

Can We Predict Residential Energy Usage with IRS Data?

A Study On 2010 Electric and Gas Usage Across Chicago Zip Codes

Aahil Navroz, Joseph Williams, Qi Suqian

April 2024

Abstract

Introduction

Methods

Our dataset is

Results

Conclusion

Appendix

Figures

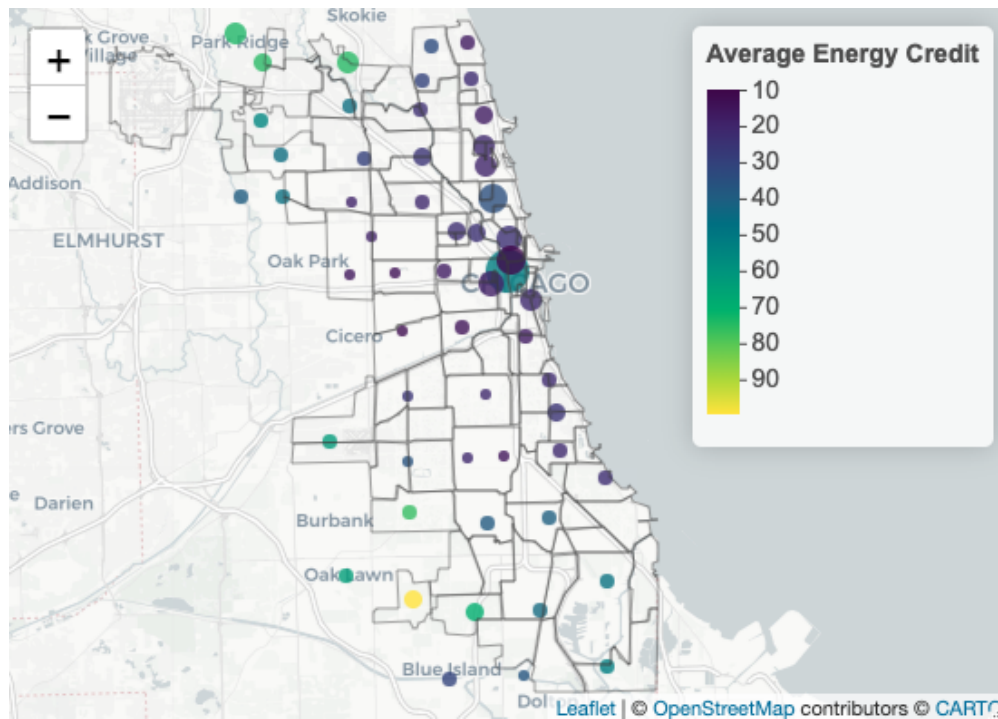


Fig1 [Above]: Average residential energy tax credits claimed where plotted circle radius corresponds to average adjusted gross income (AGI)

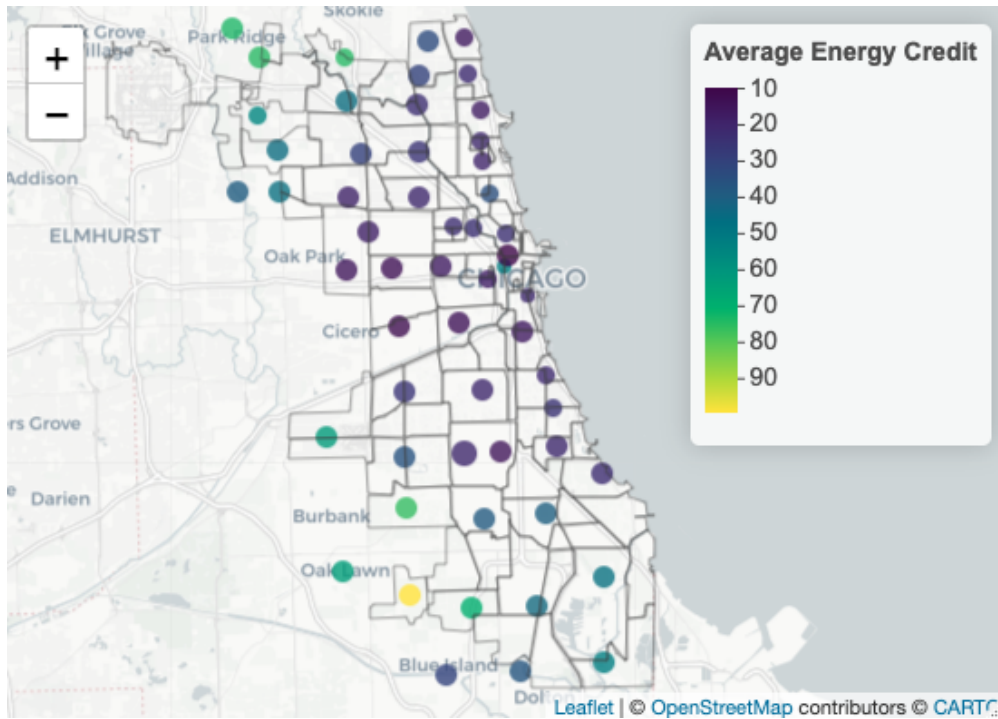


Fig2 [Above]: Average residential energy tax credits claimed where plotted circle radius corresponds to Therms/SQFT

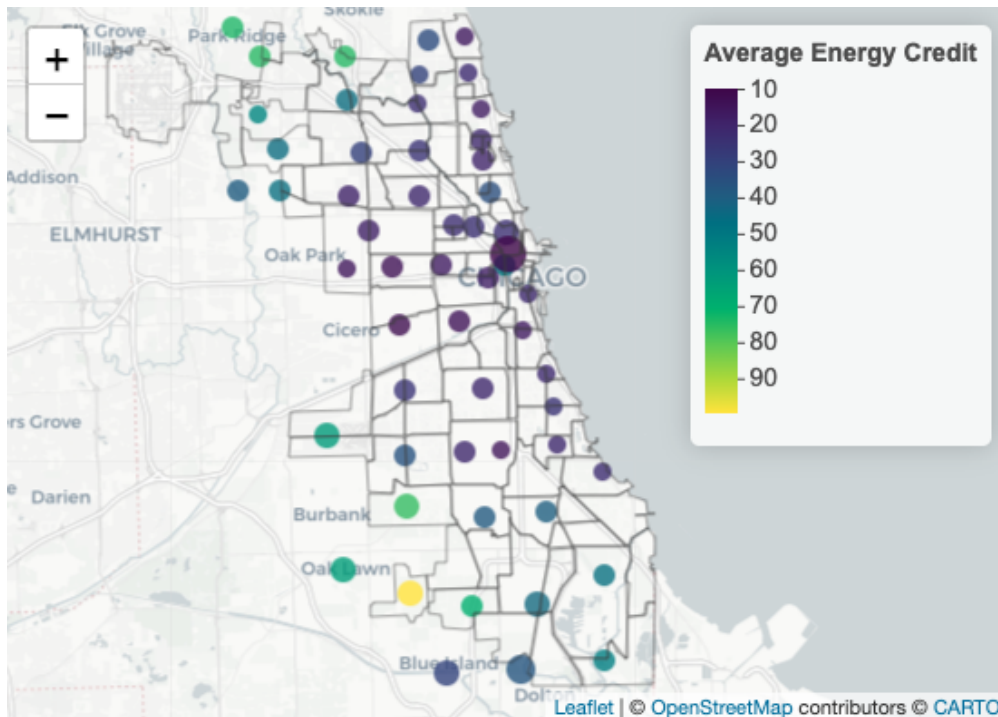


Fig3 [Above]: Average residential energy tax credits claimed where plotted circle radius corresponds to KWH/SQFT

Reference Tables

IRS Codebook

Variable	Description
STATE	The State associated with the ZIP code
YEAR	Tax year of origin for published data
N1	Number of returns
MARS2	Number of joint returns
PREP	Number of returns with paid preparer's signature
N2	Number of individuals
A00100	Adjust gross income (AGI)
N00200	Number of returns with salaries and wages
A00200	Salaries and wages amount
N00300	Number of returns with taxable interest
A00300	Taxable interest amount
N00600	Number of returns with ordinary dividends
A00600	Ordinary dividends amount
N00650	Number of returns with qualified dividends
A00650	Qualified dividends amount
N00900	Number of returns with business or professional net income (less loss)
A00900	Business or professional net income (less loss) amount
N01000	Number of returns with net capital gain (less loss)
A01000	Net capital gain (less loss) amount
N01400	Number of returns with taxable individual retirement arrangements distributions
A01400	Taxable individual retirement arrangements distributions amount
N01700	Number of returns with taxable pensions and annuities
A01700	Taxable pensions and annuities amount
SCHF	Number of farm returns
N02300	Number of returns with unemployment compensation
A02300	Unemployment compensation amount
N02500	Number of returns with taxable Social Security benefits
A02500	Taxable Social Security benefits amount
N03300	Number of returns with Self-employed (Keogh) retirement plans
A03300	Self-employed (Keogh) retirement plans amount
N04470	Number of returns with itemized deductions
A04470	Total itemized deductions amount
N18425	Number of returns with State and local income taxes
A18425	State and local income taxes amount
N18450	Number of returns with State and local general sales tax
A18450	State and local general sales tax amount
N18500	Number of returns with real estate taxes
A18500	Real estate taxes amount
N18300	Number of returns with Total taxes paid
A18300	Total taxes paid amount
N19300	Number of returns with Home mortgage interest paid
A19300	Home mortgage interest paid amount
N19700	Number of returns with Total charitable contributions
A19700	Total charitable contributions amount
N04800	Number of returns with taxable income
A04800	Taxable income amount
N09600	Number of returns with alternative minimum tax
A09600	Alternative minimum tax amount

Variable	Description
N07100	Number of returns with total tax credits
A07100	Total tax credits amount
N07180	Number of returns with child and dependent care credit
A07180	Child and dependent care credit amount
N07260	Number of returns with residential energy tax credit
A07260	Residential energy tax credit amount
N59660	Number of returns with earned income credit
A59660	Earned income credit amount
N59720	Number of returns with excess earned income credit
A59720	Excess earned income credit (refundable) amount
N11070	Number of returns with refundable child tax credit or additional child tax credit
A11070	Refundable child tax credit or additional child tax credit amount
N06500	Number of returns with income tax after credits
A06500	Income tax after credits amount
N10300	Number of returns with tax liability
A10300	Total tax liability amount
N11901	Number of returns with tax due at time of filing
A11901	Tax due at time of filing amount
N11902	Number of returns with overpayments refunded
A11902	Overpayments refunded amount
NUMDEP	Number of dependents [variable unavailable after '17]