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A Preliminary Assessment of the New Home Seller Capital Gains Law

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Abstract

In August 1997, the capital gains law was changed to enable most sellers to move down in price without incurring a tax liability. The previous law was critiqued as detrimental to cities by promoting out-migration to higher-priced homes; it was asserted that the requirement that sellers buy a home equal to or greater than the value of the one they sold to defer tax liability obstructed movement down in price. This study asked whether movement down in price increased in four Ohio cities after the law was changed and whether movement out of the central cities decreased and movement in from the suburbs increased.

Statistically significant change in movement down was found in only one city. Movement up in price and outward dominated all four areas. The study produced no direct evidence of the factors that influenced seller-buyer move decisions. The process of life-course change—younger households moving up to larger, more expensive homes and older households moving down to smaller, less expensive properties—was probably the driving force.

Keywords: Housing; Mobility; Tax policy

Introduction

The Taxpayer Relief Act of 1997 contained a provision that altered the treatment of capital gains on home sales. Before the change, the Internal Revenue Code Section 1034 specified that taxes on capital gains resulting from the sale of a homeowner's principal residence would be deferred ("rolled over") if the seller purchased another home of equal or greater value within two years. At age 55, however, the seller became eligible for a one-time exemption of up to $125,000 of gains. Any gains over that amount were taxable.

The new law, Section 121, allows a married couple filing jointly to exclude up to $500,000 of gains and a single person up to $250,000. For those who exceed those figures and pay a tax, the marginal rate was reduced from 28 percent to 20 percent. Further, the exclusion is available not just once, but with unlimited frequency, the only restriction being that the property must be the seller's principal residence for at least two years out of the preceding five. For all practical purposes, this change eliminated capital gains tax liability for most homeowners.

President Clinton proposed the change during his 1996 reelection campaign and was criticized in some quarters for simply seeking the votes of middle-class homeowners. But underlying that political consideration was a matter of possibly serious importance for the core of urban America: The key feature of the old law was the stipulation that sellers could defer tax liability *only* by purchasing another home costing as much as or more than the one they sold. In effect, the law encouraged sellers younger than 55 to move up in price. Moving down meant a likely tax bill. Theoretically, that stipulation defined the sellers-buyers who would move into a jurisdiction. For example, if all the homes in a city were priced lower than all the homes in its suburbs, suburban sellers could not move into the city and purchase a home unless they were at least 55 or were willing (or compelled by circumstances) to pay a capital gains tax on the appreciated value of the home being sold. Only sellers who met those conditions could be expected to move from suburbs to city.

Again, theoretically, the old law dictated that movement would be in accordance with the spatial location of home values. Sellers would move where homes of equal or greater value were located. Homes priced less than the home being sold were not an option. If values were randomly distributed across a metropolitan area, movement up in price would be randomly distributed. If values were distributed such that they were lowest at or near the center of the area and progressively higher with distance from the center, then movement up, at all price levels, would be spatially outward.

To the extent that a central city lacked higher-valued housing in relation to its suburbs, the old capital gains law disadvantaged the city by obstructing movement in from the suburbs. To the extent that a metropolitan area's spatial distribution of home values was one of increasing value with distance from the center, the old law promoted movement out and away from the urban core.

These are all theoretical considerations. It is well established that people who sell and purchase another home do it for various reasons, such as schools and concern for safety. Capital gains may have been inconsequential for most sellers during the 46 years that the law was in effect, or it may have been consequential enough during the 1950s and 1960s to weaken cities more than they would otherwise have been weakened, resulting in urban conditions in the 1970s and 1980s that confirmed the good sense of moving out or not moving in.

In any case, the consequences of the more than 46 years of out-migration by middle- and upper-income households in many metropolitan areas—consequences ranging from contemporary urban sprawl to massive concentrations of urban poverty—now seem to be shaping the

perspective that healthy cities require a sizable proportion of residents who are at least moderately affluent. A growing number of state and local governments, under the rubrics of "smart growth," "sustainability," and "livability," are adopting policies designed, in part, to attract into cities people who can afford to live in many suburbs. It would be helpful to know whether the new capital gains law is likely to have effects consistent with that objective. The study that is the subject of this article represents a preliminary investigation of possible effects.

Literature review

Little is known about effects of the old law, including its spatial impact, possibly because it was considered to have had little significance since most sellers either bought a more expensive home or did not report their sale/purchase to the Internal Revenue Service (IRS) on Form 2119. In 1995, there were 3.8 million sales of single-family homes, while 1.5 million taxpayers filed Form 2119. And of those who filed, 13 percent (5 percent of all sellers) reported a taxable gain (Auten and Reschovsky 1998). To the extent that the law did draw attention, it was from economists interested in its potential to influence homeowners' decisions (for example, by causing an owner to wait until age 55 before selling) (Hoyt and Rosenthal 1990; Newman and Reschovsky 1987).

Burman, Wallace, and Weiner (1997) reported that "while several authors have noted that capital gains taxes distort housing decisions, there is very limited empirical evidence available to support the theoretical claims" (384). Their empirical model, based on data provided by sellers who filed a Form 2119 in 1993 to report a home sale, used probit regression equations to quantify elements of a sequential-choice problem faced by homeowners: move or stay; given move, buy or rent; given buy, move up in price or down; given move down, how much housing to purchase. These choices were modeled as a function of the capital gains tax rate, the tax rate on ordinary income, other housing costs, and demographic variables. The conclusion was that the tax distorted the decisions of 2 to 5 percent of sellers.

By contrast, Hazel Morrow-Jones (1997, personal communication) found in her survey of Columbus, OH, 1995 sellers who purchased another home (all sellers, not just those who filed Form 2119) that 17.2 percent of the 80.7 percent who moved up in price would have considered buying a less expensive home if there were no capital gains tax.

The Ohio Housing Research Network (1994) did an empirical study of seven Ohio cities to determine whether the old law was related to less movement down in price and inward toward the city center than might

otherwise be expected.[1] It differed substantially from Burman, Wallace, and Weiner (1997) in data and method. The network analysis used data on (1) actual moves of sellers-buyers and (2) the supply of housing in a metropolitan area. The methodology employed in that study will be fully described because it conveys the theoretical influence that the old law was having in the housing market and because the same methodology was used in the present study.

The data source was computerized public records of changes in property ownership (deed transfers). Each record contained the sale price, the name of the buyer, the name of the seller, the date the deed was recorded, the address of the property, the census tract, and various characteristics such as year of construction, size, and number of rooms.[2] Subject properties were single-family homes and condominiums. Moves of sellers-buyers were determined by matching sellers' names with buyers' names across the entire metropolitan area, which included the central county and all adjacent counties. Although moves within and between counties were documented, the study focused on moves made by sellers in the central county.

An estimated 52 percent of all possible matches were made. The basis for calculating the match rate was the American Housing Survey (AHS) (tables 3–10 and 4–10), which gives previous and current tenure of recent movers. The 1992 survey for the Cleveland area indicated that 45.3 percent of those who owned at their previous residence were again owners (U.S. Bureau of the Census 1994); the 1990 survey for the Cincinnati area indicated 42.3 percent (U.S. Bureau of the Census 1992); and the 1991 survey for the Columbus area indicated 34.5 percent (U.S. Bureau of the Census 1993a), but that figure changed to 43.5 percent in the 1995 survey (U.S. Bureau of the Census 1997). By contrast, the 1991 national figure was 42.6 percent (U.S. Bureau of the Census 1993b).[3] Because (1) those figures vary somewhat from

[1] The Ohio Housing Research Network was formed in 1989 to conduct research on housing dynamics in Ohio's seven major metropolitan areas (Akron, Cincinnati, Cleveland, Columbus, Dayton, Toledo, and Youngstown) to inform local and state policy makers of linkages between public policy and urban conditions. The network consists of a dozen faculty and staff (including the authors) at eight state universities and has been supported with state funding through the Ohio Urban University Program. For a network report, see the special issue of *Urban Geography* (1998, Volume 19, issue 8) titled Metropolitan Change: Elasticity, Housing, and Policy in Ohio Cities.

[2] The record did not indicate capital gains, if any. But some records did contain the previous purchase price. However, because under the old law the costs of major home improvements and of selling the home could be used to offset gains, the simple difference between purchase and sale prices was probably not the taxable gains.

[3] Chicago Title and Trust (1996) in its annual survey of Cleveland home buyers found that in 1993, 55.7 percent previously owned a home; in 1994, the figure was 58.6 percent; in 1995, 57.1 percent. Those figures include buyers who did not move directly from ownership to ownership. Clark and Dieleman (1996) report that "only about half of all owners in the United States who move do so within the homeownership sector" (94).

year to year, (2) previous residence was not necessarily in the metropolitan area where the purchase occurred, and (3) deed transfers did not identify all new construction (particularly custom-built homes), a lower figure, 40 percent, was assumed. Owners selling in the central county and buying again in the metropolitan area were assumed to account for approximately 40 percent of all home and condominium purchases. That percentage times the number of sales in the area was the possible number of matches.

A match was considered acceptable when a seller's name on one record matched a buyer's name on another and when the sale and purchase occurred within six months of each other. Six months was used rather than the two years permitted by the old law to increase the likelihood of accurate matches. As the months between sale and purchase increase, common names, such as John Smith, are less likely to match correctly. Because most sellers were found to purchase within six months, it was chosen as the cutoff point. Many common names did match because of the presence of two names (husband and wife) on the records.

The deed transfer records used in the study were for the year 1991. A question was posed as to whether a single year of data was sufficient for the analysis, since moves at the beginning and end of the year could have extended from 1990 and to 1992, respectively. It was possible to resolve that question, because the researchers had several years of records for the Cleveland area. By comparing matches for a single year with those identified by including the six months before and the six months after that same year, it was found that about 8 percent of the matches were lost when the before and after periods were excluded. But the results of the two analyses were the same (e.g., proportion who moved down in price).

After the sell-buy matches were made, the next step was to determine whether the sellers in the central county moved farther from or closer to the center of the city. The census tract location of each property in the match was determined. Each tract in the central county was assigned (on the basis of centroid) to a one-mile-wide ring whose center of radius was the center of downtown. Moves were then identified in terms of the rings in which the sale and purchase were located. Sellers who moved to an adjacent county were considered as having moved outward. Movers who bought in the same ring (approximately 15 percent of all movers) were designated as having moved outward or inward in proportion to the sellers in that ring who did change rings (in or out).

Sellers who had been living in the central city were distinguished from those who had been living in suburbs. In Cincinnati and Columbus, some suburbs are completely surrounded by the city. In those instances, suburban sellers were identified as such, and their movement was

located in or out by the same ring structure that encompassed the city and its more distant suburbs.

It should be noted that the most accurate way to do this analysis is to locate each property by its coordinates (either latitude/longitude or its position on a digital parcel map) and by precisely calculating the direction of the move. At the time, the researchers lacked the capacity to do that. But because most moves involved distances of more than a mile, the somewhat rough method of mile-wide rings was effective in documenting the scale of movement in and out. In/out accuracy was also reduced slightly by designating moves to adjacent counties simply as being outward (one objective of the study was to determine the balance of movement in and out of the central counties). In each metropolitan area, it is possible to move out of the central county to an adjacent county and be closer to the center of downtown as a result. In most areas, only a small proportion of all movers can do that. The possibility is most apparent in the Cincinnati area. A move from northern Hamilton County, OH, to Covington, KY, just across the river, was categorized as "outward" in the analysis when in fact it positioned the mover closer to downtown Cincinnati. Such distortion, however, was minor. Only 2.4 percent of the moves made by Hamilton County sellers were to the three counties across the river. Nonetheless, the most accurate way to do the analysis is by means of digital coordinates.

The next step involved determining the theoretical effect, if any, of the old capital gains law on purchase choices. The analysis addressed the question of whether the IRS provision that sellers could avoid a tax liability by purchasing a home of equal or greater value altered the purchase choices available to them[4]—choices that were closer in or farther out. The analysis was based strictly on the location and price of homes in the region and did not consider other factors, such as schools, that can influence a decision to move.

The analysis had to take into account the actual geographic location of homes in a metropolitan area because the closer sellers lived to the downtown center of the city, the less likely they would move inward, irrespective of the capital gains provision.[5] That is, the closer sellers lived to downtown, the smaller the percentage of homes located closer in—thus the smaller the likelihood that they would move inward, all other things being equal.

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[4] Purchase of a home costing as much as or more than the home sold (the condition for the capital gains rollover provision) was defined in this study as "moving up"; thus "moving down" in price was truly down. Very few sellers bought a home costing exactly as much as the home they sold.

[5] The methodology was devised by Bier and Maric (1994). The Ohio Housing Research Network modified the method slightly in doing its analysis of the seven cities.

The ring location of homes was the reference against which the application of the capital gains provisions was compared. For each seller, the analysis determined (1) the percentage of all homes in the multicounty area that were closer in (example, 8 percent); (2) the percentage of all homes costing as much as or more than the seller's that were closer in (example, 3 percent); (3) the difference between those two numbers, which was the theoretical effect of the capital gains provision (which, in the example, meant a reduction in the seller's choice to move inward by 62.5 percent, irrespective of all other factors that can influence decisions to move).

In addition to using 1991 deed transfers as the data representing the area's supply of homes, the same analysis was done using census data (U.S. Bureau of the Census 1991),[6] which provided a means of assessing the representativeness of the deed transfers. If the 1991 deed transfers were a good sample of all homes, the results of the two analyses should have been fairly close. And they were: Using census data, the proportion of all central-county sellers (the sum of all rings) that could theoretically move inward was 36.7 percent (i.e., for those sellers, 36.7 percent of the area's supply of homes was closer in); using deed transfers, it was 37.8 percent. (Those are median figures, the middle figure of seven percentages. All findings for the seven areas are reported that way.) Because the deed transfers represented the choices that happened to be available to sellers when they were looking to buy, the deeds were considered to be more appropriate for the analysis than census data. Also, census data were limited to owner-occupied, single-family homes, while the deed transfers included condominiums.

The results were consistent across the seven areas. The median figures were as follows:

1. On the basis of the number and location (not price) of homes, 37.8 percent of all sellers in the central county could move inward (if price were not a consideration and disregarding any other factor that can influence the purchase decision).

2. Some 18.4 percent of all sellers actually moved inward. Moves inward occurred at one-half the theoretical rate associated with the location of homes (18.4 percent versus 37.8 percent).

3. Of all movers, 80.5 percent complied with the capital gains provision and purchased a home costing as much as or more than the home they sold. The uniformity of the proportion moving up in price (six of the areas ranged from 79.5 to 82.6 percent, while the

[6] This material is drawn from Summary Tape File 1, table H–23.

seventh was 75.5 percent)[7] suggests the possibility that those who moved down were mostly ages 55 or older, taking advantage of the one-time $125,000 exemption. In their analysis of IRS Form 2119 filers for 1993 to 1995, Auten and Reschovsky (1998) found a substantial shift at age 55 in the proportion of sellers who did not purchase another home. Thirty-five percent of sellers ages 45 to 54 did not purchase, compared with 61 percent of those ages 55 to 59. Crowe and Dubin (1998), however, using AHS data, found no such shift. They also asserted that "any change in housing demand [as a result of the new capital gains law] is likely to be small and take place over a fairly long time period" (Crowe and Dubin 1998, 8). Further, Auten and Reschovsky (1998) found that compared with younger sellers, sellers 55 or older who did buy another home showed little difference in moving down.

4. Theoretically, if all sellers complied with the capital gains provision and did not move down in price, 23.1 percent could move inward, on the basis of location *and price*. (Using 1990 census data for home value and location, the figure was 23.3 percent.) Thus, the capital gains provision had the effect of reducing the choice for sellers to move inward from 37.8 to 23.1 percent, a reduction of 38.9 percent.

5. Of those who complied, 15.8 percent moved inward; of those who did not comply, 36.1 percent moved inward. The rate of movement in by those who did not comply was 2.3 times greater than the rate of movement in by those who did comply.

The network concluded that the capital gains provision had the effect of discouraging sellers from moving down in price and inward toward the center of the city and recommended in its report that the tax on moving down be eliminated.

President Clinton's 1996 proposal to change the law may have precipitated thought and investigation with a spatial, urban/suburban perspective. The Environmental Law Institute (1998) assessed the influences of the old law and concluded that it contributed to urban decline by obstructing movement down in price, which undermined home buying in central cities where prices were lower than in the suburbs. Using 1990 census data on 38 metropolitan areas, the institute study compared median housing values for the central city and its metropolitan statistical area (MSA) with net migration into and out of the central city (movers who stayed within the MSA). The finding was that the greater the difference in housing value between the city and the balance

[7] Hoyt and Rosenthal (1990), using 1981 AHS data for 15 standard metropolitan statistical areas across the country, found that of homeowners who moved during the 12 months before the interview and repurchased, 85 percent moved up in price and 15 percent moved down.

of the MSA, the greater the ratio of city out-migrants to in-migrants. "These results suggest that, in metropolitan areas where suburban housing is on average considerably more expensive than city housing, a greater percentage of movers within the MSA will move out of the central city than in MSAs where urban and suburban housing are closer in price" (13).

The institute study recognizes that factors other than tax law, such as schools and concern with crime, influence decisions to move and that disparity in home values is a function of demand. Nonetheless,

> the perverse nature of the old law [by requiring virtually all home sellers to keep buying up with each home purchase simply to avoid a tax] necessarily made the trend toward disparity in housing prices [between city and suburbs] self-reinforcing, regardless of how it had been initiated. This is because once demand shifted to suburbs (whether for tax reasons or other preference reasons), central city housing prices would fall (or at least rise less quickly than suburban prices) because of reduced demand. A significant number of potential buyers (those with accrued gains) would then be excluded from the market for lower priced homes by the operation of the old law. (14)

The new law, however, was judged as having the potential to curb the rate of sprawl by enabling movement down in price (to homes presumably located in central cities and older inner suburbs) and to promote urban revitalization. Since under the new law homeowners can secure their capital gains after two years of occupancy, tax-free profit can be made by purchasing a property in need of repair, fixing it up, selling it after two years, and then repeating the process any number of times, all tax-free (up to the new, higher limits).

The Ohio Housing Research Network analyzed the movement of sellers (using the same ring format as above) in relation to city and suburban prices in the central counties of the seven Ohio metropolitan areas (Bier and Howe 1998). All seven evidenced the same patterns: Prices generally increased in an outward direction, 91 percent of city sellers moved outward, 72 percent of suburban sellers moved outward, 80 percent of all movers went up in price, and of those who did, the median increase was 57 percent.

The network study also examined the relationship between the extent to which central-city sellers moved out of the city and the extent to which the city had housing priced above the county average; the hypothesis is that the less higher-priced housing a city has, the more its residents (who are moving up) will leave. That hypothesis was confirmed; there was a strong negative correlation between a city's share of higher-priced housing and the proportion of sellers who moved out of the city. Toledo, Columbus, and Akron, OH, which had the largest share of their

county's higher-priced homes, had the smallest loss of city movers, while Cleveland and Youngstown, OH, with the smallest share of higher-priced homes, had the largest loss. The findings were consistent with those of the Environmental Law Institute (1998).

The Environmental Law Institute and the Ohio Housing Research Network focused on intraregional movement; Klein (1998) focused on interregional movement and posited that the old law encouraged overinvestment in housing, inflation in housing prices, and conversion of farmland into suburban housing, particularly in locales where movers-in from high-housing-cost regions had large capital gains to protect, but where the local market did not contain appropriately expensive properties. Klein's empirical basis was a case study of movers from Santa Clara County, CA (a high-cost location) to Boulder County, CO (a lower-cost location) from 1990 to 1996. She also compared home prices in both counties and documented construction activity in Boulder County.

Through a survey of buyers in a large-lot, luxury development in Boulder County, Klein found that virtually all respondents had moved up in price and that 47.8 percent stated that tax considerations had influenced their purchase. It was a modest survey of 73 households, of which 23 responded, but the findings supported her hypotheses. With respect to home price inflation, Klein reported that the average price in Boulder County increased from 49 percent of Santa Clara County's in 1990 to 80 percent in 1996, indicating that tax-induced move-ups triggered overinvestment in housing.

With respect to converting farmland into suburban housing,

> Throughout the peak of the California migration period, only new homes in unincorporated Boulder County were of equal or greater value than Santa Clara homes. Therefore, as predicated, compliance with the rollover rule by new residents from Santa Clara and other expensive areas would lead to conversion of farmland and open space into new housing developments. Construction data support this prediction. (451)

Klein concluded, "the phenomenon of expensive suburbs surrounding a less expensive city center was not confined to aging, industrial cities. Rather, the rollover rule acted as a magnet to deter investment from vibrant cities as well as those in decline" (452).

The above studies that specifically addressed home seller capital gains suggest that the influence of the law on purchase decisions could have ranged from slight (Burman, Wallace, and Weiner 1997), to modest (Hazel Morrow-Jones 1997, personal communication), to substantial (Klein 1998), based, respectively, on national data, a central county of a major metropolitan area, and a small county that was being affected

by extensive in-migration from higher-priced markets. The Ohio Housing Research Network (1994) found that 80 percent of repeat buyers in the central counties of Ohio's seven largest metropolitan areas moved up in price and that, theoretically, the law obstructed movement inward toward the center of the city because of the spatial location of home values in relation to the location and value of sellers' homes.

Thus far only the capital gains law has been considered as a factor that might affect the decisions of sellers-buyers. But a number of factors typically influence move and purchase decisions. In the context of other factors, such as personal circumstances of the household, community characteristics, economic climate, and other laws and codes, capital gains may have been inconsequential for most sellers. For example, the deductibility of mortgage interest on income tax filings, which was not changed by the Taxpayer Relief Act of 1997, can be a major consideration for many buyers. The amount of mortgage interest can enable a taxpayer to itemize deductions and claim other deductions (such as property taxes and charitable contributions) resulting in a total that is larger than the standard deduction. Without mortgage interest, many homeowners cannot itemize. That provision encourages buyers to maximize the size of their mortgage and the price of their house (Jackson 1985; Vaughan and Vogel 1979).

Income growth enables people to purchase more of what they would like to have, and in the case of housing and its location (e.g., a new or newer house, better schools, safer neighborhood), migration is the result (Knapp and Graves 1989). Movers usually have a range of types of communities or neighborhoods from which to choose. For example, Varady (1991) defined the spectrum of community choices available to home buyers in Hamilton County (Cincinnati), OH. Through surveys of buyers over a three-year period, he identified clusters of communities that were distinctive on the basis of buyers' demographic, housing, and attitudinal characteristics. A factor analysis of 20 survey items yielded seven broad search criteria influencing residential choice: a quest for suburban attributes, a preference for downtown or near-downtown living, an attempt to preserve neighborhood ties to friends and relatives, a quest for efficient local government services, a concern for proximity to schools and other children's services, a quest for accessibility to jobs and entertainment, and an interest in good housing prices.

Life-cycle changes (such as marriage), income and employment changes, housing attributes (need for four bedrooms), neighborhood needs (nearer to relatives), and accessibility needs (nearer to services for the elderly) can be reasons for changing residence (Bourne 1981). Indeed, "the principal reasons people change houses are associated with their housing needs at different stages in the life cycle" (135). Clark and Dieleman (1996) use the term "life course" and relate the sequence of changes that households experience over time (e.g., marriage, income, and

children) to housing market circumstances. These circumstances, "such as composition of the local housing stock, mortgage rates, and prices of various types of housing also influence residential mobility and housing choices. Thus, life course involves not only individual life events but also social forces and structures" (22). Essentially, Clark and Dieleman define a process of movement up in size and price "as households seek to improve their housing over the life course," beginning with "simple, small and inexpensive" units, followed by moves to "larger and more expensive dwellings" (70) until the latter stage of life when downsizing occurs. They consider the spatial distribution of housing stock mainly in terms of aging dwellings in the central city and new units at the expanding outer edge—implying that moving up means mostly moving out.

Thus, the reasons that underlie a household's move from one house in a particular place to another house in a different place can involve a range of factors, with the most significant of them associated with the household's position in its life course. In that context, the old capital gains law was probably not a factor in the sell, buy, or rent decisions of most homeowners during the past 20 or 30 years. And if it was a factor, it was probably associated with circumstances such as the owner's age (the 55 or older exemption) or an interregional move that involved selling a home priced higher than those available where the seller was moving (thus "forcing" new construction).

Home seller movement under the new capital gains law

The only way to know the reasons that shaped the decisions of home sellers and buyers is to ask them directly. But metropolitan-scale surveys are expensive, which means that when a survey is done it is usually limited in scale (e.g., Klein 1998). We lacked the resources to conduct a multicity survey after the capital gains law was changed, but we had deed transfer records for four Ohio metropolitan areas (Cincinnati, Cleveland, Columbus, and Dayton) with which moves before and after the change could be documented. The factors that influenced each move could not be studied, but the physical evidence of the move could be. The deed transfer data were for the nine years preceding August 1997, when the new law went into effect, and the 17 months afterward, through 1998.

Hypotheses

The data enabled the rate of seller-buyer movement down in price to be determined, but it provided no evidence as to *why* the moves were made. However, during the 17-month postchange phase of the study,

the only macro change that was known to occur and might have affected decisions to move was capital gains. All other influences were assumed to be essentially random and steady. If the analysis were to show significant change in the rate of movement down in price, the capital gains law might have been the precipitating factor.

Hypothesis 1. In the 17 months following the change in the capital gains law, there was no significant change in the extent to which seller-buyers moved down in price. This hypothesis was based on the following assumptions and considerations:

1. Not enough time had passed for most homeowners to know about the change and its possible relevance to them. Newspapers carried articles before and after the change (the *Cincinnati Enquirer* had 10, the *Columbus Dispatch* 4, the *Cleveland Plain Dealer* 4, and the *Dayton Daily News* 1[8]) and presumably television and radio stations reported on the Taxpayer Relief Act when it was passed, possibly mentioning that homeowners were getting a tax break. But the amount of time the public had to focus on the matter was not great. Given the amount of publicity, homeowners in the Cincinnati area should have been the most knowledgeable.

2. The analysis was limited to intrametropolitan moves. Movers from higher-priced housing markets (e.g., California) who would be more prone to moving down in price (as in Klein's 1998 study) could not be included in the analysis.

3. Out-migration dominated movement in three of the cities and was moderately strong in the fourth. In 1991, 86 percent of Cleveland's seller-buyers left the city; Cincinnati lost 74 percent, as did Dayton, while Columbus lost 54 percent (Bier and Howe 1998). Cleveland and Dayton in particular have histories of urban discord, racial tension, undesirable public schools, and lack of middle-income housing and neighborhoods that could be attractive to people who otherwise would live in the suburbs. Cincinnati was a fairly stable city into the 1980s but then began to evince decline (Howe et al. 1998). What had been old, middle-class enclaves on hilltops around the city began to weaken as access to new suburbs in adjacent counties was provided by new interstate highways and drew away market demand; problems associated with the city's unusually large renter population (two-thirds of all households) grew as the employment market changed; and the public schools, which had remained attractive partly because of voluntary busing, were per-

[8] These figures come from a Lexis-Nexis search of the four newspapers during the period between August 1996, when President Clinton first proposed the change, and December 1998, the end of the study period. Example articles are Harney (1997), Gray (1998), Budish and Karakul (1998), and Wells (1998).

ceived as declining. In all three cities, the momentum of movement was strongly outward (and up in price). We did not expect change in the capital gains law to make a measurable difference in any of the three.

Columbus, however, is different. As a result of large amounts of annexed land on which new middle- and upper-income housing has been built in recent decades, it has neighborhoods that would be new suburbs in many other metropolitan areas (Aryeetey-Attoh et al. 1998). Its supply of middle-income housing dwarfs that of Cleveland and Dayton and is much greater than that of Cincinnati. In 1991, Columbus had 47 percent of the homes in the county that were priced above the county's median value; Cleveland's share of higher-valued homes was 4 percent, Dayton's was 12 percent, and Cincinnati's was 24 percent (Bier and Howe 1998). Columbus also has several revitalized Victorian and turn-of-the-century upscale neighborhoods that exhibit strong housing markets. And, most significantly, the public schools in the newer developments are separate from the city system, an arrangement that was established at the time of the annexation agreements (Jacobs 1998). In effect, the city "bought" annexation by agreeing to separate schools. Columbus, therefore, is a place where moving down and possibly closer in can be seriously considered. Of the four cities, Columbus was the most likely to show an increase in movement down in price after the change, although we did not expect to find it.

4. Life-course dynamics of moving up to larger and more expensive properties (Clark and Dieleman 1996) dominate the repeat buyer market. The fact that 80 percent of all sellers-buyers originating in the central counties of Ohio's seven major metropolitan areas were found to move up in price an average of 50 percent (Ohio Housing Research Network 1994) suggests that as the purchasing power of owners increases, they act on their preference for a different home and another living environment, which leads to our second hypothesis.

Hypothesis 2. In the 17 months following the change in the capital gains law, the rate at which sellers moved farther out from the center did not decrease and the rate at which suburban sellers moved into the city did not increase. With the repeat buyer market dominated by movement up in price and with home values generally increasing with distance from the city center (Bier and Howe 1998), movement up is inescapably linked to moving farther out. Because of the particular conditions there, Columbus was the one city of the four where movement inward might have increased after the law was changed.

Hypothesis 3. The higher the value of the home or condominium sold, the greater the rate of movement down in price. If the Clark and Diele-

man (1996) concept is accurate (i.e., households move up in size and price until the latter stage of life when downsizing occurs), then movement down should be related to price since older people (those in or near the latter stage of life) are more likely to own higher-priced properties.

Research design

The same deed transfer name-matching procedure described in the literature review and the same mile-wide ring designation were used in our analysis (Bier and Maric 1994; Ohio Housing Research Network 1994). Match rates averaged approximately 42 percent of the estimated number of possible matches.[9] The annual number of matches averaged 10,100 for Cleveland, 6,100 for Columbus, 6,900 for Cincinnati, and 6,500 for Dayton. (These figures are metropolitan area totals, i.e., all matches within and between all counties.[10]) The number of matches is not necessarily proportional to the size of the central city (Cincinnati is larger than Dayton) because of the counties included in each area. The Cincinnati and Dayton central counties have a common adjacent county between them, which was included in both areas' matches.

To address hypothesis 1. Did a statistically significant proportion of sellers move down in price after the law was changed compared with before? The study period after the law changed was from August 1997 through December 1998; data on moves before the change were for the preceding nine years. For purposes of the analysis, the preceding years were divided, moving backward, into one 19-month period and five 18-month periods. In that way, each period included, as the postchange period did, one calendar year, which was important because home sales in Ohio are heavily seasonal. Thus, the six prechange periods approximated the 17-month postchange period. Moves originating within each period were grouped, resulting in six before-change data points, and one after-change data point. Because economic conditions were fairly constant and favorable for home buying across the entire pre- and post-change periods, except for the relatively mild recession of 1990 to 1991

[9] The match rate was lower than in the previous study (Ohio Housing Research Network 1994) because the most conservative comparison of names was used. For example, in the previous study the names "Sara B. Jenkins" and "Sara Jenkins" were an acceptable match. But in this study, only exact matches were used. Also, it should be noted that the shift from owner to renter may have increased as a result of the capital gains change; if it did, it would have reduced the universe of potential matches. In each of the four central counties, matches as a percentage of sales did decline slightly in the postchange period, possibly because more owners became renters.

[10] Counties included in each metropolitan area, in addition to the central county, were those that touched the central county. In the case of Cincinnati, three counties across the Ohio River in Kentucky were included.

(which fell mainly within one of the six periods), no other basis for dividing the nine years was considered necessary.

For each of the four metropolitan areas, the following were determined: the percentage of sellers in each of the seven time periods who moved down in price and who had been living in (a) the central city, (b) the suburbs of the central county (in which the city is located), and (c) the multicounty metropolitan area (i.e., the total of all those who sold somewhere in the multicounty area and purchased somewhere in that area).

An interrupted time-series technique was used for the analysis (Posavac and Carey 1997). Time-series designs are used in program evaluation when a definite intervention (change in the law) occurred at a specific time (August 1997). The technique determines whether the intervention coincided with a change in the underlying process that was occurring (rate of movement down in price), which is defined by a trend line through the six prechange data points. The postchange data points are analyzed for significant variation from the trend. Our single postchange data point was analyzed for variation at the 0.05 level. This technique was appropriate, given that the analysis was limited to one variable and time-series data (the physical evidence of seller-buyer moves) and that all influences on move decisions, other than the change in the capital gains law, were assumed to be random in their influence on move direction (up or down in price) and constant over the study period.

To address hypothesis 2. Did a statistically significant change occur in the proportion of sellers who moved farther out from the city center and in the proportion of suburban sellers who moved into the city? The following were determined for both sellers who moved down in price and sellers who moved up: first, the proportion of city sellers who (a) moved farther out and (b) moved out of the city; second, the proportion of suburban sellers (those who sold in the suburbs of the central county) who (a) moved farther out and (b) moved into the city. The same statistical test as for hypothesis 1 was performed on all seven time periods.

To address hypothesis 3. Was the rate of movement down in price related to the value of the property sold? The concern here was not with change before and after capital gains, but simply with the relationship between sale price and movement down. For each metropolitan area, all moves during the entire study period (July 1988 through December 1998) were grouped according to the price of the home or condominium sold. Five price ranges were designated: less than $50,000, between $50,000 and $99,999, between $100,000 and $149,999, between $150,000 and $199,999, and $200,000 or more. The ranges were inflation adjusted for each year. The proportion of sellers in each range who moved down in price was determined. The median percent change in price (up and down) for all movers was also calculated by

range (for those who sold for less than $50,000, the median percent price increase for those who moved up and the median percent decrease for those who moved down were calculated). And finally, because the deed transfer record contained the year in which the property was constructed and its size, the median change of all moves in terms of living area and the age of the home was calculated. According to Clark and Dieleman (1996), those who moved up would move to larger and newer properties, while those who moved down would move to smaller, possibly older properties.

Results

Hypothesis 1 was largely confirmed. At the metropolitan level, three of the areas—Cincinnati, Cleveland, and Dayton—showed no change in the extent to which sellers moved down in price (table 1). In all three, 20 to 22 percent moved down before and after the law changed. In the Columbus area, however, the proportion that moved down increased from approximately 23 to nearly 26 percent (significant at the 0.05 level).

Sellers in all of the central cities moved down in price much less than sellers who had been living in the suburbs of the central county (approximately 40 percent less), but only in Columbus was there statistically significant change. In Columbus, 17 percent moved down after the change compared with 14 to 15 percent before the change. Columbus's suburban sellers who moved down increased from 28 percent to nearly 30 percent (statistically significant). City of Columbus movers-down outnumbered suburban movers-down by 4.7 to 1.

City of Cleveland sellers who moved down increased from less than 10 percent to nearly 12 percent, which was almost significant at the 0.05 level. Sellers in the central suburbs of Cleveland, Cincinnati, and Dayton showed no change. Thus, in three of the four areas, our hypothesis was confirmed. Columbus was the deviant, a possibility we had anticipated.

Hypothesis 2 was also confirmed. Virtually no significant change was found in the rates at which sellers and buyers moved farther out, out of the cities, or into the cities (table 2, a summary table, contains the results of all moves during the seven time periods combined; see the appendix for detailed results). Significant exceptions were city of Cleveland sellers who moved up and farther out (the rate increased), and Columbus suburban sellers who moved up and farther out (the rate decreased). Generally, across the four areas, there were substantial differences between those who moved up and those who moved down. Those who moved up (approximately 78 to 80 percent of all movers, per table 1) mostly went outward, including 82 to 96 percent of city sellers,

Table 1. **Percentage of Sellers-Buyers Who Moved Down in Price before and after the Capital Gains Law Changed**

Area	Before Change: July 1988 → (Six 18-month Time Periods) → July 1997						After Change
	6	5	4	3	2	1	August 1997–December 1998
Columbus							
Central city	15.6	15.9	14.0	12.9	14.9	14.0	17.14*
Central county suburbs	25.7	24.4	24.3	24.1	25.2	27.6	29.94*
Total metropolitan area	22.8	22.5	21.2	20.5	23.0	22.7	25.70*
Cincinnati							
Central city	17.3	17.2	17.3	16.2	15.7	14.9	13.86
Central county suburbs	22.2	21.1	20.9	20.1	23.3	19.7	22.33
Total metropolitan area	22.7	22.6	21.4	20.2	22.6	20.2	21.12
Dayton							
Central city	14.0	15.5	11.4	14.0	11.7	12.7	12.73
Central county suburbs	25.2	23.8	24.5	23.5	21.3	19.6	20.78
Total metropolitan area	27.3	27.0	24.5	23.7	23.4	22.4	22.76
Cleveland							
Central city	9.5	10.6	9.6	7.3	10.7	9.2	11.93
Central county suburbs	20.1	18.3	19.8	18.2	19.7	20.1	19.17
Total metropolitan area	22.0	21.5	21.5	19.7	20.9	20.8	20.44

Note: Each column represents the percentage of sellers in each area who moved down in price.
*$p < 0.05$.

Table 2. **Move Direction of Sellers**

Area	Sellers Who Moved Down in Price (%)				Sellers Who Moved Up in Price (%)			
	City Sellers		Suburban Sellers[a]		City Sellers		Suburban Sellers[a]	
	Farther Out	Out of the City	Farther Out	Into the City	Farther Out	Out of the City	Farther Out	Into the City
Columbus	66.8	41.4	59.2	35.5	82.0	59.9	74.8	17.9
Cincinnati	81.7	58.4	63.2	10.5	90.0	74.3	77.1	4.5
Dayton	78.3	50.9	62.4	7.7	96.4	80.7	74.3	2.2
Cleveland	75.6	53.0	68.9	5.8	94.2	87.5	84.0	0.9

Note: This table includes all moves during the study period (July 1988 through December 1998).
[a] Suburbs of the central county.

and 75 to 84 percent of suburban sellers. The rate of movement outward by suburban sellers is striking, almost as large as city movers. Those who moved down moved outward less, moved out of the central city less, and moved into the city from central county suburbs more.

Movement into the city by suburban sellers did not increase in any of the areas, including Columbus, the one place where movement down increased significantly after the law changed. Indeed, suburban move-down sellers went to Columbus less after the change. However, movement out of Columbus by downward movers declined. Cleveland sellers moving down showed greater propensity to stay in the city, but Cincinnati and Dayton sellers did not. Table 2 indicates the greater capacity of the city of Columbus, relative to the other three, to retain existing homeowners and to attract suburbanites, although the rate of suburban sellers moving up and into Columbus shows a decline (see the appendix). As expected, Cincinnati is in second place, a distant second, with respect to retention and attraction. Cincinnati sellers moving up to the suburbs left the city at increasing rates, and suburban sellers moved farther out at increasing rates (see the appendix).

Hypothesis 3 was confirmed as well. The higher the price of the home sold, the more sellers moved down (table 3).[11] That relationship extended from approximately 11 to 14 percent who moved down in the lowest price range to approximately 55 to 65 percent who moved down in the highest. The pattern, uniform and distinct across the four metropolitan areas, is consistent with Clark and Dieleman's (1996) life course, wherein older owners move down (assuming that the higher-priced sellers in our study were generally among the older ones). However, the highest-

[11] Not all purchases of new construction could be included in the analysis because the transfer record did not always contain a clear indication of new construction. Also, custom-built homes typically begin with land purchase, and a deed recording at that time, but when the house is built there is no transfer and thus no name match. Since buyers of new construction are most likely to be sellers in the higher price ranges, the rates of movement down shown in table 3 for the two highest ranges are probably somewhat overstated.

Table 3. **Percentage of Sellers Who Moved Down, by Range of Price Sold**

	Price Range				
Area	< $50K	$50–$99K	$100–$149K	$150–$199K	$200K+
Columbus					
Moved down	13.7	14.6	22.3	39.0	58.1
Relative frequency	3.9	28.1	32.8	17.8	17.4
Cincinnati					
Moved down	11.7	13.3	23.0	38.2	54.8
Relative frequency	2.8	29.7	32.7	18.2	16.6
Dayton					
Moved down	14.2	16.8	29.9	48.2	64.5
Relative frequency	5.4	36.1	33.9	15.4	9.2
Cleveland					
Moved down	10.9	12.8	22.0	35.1	55.1
Relative frequency	3.5	27.1	32.7	19.2	17.6

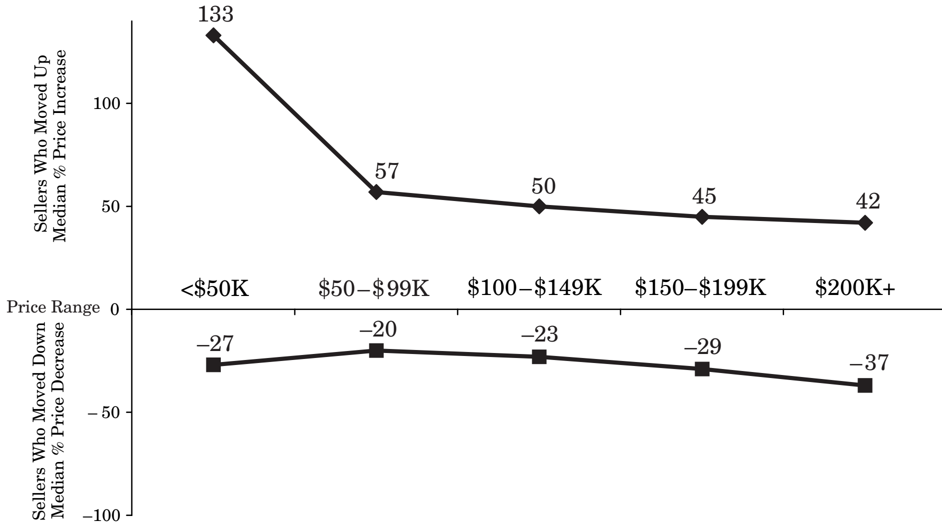
Note: This table includes all moves during the study period (July 1988 through December 1998). Price was adjusted for inflation (base year 1998).

priced move-downs (sale price of $150,000 or more) comprised only about a third of all those who moved down. Older owners are of course at all price levels. It is possible that movers-down who were being forced by personal circumstances (job loss, divorce, and so on) were proportionally overrepresented among the sellers of mid- and lower-priced properties.

Figure 1 displays the relationship between the price of the home sold and the price of the home purchased for movers up and movers down. The data are for the Columbus area, and the other three areas are similar. For those who moved up, the lower the selling price, the larger the percentage increase, which was expected. The median move-up was about 50 percent. Assuming that central-city residents were heavily represented in the mid-to-lower price ranges, their purchasing power dictated an outward move, and for 60 percent of them (table 2) their move was out of the city.

Finally, sellers who moved up typically bought homes that were larger (in square feet of living area) and newer than what they sold; sellers who moved down bought smaller and newer homes, but not as new as the movers-up (table 4)—a finding that lends additional support to life course as the primary driver of movement and housing choices. The median size increase for those who moved up was approximately 40 percent (e.g., from 1,000 square feet of living area to 1,400 square feet). Move-up sellers in the cities of Cincinnati, Cleveland, and Dayton bought homes that were on average almost 30 years newer, while in Columbus, with its large supply of newer homes, move-up sellers

Figure 1. **Price Change, by Range of Selling Price, Columbus, OH, Area from 1988 through 1998**



Note: Includes all moves during the study period (July 1988 through December 1998). Price was adjusted for inflation (base year 1998).

gained just 8 years. Suburban sellers moved up to homes that were 9 to 17 years newer.

However, those who moved down in price bought homes that were generally about 85 percent of the size of the home sold. The purchased home was newer, but not to the same extent as the homes of those who moved up. City of Cincinnati sellers were the exception; those who moved down bought homes that were newer and almost comparable to those of movers-up (25 years versus 30 years).

Table 4. **Change in Unit Size and Age**

	Sellers Who Moved Down				Sellers Who Moved Up			
	City Sellers		Suburban Sellers		City Sellers		Suburban Sellers	
Area	AB/AS[a]	AGE[b]	AB/AS[a]	AGE[b]	AB/AS[a]	AGE[b]	AB/AS[a]	AGE[b]
Columbus	0.87	3	0.81	6	1.44	8	1.43	11
Cincinnati	0.82	25	0.82	5	1.39	30	1.43	13
Dayton	0.94	9	0.85	1	1.39	27	1.45	9
Cleveland	0.92	13	0.84	7	1.30	28	1.47	17

Note: This table includes all moves originating in the central county during the study period (July 1988 through December 1998).
[a] AB/AS: Median ratio: living area bought/living area sold.
[b] AGE: Median difference in the age of the home sold and the age of the home purchased: number of years newer.

Discussion of results

During the decade leading up to the change in the capital gains law, movement of sellers and buyers was characterized as follows: (1) Approximately 80 percent moved up in price, and most moved farther out from the center of the city; (2) 20 percent moved down in price, but outward less, out of the city less, and into the city from suburbs more than those who moved up. The study produced no direct evidence as to why that was the case, but we surmise that life-course change (Clark and Dieleman 1996) was the driving force. The finding that central-city homeowners moved up at higher rates than suburban owners is consistent with that dynamic. During the first 17 months after the law changed, a significant increase in movement down was found in Columbus, but not in the Cincinnati, Cleveland, and Dayton areas.

We did not expect to find any change because the move-up portion of the repeat buyer market is driven by factors contrary to moving down. What is the likelihood, for example, that a household that wants four bedrooms instead of its current two will move down in price? The potential for movement down was greater among the segment of the market that was inclined to move down in any case: those approaching or in the latter stages of life. The age of movers in the study was not known, but if the higher-priced properties were owned disproportionately by older people, then the finding of a positive relationship between the price of the home sold and the rate of movement down suggests that older owners moved down. But if it was the older segment of the market that produced the significant change in the Columbus area, why did the same thing not happen in the other three areas? Indeed, the homeowner population in the Cleveland area is a bit older than in Columbus, yet Cleveland's rate of movement down was lower than Columbus's, both before and after the change. The Columbus increase may have been the result of older movers, but more likely not.

Possibly Columbus homeowners knew more about the tax code change and thus more of them took advantage of the move-down option. But if newspaper articles on the change were an indication of awareness, owners in Cincinnati (where 10 newspaper articles on the topic appeared compared with 4 in Columbus) should have been most active. There is no reason to think that knowledge of the change in the law was more widespread in the Columbus area than in the other three.

We posit as a possible explanation of the Columbus results that a complex set of conditions existed there that did not exist in the other three cities; in combination with the changed law, these resulted in more movement down in price than otherwise would have occurred (assuming all other influences on decisions to move up or down to be random and constant during the study period). Columbus, with its large sup-

ply of new and fairly new higher-valued housing, most of it located in neighborhoods with nearby schools that are independent of the city school system, had conditions that were relatively more conducive to moving down. The rate at which suburban sellers moved up and into Columbus before the law changed suggests attractive conditions (although the rate was dropping before the change and dropped even more afterward). City sellers continued to move outward after the change, but fewer left the city. Cleveland and Dayton did not have the same conditions, and Cincinnati, although historically a fairly stable and attractive city, appeared to be beginning to slip. In all four locations, city conditions and the position of sellers in their life course were probably the major factors affecting moves; capital gains was a minor factor. But conditions in Columbus were more compatible with the opportunity created by the new law.

Seller-buyers who may have been strongly influenced by the change in the law were not part of our study. These include movers into the Ohio metropolitan areas from higher-priced housing markets (such as San Francisco, Chicago, and Boston) who had sold at a level well above what they needed to purchase (Burns 1998). The million-dollar home sold in San Francisco could be purchased in Columbus for $400,000 or less, but the old capital gains law pressured the mover into buying a million-dollar home. The new law relieved that pressure, but our study, limited to intra-area moves, could not measure this impact, if any. Also, the new law might have triggered more than a little movement down among high-priced owners in places like Manhattan, downtown Chicago, and San Francisco. The old $125,000 exemption was not much when an owner (who would rather live in a smaller unit) was sitting on a million-dollar capital gain. But the new $500,000 exemption was a different matter; it made moving down a more reasonable option (Crenshaw 1998; Harney 1999; Muto 1997; Rozhorn 1997).

Also, our study did not include any owners who shifted to renting as a result of the new law. In light of the fact that most homeowners who sell do not then purchase another home, possibly the most significant impact was among that group.

In conclusion, the repeat home-buyer market is dominated by sellers moving up; we believe that capital gains neither had nor has any influence on that group. However, under the old law, some owners in particular situations probably found the law to be an obstacle to their preferred housing choice, among them owners who wanted to shift from owning to renting but were not yet 55, owners who were moving to a housing market where prices were lower than in their current location, and owners who simply wanted a less expensive unit. Our study was not able to document any of those situations, but it did portray the extent and power of the move-up dynamic.

Future research

Capital gains: Movement down

Our study could not determine whether the new capital gains law actually affected the moving decisions of any homeowners during the 17 months following its enactment, including those who moved down in the Columbus area. In light of the attention being given to the role that public policy can play in shaping cities, that determination should be made nationally. Another two or three years may need to pass before commencing studies so as to increase the likelihood that owners' knowledge of the new provisions is widespread. Research questions raised by our study are as follows:

1. If any homeowners are being influenced by the freedoms granted by the new law, what are the characteristics of the households involved?

2. In what ways are owners' decisions different from what they otherwise would have been?

3. What are the implications of any differences for communities?

4. Are moves that have been influenced by the new law associated with particular market or community conditions?

5. To what extent are people using, or do they intend to use, the provision that allows the new gains exemption to be taken every two years, thus enabling them to buy-rehab-sell repeatedly?

With computerized deed transfer records available in many metropolitan areas, sellers can readily be surveyed. Moves can be precisely located by means of digital coordinates. Cost might be an obstacle, but by incorporating the questions on capital gains into a survey designed to illuminate movement patterns, reasons for moving, and product preferences, it is quite possible that local private, government, and not-for-profit entities would be interested in supporting such a study. A survey sent to *all* sellers (i.e., to the address of the home sold) will be forwarded by the post office to the seller's new address. In that way, repeat buyers and sellers who do not purchase again can be reached as well (Bier 1998). (The post office will forward mail for one year, but surveys should be sent no more than nine months after the transfer date because some moves occur up to several months before the transfer is recorded.)

Life course: Movement up

The more significant area of research touched by the study concerns the dynamics of movement up in price. If movement is driven primarily by the progression of the life course (and the economics that support it), then the old capital gains law, which was essentially an obstacle to moving down, could not have been a factor in most decisions. If life course is driving 80 percent of repeat sellers to move up, then nothing short of serious economic disruption (a recession) or personal misfortune (job loss) will affect that. When a recession occurs, the braking effect will last as long as the recession: Then movement up resumes. Life-course movement was flowing through the cities in our study, and most of that flow, central city and suburban, was outward. Research questions include the following:

1. What is the central city's position in the metropolitan-wide flow?

2. What is each suburb's position?

3. Are most cities inescapably limited to being primarily places to move up and out from and places for moving down?

4. If they are, what are the implications?

5. Are some suburbs similarly situated?

6. How does a city's position in its life course (defined partly by the characteristics of its housing stock) match with the typical phases of people's personal life course?

7. What public policies would serve to support movement up and toward the center of a metropolitan area?

The relationship between life-course movement and the physical structure of a city may be one of the more fruitful topics of research and policy analysis at this time.

Appendix

Move Direction of Sellers

	Sellers Who Moved Down in Price (%)				Sellers Who Moved Up in Price (%)			
	City Sellers		Suburban Sellers[a]		City Sellers		Suburban Sellers[a]	
Area	Farther Out	Out of the City	Farther Out	Into the City	Farther Out	Out of the City	Farther Out	Into the City
Columbus								
After Change	66.3	36.9	58.1	33.8	79.5	58.2	74.2*	15.2
Before Change 1	61.5	41.5	60.0	41.3	82.7	62.1	76.3	15.9
Before Change 2	66.2	39.8	58.0	38.9	81.6	61.7	75.5	18.5
Before Change 3	69.6	44.9	62.5	31.0	81.2	61.6	74.9	17.2
Before Change 4	69.9	52.1	55.1	33.7	82.5	61.9	75.2	17.1
Before Change 5	65.4	35.2	55.5	34.4	83.1	56.8	74.0	19.9
Before Change 6	69.4	38.9	64.3	34.3	83.8	54.4	73.2	21.8
Cincinnati								
After Change	80.2	55.8	61.9	11.6	91.9	78.3	80.6	3.9
Before Change 1	83.1	56.3	65.5	12.0	89.4	74.6	79.8	4.2
Before Change 2	79.0	58.5	61.7	11.5	90.5	73.3	79.9	4.5
Before Change 3	81.9	58.2	62.4	12.7	91.6	75.6	74.5	5.3
Before Change 4	83.1	63.6	62.4	7.9	88.8	72.7	74.2	4.4
Before Change 5	85.1	56.6	63.4	8.6	88.5	74.7	75.9	4.4
Before Change 6	79.7	59.5	64.9	8.2	88.6	69.9	72.7	4.7
Dayton								
After Change	73.9	52.5	61.2	5.7	97.7	82.3	75.1	1.9
Before Change 1	82.7	44.0	62.6	7.6	97.0	81.6	77.1	2.0
Before Change 2	74.5	49.3	58.7	9.2	96.3	80.8	76.2	1.8
Before Change 3	89.6	56.7	63.7	8.0	96.5	79.9	74.2	2.6
Before Change 4	62.2	44.4	64.4	6.6	96.0	80.4	71.8	2.9
Before Change 5	73.2	46.0	59.0	10.0	94.8	78.2	71.6	2.4
Before Change 6	85.0	60.8	65.6	6.8	96.2	81.4	73.4	1.7
Cleveland								
After Change	64.4	37.6	65.9	6.5	94.8*	85.0	84.7	0.8
Before Change 1	67.1	45.2	67.3	4.9	93.3	84.4	83.9	1.2
Before Change 2	79.5	51.0	71.2	4.7	93.7	87.0	83.8	1.1
Before Change 3	82.4	71.4	68.6	6.9	93.4	87.7	83.2	0.6
Before Change 4	87.3	58.2	71.5	5.4	94.1	90.2	85.0	0.7
Before Change 5	73.1	60.4	66.2	6.4	94.7	89.6	83.3	0.9
Before Change 6	80.8	54.8	71.5	6.0	95.5	89.3	83.7	1.1

Note: “Before Change 1” refers to the 18-month period just before the change in the capital gains law; “Before Change 2” refers to the 18-month period before that, and so on.
[a] Suburbs of the central county.
* $p < 0.05$.

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