The Illinois Property Tax: History and Structure

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Abstract

The property tax is the most important independent source of local government revenues in the United States. Because of its importance to local government finance, reforms of the property tax system are constantly debated and the debates recycle over the years. As of 2006, forty states constrain local government property tax revenues by limiting tax rates, limiting revenues, or limiting both rates and revenues. Illinois is one of 23 states that have placed limits on both property tax revenues and property tax rates. Despite the limitations on property taxes, discussion continues on property tax reform including proposals that replace substantial portions of property tax revenue with revenue from state income and sales taxes. These complicated property tax systems are difficult for voters, policymakers, and researchers to understand, let alone reform. This report examines both the current property tax institutions in Illinois and the history behind these institutions. Only through an understanding of the history and present state of the property tax in Illinois can discussion about suitable reforms begin.

Armed with a basic knowledge of the institutional details of the Illinois property tax, we begin a policy discussion of property tax constraints in Illinois and across the nation. In order to discuss the potential benefits and costs of the property tax constraints in Illinois we compare property tax system with constraints to an unfettered system. We make the comparison of an unfettered system to a constrained system using the criteria of equity, efficiency, and simplicity, while assuming that the constrained and unfettered systems collect the same amount of property tax revenues. Comparing the equity, efficiency, and simplicity properties of constrained and unfettered systems identifies and clarifies important issues concerning the direction of and need for property tax reform.

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Introduction

Illinois is one of 21 states that have placed limits on both property tax revenues and property tax rates and is one of only three states that give local governments an option to limit assessment increases.[1] Although the first limit on property tax rates in Illinois appeared in 1907 on a special-purpose district, it was not until 1961 that rate limits were placed on municipalities and school districts. Rate limits were the only limits in place for thirty years until property tax revenue limits were instituted in the suburban counties surrounding Chicago 1991. In the intervening thirty years, Illinois instituted several property tax relief measures, including the homestead and senior exemptions (1978) and a home improvement exemption (1975). A local option to limit assessment increases was passed in 2004; it remains controversial, however, and is in danger of not being renewed by the state legislature. Despite the limitations on property taxes, discussion continues on property tax reform including proposals that replace substantial portions of property tax revenue with revenue from state income and sales taxes. With both tax rate limits and tax revenue limits in place, why is Illinois still debating property tax reform? This report examines both the current property tax institutions in Illinois and the history behind these institutions. Only through an understanding of the history and present state of the property tax in Illinois can discussion about suitable reforms begin.

Illinois' Property Tax: A National Perspective

In 2002, local governments in the United States collected over $286 billion in property tax revenue. This revenue amount is over $10 billion more than state governments collected in sales tax revenue, more than $70 billion more than state governments collected in individual and corporate income taxes, and more than $100 billion more than local governments collected from any other source.[2] Property tax revenue represented 46% of own-source local government revenues and 25% of all local government revenues.[3] Ten years earlier in 1992, local governments derived 48% of their own-source revenue and 26% of all local government revenues from property taxes. The property tax was a larger component of all local government revenue 100 years earlier, in 1902, when it comprised 73% of all revenue. More than 40% of the property tax revenue collected by U.S. local governments in 2002 went towards funding the operations of school districts. School districts derived 80% of their own-source revenues from the property tax; municipalities and townships derived only 35% of their own-source revenues from property taxes.[4]

[1] The limit on property tax revenues is in effect in only a subset of counties.

[2] After the property tax the most important source of local government revenue in 2003 were current service charges at $163 billion.

[3] In 2002, the largest single source of local government revenue was state transfers at $370 billion. Source: U.S. Census Bureau. Own-source revenue refers to revenue raised by the local government itself and not received through transfers from higher levels of government.

[4] According to the U.S. Census Bureau, in 2002, school districts collected $126 billion, municipalities and townships collected $85 billion, counties collected $66 billion, and special districts collected $11 billion in property tax revenues.

Illinois refers to local governments with the power to levy taxes as taxing districts. As of 2003, there were 927 school districts, 1,290 municipalities, 1,433 townships, 102 counties, and 2,222 special taxing districts in Illinois, for a total of 6,074 taxing districts. The most common special districts are fire districts (835), park districts (360), assessment districts (345), and library districts (336). Only one other state, Pennsylvania, has more than 5,000 taxing districts.

In Illinois, $17.9 billion of property tax revenues were collected by local governments in 2002, with 62% directed towards school districts and 16% directed towards municipalities and townships.[5] These figures mask some heterogeneity within the state; 58% of property tax revenues within Cook County are directed towards school districts; 69% of revenues in collar counties go towards school districts; 63% of revenues for the rest of Illinois are directed towards school districts.[6] School districts in Illinois derived over 90% of own-source revenue from property taxes in 2002, municipalities derived 27%, and counties derived 44%.[7]

Property tax revenues represented 4.3% of personal income in Illinois in 2002 compared to 4% of personal income in 1992, and 3.8% in 1982. Per capita property tax collections in Illinois were approximately $1,423 in 2002, more than the approximately $1,221 per capita collected in 1992, and the $916 per capita collected in 1982. For the entire United States, local government property tax collections were $994 per capita in 2002.[8]

The Structure of the Illinois Property Tax

In general, an individual property owner's property tax liability to a particular taxing district is determined by the following equation:

$$owntaxes \equiv \tau \times (ownvalue)$$

indicating an individual's property tax liability (own taxes) is equal to the product of the district tax rate (τ) and the taxable value of the individual's property (own value). If the tax rate is 5% and an individual owns a property with a taxable value (i.e., own value) of $100,000, the individual's own taxes are $5,000.

A taxing district's tax rate is the ratio of the funds it needs to finance agreed upon service levels (total taxes) and the taxable value of all property within its boundaries (total value). In Illinois, like most every state, the tax rate is not a policy parameter; it is simply a byproduct of the choice of a total tax amount and the total value of available tax base.

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[5] For comparison, in 2002 the state of Illinois raised $9.8 billion from the individual and corporate income taxes combined and $8.2 billion from the general sales tax.
[6] Source: Illinois Department of Revenue.
[7] Source: US Census Bureau, Census of Governments, 2001-2002.
[8] Source: US Census Bureau and Bureau of Economic Analysis. All figures expressed in 2002 dollars.

$$\tau \equiv \frac{totaltaxes}{totalvalue}$$

For example, if the required total taxes are $10,000 and the total taxable value in the district (i.e., total value) is $1 million, the tax rate would be 1%. A taxing district in Illinois observes its tax base and sets its desired total tax amount. Together this fact (the total tax base value) and this decision or choice (the total taxes) determine the tax rate.

A taxing district collects tax revenues from all taxable properties located within its boundaries. In Illinois, like most other places, taxing districts must have a uniform tax rate within their boundaries. That is, all properties within a taxing district, regardless of owner or type must face the same statutory tax rate. Uniform tax rates imply that an individual property owner's share of total taxable value is identical to their share of total taxes paid. This can be seen from the following equation

$$\frac{ownvalue}{totalvalue} = \frac{\tau \times ownvalue}{\tau \times totalvalue} = \frac{owntaxes}{totaltaxes}.$$

Another conclusion derived from these equations is that each individual pays a share of the total levy equal to their share of total taxable value

$$owntaxes \equiv (totaltaxes) \times \left({}^{ownvalue}\!/_{totalvalue} \right).$$

This identity demonstrates that an individual property owner's tax liability depends on the amount of money being collected (i.e., total taxes), the taxable value of the property owner's property within the taxing district (i.e., own value), and the total taxable value of all taxable properties within the taxing district (i.e., total value). This identity is true in any property tax system with uniform tax rates and is not specific to Illinois. As an illustration consider the property tax liability (own taxes) of an individual who owns a home with a taxable value of $100,000 in a taxing district that contains $1,000,000 of total taxable value within its borders. In other words, the individual owns 1/10 of total value. If total taxes are $100,000, the individual's tax liability will be 1/10 of $100,000 or $10,000.

An implication of this identity is that a property owner's tax liability may change even if the taxing district does not change its total revenue. It is also the case that increases in assessment do not necessarily imply increases in tax liability. Suppose, for example, that own value were to increase by 10% and total value also increased by 10% while total taxes remained constant. In this example, although the individual's assessment increased her own taxes will not change. Contrast this with a situation in which own value increases by 5%, total value increases by 10% and the total taxes remain constant. In this example, the individual's tax liability (own taxes) will actually decrease by just less than 5% even though her assessed value (own value) increased by 5%.

Illinois has developed its own terminology to describe each of the components of an individual tax bill. These components are described below utilizing the terminology currently employed in Illinois.

Own Value

In Illinois, the final taxable value of an individual property is referred to as the Adjusted Equalized Assessed Value (Adjusted EAV).[9] In 2002, the total adjusted EAV in Illinois was over $256 billion. Before arriving at the Adjusted EAV, the assessor must first estimate or appraise the market value of the property, multiply by an assessment ratio, multiply by a state equalization factor, and finally allow for any available exemptions.

The local assessor estimates the market values of all taxable properties within each taxing district and multiplies each market value by an assessment ratio to arrive at the assessed value.[10] For all properties not located within Cook County, the assessed value is 33.33% of estimated market value. For properties located within Cook County, the assessment ratio varies depending on the class of property. The assessment ratio ranges from 16% for residential property to 38% for commercial property.[11]

Once the final assessed value of each property is determined, the State of Illinois acts to adjusts property values across jurisdictions. The state adjusts values by multiplying the assessed values of all non-farm properties within a county by a county-specific and state-certified equalization factor. The equalization factor is used in an attempt to ensure that each county in Illinois has the same 33.33% ratio of total assessed value to total market value. This equalization factor is designed to inflate the non-farm assessments in counties that have under-estimated market value and deflate the assessments in counties that have over-estimated market values. In Cook County, the equalization factor also reflects the fact that properties are assessed at ratios different from 33.33%.

The Illinois Department of Revenue calculates an equalization factor for each county. The Department determines the equalization factor by computing assessment-sales ratios for a sample of properties that have sold in the previous three years.[12] The assessment-sales ratio for an individual property is the assessed value of a property divided by its

[9] Since 1979, Illinois has not taxed personal property. To replace the lost revenue to local governments, the state distributes to this day funds from income taxes to the taxing districts according to their original (1979) shares of personal property.

[10] Each county in Illinois has a Chief County Assessment Officer (CCAO) who is either elected or appointed. The CCAO is also known as the county assessor or the supervisor of assessments.

[11] By law all counties with over 200,000 in population may elect to assess property at different rates. Of the six qualifying counties only Cook County has elected to do so. Although Cook County assessed properties at different rates for many years prior, the state constitution of 1969 made assessment at different rates within Cook County explicitly legal.

[12] Not all properties in the county will have sold in the previous three years requiring that a sample of properties with recent observed sales prices be selected. If the sample of properties is representative of the population of properties within the county, the assessment-sales ratio within the sample should be similar to the assessment-sales ratio of properties for which there are no recently observed sales prices. The final 2003 equalization factor for Cook County was 2.4598 indicating that the assessment-sales ratio was 13.55% instead of 33.33%.

sales price. Using these ratios, the department calculates the ratio of total assessed value to total market value within the sample. When the ratio of the sample's total assessed value to the sample's total market value is less than the constitutionally required 33.33%, the department assigns an equalization factor of greater than one in order to increase the sample's total assessed value to a level that represents 33.33% of the sample's total market value. Once the equalization factor is determined, the assessed value of every non-farm property in a county is multiplied by the county's equalization factor to produce an Equalized Assessed Value (EAV) for each property (not just those in the sample). For example, if an assessment-sales ratio within a county demonstrates that within the sample the ratio of assessed value to sales price is 20%, the equalization factor applied to all non-farm properties within the county, not just those within the sample, would equal 1.665. Thus, a property with an assessed value of $50,000 would have an equalized assessed value of $83,250 and a property with an assessed value of $75,000 would have an equalized assessed value of $124,875.

The last determinant of Adjusted EAV is the application of any available exemptions that reduce the taxable value of the property. All owners of primary residences in Illinois receive a homestead exemption that reduces their EAV by $5,000. For the property described above with an EAV of $83,250, the homestead exemption would reduce the EAV by $5,000, creating an Adjusted EAV of $78,250. All other exemptions are available to certain subgroups of the homeowner population, such as senior citizens with low incomes. Once all exemptions are applied to the EAV, the resulting taxable value is called the Adjusted EAV. This is the final taxable value or own value of a property for that year. This is the base to which tax rates are applied and it is the tax base that determines each property owner's share of the total tax burden.

<u>Changes to Own Value</u>

In principle, the taxable value (own value) of a property can change over time whenever the market value of the property changes. The State of Illinois restricts both the frequency and magnitude of changes in the taxable value of an individual property. The frequency of changes in taxable value is restricted because properties are not assessed every year. Properties located outside of Cook County are only assessed every four years and those located within Cook County are assessed every three years.[13] In Cook County not all properties are reassessed at the same time. The county has three assessment districts with one district being assessed each year on a rotating basis. All other counties in the state have the option of dividing properties within their boundaries into four assessment districts with one district being assessed each year on a rotating basis. As of 2000, 12 of remaining 101 counties had elected to create four assessment districts within their boundaries. Since most properties are only assessed every four years, the magnitude of most annual increases in own value is zero. In most cases, it is only upon reassessment that the own value of a property is allowed to change.

[13] Cook County also conducted quadrennial assessments until 1990 when they switched to a triennial system. The change was made in an attempt to minimize the large jumps in Adjusted EAV that came in quadrennial assessments.

The Adjusted EAV of a principal residence may change in between assessments as the result of improvements made to the home or a correction of errors in the previous assessment. The value of any improvements is incorporated into the Adjusted EAV on an annual basis. There is, however, a home improvement exemption that prevents $75,000 of improvements from being taxable for four years. This exemption temporarily restricts changes in taxable value due to capital improvements.

The State of Illinois also allows counties to restrict the magnitude of increases in the taxable value of homestead property upon reassessment. As of 2006, only Cook County has elected to restrict the magnitude of increases in taxable value. In Cook County, increases in the Adjusted EAV of a residential property are limited to at most 7% unless limiting the increase in Adjusted EAV to 7% causes the difference between EAV and Adjusted EAV to be greater than $20,000.[14] When the 7% limit on increases in adjusted EAV results in the Adjusted EAV being more than $20,000 less than the EAV, the property's Adjusted EAV is allowed to increase by an amount greater than 7% until the difference between Adjusted EAV and EAV is $20,000. The 7% limit on residential assessment increases, formally referred to as the Neighborhood Preservation Homeowner Exemption, was passed by the state legislature in 2004. The bill also increased the minimum homestead exemption to $5,000. Prior to this bill passing the homestead exemption had been $4,500 in Cook County and $3,500 in the rest of Illinois. The bill also increased the maximum amount of the home improvement exemption from $45,000 to $75,000.

Extensions and Tax Rates

In Illinois, property tax revenues are referred to as property tax extensions. As noted above, taxing districts in Illinois have the power to collect property tax extensions. Extensions, unlike individual assessments, are allowed to change each year. The magnitude of extension changes is restricted in some portion of Illinois, however, by the Property Tax Extension Limitation Law (PTELL). PTELL, also known as the tax cap, was passed in the state legislature and took effect, by state mandate, in the "collar counties" in 1991. PTELL took effect in Cook County in 1994, again by state statute. In 1996, all other counties in Illinois were given the option to impose PTELL. PTELL affects all non-home-rule taxing districts in affected counties, limiting increases in property tax extensions to the lesser of inflation or 5%.[15] As of 2006, 39 counties, including Cook County and the five collar counties, have elected or been required to participate in the PTELL. Once instituted, voters in a county can vote to override the PTELL temporarily in a general election. In counties without PTELL, a taxing district must notify the public via a publication if the planned extension represents an increase of 5% or more over the previous year's extension. Again, the PTELL limits any increases in a taxing district's total extension to 5% or the rate of CPI inflation, whichever is greater. It does not directly limit increases in own taxes. The failure of PTELL to limit

[14] For seniors the difference between Adjusted EAV and EAV can be greater than $20,000 by the amount of other applicable exemptions.
[15] If a taxing district reduced its extension in the preceding year the highest extension in any of the three previous years is used to compute the maximum allowed extension.

increases in own taxes follows directly from the own taxes identity, which demonstrates that an individual's own taxes might increase even if the taxing district's extension were to stay the same or even if the extension (total taxes) were to decrease.

The absolute level of a property tax extension in a given year is also limited by relatively widespread limitations on tax rates.[16] The tax rate in a taxing district is the ratio of the district's property tax extension to the total taxable value of property in the district. Tax rate limits do not directly restrict the extension but restrict the ratio of the extension to the tax base. Tax rate limitations affect all Illinois school districts, special districts, community college districts, townships, and all non-home-rule counties and municipalities. Municipalities with population greater than or equal to 25,000 and Cook County are defined as home-rule units of government are not subject to the tax rate limitations. The limitations on tax rates vary by taxing district and by fund within each taxing district. Tax rate limits faced by school districts are in general higher (less restrictive) than limits placed on other taxing districts. Most tax rates are limited to less than one percent of the total Adjusted EAV in a taxing district. All of these taxing districts, except for a select few special districts, have at least one fund that is not subject to tax rate limitation, possibly enabling the total extension to be relatively unrestrained by limitations on tax rates.

Each taxing district has many different tax rates. For example, school districts located in cities with less than 500,000 inhabitants have five revenue categories with a specific tax rate assigned to a total of 36 expenditure categories within these revenue categories. Some of these limits can be overridden by the voters and the override provisions vary from fund to fund.

Tax Payments

Individual tax payments to a taxing district change over time because of changes in total taxes or changes in the individual property's share of total value. If both the total taxes and the share remain the same the own taxes will not change. If, for example, the total value were to increase but own value remained the same the own taxes would decrease even if the total taxes remained the same. Also note that increases in the total taxes occurring at the same time as a decrease in a property's share of total value could actually result in a reduction in own taxes even though total tax collections increase.

As is the case with most, if not all, states, the taxes payable in any given year are based on taxable values as of the previous year. For example, the Adjusted EAV of all properties as of 2002 determines, along with the declared property tax extension, the amount of property taxes payable in 2003. Most, if not all, counties in Illinois allow property owners to pay their property tax bill in two installments.

[16] The Sanitary District Act of 1907 appears to have established the first limitation on property tax rates in Illinois. The Metropolitan Sanitary District of Chicago was created by the state legislature in 1889, and apparently enjoyed 18 years of fiscal freedom before the limitation was passed.

The implications of the Illinois property tax system on property tax payments are straightforward. The limits on property tax extensions directly limit possible changes in an individual's property tax payment over time by preventing changes in the total taxes from being too large. The system of triennial or quadrennial rotating assessments used in 13 of the 102 counties means that an individual's own taxes may change from year-to-year even if her property is not reassessed and the extension does not change because total assessed valuation changes in the county.

Exemptions

Exemptions reduce the EAV of a property. A few property tax exemptions are available to Illinois taxpayers. The most widely available exemption is the Homeowner Exemption, which is available to homeowners on their primary residence. This exemption was originally enacted in 1978, at a level of $1,500 to combat sudden increases in property values.[17] The exemption was increased to $3,000 by 1980 and to $3,500 by 1986. At least initially, the exemptions applied only to increases in Adjusted EAV from the 1977 assessment. Currently the exemption reduces EAV by $5,000 without regard to previous assessments. In 2002, over 2.8 million homeowners received the general homestead exemption for a total reduction of EAV of $10.7 billion.[18]

Other exemptions are available to a smaller set of property owners. The Income Exemption is available only for homeowner's with incomes less than $30,000 and reduces Adjusted EAV by an additional $5,000. Counties must vote to offer this exemption and it is unclear how many counties have elected to do so.[19] First available in 1979, the Senior Exemption is available on the principal residents of homeowners who are at least 65 years of age. There are no income qualifications on this exemption, which reduces the EAV by an additional $3,000. Prior to taxes payable 2004, the exemption was $2,500 in Cook County and $2,000 in the rest of Illinois. In 1979, the exemption was $1,500 with the amount increased to $2,000 in 1984.

Owners of a principal residence who are at least 65 years of age are also eligible for another exemption if their household income is less than $45,000. This exemption is known as the Senior Freeze and its amount changes as necessary in order to keep the Adjusted EAV of the property no greater than its Adjusted EAV in the year prior to the year the homeowner qualifies for the exemption.

The Home Improvement Exemption applies only to primary homeowners who make capital improvements on their home. For taxes payable 2004, the exemption amount

[17] Thomas Hynes, who was at the time the Senate President and who would later become the Chief Assessor for Cook County, sponsored the bill. When the exemptions took effect the Assessor's Office (run by Hynes) was overwhelmed with the task of determining who owned and lived in properties. The resulting confusion may have led to errors that cost Chicago as much as $12 million in property tax revenue.
[18] Source: Illinois Department of Revenue, Property Tax Statistics, Table 21.
[19] This exemption appears not to be available to residents of Cook County. Residents of Chicago have another program, Chicago Homeowner Assistance Program, designed to alleviate property taxes for low income residents.

increased from $45,000 to $75,000. The exemption is automatically applied to the property by the assessor's office when the individual takes out a building permit. The exemption was originally enacted in 1975 for the amount of $15,000. Currently, homeowners are allowed to make improvements of up to $75,000 without incorporating the value of these improvements into the EAV of their home for four years.

The most recent exemption is the Neighborhood Preservation Homeowner Exemption that took affect in taxes payable 2004. As noted above, this exemption restricts increases in the Adjusted EAV of individual residential properties. The types of properties that are eligible to receive the exemption are single-family homes, condominiums, cooperatives, and apartment buildings with 6 or fewer units. This program increases the homeowner exemption above $5,000 until either the annual increase in Adjusted EAV is less than or equal to 7% or the total amount of exemption reaches $20,000. This exemption is set to expire in 2006 unless it is renewed by the state legislature.

The Neighborhood Preservation Homeowners Exemption is phased out over the three-year assessment cycle allowing the Adjusted EAV of an individual property to change annually instead of only every three years. The exemption is phased out in order to ensure that the Adjusted EAV under the 7% cap is the same as it would have been without the cap by the time of reassessment.

<u>Credits, Deferments, and Loans</u>

The Senior Citizens Real Estate Tax Deferral Program allows qualifying senior citizens to delay payment on part or all of their real estate taxes. To qualify, a person must be 65 years of age or older, the tax must be on their principal residence, and their income must be less than $40,000. During deferral, the state pays the real estate taxes. The deferred taxes plus six percent interest must be repaid after the taxpayer's death or if the home is sold or no longer qualifies. There is also a circuit breaker program that provides tax credits to income-qualifying seniors and disabled persons through the income tax.

The Illinois property tax credit allows individuals to receive a credit on 5% of their property tax payment on their principal residence. The credit is received on an individual's income tax return and there are no income qualifications.

Conclusion

The property tax limits and exemptions in Illinois influence own taxes by either affecting total taxes or the share of total value. Policies that affect the share of total value shift taxes across individuals while policies that affect total taxes reduce taxes for all individuals in proportion to their share of total value.

The Property Tax Extension Limitations and the tax rate limits only affect total taxes, while nearly every other policy acts to shift taxes across individuals. The general homestead exemption shifts taxes away from residential property owners and towards owner of commercial-industrial property. Taxes are also shifted within the residential class towards highly appreciating properties and away from mildly appreciating properties by the homestead exemption.

The new 7% cap on assessment increases also shifts taxes away from homeowners towards commercial-industrial property and shifts taxes within the residential property class. This time, however, the tax shifts away from highly appreciating properties and towards mildly appreciating properties because of the assessment cap. The state income tax credit shifts taxes away from local districts onto taxpayers across the entire state. Senior exemptions shift taxes away from seniors and onto other homeowners and commercial-industrial property. The classification system in Cook County also shifts taxes away from residential property and onto commercial-industrial property.

All of the exemptions and credits provide tax relief by shifting the payment of taxes across individuals. Tax relief to some is not tax relief to all; tax relief to some is often tax increases for some others.

Appendix:

Examples

Below are seven examples that illustrate the effects of homestead exemption and the 7% cap on assessment increases on the property tax liabilities of two hypothetical homeowners. The final two examples also consider the potential effects of these exemptions on the property tax liabilities faced by owners of commercial property. All seven cases consider the property tax system in Cook County, the only county with the 7% cap on assessment increases. All the examples consider assessment years 2002 and 2003 with taxes payable in 2003 and 2004.

Case 1 demonstrates the effect of the homestead exemption and 7% cap when both homes appreciate by the same amount. Cases 1 through 5 assume that the two homeowners are the only taxpayers. In 2002, each home has a market value of $500,000, and an assessed value of $80,000 since the statutory assessment ratio in Cook County is 16%. The example assumes a state equalization factor of 2.47, implying that the market values of these Cook County homes are underestimated.[20] After multiplying the assessed value by the equalization factor the equalized assessed value of both homes is now $197,600. Prior to assessment year 2003, the homestead exemption was valued at $4,500 producing a 2002 Adjusted EAV of $193,100. In this example, it assumed that the government wants to collect $28,104 in revenue, implying a tax rate of 7.277%. This tax rate is the ratio of the $28,104 extension to the total tax base of $386,200. Since it is assumed there are only two properties in the jurisdiction the share of taxable value is 0.50 for both taxpayers. Using the identity for individual tax liability the total extension is multiplied by the share to produce a property tax liability of $14,052 for both taxpayers.

Each case considers how changes in market values interact with the various exemptions to produce changes in individual tax liabilities. Case 1 describes the impact of an equal appreciation in both properties. If the taxing district maintains the same extension across the two years an equal percentage increase in the value of both properties does not cause a change in property tax liability for either taxpayer. Although both taxpayers are affected by the 7% cap neither one pays any less or more in taxes. This demonstrates that the cap on assessment increases is designed to remediate unequal appreciations in residential property.

Examining tax bill 1 in case 1 for 2003 demonstrates exactly how the 7% cap operates. The market value of home 1 increased by 13% to $565,000 from 2002 to 2003, which, given the 16% assessment ratio, produces an assessed value of $90,400. Assuming that the equalization factor remains the same the equalized assessed value is $223,288. If the home were to receive the minimum $5,000 exemption in 2003 the adjusted EAV would equal $218,288, which would be $25,188 more than the Adjusted EAV in 2002, representing an increase of just over 13%. The 7% cap acts to increase the homeowner

[20] Underestimation of residential market values has long been the case in Cook County. Although the statutory requirement is that residential homes be assessed at 16% of market value, studies have shown that the actual assessment ratio is at most 10%.

exemption until the increase in adjusted EAV equals 7% or the amount of the exemption reaches $20,000. In this example, a 7% increase in adjusted EAV from 2002 to 2003 would imply a 2003 Adjusted EAV of $206,617. The homestead exemption must increase until the 2003 Adjusted EAV equals $206,617, implying a homestead exemption of $16,671. Since both properties appreciated by the same percentage each property's share of the tax base remains the same and as long as the extension remains the same their tax liabilities will not change.

Case 2 considers the case when both homes appreciate in value by more than 7% but they appreciate by different amounts. This example demonstrates some important effects of the 7% cap. As in the previous example, the state equalization factor remains the same and each property appreciates in value. Before exemptions the equalized assessed values for home one and home two are $225,264 and $217,360. If there were no exemptions, home 1's share of the tax base increases from 0.50 to 0.51, implying a 2% increase in property tax liability from 2002 to 2003 for home 1 and a 2% decrease for home 2. In this example, by acting to reduce the magnitudes of changes in taxable value the 7% cap creates a situation where individual tax liabilities do not change from 2002 to 2003. The standard $5,000 homestead exemption also has an effect on tax shares and hence on property tax liabilities but this effect is much smaller. The standard exemption causes the tax share of home1 to be higher than the tax share would be without the exemption. Thus, the homestead exemption, by itself, causes home 1's tax payments to be higher than they otherwise would have been. The increase in payments is very small, however, at less than 0.1%. Clearly, the homestead exemption does not necessarily provide tax relief and it disproportionately benefits properties that appreciate less.

Case 3 offers an example of how the 7% cap allows for increases in adjusted EAV of greater than 7% when the exemption reaches its maximum of $20,000. In this example, home 1 exhausts the exemption after its market value appreciates by 15% to $575,000. The equalized assessed value of home 1 is then $227,240 but a 7% increase in adjusted EAV from 2002 to 2003 requires that the adjusted EAV be at most $206,617. Since the difference between the EAV and the 7% adjusted EAV is larger than $20,000 the assessment cap exemption is maximized at $20,000 causing the adjusted EAV in 2003 to be $207,240 an increase of 7.3% from 2002 to 2003. If there we no exemption programs the tax bill of home 1 would increase by 0.8% from 2002 to 2003 while the tax bill of home 2 would decrease by 0.8%. Again, the homestead exemption acts to increase the tax share of home 1 while reducing the tax share of home 2 by very small amounts of less than 0.1%. The 7% cap has much larger effects, with the 2003 tax share of home 1 decreasing by 0.7% from what it would have been without the 7% cap and the 2003 tax share of home 2 increasing by 0.75% solely because of the cap. The cap does act, however, to stabilize the tax payments of the homeowners across the two years. Home 1 faces a $21 tax increase from 2002 to 2003 instead of a $126 increase without the cap and home 2 faces a $21 decrease from 2002 to 2003 instead of a $126 decrease.

Cases 4 and 5 demonstrate similar results. Cases 6 and 7 consider how the homestead exemption and the 7% cap affect the tax burden of primary homeowner's when there is also commercial property within a taxing district. Both the homestead exemption and the

7% cap act to make the tax payments of commercial property owners higher than otherwise and the tax payments of primary homeowners lower than otherwise. Case 6 shows the case where the commercial property does not appreciate in value from 2002 to 2003. Comparing the commercial property's tax liability without any exemption programs to the liability with only the homestead program demonstrates the effect of the homestead exemption. Without any exemption programs the liability of the commercial property is $10,809 for assessment year 2003 and with only the homestead exemption the liability in 2003 is $10,959. The 7% cap acts to increase the 2003 tax liability even further, increasing the commercial liability to $11,379 in 2003. Of course, the commercial tax liability still decreases from 2002 to 2003 under the exemption programs, it would have decreased even more if not for the homestead exemption and the 7% cap.

Residential tax liabilities are affected in the opposite direction of commercial liability in Case 6. The two homeowners face increases in property tax liability both with and without the homestead exemption and the 7% cap. If both programs did not exist in 2003 home 1 would see its tax liability increase from $8,127 to $8,723. The inclusion of the homestead exemption reduces the 2003 assessment year tax liability to $8,649 and the 7% cap reduces the liability to $8,350, still over $200 more than the 2002 tax liability. A similar story applies to the tax liability of home 2 in Case 6. Case 7 considers the same situation except that the commercial property appreciates in value instead of remaining the same.