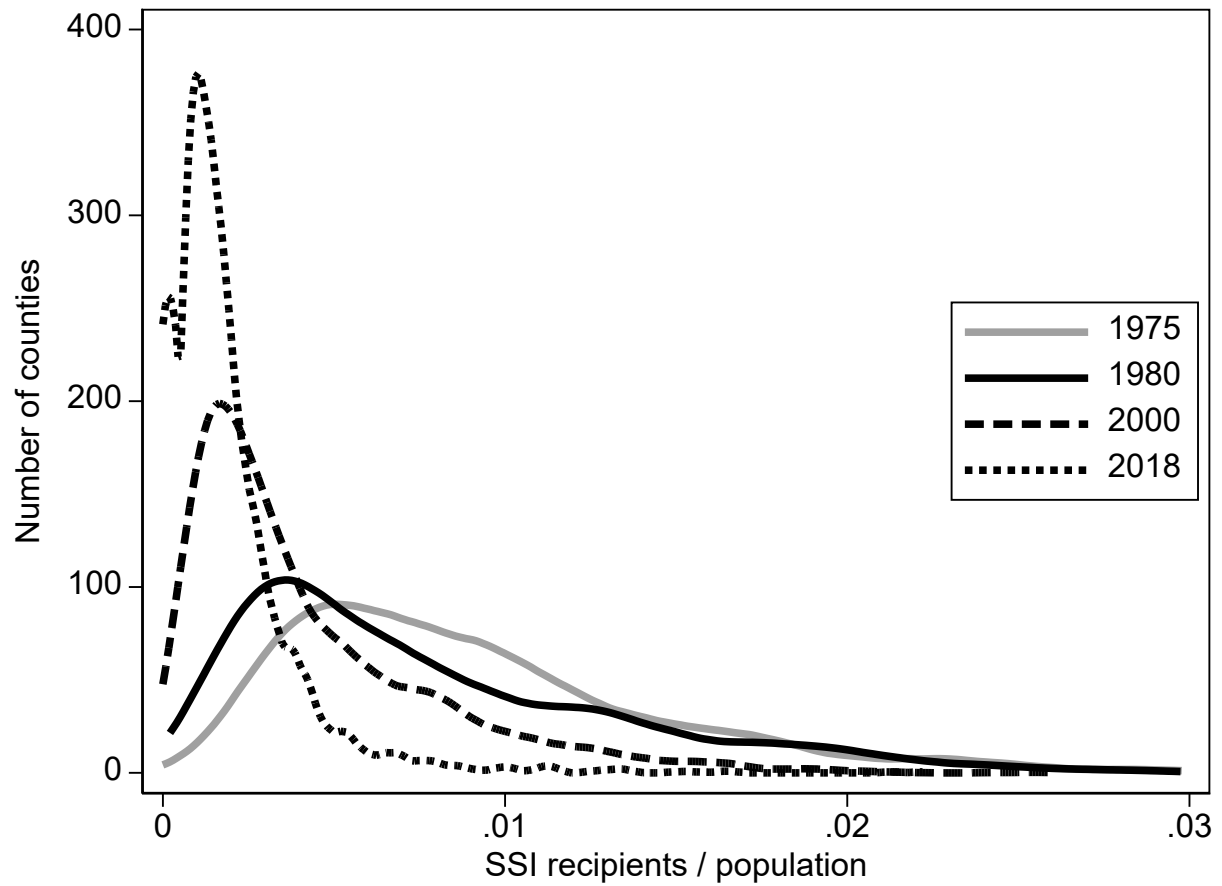
Notes: This figure shows the triangular kernel densities for the distribution of recipient rates in different years. This approximates the probability density functions of these data.

Figure 9. Dispersion of SSI Aged Recipient Rates over Time

A: Ratios of 75th/25th percentiles
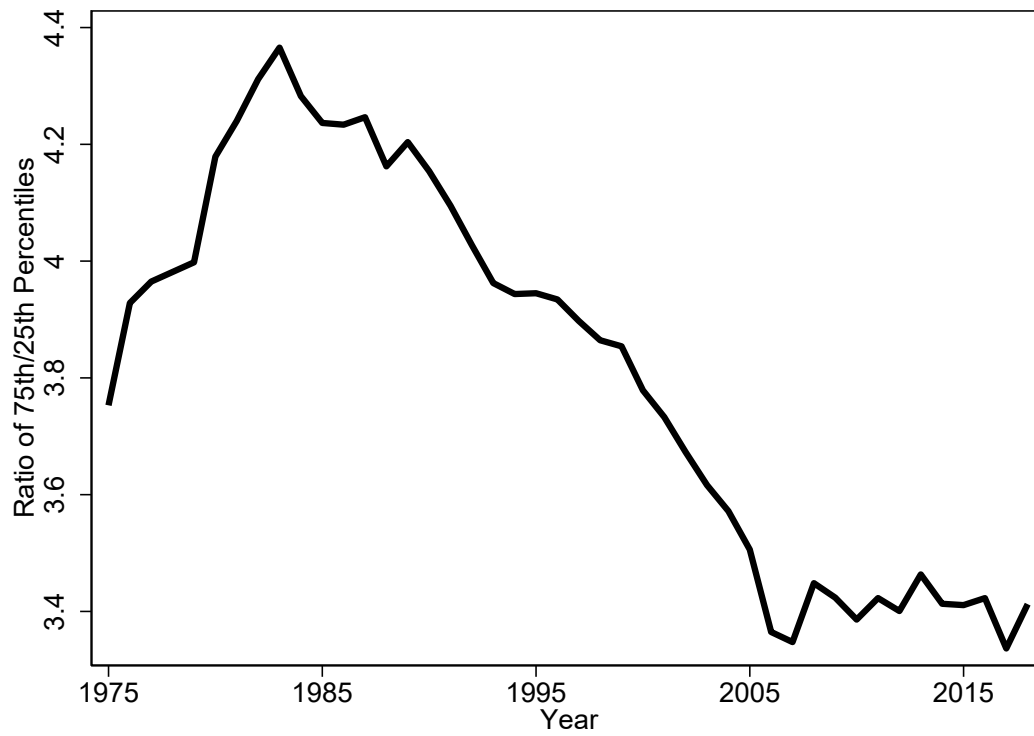
B: Ratios of 80th/20th percentiles
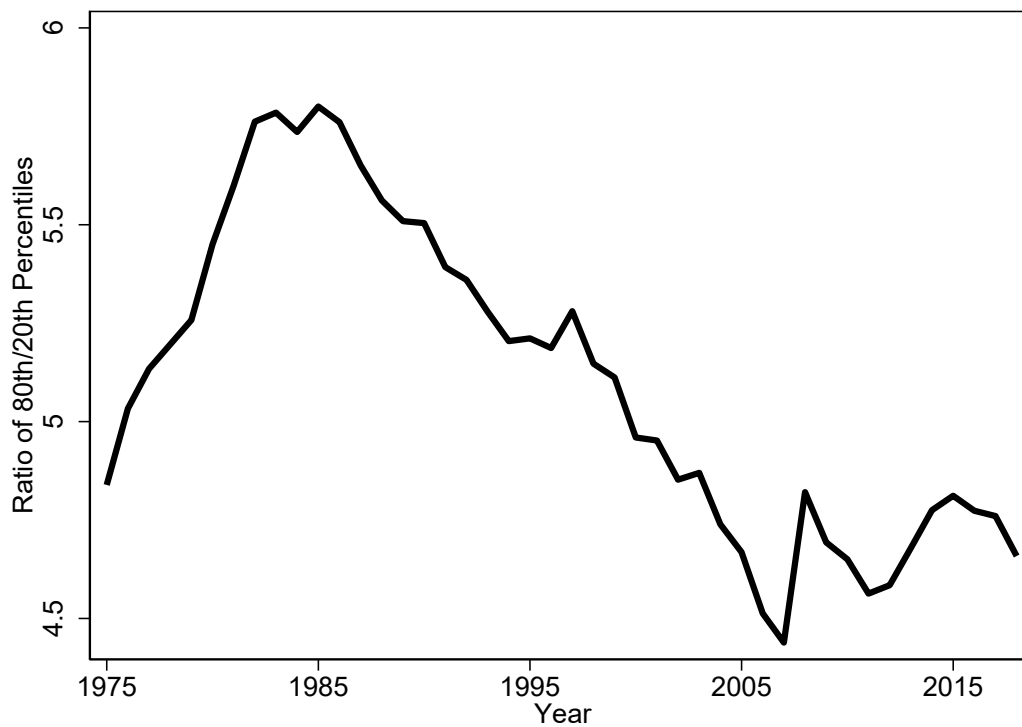
Figure 10. Proportion of the Total Variation in SSI Aged Recipient Rates that is Explained by Cross-state Variation
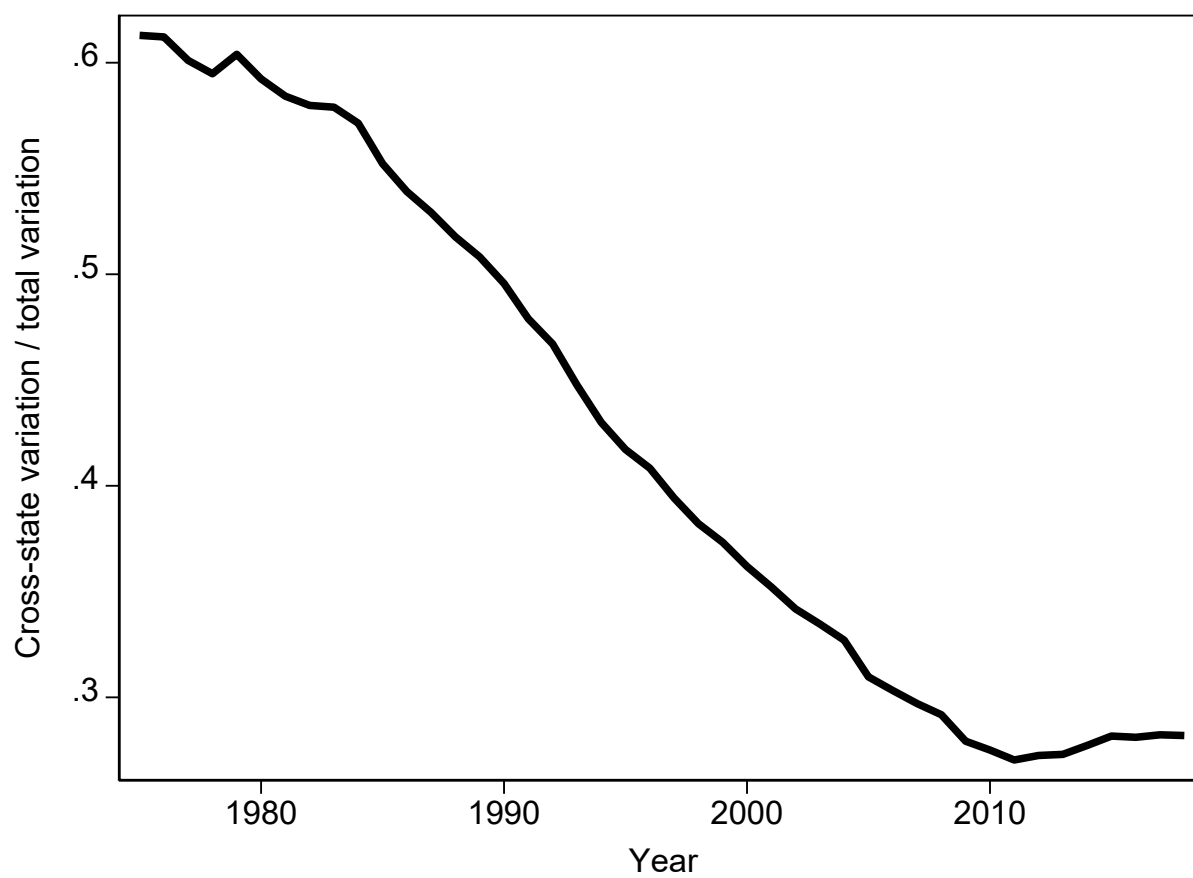
Figure 11. Correlation between Social Security Retirement Insurance Primary Beneficiary Rate and SSI Aged Recipient Rates over Time
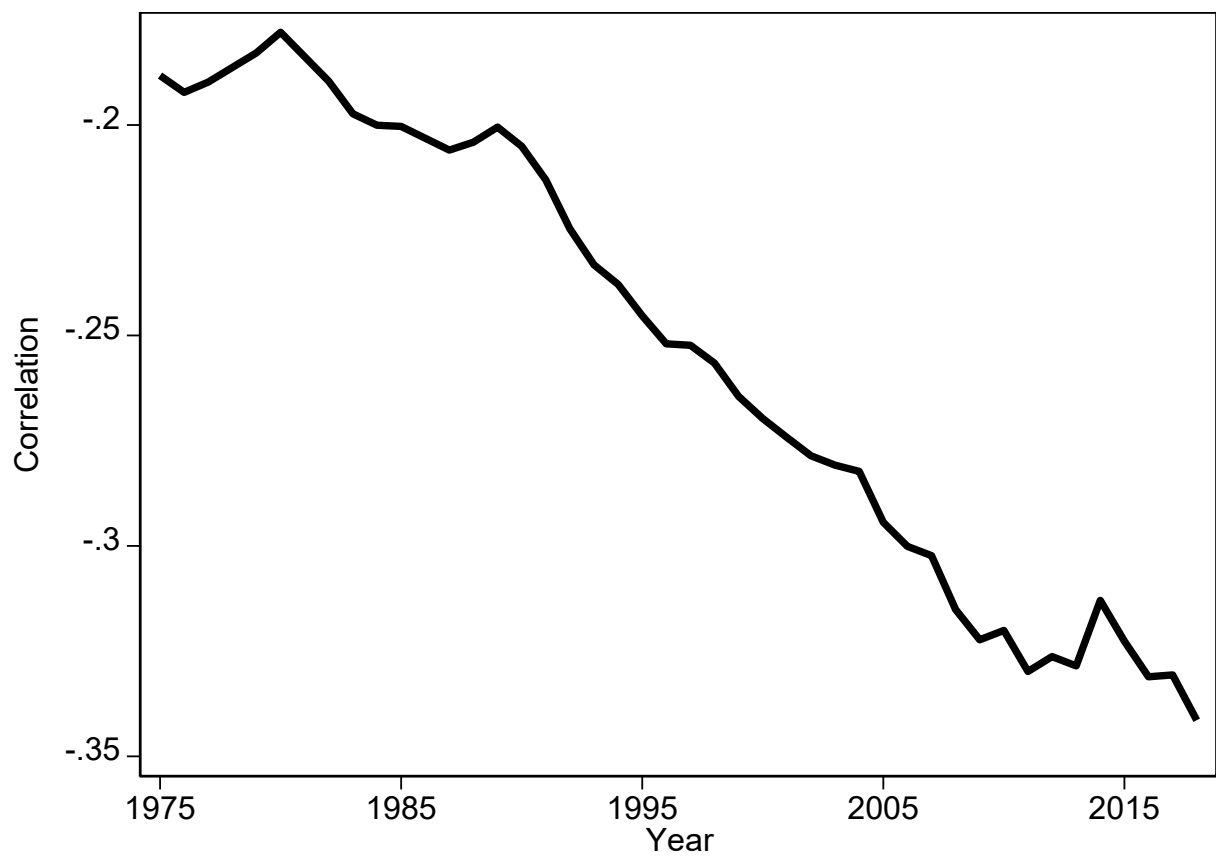
Table 1. Summary statistics for the Social Security data set

Variable Name	Observations	Mean	Std. Dev.	Min	Max
Identifiers					
Year	148,368	--	--	1970	2018
State FIPS codes	148,368	--	--	1	56
County FIPS codes	148,368	--	--	1001	56045
Beneficiaries in current payment status					
Total Retirement and Survivors Insurance beneficiaries (including dependents)	117,458	12,508	37,559	0	1,207,755
Primary Retirement Insurance beneficiaries	148,368	8,491	27,267	0	987,675
Primary Survivors Insurance beneficiaries	148,368	1,376	4,266	0	156,285
Spouses Retirement Insurance beneficiaries	117,458	847	2,467	0	79,610
Social Security beneficiaries, 65+	136,004	9,484	30,543	0	1,087,320
Social Security beneficiaries, men 65+	105,094	4,365	13,387	0	490,265
Social Security beneficiaries, women 65+	105,094	6,007	18,694	0	597,055
Monthly payments ($000s)					
Payments – Retirement and Survivors Insurance	148,368	2,509,010	2,967,803	2	340,000,000
Payments – Primary Retirement Insurance	117,458	10,838	35,919	0	1,558,975
Payments – Primary Survivors Insurance	132,913	172,014	2,016,007	0	229,000,000
Payments – Spouses Retirement Insurance	148,368	35,287	402,033	0	422,000,000
Payments – Social Security beneficiaries, 65+	117,458	367	1,134	0	52,241
Payments – Social Security, men 65+	120,549	218,616	2,419,392	0	260,000,000
Payments – Social Security, women 65+	105,094	5,001	16,498	0	732,388
Other measures					
County Population (Total)	147,986	86,162	308,390	0	10,100,000
Rate of Retired Primary SSDI Beneficiaries	147,967	0.114	0.040	0	0.86
Rate of Survivor Primary SSDI Beneficiaries	147,967	0.021	0.011	0	0.092
Rate of All Retired Survivor Beneficiaries	117,247	0.169	0.047	0	0.96

Table 2. Summary statistics – Rate of Primary Retirement Insurance beneficiaries per population

Year	Mean	Standard Deviation	Min	25th Percentile	50th Percentile	75th Percentile	Max
1970	0.075	0.026	0.003	0.057	0.072	0.091	0.215
1971	0.077	0.026	0.004	0.059	0.074	0.093	0.220
1972	0.079	0.027	0.006	0.060	0.076	0.094	0.226
1973	0.082	0.028	0.006	0.063	0.079	0.098	0.225
1974	0.084	0.028	0.006	0.065	0.080	0.100	0.229
1975	0.087	0.029	0.005	0.068	0.083	0.103	0.237
1976	0.088	0.029	0.006	0.069	0.085	0.105	0.241
1977	0.091	0.036	0.006	0.071	0.086	0.108	1.224
1978	0.091	0.030	0.006	0.072	0.088	0.109	0.246
1979	0.093	0.030	0.006	0.073	0.089	0.111	0.250
1980	0.095	0.033	0.006	0.075	0.092	0.113	0.822
1981	--	--	--	--	--	--	--
1982	0.098	0.031	0.006	0.078	0.096	0.117	0.253
1983	0.100	0.032	0.007	0.080	0.098	0.119	0.253
1984	0.102	0.032	0.007	0.081	0.099	0.121	0.255
1985	0.104	0.036	0.007	0.083	0.101	0.124	0.902
1986	0.103	0.039	0.000	0.081	0.102	0.125	0.266
1987	0.108	0.034	0.008	0.086	0.105	0.128	0.263
1988	0.109	0.034	0.008	0.087	0.107	0.130	0.266
1989	0.111	0.034	0.009	0.088	0.108	0.131	0.267
1990	0.112	0.034	0.010	0.090	0.109	0.133	0.267
1991	0.113	0.034	0.011	0.091	0.110	0.133	0.277
1992	0.114	0.034	0.010	0.092	0.111	0.134	0.280
1993	0.114	0.033	0.011	0.092	0.111	0.134	0.279
1994	0.114	0.033	0.010	0.092	0.111	0.133	0.275
1995	0.114	0.033	0.011	0.092	0.111	0.133	0.275
1996	0.114	0.032	0.011	0.092	0.111	0.132	0.271
1997	0.114	0.032	0.011	0.093	0.112	0.133	0.270
1998	0.114	0.032	0.012	0.093	0.112	0.133	0.268
1999	0.115	0.032	0.012	0.094	0.112	0.134	0.267
2000	0.117	0.032	0.012	0.095	0.114	0.136	0.267
2001	0.118	0.033	0.013	0.096	0.116	0.137	0.270
2002	0.119	0.033	0.014	0.097	0.117	0.138	0.277
2003	0.120	0.033	0.016	0.098	0.118	0.140	0.282
2004	0.121	0.033	0.017	0.099	0.118	0.141	0.289
2005	0.123	0.033	0.020	0.100	0.120	0.142	0.290
2006	0.124	0.034	0.023	0.101	0.121	0.144	0.313
2007	0.125	0.034	0.023	0.102	0.123	0.145	0.322
2008	0.127	0.035	0.024	0.104	0.125	0.147	0.337
2009	0.131	0.036	0.024	0.107	0.129	0.151	0.386
2010	0.135	0.036	0.026	0.110	0.132	0.155	0.403
2011	0.138	0.037	0.026	0.113	0.135	0.158	0.419
2012	0.141	0.038	0.027	0.116	0.138	0.161	0.436
2013	0.145	0.039	0.028	0.120	0.142	0.165	0.451
2014	0.148	0.040	0.019	0.122	0.146	0.169	0.463
2015	0.151	0.040	0.032	0.125	0.149	0.173	0.471
2016	0.155	0.040	0.036	0.128	0.153	0.177	0.478
2017	0.158	0.041	0.036	0.132	0.157	0.180	0.476
2018	0.162	0.041	0.035	0.136	0.160	0.184	0.486

Table 3. Summary statistics – Rate of Survivors Insurance beneficiaries per population

Year	Mean	Standard Deviation	Min	25th Percentile	50th Percentile	75th Percentile	Max
1975	0.024	0.007	0.002	0.019	0.024	0.029	0.069
1976	0.025	0.008	0.002	0.020	0.024	0.029	0.071
1977	0.025	0.008	0.003	0.020	0.025	0.030	0.072
1978	0.025	0.008	0.003	0.020	0.025	0.030	0.072
1979	0.026	0.008	0.003	0.020	0.025	0.031	0.073
1980	0.026	0.008	0.003	0.020	0.026	0.031	0.072
1981	--	--	--	--	--	--	--
1982	0.027	0.008	0.002	0.021	0.026	0.032	0.075
1983	0.026	0.008	0.002	0.020	0.026	0.032	0.073
1984	0.027	0.009	0.003	0.021	0.026	0.032	0.073
1985	0.027	0.009	0.002	0.021	0.027	0.033	0.074
1986	0.026	0.011	0.000	0.020	0.026	0.033	0.078
1987	0.028	0.009	0.003	0.021	0.027	0.034	0.074
1988	0.028	0.009	0.000	0.021	0.027	0.034	0.074
1989	0.028	0.009	0.000	0.021	0.027	0.034	0.070
1990	0.028	0.010	0.003	0.021	0.027	0.034	0.093
1991	0.028	0.009	0.000	0.021	0.028	0.034	0.065
1992	0.028	0.009	0.000	0.021	0.027	0.034	0.068
1993	0.028	0.009	0.003	0.021	0.027	0.034	0.081
1994	0.027	0.009	0.000	0.021	0.027	0.033	0.064
1995	0.027	0.009	0.000	0.021	0.026	0.033	0.065
1996	0.027	0.009	0.000	0.020	0.026	0.032	0.065
1997	0.026	0.009	0.000	0.020	0.025	0.031	0.064
1998	0.025	0.008	0.000	0.019	0.024	0.030	0.066
1999	0.025	0.008	0.000	0.019	0.024	0.030	0.069
2000	0.024	0.008	0.000	0.018	0.024	0.029	0.067
2001	0.024	0.008	0.000	0.018	0.023	0.029	0.065
2002	0.023	0.008	0.000	0.018	0.023	0.028	0.062
2003	0.023	0.008	0.000	0.017	0.022	0.027	0.060
2004	0.022	0.008	0.000	0.017	0.022	0.027	0.082
2005	0.022	0.007	0.000	0.017	0.021	0.026	0.058
2006	0.021	0.007	0.000	0.016	0.021	0.026	0.056
2007	0.021	0.007	0.000	0.016	0.020	0.025	0.056
2008	0.020	0.007	0.000	0.016	0.020	0.024	0.054
2009	0.020	0.007	0.003	0.015	0.019	0.024	0.063
2010	0.019	0.006	0.000	0.015	0.019	0.023	0.052
2011	0.019	0.006	0.000	0.015	0.019	0.023	0.054
2012	0.019	0.006	0.000	0.014	0.018	0.022	0.051
2013	0.018	0.006	0.000	0.014	0.018	0.022	0.053
2014	0.018	0.006	0.000	0.014	0.018	0.021	0.046
2015	0.018	0.006	0.000	0.014	0.017	0.021	0.049
2016	0.017	0.005	0.000	0.013	0.017	0.021	0.050
2017	0.017	0.005	0.000	0.013	0.017	0.020	0.052
2018	0.017	0.005	0.000	0.013	0.016	0.020	0.048

Table 4. Summary statistics – Rate of all Retirement and Survivors beneficiaries per population

Year	Mean	Standard Deviation	Min	25th Percentile	50th Percentile	75th Percentile	Max
1980	0.155	0.047	0.015	0.127	0.152	0.182	0.890
1981	--	--	--	--	--	--	--
1982	0.157	0.045	0.014	0.129	0.154	0.184	0.354
1983	0.158	0.045	0.015	0.130	0.155	0.185	0.351
1984	0.159	0.045	0.015	0.130	0.155	0.186	0.345
1985	0.161	0.048	0.016	0.131	0.157	0.189	0.962
1986	0.158	0.056	0.000	0.128	0.157	0.190	0.371
1987	0.165	0.047	0.017	0.134	0.161	0.193	0.353
1988	0.166	0.048	0.017	0.135	0.162	0.194	0.360
1989	0.167	0.048	0.017	0.136	0.163	0.196	0.360
1990	0.168	0.048	0.018	0.137	0.164	0.197	0.372
1991	0.169	0.047	0.021	0.139	0.165	0.197	0.352
1992	0.169	0.047	0.018	0.139	0.166	0.197	0.372
1993	0.169	0.046	0.018	0.139	0.165	0.196	0.445
1994	0.168	0.045	0.018	0.139	0.165	0.194	0.363
1995	0.167	0.045	0.019	0.138	0.164	0.193	0.350
1996	0.166	0.044	0.020	0.137	0.162	0.191	0.350
1997	0.165	0.044	0.019	0.137	0.161	0.190	0.350
1998	0.164	0.043	0.020	0.135	0.160	0.189	0.359
1999	0.163	0.043	0.020	0.135	0.160	0.188	0.359
2000	0.165	0.043	0.020	0.137	0.161	0.189	0.365
2001	0.165	0.043	0.020	0.138	0.161	0.190	0.362
2002	0.165	0.043	0.021	0.138	0.161	0.189	0.357
2003	0.165	0.043	0.026	0.137	0.161	0.189	0.353
2004	0.165	0.043	0.027	0.137	0.162	0.189	0.408
2005	0.166	0.042	0.031	0.138	0.162	0.190	0.353
2006	0.166	0.042	0.035	0.139	0.163	0.190	0.359
2007	0.166	0.043	0.036	0.139	0.163	0.191	0.366
2008	0.167	0.043	0.035	0.139	0.165	0.192	0.380
2009	0.171	0.043	0.037	0.143	0.168	0.195	0.431
2010	0.173	0.044	0.039	0.145	0.171	0.198	0.448
2011	0.176	0.044	0.038	0.148	0.173	0.201	0.463
2012	0.178	0.044	0.038	0.151	0.176	0.204	0.480
2013	0.181	0.044	0.040	0.153	0.180	0.206	0.494
2014	0.184	0.045	0.026	0.156	0.183	0.209	0.505
2015	0.187	0.045	0.044	0.159	0.186	0.212	0.513
2016	0.190	0.046	0.048	0.161	0.189	0.216	0.520
2017	0.193	0.046	0.049	0.164	0.192	0.219	0.517
2018	0.196	0.046	0.048	0.167	0.195	0.223	0.527

Table 5. Summary statistics for SSI data set

Variable Name	Observations	Mean	Std. Dev.	Min	Max
Identifiers					
Year	139,065	--	--	1974	2018
State FIPS codes	139,065	--	--	1	56
County FIPS codes	139,065	--	--	1001	56045
SSI Recipients					
SSI recipients - Total	138,739	1,955	10,176	0	425,991
SSI recipients - Aged	138,739	464	3,231	0	144,534
SSI recipients - Aged 65+	138,739	418	4,129	0	216,272
SSI recipients - OASDI recipients	138,739	391	2,720	0	156,110
Monthly payments					
Pay - Total ($000s)	138,739	778	5,140	0	268,785
Pay - Aged individuals ($000s)	138,739	21.80	288	0	31,709
Pay - Aged couples ($000s)	138,739	4.03	85.06	0	13,837
Other measures					
County population	138,770	87,548	311,230	0	10,100,000
Rate of SSI Recipients – Aged	138,425	0.0066	0.0083	0	0.1596

Table 6. Summary statistics: Rate of SSI aged adult recipients per population

Year	Mean	Standard Deviation	Min.	25th Percentile	50th Percentile	75th Percentile	Max.
1975	0.017	0.014	0	0.007	0.012	0.025	0.156
1976	0.016	0.013	0.001	0.006	0.011	0.023	0.145
1977	0.015	0.013	0	0.005	0.01	0.021	0.134
1978	0.014	0.012	0	0.005	0.01	0.02	0.125
1979	0.013	0.011	0	0.004	0.009	0.018	0.072
1980	0.012	0.01	0	0.004	0.008	0.017	0.068
1981	0.011	0.01	0	0.004	0.007	0.016	0.065
1982	0.01	0.009	0	0.003	0.007	0.014	0.062
1983	0.01	0.009	0	0.003	0.006	0.014	0.06
1984	0.01	0.009	0	0.003	0.006	0.014	0.06
1985	0.009	0.009	0	0.003	0.006	0.013	0.058
1986	0.009	0.008	0	0.003	0.006	0.013	0.056
1987	0.009	0.008	0	0.003	0.006	0.012	0.054
1988	0.008	0.008	0	0.003	0.006	0.012	0.052
1989	0.008	0.007	0	0.003	0.006	0.012	0.05
1990	0.008	0.007	0	0.003	0.005	0.011	0.046
1991	0.008	0.007	0	0.003	0.005	0.011	0.046
1992	0.007	0.007	0	0.003	0.005	0.01	0.052
1993	0.007	0.006	0	0.003	0.005	0.01	0.054
1994	0.007	0.006	0	0.002	0.005	0.009	0.055
1995	0.006	0.006	0	0.002	0.004	0.009	0.054
1996	0.006	0.005	0	0.002	0.004	0.008	0.056
1997	0.005	0.005	0	0.002	0.004	0.007	0.051
1998	0.005	0.005	0	0.002	0.004	0.007	0.05
1999	0.005	0.004	0	0.002	0.003	0.006	0.052
2000	0.004	0.004	0	0.002	0.003	0.006	0.052
2001	0.004	0.004	0	0.002	0.003	0.006	0.051
2002	0.004	0.004	0	0.001	0.003	0.005	0.051
2003	0.004	0.004	0	0.001	0.003	0.005	0.051
2004	0.003	0.003	0	0.001	0.002	0.005	0.05
2005	0.003	0.003	0	0.001	0.002	0.004	0.055
2006	0.003	0.003	0	0.001	0.002	0.004	0.055
2007	0.003	0.003	0	0.001	0.002	0.004	0.054
2008	0.003	0.003	0	0.001	0.002	0.004	0.056
2009	0.003	0.003	0	0.001	0.002	0.003	0.053
2010	0.002	0.003	0	0.001	0.002	0.003	0.05
2011	0.002	0.003	0	0.001	0.002	0.003	0.052
2012	0.002	0.003	0	0.001	0.002	0.003	0.05
2013	0.002	0.002	0	0.001	0.002	0.003	0.049
2014	0.002	0.002	0	0.001	0.001	0.003	0.046
2015	0.002	0.002	0	0.001	0.001	0.003	0.044
2016	0.002	0.002	0	0.001	0.001	0.002	0.043
2017	0.002	0.002	0	0.001	0.001	0.002	0.043
2018	0.002	0.002	0	0.001	0.001	0.002	0.04

Table 7. Spearman rank correlations of primary Retirement Insurance beneficiary rates

Year pairs	1970	1980	1990	2000	2010	2018
1970	1	0.914	0.820	0.705	0.619	0.543
1980	--	1	0.938	0.824	0.711	0.615
1990	--	--	1	0.914	0.802	0.701
2000	--	--	--	1	0.918	0.825
2010	--	--	--	--	1	0.957
2018	--	--	--	--	--	1

Table 8. Spearman rank correlations of *annual changes in* primary Retirement Insurance beneficiary rates

Year pairs	1970-1971	1979-1980	1989-1990	1990-2000	2009-2010	2017-2018
1970-1971	1	0.084	0.043	-0.035	-0.051	-0.019
1979-1980	--	1	0.083	0.023	0.106	0.027
1989-1990	--	--	1	0.130	-0.039	0.008
1990-2000	--	--	--	1	0.093	0.123
2009-2010	--	--	--	--	1	0.301
2017-2018	--	--	--	--	--	1

Table 9. Spearman rank correlations of primary Survivors Insurance beneficiary rates

Year pairs	1975	1980	1990	2000	2010	2018
1975	1	0.964	0.896	0.792	0.699	0.627
1980	--	1	0.935	0.836	0.745	0.668
1990	--	--	1	0.924	0.842	0.757
2000	--	--	--	1	0.935	0.856
2010	--	--	--	--	1	0.932
2018	--	--	--	--	--	1

Table 10. Spearman rank correlations of *annual changes in* primary Survivors Insurance beneficiary rates

Year pairs	1975-1976	1979-1980	1989-1990	1990-2000	2009-2010	2017-2018
1975-1976	1	0.085	0.001	-0.086	-0.089	-0.102
1979-1980	--	1	0.012	-0.050	-0.054	-0.065
1989-1990	--	--	1	0.032	-0.048	-0.007
1990-2000	--	--	--	1	0.084	0.056
2009-2010	--	--	--	--	1	0.118
2017-2018	--	--	--	--	--	1

Table 11. Spearman rank correlations of primary Retirement Insurance beneficiary rates

Year pairs	1980	1990	2000	2010	2018
1980	1	0.936	0.818	0.710	0.611
1990	--	1	0.911	0.800	0.690
2000	--	--	1	0.912	0.809
2010	--	--	--	1	0.950
2018	--	--	--	--	1

Table 12. Spearman rank correlations of *annual changes in* primary Retirement Insurance beneficiary rates

Year pairs	1980-1982	1989-1990	1990-2000	2009-2010	2017-2018
1980-1982	1	-0.079	-0.017	0.025	-0.024
1989-1990	--	1	0.002	-0.049	-0.011
1990-2000	--	--	1	-0.026	0.086
2009-2010	--	--	--	1	0.082
2017-2018	--	--	--	--	1

Table 13. Spearman rank correlations of SSI Aged Recipient rates

Year pairs	1975	1985	1995	2005	2018
1975	1	0.963	0.909	0.807	0.569
1985	--	1	0.954	0.853	0.620
1995	--	--	1	0.924	0.694
2005	--	--	--	1	0.801
2018	--	--	--	--	1

Table 14. Spearman rank correlations of *annual changes* of SSI Aged Recipient rates

Year pairs	1975-1976	1985-1986	1995-1996	2005-2006	2017-2018
1975-1976	1	0.506	0.500	0.485	0.218
1985-1986	--	1	0.414	0.366	0.123
1995-1996	--	--	1	0.411	0.208
2005-2006	--	--	--	1	0.211
2017-2018	--	--	--	--	1

Table 15. Relationship between Social Security Retirement Insurance primary beneficiary rates and other characteristics, 1980-2014

	Baseline	County fixed effects	Removing state factors
	(1)	(2)	(3)
Fraction female	0.0164	-0.0937**	-0.163**
	(0.0214)	(0.0255)	(0.0284)
Fraction aged 18-30	-0.239**	-0.393**	-0.438**
	(0.0103)	(0.0175)	(0.0238)
Fraction aged 31-39	-0.579**	-0.667**	-0.750**
	(0.0202)	(0.0242)	(0.0285)
Fraction aged 40-49	-0.178**	-0.481**	-0.551**
	(0.0222)	(0.0235)	(0.0287)
Fraction aged 50-59	-0.459**	-0.386**	-0.423**
	(0.0357)	(0.0271)	(0.0325)
Fraction aged 60-64	2.108**	0.470**	0.392**
	(0.0646)	(0.0360)	(0.0401)
Fraction white	0.0290**	0.158**	0.142**
	(0.00632)	(0.0190)	(0.0220)
Fraction black	0.0263**	0.0970**	0.0773**
	(0.00610)	(0.0212)	(0.0246)
Mortality risk for ages 25-45 (per million residents)	-0.0114**	0.00206	0.00181
	(0.00125)	(0.00219)	(0.00265)
Mortality risk for ages 45-65 (per million residents)	0.00299**	-0.000622	-0.00114
	(0.000480)	(0.000840)	(0.000967)
Mortality risk for ages 65+ (per million residents)	-0.000660**	0.000456*	0.000620*
	(0.000176)	(0.000213)	(0.000255)
Housing Price Index ($ million)	10.33**	-7.260**	-4.190
	(1.800)	(1.479)	(2.545)
Average Net Earnings ($ million)	-0.297**	-0.356**	-0.302**
	(0.0590)	(0.0352)	(0.0380)
Jobs per capita (x 1,000)	19.90**	19.72**	18.53**
	(2.405)	(2.220)	(2.393)
Constant	0.192**	0.230**	0.315**
	(0.0144)	(0.0270)	(0.0316)
R-squared	67970	67970	67931
Number of observations	0.821	0.964	0.969
Year fixed effects	X	X	X
County fixed effects		X	X
State-by-year fixed effects			X

Standard errors in parentheses
* p<0.05 ** p<0.01

Table 16. Relationship between Social Security Survivors Insurance adult beneficiary rates and other characteristics, 1980-2014

	Baseline	County fixed effects	Removing state factors
	(1)	(2)	(3)
Fraction female	0.0169**	0.0874**	0.0671**
	(0.00621)	(0.00647)	(0.00583)
Fraction aged 18-30	-0.0534**	-0.0280**	-0.0499**
	(0.00294)	(0.00317)	(0.00363)
Fraction aged 31-39	-0.135**	-0.0693**	-0.0797**
	(0.00626)	(0.00431)	(0.00437)
Fraction aged 40-49	-0.0519**	-0.0289**	-0.0336**
	(0.00609)	(0.00387)	(0.00436)
Fraction aged 50-59	-0.0136	-0.0317**	-0.0313**
	(0.00733)	(0.00390)	(0.00410)
Fraction aged 60-64	0.0472**	0.0523**	0.0170*
	(0.0143)	(0.00640)	(0.00684)
Fraction white	0.0127**	-0.00620	0.00128
	(0.00176)	(0.00341)	(0.00340)
Fraction black	0.00674**	-0.00314	0.00555
	(0.00182)	(0.00387)	(0.00392)
Mortality risk for ages 25-45 (per million residents)	-0.00199**	0.00312**	0.00619**
	(0.000319)	(0.000633)	(0.000918)
Mortality risk for ages 45-65 (per million residents)	0.00144**	0.00000852	-0.000771**
	(0.000139)	(0.000190)	(0.000215)
Mortality risk for ages 65+ (per million residents)	-0.0000496	-0.000293**	-0.000303**
	(0.0000454)	(0.0000558)	(0.0000561)
Housing Price Index ($ million)	-5.537**	-1.184**	-1.564**
	(0.524)	(0.310)	(0.500)
Average Net Earnings ($ million)	-0.0296*	-0.109**	-0.0748**
	(0.0149)	(0.0129)	(0.0129)
Jobs per capita (x 1,000)	2.770**	2.597**	1.706**
	(0.521)	(0.443)	(0.432)
Constant	0.0233**	0.00930	0.0211**
	(0.00457)	(0.00538)	(0.00514)
R-squared	67970	67970	67931
Number of observations	0.625	0.953	0.962
Year fixed effects	X	X	X
County fixed effects		X	X
State-by-year fixed effects			X

Standard errors in parentheses
* p<0.05 ** p<0.01

Table 17. Relationship between Social Security Retirement and Survivors Insurance rates and other characteristics, 1980-2014

	Baseline	County fixed effects	Removing state factors
	(1)	(2)	(3)
Fraction female	0.0285	0.0353	-0.0607
	(0.0270)	(0.0306)	(0.0326)
Fraction aged 18-30	-0.349**	-0.483**	-0.548**
	(0.0134)	(0.0198)	(0.0254)
Fraction aged 31-39	-0.847**	-0.823**	-0.915**
	(0.0264)	(0.0271)	(0.0310)
Fraction aged 40-49	-0.266**	-0.519**	-0.608**
	(0.0286)	(0.0257)	(0.0307)
Fraction aged 50-59	-0.519**	-0.470**	-0.496**
	(0.0383)	(0.0277)	(0.0329)
Fraction aged 60-64	2.156**	0.568**	0.437**
	(0.0731)	(0.0421)	(0.0467)
Fraction white	0.0470**	0.122**	0.111**
	(0.00755)	(0.0212)	(0.0234)
Fraction black	0.0341**	0.0786**	0.0639*
	(0.00756)	(0.0236)	(0.0259)
Mortality risk for ages 25-45 (per million residents)	-0.0123**	0.00909**	0.0133**
	(0.00149)	(0.00309)	(0.00396)
Mortality risk for ages 45-65 (per million residents)	0.00468**	-0.00275**	-0.00417**
	(0.000602)	(0.00105)	(0.00120)
Mortality risk for ages 65+ (per million residents)	-0.000756**	0.000539*	0.000605
	(0.000212)	(0.000267)	(0.000311)
Housing Price Index ($ million)	1.861	-8.746**	-5.540
	(2.126)	(1.818)	(3.126)
Average Net Earnings ($ million)	-0.440**	-0.552**	-0.440**
	(0.0715)	(0.0506)	(0.0543)
Jobs per capita (x 1,000)	24.00**	23.86**	20.57**
	(2.993)	(2.656)	(2.866)
Constant	0.270**	0.291**	0.398**
	(0.0181)	(0.0306)	(0.0344)
R-squared	67970	67970	67931
Number of observations	0.823	0.964	0.969
Year fixed effects	X	X	X
County fixed effects		X	X
State-by-year fixed effects			X

Standard errors in parentheses
* p<0.05 ** p<0.01

Table 18. Relationship between Social Security Retirement and Survivors Insurance rates and other characteristics, by time period

	Baseline		County fixed effects		Removing state factors	
	1980-1997	1998-2014	1980-1997	1998-2014	1980-1997	1998-2014
	(1)	(2)	(3)	(4)	(5)	(6)
Fraction female	0.252**	-0.0573*	0.139**	-0.00115	-0.0835	-0.0415
	(0.0416)	(0.0282)	(0.0525)	(0.0394)	(0.0532)	(0.0387)
Fraction aged 18-30	-0.230**	-0.397**	-0.482**	-0.510**	-0.624**	-0.519**
	(0.0141)	(0.0149)	(0.0251)	(0.0285)	(0.0354)	(0.0316)
Fraction aged 31-39	-0.527**	-1.011**	-0.808**	-0.914**	-1.009**	-0.938**
	(0.0385)	(0.0285)	(0.0385)	(0.0308)	(0.0488)	(0.0343)
Fraction aged 40-49	-0.00969	-0.376**	-0.435**	-0.652**	-0.575**	-0.648**
	(0.0449)	(0.0323)	(0.0448)	(0.0320)	(0.0524)	(0.0347)
Fraction aged 50-59	-1.047**	-0.379**	-0.759**	-0.492**	-0.862**	-0.479**
	(0.0830)	(0.0426)	(0.0442)	(0.0288)	(0.0517)	(0.0335)
Fraction aged 60-64	3.600**	1.622**	1.015**	0.0619	0.998**	0.0451
	(0.151)	(0.0789)	(0.113)	(0.0455)	(0.123)	(0.0496)
Fraction white	0.0243*	0.0504**	0.190**	0.159**	0.103**	0.165**
	(0.00997)	(0.00823)	(0.0350)	(0.0223)	(0.0363)	(0.0252)
Fraction black	0.0113	0.0394**	0.163**	0.0837**	0.0442	0.0920**
	(0.00988)	(0.00814)	(0.0396)	(0.0256)	(0.0419)	(0.0282)
Mortality risk for ages 25-45 (per m.)	-0.0117**	-0.0148**	0.00525*	0.0374**	0.00483	0.0433**
	(0.00144)	(0.00203)	(0.00211)	(0.00530)	(0.00303)	(0.00547)
Mortality risk for ages 45-65 (per m.)	0.00312**	0.00616**	-0.000740	-0.0120**	0.00244	-0.0130**
	(0.000621)	(0.000759)	(0.000994)	(0.00163)	(0.00138)	(0.00168)
Mortality risk for ages 65+ (per m.)	-0.000457	-0.000909**	0.000168	0.000975**	-0.000822*	0.000810**
	(0.000244)	(0.000238)	(0.000324)	(0.000313)	(0.000404)	(0.000314)
Housing Price Index ($m)	1.168	4.393*	-8.534**	-6.976**	-8.009*	-3.829*
	(2.985)	(2.156)	(2.273)	(1.152)	(3.422)	(1.779)
Average Net Earnings ($m)	-0.733**	-0.387**	-0.435**	-0.611**	-0.666**	-0.393**
	(0.123)	(0.0822)	(0.0971)	(0.0447)	(0.104)	(0.0425)
Jobs per capita (x 1,000)	21.33**	21.49**	16.54**	21.36**	15.63**	18.79**
	(1.981)	(5.306)	(3.365)	(2.800)	(3.667)	(2.707)
Constant	0.0798**	0.356**	0.169**	0.360**	0.475**	0.376**
	(0.0260)	(0.0194)	(0.0473)	(0.0386)	(0.0558)	(0.0412)
Number of observations	24191	43779	24148	43779	24126	43762
R-squared	0.850	0.818	0.966	0.981	0.970	0.984
Year fixed effects	X	X	X	X	X	X
County fixed effects			X	X	X	X
State-by-year fixed effects					X	X

Standard errors in parentheses
* p<0.05 ** p<0.01

Table 19. Relationship between SSI Aged rates and other characteristics, 1980-2014

	Baseline	County fixed effects	Removing state factors
	(1)	(2)	(3)
Fraction female	0.00984**	0.0143*	0.0213**
	(0.00329)	(0.00584)	(0.00422)
Fraction aged 18-30	-0.00816**	-0.00640*	-0.0256**
	(0.00174)	(0.00290)	(0.00286)
Fraction aged 31-39	-0.00877*	-0.0408**	-0.0450**
	(0.00444)	(0.00467)	(0.00375)
Fraction aged 40-49	-0.0205**	-0.0342**	-0.0262**
	(0.00401)	(0.00400)	(0.00339)
Fraction aged 50-59	0.0159**	-0.0150**	-0.0281**
	(0.00399)	(0.00366)	(0.00329)
Fraction aged 60-64	-0.0590**	-0.0563**	-0.0509**
	(0.0108)	(0.00597)	(0.00511)
Fraction white	-0.00537**	-0.00360	-0.0221**
	(0.00150)	(0.00353)	(0.00348)
Fraction black	0.000600	0.00898*	-0.00562
	(0.00162)	(0.00457)	(0.00409)
Mortality risk for ages 25-45 (per million residents)	0.000756**	0.00292**	0.00265**
	(0.000235)	(0.000541)	(0.000604)
Mortality risk for ages 45-65 (per million residents)	0.000488**	0.00109**	-0.000454**
	(0.0000885)	(0.000181)	(0.000173)
Mortality risk for ages 65+ (per million residents)	-0.000237**	-0.000907**	-0.000259**
	(0.0000312)	(0.0000520)	(0.0000468)
Housing Price Index ($ million)	1.081*	0.0998	1.673**
	(0.439)	(0.325)	(0.421)
Average Net Earnings ($ million)	-0.0517**	0.0389**	0.0289**
	(0.0131)	(0.00710)	(0.00663)
Jobs per capita (x 1,000)	-1.693**	-1.841**	-0.990**
	(0.276)	(0.353)	(0.325)
Constant	0.0161**	0.0422**	0.0448**
	(0.00265)	(0.00562)	(0.00443)
Number of observations	67103	67103	67064
R-squared	0.444	0.869	0.930
Year fixed effects	X	X	X
County fixed effects		X	X
State-by-year fixed effects			X

Standard errors in parentheses
* p<0.05 ** p<0.01

Table 20. Relationship between SSI Aged rates and other characteristics, by time period

	Baseline		County fixed effects		Removing state factors	
	1980-1997	1998-2014	1980-1997	1998-2014	1980-1997	1998-2014
	(1)	(2)	(3)	(4)	(5)	(6)
Fraction female	0.0146*	0.0103**	0.00475	0.0184**	0.00386	0.0250**
	(0.00652)	(0.00272)	(0.0100)	(0.00459)	(0.00805)	(0.00394)
Fraction aged 18-30	-0.0111**	-0.00706**	-0.0306**	0.00275	-0.0314**	-0.00422
	(0.00262)	(0.00160)	(0.00498)	(0.00286)	(0.00597)	(0.00296)
Fraction aged 31-39	-0.0176*	0.0117**	-0.0365**	-0.0164**	-0.0393**	-0.0226**
	(0.00686)	(0.00451)	(0.00724)	(0.00346)	(0.00714)	(0.00325)
Fraction aged 40-49	0.00112	-0.0260**	-0.00112	-0.0289**	-0.0222**	-0.0127**
	(0.00872)	(0.00390)	(0.00644)	(0.00325)	(0.00741)	(0.00309)
Fraction aged 50-59	0.0487**	0.00196	-0.0746**	0.00000555	-0.0583**	-0.0126**
	(0.0140)	(0.00335)	(0.00705)	(0.00262)	(0.00764)	(0.00269)
Fraction aged 60-64	-0.120**	-0.0235**	0.0235	-0.0175**	0.0459**	-0.0230**
	(0.0220)	(0.00912)	(0.0155)	(0.00400)	(0.0161)	(0.00377)
Fraction white	-0.0124**	-0.00402**	-0.00954	-0.0195**	-0.0390**	-0.0225**
	(0.00310)	(0.00120)	(0.00756)	(0.00275)	(0.00804)	(0.00300)
Fraction black	0.000157	0.000499	0.00953	-0.000542	-0.0197*	-0.00489
	(0.00324)	(0.00131)	(0.00969)	(0.00387)	(0.00988)	(0.00376)
Mortality risk for ages 25-45 (per m.)	0.000527	0.000978**	-0.00170**	-0.000566	-0.000308	0.000938
	(0.000366)	(0.000201)	(0.000453)	(0.000572)	(0.000440)	(0.000517)
Mortality risk for ages 45-65 (per m.)	0.000400**	0.000224*	0.00165**	0.00105**	0.000676**	-0.000215
	(0.000123)	(0.0000924)	(0.000180)	(0.000212)	(0.000202)	(0.000178)
Mortality risk for ages 65+ (per m.)	-0.000146**	-0.000176**	-0.000668**	-0.000604**	-0.000397**	-0.000187**
	(0.0000417)	(0.0000312)	(0.0000608)	(0.0000466)	(0.0000579)	(0.0000419)
Housing Price Index ($m)	1.442	0.875*	1.233**	-0.734**	-0.748	-0.351
	(0.834)	(0.367)	(0.413)	(0.143)	(0.504)	(0.229)
Average Net Earnings ($m)	-0.234**	-0.0400**	0.00872	0.0135**	0.0136	0.00318
	(0.0306)	(0.0116)	(0.0163)	(0.00431)	(0.0154)	(0.00429)
Jobs per capita (x 1,000)	-0.830*	-1.754**	-0.961*	-1.141**	-0.726	-0.511
	(0.354)	(0.343)	(0.381)	(0.385)	(0.444)	(0.366)
Constant	0.0202**	0.0109**	0.0491**	0.0390**	0.0731**	0.0294**
	(0.00501)	(0.00219)	(0.00898)	(0.00468)	(0.00826)	(0.00398)
Number of observations	23846	43257	23804	43257	23782	43240
R-squared	0.471	0.407	0.961	0.925	0.979	0.951
Year fixed effects	X	X	X	X	X	X
County fixed effects			X	X	X	X
State-by-year fixed effects					X	X

Standard errors in parentheses
* p<0.05 ** p<0.01

Table 20. Relationship between blind and disabled adult SSI rates and other characteristics, metro/non-metro counties

	Baseline		County fixed effects		Removing state factors	
	Metro.	Non-metro.	Metro.	Non-metro.	Metro.	Non-metro.
	(1)	(2)	(3)	(4)	(5)	(6)
Fraction female	0.157**	0.208**	-0.0693*	0.0793**	-0.00849	0.0793**
	(0.0266)	(0.0273)	(0.0316)	(0.0177)	(0.0298)	(0.0172)
Fraction aged 18-30	-0.0462**	0.0216	0.00842	-0.0214	0.00201	-0.0323*
	(0.0112)	(0.0112)	(0.0119)	(0.0110)	(0.0160)	(0.0125)
Fraction aged 31-39	-0.0476*	0.121**	-0.0441**	-0.0778**	-0.0530**	-0.0642**
	(0.0228)	(0.0336)	(0.0127)	(0.0156)	(0.0151)	(0.0178)
Fraction aged 40-49	-0.132**	-0.00281	-0.0317*	-0.0689**	-0.0636**	-0.0154
	(0.0226)	(0.0242)	(0.0142)	(0.0151)	(0.0165)	(0.0169)
Fraction aged 50-59	0.171**	0.267**	0.0345*	0.0446**	-0.00704	0.0321*
	(0.0256)	(0.0302)	(0.0140)	(0.0135)	(0.0148)	(0.0143)
Fraction aged 60-64	-0.331**	-0.285**	-0.172**	0.0417	-0.119**	0.0649**
	(0.0525)	(0.0502)	(0.0272)	(0.0234)	(0.0277)	(0.0230)
Fraction white	-0.0566**	0.0284**	0.0115	0.00596	-0.0160	0.00940
	(0.0129)	(0.00698)	(0.0104)	(0.0191)	(0.0117)	(0.0171)
Fraction black	-0.0558**	0.0216**	0.0342**	0.0757**	0.0111	0.0599*
	(0.0137)	(0.00659)	(0.0123)	(0.0252)	(0.0138)	(0.0237)
Mortality risk for ages 25-45 (per m.)	0.00255*	0.00796**	0.00362**	0.00562**	0.00121	0.00196
	(0.00106)	(0.00143)	(0.00126)	(0.00205)	(0.00125)	(0.00234)
Mortality risk for ages 45-65 (per m.)	0.00128**	0.00151*	-0.00307**	-0.00258**	-0.00402**	-0.00344**
	(0.000424)	(0.000658)	(0.000601)	(0.000809)	(0.000708)	(0.000918)
Mortality risk for ages 65+ (per m.)	0.000402**	0.000398	0.00143**	0.00141**	0.00218**	0.00235**
	(0.000121)	(0.000224)	(0.000174)	(0.000193)	(0.000219)	(0.000237)
Housing Price Index ($m)	10.31**	1.874	2.079**	-3.740	-0.0835	-12.84**
	(1.608)	(3.591)	(0.780)	(2.134)	(1.680)	(2.358)
Average Net Earnings ($m)	-0.598**	-1.507**	-0.185**	-0.272**	-0.188**	-0.210**
	(0.0664)	(0.135)	(0.0323)	(0.0433)	(0.0352)	(0.0436)
Jobs per capita (x 1,000)	1.866	1.956	-1.406	11.52**	-1.479	6.630**
	(1.316)	(2.187)	(1.171)	(1.804)	(1.127)	(1.737)
Constant	-0.0140	-0.178**	0.0105	-0.0679**	-0.00643	-0.100**
	(0.0218)	(0.0196)	(0.0211)	(0.0248)	(0.0220)	(0.0232)
R-squared	0.626	0.650	0.947	0.972	0.965	0.979
Number of observations	23,513	32,820	23,513	32,820	23,470	32,721
Year fixed effects	X	X	X	X	X	X
County fixed effects			X	X	X	X
State-by-year fixed effects					X	X

Standard errors in parentheses
* p<0.05 ** p<0.01

Appendix 1: Details for Social Security data

A1.1 Variable list

Variable	Description
year	Year
stfips	State code – Federal Information Processing Standard (FIPS)
fips	County code – Federal Information Processing Standard (FIPS)
Beneficiaries	
ben_total	Social Security beneficiaries
ben_ret_surv_all	Retirement & Survivors – All beneficiaries
ben_ret_primary	Retirement– Primary beneficiaries
ben_surv_primary	Survivors – Primary beneficiaries
ben_ret_spouse	Retirement – Spouses who are dependents
ben_65plus	Social Security beneficiaries, aged 65+
ben_65plus_men	Social Security beneficiaries, males aged 65+
ben_65plus_women	Social Security beneficiaries, females aged 65+
Monthly Payments ($000s)	
pay_total	All beneficiaries
pay_ret_surv_all	Retirement & Survivors payments – All beneficiaries
pay_ret_primary	Retirement payments – Primary beneficiaries
pay_surv_primary	Survivors payments– Primary beneficiaries
pay_ret_spouse	Retirement payments – Spouses who are dependents
pay_65plus	Social Security beneficiaries, aged 65+
pay_65plus_men	Social Security beneficiaries, males aged 65+
pay_65plus_women	Social Security beneficiaries, females aged 65+
Population	
pop_all	Population
pop18_99	Population aged 18+ years
pop65_99	Population aged 65+ years
Less frequent variables:	
ben_18_21	Social Security beneficiaries, aged 18-21
ben_22_59	Social Security beneficiaries, aged 22-59
ben_60_61	Social Security beneficiaries, aged 60-61
ben_62_64	Social Security beneficiaries, aged 62-64
ben_65_71	Social Security beneficiaries, aged 65-71
ben_60plus	Social Security beneficiaries, aged 60+
ben_62plus	Social Security beneficiaries, aged 62+
ben_72plus	Social Security beneficiaries, aged 72+
ben_18plus_men	Social Security beneficiaries, adult males
ben_18plus_women	Social Security beneficiaries, adult females
ben_60plus_men	Social Security beneficiaries, males aged 60+
ben_60plus_women	Social Security beneficiaries, females aged 60+
ben_62plus_men	Social Security beneficiaries, males aged 62+
ben_62plus_women	Social Security beneficiaries, females aged 62+
Monthly Payments ($000s)	
pay_62plus	Social Security payments, aged 62+
pay_18plus_men	Social Security payments, adult males
pay_18plus_women	Social Security payments, adult females
pay_62plus_men	Social Security payments, males aged 62+
pay_62plus_women	Social Security payments, females aged 62+

A1.2 Years that variables are available

#	*Social Security variables*	1970-1974	1975-79	1980, 1982-1984	1985-2018
Main variables:					
Beneficiaries					
1	ben_total	X	X	X	X
2	ben_ret_surv_all			X	X
3	ben_ret_primary	X	X	X	X
4	ben_surv_primary		X	X	X
5	ben_ret_spouse			X	X
6	ben_65plus	X	X		X
7	ben_65plus_men				X
8	ben_65plus_women				X
Monthly Payments ($000s)					
9	pay_total	X	X	X	X
10	pay_ret_surv_all			X	X
11	pay_ret_primary	X	X	X	X
12	pay_surv_primary		X	X	X
13	pay_ret_spouse			X	X
14	pay_65plus		X		X
15	pay_65plus_men				X
16	pay_65plus_women				X
Population					
12	pop_all	Not AK,HI	Not AK,HI	X	X
13	pop18_99	Not AK,HI	Not AK,HI	X	X
14	pop65_99	Not AK,HI	Not AK,HI	X	X
Other variables:					
Beneficiaries					
17	ben_18_21	X			
18	ben_22_59	X			
19	ben_60_61	X			
20	ben_62_64	X			
21	ben_65_71	X	X		
22	ben_60plus	X			
23	ben_62plus	X		X	
24	ben_72plus	X	X		
25	ben_18plus_men		X		
26	ben_18plus_women		X		
27	ben_60plus_men	X			
28	ben_60plus_women	X			
29	ben_62plus_men			X	
30	ben_62plus_women			X	
Monthly Payments ($000s)					
31	pay_62plus			X	
32	pay_18plus_men		X		
33	pay_18plus_women		X		
34	pay_62plus_men			X	
35	pay_62plus_women			X	

A2.3 Data notes from *Social Security/OASDI Beneficiaries by State and County*

Information is for Social Security beneficiaries in current payment status in December. Other key notes from the publications:

- The data in this report are derived from the Master Beneficiary Record, the principal administrative file of Social Security beneficiaries. The 1986 publication is based on a 10% extract; the other years are based on the full data.

- The monthly benefit is the amount payable after any reductions.

- Some Social Security beneficiaries have a representative payee—a person designated by the Social Security Administration to receive their monthly benefit when such action is in the beneficiary's best interest. About three percent of all adult beneficiaries and virtually all child beneficiaries under age 18 have representative payees. For most children, the representative payee is the parent with whom the child resides. For beneficiaries with representative payees, the state and county designations are those of the representative payees, not those of the beneficiaries.

- State totals do not necessarily represent the sum of the county totals.

- All suppressed values are coded to missing (see below for rules).

Years	Disclosure procedures
1970-1985	No disclosure restrictions.
1986	Rounds to 10 because it is scaled up from a 10 percent sample.
1987	To avoid disclosure of information about individuals, counties with small number of beneficiaries is coded to missing (replaced with an asterisk in the document). If the total benefit amount for any payment category is less than $500, the amount is rounded to zero.
1988-2018	County data on the number of beneficiaries is rounded either to the next higher multiple of 5 or the next lower multiple of 5, in such a way that the difference between each rounded and unrounded cell value, each rounded and unrounded row total, and each rounded and unrounded column total is less than 5. After the numbers in Table 4 have been rounded, the dollar amounts in Table 5 are proportionately adjusted upward or downward, as appropriate.

Appendix 2: Details for SSI Data

A2.1 Variable list for SSI Data

Variable	Description
Identifiers	
year	Year
state_name	State abbreviation
stfips	State code – Federal Information Processing Standard (FIPS)
fips	County code – Federal Information Processing Standard (FIPS)
county_name	County name
SSI recipients	
recip_aged	Recipients based on age
recip_age65plus	Recipients aged 65+
SSI payment units	
units_aged_indiv	Payment units based on age – individuals
units_aged_coup	Payment units based on age – couples
SSI monthly payments	
pay_aged_indiv	Monthly payments based on age – individuals ($000s)
pay_aged_coup	Monthly payments based on age – couples ($000s)

A2.2 Years that variables are available

	Years coved				
SSI variables	**1974-1977**	**1978**	**1979-1990**	**1991-1996**	**1997-2018**
recip_total	X	X	X	X	X
recip_aged	X	X	X	X	X
recip_age65plus	X			X	X
recip_ssi_oasdi					X
units_total	X		X		
units_aged_indiv	X		X		
units_aged_coup	X		X		
pay_total	X		X	X	X
pay_aged_indiv	X		X		
pay_aged_coup	X		X		

A2.3 Data notes from *SSI Recipients by State and County*

Information is for federally administered payments (i.e., federal and federally administered state payments) to people receiving SSI in December. Other key notes from the publications:

- All suppressed values are coded to missing (see below for rules).
- State totals do not necessarily represent the sum of the county totals.

- At least for the first few years, recipients are excluded if their "adult unit designation" changes in the December quarter (i.e., they become adults) or county coding is inconsistent. Numbers are provided in the 1970s – this does not seem to affect large numbers.
- Additional notes around coverage for specific years:
  - In 1974, county data are missing for Alaska, Massachusetts and Texas, while blind and disabled children are combined with blind and disabled adults for Michigan
  - In 1975, county data are missing for Alaska and Massachusetts
  - In 1976 and 1977, county data are missing for Massachusetts

Years	Disclosure procedures
1975	Payment information is "truncated" (rounded down) rather than rounded to the nearest thousand dollars
1976-1990	Use "controlled random rounding." If the number of recipients, individuals or couples is odd, it is rounded to the next lowest or next highest even number with equal probability. Even numbers are not changed. After this rounding, the dollar amounts of the payments are proportionately adjusted.
1991-2002	Total numbers of recipients are always reported, although eligibility categories are suppressed for counties with less than 15 recipients. Payment information is not shown for counties with less than four recipients.
2003	Total number of recipients and eligibility categories are suppressed whenever there are less than 15 recipients.
2004	Total numbers of recipients are reported except when there is only one recipient. Eligibility categories are suppressed for counties with less than 15 recipients or when there is only one recipient in a category. Payment information is not shown for counties with less than one recipient.
2005-2009	Total numbers of recipients are reported except when recipients are below a "predetermined threshold." Eligibility categories are suppressed for counties with less than 15 recipients or when the recipients in a category are below than a "predetermined threshold." Payment information is not shown for counties when the recipients are below than a "predetermined threshold."
2010-2018	Total numbers of recipients are reported except when recipients are below a "predetermined threshold." Eligibility categories are suppressed for counties with less than ten recipients or when the recipients in a category are below than a "predetermined threshold." Payment information is not shown for counties when the recipients are below than a "predetermined threshold."

Appendix 3: Creating a consistent set of counties using Census boundary changes

A consistent set of counties is based on Census information on changes and data checks; key information is available here: https://www.census.gov/geo/reference/county-changes.html

State	New Identifier	Original FIPS	County names
Alaska	2010	2010	Aleutian Islands
		2013	Aleutians East
		2016	Aleutians West
	2030	2030	Angoon
		2105	Hoonah-Angoon
		2230	Skagway
		2231	Skagway-Yakutat-Angoon
		2232	Skagway-Hoonah-Angoon
		2282	Yakutat
	2040	2040	Barrow
		2140	Kobuk
		2185	North Slope
		2188	Northwest Arctic
	2050	2050	Bethel
		2068	Denali
		2080	Cordova-McCarthy
		2160	Kuskokwim
		2240	Southeast Fairbanks
		2250	Upper Yukon
		2260	Valdez-Chitina-Whittier
		2261	Valdez-Cordova
		2290	Yukon-Koyukuk
	2070	2070	Dillingham
		2164	Lake and Peninsula
	2120	2120	Kenai-Cook Inlet
		2122	Kenai Peninsula
		2210	Seward
	2130	2130	Ketchikan Gateway
		2190	Outer Ketchikan
		2195	Petersburg
		2198	Prince of Wales-Hyder
		2200	Prince of Wales
		2201	Prince of Wales-Outer Ketchikan
		2275	Wrangell
		2280	Wrangell-Petersburg
	2158	2158	Kusilvak
		2270	Wade Hampton
Arizona	4012	4012	La Paz
		4027	Yuma

Colorado	8001	8001	Adams
		8013	Boulder
		8014	Broomfield
		8059	Jefferson
		8123	Weld
Florida	12025	12025	Dade
		12086	Miami-Dade
Montana	30031	30031	Gallatin
		30067	Park
		30113	Yellowstone
New Mexico	35006	35006	Cibola
		35061	Valencia
South Dakota	46071	46071	Jackson
		46131	Washbaugh
	46102	46102	Oglala Lakota
		46113	Shannon
Virginia	51005	51005	Alleghany
		51560	Clifton Forge city
	51015	51015	Augusta
		51790	Staunton city
		51820	Waynesboro city
	51019	51019	Bedford
		51031	Campbell
		51680	Lynchburg city
	51053	51053	Dinwiddie
		51149	Prince George
		51730	Petersburg city
	51059	51059	Fairfax
		51600	Fairfax city
	51081	51081	Greensville
		51595	Emporia city
	51083	51083	Halifax
		51780	South Boston city
	51095	51095	James City
		51830	Williamsburg city
	51123	51123	Nansemond city
		51800	Suffolk city
	51143	51143	Pittsylvania
		51590	Danville city
	51153	51153	Prince William
		51683	Manassas city
		51685	Manassas Park city
	51161	51161	Roanoke
		51770	Roanoke city
	51165	51165	Rockingham
		51660	Harrisonburg city

51177	51177	Spotsylvania
	51630	Fredericksburg city
51191	51191	Washington
	51520	Bristol city
51199	51199	York
	51700	Newport News city
	51735	Poquoson city

Appendix 4: Population data

Population data are taken from Census Bureau intercensal single-year-of-age county-level population estimates downloaded from the Cancer SEER website:

http://seer.cancer.gov/popdata/download.html

Population data are provided at the county-year level for ages 0-17 years, 18-64 years and 65+ years. The county merges outlined in #4 are also applied to these data. Additional merges are required here:

https://gis.cancer.gov/tools/seerstat_bridge/fips_vars/

Note: In the early years, population counts are not available at the county level for Alaska and Hawaii.