

# Understanding and Appraising Properties with Accessory Dwelling Units

by Martin John Brown and Taylor Watkins

**F**ew forms of housing have caused as much excitement among planners and social advocates, and as much consternation among appraisers and other real estate professionals, as accessory dwelling units—also known as granny flats, backyard cottages, carriage houses, and numerous other labels.

Since 2000, dozens of municipalities have altered policies to encourage accessory dwelling units (ADUs), including Santa Cruz, California; Seattle, Washington; Arlington, Virginia; and Denver, Colorado.<sup>1</sup> Nonetheless, permitted ADUs are still rare. Portland, Oregon, is widely considered to be a leader in the ADU movement; however, a recent search there showed only 431 permitted ADUs out of over 148,000 properties where zoning would allow them<sup>2</sup>—a market penetration of about 0.3%.

Perhaps as a consequence of this rarity, there frequently are misunderstandings among appraisers, owners, brokers, and lending agents of this type of microdevelopment—as well as some spectacular variations in appraised values on the same property. Also, there appear to be variations among key national institutions in language and policies relating to ADUs. Real estate professionals at every level lack a consistent view of functional and monetary value of properties with ADUs. This article addresses the situation by

1. providing a primer on the defining qualities of ADUs;
2. describing current difficulties in appraising properties featuring ADUs in the United States;
3. proposing and testing two income-based formulas for valuing such properties, and reporting valuations for 14 properties with ADUs in Portland, Oregon; and
4. using elementary statistics to test several simple questions about the relationship of these valuations to actual sale prices.

## A Primer on ADUs and Their Valuation Definitions and Synonyms

The basic functional definition of *accessory dwelling unit* is similar among

### ABSTRACT

Accessory dwelling units (ADUs) are promoted by some municipalities for social and environmental reasons. However, appraisals of and lending on properties featuring ADUs can be complicated by inaccurate perceptions of these dwellings and certain institutional policies. This article provides a primer on ADUs and tests an income-based approach to valuation. For 14 properties with ADUs in Portland, Oregon, an income capitalization approach yielded valuations significantly higher than actual sale prices, by 7.2% or 9.8% on average, depending on the formula used. ADUs also contributed on average 25% or 34% of each property's appraised value, depending on the formula used. Valuation by income can increase appraiser insight as ADUs become common.

1. Wendy Koch, "A House Divided Helps Pay the Bills," *USAToday.com*, August 17, 2011, [http://www.usatoday.com/MONEY/usaedition/2011-08-18-housesplitting10-CV-----With\\_CV\\_U.htm](http://www.usatoday.com/MONEY/usaedition/2011-08-18-housesplitting10-CV-----With_CV_U.htm).  
2. Bill Cunningham, City of Portland Bureau of Planning and Sustainability, phone interview, August 30, 2011.

“Some agencies make distinctions among these terms, and those distinctions can affect lending and valuation.”

planners, social advocates, and government agencies. According to sources as diverse as Medicare,<sup>3</sup> the City of Santa Cruz,<sup>4</sup> and the American Planning Association,<sup>5</sup> an ADU is a small self-contained dwelling, typically

with its own entrance, cooking, and bathing facilities, that shares the site of a larger, single-unit dwelling. ADUs may be attached, as in the case of a basement apartment, or detached, as in the case of a backyard cottage. An ADU is not a separate property; it has the same owner as the primary dwelling.

Beyond this consensus, a plethora of synonyms and related words sow confusion. For example, the following terms have all been used as synonyms for ADU:

- accessory apartment, accessory unit, ancillary unit
- backyard cottage
- carriage house
- casita

**Figure 1** Example of Accessory Dwelling Unit



Danielle Johnson, Addo Real Estate, Seattle

3. US Department of Health and Human Services, “Types of Long-Term Care—Summary of Long-Term Care Choices,” <http://www.medicare.gov/LongTermCare/Static/AccessoryDwelling.asp?dest=NAV%7CTypes%7CTypes%7CAccessoryDwelling>.
4. City of Santa Cruz, “Accessory Dwelling Unit Development Program,” <http://www.cityofsantacruz.com/index.aspx?page=1150>.
5. American Planning Association, *Using Smart Growth and Universal Design to Link the Needs of Children and the Aging Population* (Family-Friendly Communities Briefing Papers 02, 2011), <http://www.planning.org/research/family/briefingpapers/multigenerational.htm?print=true>.

- garden suite
- granny cottage, granny flat, granny unit
- in-law, in-law unit, mother-in-law flat
- laneway house
- second unit, secondary unit, secondary dwelling unit, SDU
- sidekick

However, some influential agencies make distinctions among these terms, and those distinctions can affect lending and valuation, as will be noted later.

Properties with permitted ADUs are similar to duplexes in that there are two independent dwellings on a property with single ownership, but they can differ from duplexes in terms of design and legal treatment. For example, a duplex typically offers two roughly equivalent dwellings within a single building envelope, whereas an ADU is usually significantly smaller and less prominent architecturally than the primary dwelling—a convention that may be enforced by local regulation. Also, properties with ADUs, unlike duplexes, are generally located in single-unit residential zones and may have requirements for owner occupancy. In many jurisdictions that allow ADUs, owner occupancy is required in one unit,<sup>6</sup> while the other may be legitimately rented out. In other jurisdictions, such as Portland, both units may be rented.<sup>7</sup> An example of a detached ADU is shown in Figure 1.

### The Promise and Quandary of ADUs

To planners and certain property owners, ADUs offer a way of addressing civic, environmental, and personal needs in a time of demographic change. ADUs are infill development; they promise to increase density without changing neighborhood character. Increased density is arguably connected to higher transit use and lower energy use.<sup>8</sup> Also, given increasing evidence

that sheer size is the greatest contributor to the environmental impact of new housing,<sup>9</sup> ADUs, which are typically less than 800 square feet, are likely to have small environmental footprints even when built with no extraordinary green features.

ADUs also respond to demographic trends. The average American is getting older; the US Census Bureau projects that persons aged 65 and older will increase from 13% of the population in 2010 to 20% by 2050, or from 40 million to 88 million people.<sup>10</sup> The average American is likely to live in a smaller household; from 1940 to 2010, average household size declined from 3.7 to 2.6 people.<sup>11</sup> Overwhelmingly, Americans want to age in place, maintaining their homes and social connections as they grow older, according to AARP (formerly American Association of Retired Persons). But that ambition is challenged by unsuitable architectural designs, the need for aid with everyday tasks, and limited incomes in retirement.<sup>12</sup>

An ADU could be a significant resource for such a homeowner, providing her with a new, smaller, and more appropriately designed dwelling. ADUs also encourage informal caregiving and companionship,<sup>13</sup> since in practice many are rented to friends and relatives.

The potential to create legitimate income from rent is a crucial, and nearly defining, part of the ADU concept. One coalition of agencies in Washington State argues that developing an ADU could help homeowners “possibly qualify for a larger home loan, have extra income, or more choice in using [their] home.”<sup>14</sup> Medicare characterizes in-law apartments as a type of long-term care, citing income as one of the benefits.<sup>15</sup>

Despite this professional hard sell, the creation of permitted ADUs has been very limited, as the 0.3% statistic cited earlier for Portland, Oregon,

6. For example, Seattle Department of Planning and Development, “Establishing a Backyard Cottage (Detached Accessory Dwelling Unit),” May 12, 2011, <http://www.seattle.gov/dpd/publications/cam/cam116b.pdf>.

7. City of Portland, Bureau of Development Services, “Notice of a Type II Decision on a Proposal in Your Neighborhood; Case File Number LU 08-156155 AD,” October 14, 2008, <http://www.portlandonline.com/bds/index.cfm?a=214639&c=49783>.

8. David Brownstone and Thomas F. Golob, “The Impact of Residential Density on Vehicle Usage and Energy Consumption,” *Journal of Urban Economics* 65, no. 1 (January 2009): 91–98.

9. Oregon Department of Environmental Quality, *A Life Cycle Approach to Prioritizing Methods of Preventing Waste from the Residential Construction Sector in the State of Oregon*, Phase 2 Report, version 1.4 (September 29, 2010), <http://www.deq.state.or.us/lq/pubs/docs/sw/ResidentialBldgLCA.pdf>.

10. US Census Bureau, “National Population Projections: Summary Tables” (Released 2008, based on Census 2000), <http://www.census.gov/population/www/projections/summarytables.html>.

11. US Census Bureau, Table HH-6, “Average Population per Household and Family: 1940 to Present,” <http://www.census.gov/population/socdemo/hh-fam/hh6.xls>.

12. AARP Public Policy Institute, *Beyond 50.05: A Report to the Nation on Livable Communities: Creating Environments for Successful Aging* (2005), 48–50.

13. American Planning Association, *Using Smart Growth and Universal Design*.

14. ARCH, “Accessory Dwelling Unit,” <http://www.archhousing.org/current-residents/accessory-dwelling-unit.html>.

15. US Department of Health and Human Services, “Types of Long-Term Care,” <http://www.medicare.gov/longtermcare/static/AccessoryDwelling.asp>.

illustrates. The limited development of ADUs has been attributed to various factors, including restrictive local limits for size and density,<sup>16</sup> parking requirements, and owner-occupancy requirements.<sup>17</sup> There is local opposition to ADUs in some places; occasional news reports describe property owners' fears of crowding or loss of a single-family feel.<sup>18</sup>

Another possible explanation for the paucity of permitted ADUs is that property owners are simply not as interested in them as planners and social advocates. However, a real grassroots interest is demonstrated by the tens (or perhaps hundreds) of thousands of illegal ADUs nationwide. In some densely occupied East and West Coast communities, illegal ADUs might compose 2%–10% of housing stock.<sup>19</sup> One San Francisco study estimated more than 20% of residential buildings contained an illegal secondary unit.<sup>20</sup>

In short, there is consumer interest in ADUs. Large numbers of property owners are creating them, but most are not using official channels of permitting and financing. Unpermitted ADUs are often the only kind of ADUs local brokers and lending agents know about—so much so that real estate listings downplay the rentability of units that are in fact fully permitted.

### Perceptions and Theories of ADU Value

How have properties with ADUs been valued by buyers and appraisers? Searches of *The Appraisal Journal* and other peer-reviewed literature revealed almost no formal writing on this topic. While fears of declining property value can be part of opposition to ADU developments,<sup>21</sup> very little relevant evidence can be found in the literature. One statistical examination of low-density Philadelphia neighborhoods associates in-law suites with a 5% decline in property value.<sup>22</sup> Meanwhile, other research suggests some people will pay a premium of about 15% to live in

a New Urbanist community, with features such as ADUs, over a suburban subdivision.<sup>23</sup>

On the level of everyday practice, conversations with appraisers suggest they appraise properties with ADUs much as they do single-unit residences, using the sales comparison approach to value, and they are struggling against the limitations of this method. The sales comparison approach requires multiple recent sales of very similar properties. However, this kind of data is difficult to find, given the rarity of permitted ADUs and the slow, declining market of 2009–2012. With fewer sales, the sales comparison approach is less reliable. The cost approach to value, which might be a useful alternative, can be problematic in a declining market, due to fluctuations in land values and the costs of construction. The result is a high degree of variation and perhaps subjectivity. For example, one permitted ADU in Portland had estimates of contributory value that ranged from \$10,000 to \$100,000.

Meanwhile, income-based valuations are a cornerstone of commercial and investment real estate, even for smaller properties such as duplexes. “Any property that generates income can be valued using the income capitalization approach,” notes *The Appraisal of Real Estate*.<sup>24</sup> Using this approach, “an appraiser derives a value indication for an income-producing property by converting its anticipated benefits [i.e., cash flows] into property value.”<sup>25</sup> Income-based valuations rely on the relationship of market rents to sale prices, data which can be relatively abundant and tractable since there is less need to find exacting sales comparables.

The income capitalization approach also differs in philosophy in a way that could make it more stable. A recent piece in *The Appraisal Journal* by Fanning, Blazejack, and Mann describes the differences between

16. Elinor Hope Stege, “What Next for Accessory Dwellings? Getting from Bylaws to Buildings” (thesis, Massachusetts Institute of Technology, 2009), <http://dspace.mit.edu/handle/1721.1/50124>.

17. Nathaniel Taylor Hickey, *Urban Consolidation: An Analysis of Accessory Dwelling Units and Backyard Cottages in Seattle* (University of Washington, 2010), 57–61.

18. For example, David Schultz, “Board to Consider Housing Law Change,” *Arlington Connection*, July 16, 2008, <http://www.connectionnewspapers.com/t/article.asp?article=317393&paper=60&cat=104>.

19. Jake Wegmann and Alison Nemirow, “Secondary Units and Urban Infill: A Literature Review” (working paper, Berkeley Institute of Urban and Regional Development, University of California, February 2011), Table 1.

20. San Francisco Planning and Urban Research Association, *Secondary Units: A Painless Way to Increase the Supply of Housing*, Report 398 (August 2001), <http://www.spur.org/documents/secondaryunits.pdf>.

21. For example, Petition Online, “No to Accessory Dwellings in Arlington, Virginia Petition,” May 7, 2010, <http://www.petitiononline.com/pupi1031/petition.html>.

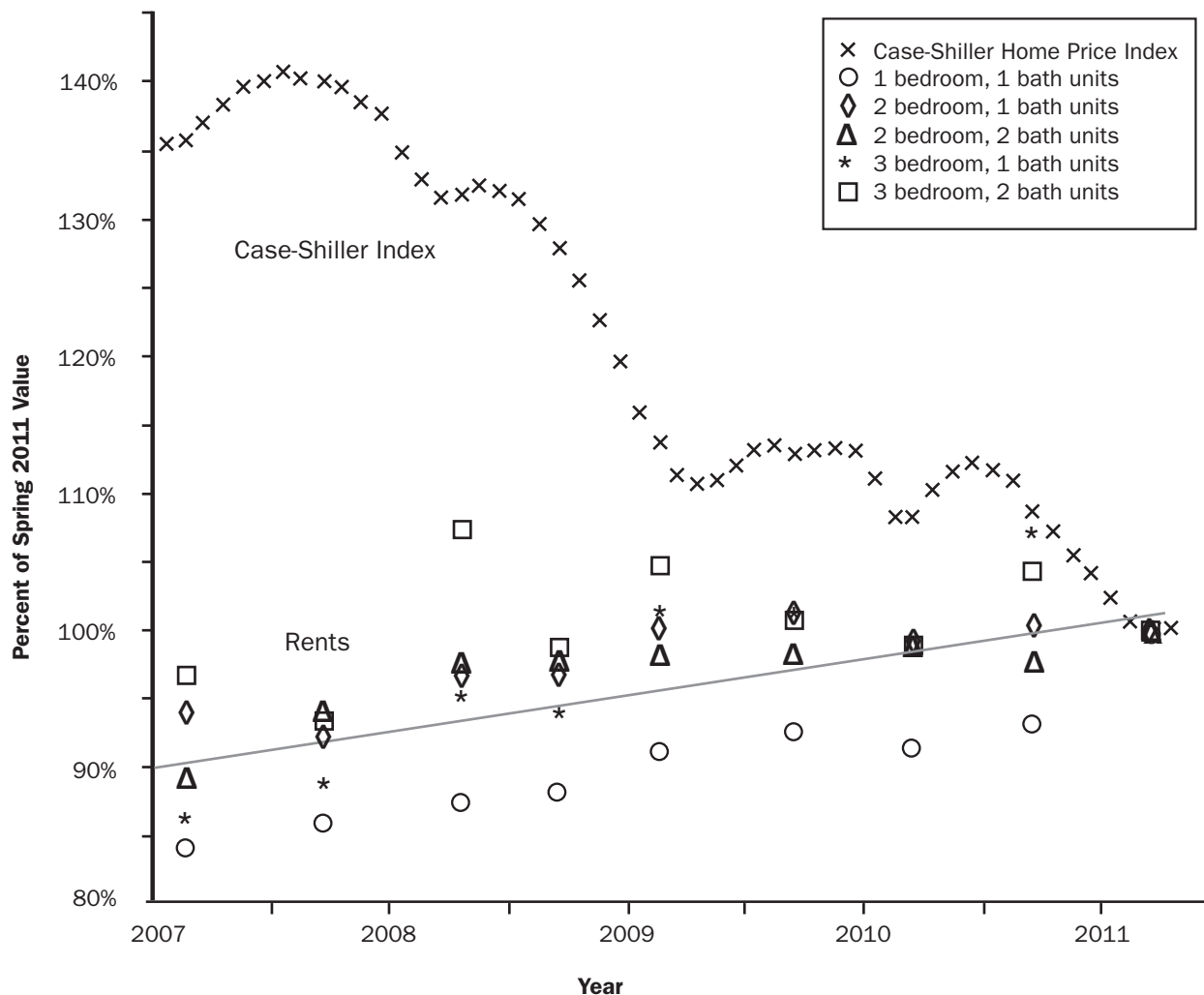
22. G. Stacy Sirmans and David A. Macpherson, *The Value of Housing Characteristics* (National Association of Realtors, National Center for Real Estate Research, December 2003).

23. Robert E. Lang, “Valuing the Suburbs: Why Some ‘Improvements’ Lower Home Prices,” *Opolis* 1, no. 1 (Winter 2005): 5–12.

24. Appraisal Institute, *The Appraisal of Real Estate*, 13th ed. (Chicago: Appraisal Institute, 2008), 447.

25. Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 5th ed. (Chicago: Appraisal Institute, 2010), 99.

**Figure 2 Comparison of Case-Shiller Home Price Index to Apartment Rents in Portland, Oregon**



Note: A regression line ( $r^2 = 0.33$ , slope = 2.44% per year) is drawn through the combined rent data.

transaction and fundamental analyses.<sup>26</sup> The sales comparison approach is based on recent transactions, and reflects what buyers have been paying *to hold title* to housing—including any speculative opinion they have about future value, and the influence of ephemera like interest rates. The sales comparison approach will echo bubble and distressed markets. Meanwhile, the income capitalization approach is reliant on demonstrable rent, which is what people will pay *to use* housing; it reflects current productivity.

Some indicators from Portland, Oregon, suggest the income capitalization approach might provide

insight in a well-known market. Figure 2 compares rents in Portland to the Case-Shiller Home Price Index,<sup>27</sup> from 2007 to early 2011. There is no historical data source for single-unit house rents, so to approximate their trend apartment rents are used, as described in more detail later. In this graphic, rents clearly offer a contrasting basis for value: they slowly climb while the home price index declines. Perhaps more interesting, rents were less variable than home prices, staying within 14% of their spring 2011 values, while the Case-Shiller Index ranged to  $\pm 40\%$ .

26. Stephen F. Fanning, John A. Blazejack, and George R. Mann, "Price versus Fundamentals—From Bubbles to Distressed Markets," *The Appraisal Journal* 79, no. 2 (Spring 2011): 143–154.

27. "S&P/Case-Shiller Home Price Indices," <http://www.standardandpoors.com/indices/sp-case-shiller-home-price-indices/en/us/?indexId=spusa-cashpidff-p-us->.

While the income capitalization approach and other more fundamental analyses may fit within appraisal industry best practices, there remain institutional barriers to their use on properties featuring ADUs. The majority of US mortgages are for single-unit properties and are originated by banks whose intent is to quickly resell the loans to government-sponsored enterprises (GSEs) such as Fannie Mae and Freddie Mac. Often these loans are supported by agencies such as the US Department of Housing and Urban Development (HUD), which administers the FHA mortgage insurance program. These institutions have their own vocabulary for ADUs and standards for properties, which the mortgage originator must respect for the loan to be marketable—and which affect appraisals.

Fannie Mae does not use the term *accessory dwelling unit* in its single-family *Selling Guide*, but will purchase loans on properties with illegal “accessory units,” a scenario for which it provides detailed guidance. It will also purchase loans on properties with legal accessory units, “if the value of the legal second unit is relatively insignificant in relation to the total value of the property.”<sup>28</sup> Freddie Mac says that “a property may have an incidental accessory unit that is incidental to the overall value and appearance of the subject property.”<sup>29</sup> The US Department of Housing and Urban Development uses the term *accessory dwelling unit* and emphasizes the subordinate nature of ADUs; if the ADU is too similar in size, it is a *secondary unit*, requiring a different appraisal form<sup>30</sup> and likely a different lending program.

Taken together, these guidelines create a strong suggestion for loan originators and the appraisers that work with them: if an ADU is encountered, it is likely to be illegal, and it may (and perhaps should) be given only insignificant or incidental contributory value. The case of a legal ADU, where an owner can receive market rent and contributory value might be estimated with the income capitalization approach, is barely addressed. Freddie Mac states, “appraisals that rely primarily on the income or cost approaches to value in order to estimate market value are unacceptable.”<sup>31</sup>

This state of affairs may flow from a mismatch between the setting and legal use of properties with

ADUs. A property with a legal ADU offers a seeming contradiction: a two-unit, income-producing property in single-unit zoning. Though the use is permitted by local government, it may appear to be an illegal use because of the zoning. The loan originators and appraisers then struggle with topics such as HUD’s distinction between a “secondary unit” and an ADU, and whether the income from rent can be included in qualifying the borrower for lending. As a result of these dynamics, appraisers and originators are likely to be extremely conservative with contributory values for legal ADUs, to the point where the accuracy of valuations may be compromised.

### **Testing an Income Capitalization Approach to Value in Portland, Oregon**

What are the true values of legal ADUs? Is it realistic to presume, as GSE guidelines seem to suggest, that ADUs contribute only incidental or insignificant amounts to the worth of the properties they sit on? To test whether an income approach to value would provide insight into questions like these, an income-based method of valuation was developed and applied that suited the reality of properties with legal ADUs in Portland, Oregon. Portland is a favorable environment for such a study, because it has a relatively high number of permitted ADUs, and allows both primary and accessory units to be rented.

First, properties with ADUs that had sold were identified and income-based valuations were applied to them. Then, those results were compared to actual sale prices. In particular, the research focused on questions that might reveal the way such properties are perceived by the market:

- What are the typical characteristics of sold properties featuring permitted ADUs in terms of size, ADU type, owner occupancy, and sale price?
- How much appraised value (via the income capitalization approach) do ADUs contribute to their properties?
- Is appraised value via income greater than, similar to, or less than, actual sale prices?
- Does appraised value tend to be more variable, equally variable, or less variable than sale price?

28. Fannie Mae, *Selling Guide: Fannie Mae Single Family* (January 27, 2011), 502 and 531, <https://www.efanniemae.com/sf/guides/ssg/sg/pdf/se1012711.pdf>.

29. Freddie Mac, *Single-Family Seller/Service Guide*, Section 44.15.

30. US Dept. of Housing and Urban Development, “Frequently Asked Questions: Valuation Protocol—Accessory Dwelling Units,” 16, <http://portal.hud.gov/hudportal/documents/huddoc?id=aprval.pdf>.

31. Freddie Mac, *Single-Family Seller/Service Guide*, Section 44.15.

There are many ways an income-based valuation might be calculated. To develop a method that could address the research questions, while also being usable for a practicing appraiser, the following guidelines were used:

- The method should not rely on the existence of comparable sales of properties with ADUs. Currently, such properties are too rare to provide a useful body of comparable sales.
- The calculation of appraised value for a property with an ADU cannot depend on knowing an actual sale price for that property. For researchers working after the fact, actual sale prices are available; however, practicing appraisers may not know an actual sale price for any number of reasons.
- A residential appraiser should be able to apply the method using only standard sources of data, in a reasonable amount of time. Besides actual sale prices, there are other details that are available to researchers that could influence perceptions of value. The aim is to base valuation only on the kinds of information readily available to the appraiser, for example, public facts about the property (square footage, etc.) and facts about the market (rents in similar types of housing, etc).

### Selecting Study Properties

To create a set of properties for study, the Regional Multiple Listing Service (RMLS)<sup>32</sup> listings were researched for properties that sold between late 2006 and summer 2011, and contained comments indicating the likely presence of an accessory dwelling unit, such as “accessory dwelling,” “granny flat,” etc. About 50 candidate properties were identified. Next, permit, ownership, and assessor records were checked for these properties using a city web page<sup>33</sup> and email consultations with city staff. Properties classified simply as duplexes, properties without an ADU permit or equivalent grandfathered status, and luxury properties with sale prices over \$750,000 were then eliminated. If the property was owner-occupied (determined by comparing the owner’s address to the property address), this was recorded, but owner-occupancy was not a factor in valuation.

After this winnowing process, 14 properties remained, ranging in sale date from December 2006

to June 2011. They offered a sample of low- and mid-level Portland properties featuring ADUs sold in a variety of market conditions. Five properties sold in 2006 and 2007, when the Portland market was peaking, according to the local Case-Shiller Index (see Figure 2), and 9 properties sold in the slower, declining and leveling markets of 2008–2011.

### Developing an Income Capitalization Approach for Properties Featuring ADUs

As a starting point, the approach to valuing properties with ADUs was a simple income method for appraising a duplex. Like a house featuring an ADU, a duplex contains two units, each of which can be associated with a market rent, and the combined rent can be translated into appraised value as

$$V_1 = GRM(I_1 + I_2) \quad (1)$$

where  $V_1$  is appraised value via the income approach;  $I_1$  and  $I_2$  are demonstrable estimated monthly incomes (rents) for the two units; and  $GRM$  is the monthly gross rent multiplier, the ratio of sale prices to monthly rent for neighborhood properties of similar type and quality, or

$$GRM = \frac{\text{sale price for neighborhood property of similar type and quality}}{\text{demonstrable market rent for that property}} \quad (2)$$

In practice, the appraiser calculates the gross rent multiplier individually for each of a small sample of relevant neighborhood properties, then summarizes that sample in a single weighted average  $GRM$  the appraiser thinks is most relevant to the subject property. The appraiser conducts a similar rent survey to develop  $I_1$  and  $I_2$  for the subject property.

In the case of a property featuring an ADU, the two units might not be similar in function or quality. Accordingly, the duplex formula was expanded so that gross rent multipliers could be calculated independently for the primary and accessory units:

$$V_1 = GRM_p I_p + GRM_{adu} I_{adu} \quad (3)$$

where  $GRM_p$  and  $GRM_{adu}$  are gross rent multipliers for the primary and accessory units, and  $I_p$  and  $I_{adu}$  are their market rents.

For each of the 14 study properties,  $I_p$  and  $I_{adu}$  were determined by studying a minimum of

32. RMLS.com (Regional Multiple Listing Service) database,” <http://www.rmls.com/RC2/UI/Home.asp>.

33. City of Portland, “PortlandMaps,” <http://portlandmaps.com/>.

6 comparable properties, 3 for the primary dwelling and 3 for the ADU. Rents came from the proprietary database of the Rental Data Bureau, rdbOregon.com. The gross rent multipliers were determined by comparing those rents to sale prices recorded by a regional listing service<sup>34</sup> and the local assessor.<sup>35</sup>

Ideally, the rents and gross rent multipliers in such an analysis would come from properties with ADUs. However, this data was not available due to the scarcity of permitted ADUs, so the most relevant information available was used: rents and gross rent multipliers from single-unit properties. Twelve of the 14 ADUs in the study were detached dwellings, so single-unit properties were most similar in architectural form for the great majority of both primary dwellings and ADUs. For the two remaining properties involving attached ADUs, single-unit properties also were used as comparables for the primary and accessory units. While it was originally assumed that duplexes would be a superior source of rent information for attached ADUs, a comparison of duplexes and single-unit properties showed very similar rents and gross rent multipliers. After this discovery, the more abundant data source for single-unit properties was chosen.

After developing  $I_p$ ,  $I_{adu}$ ,  $GRM_p$ , and  $GRM_{adu}$  using the current (summer 2011) rents from rdbOregon.com, those rents were corrected to reflect the times that the properties had actually sold. Unfortunately, no historical rent data was available for single-unit properties. The correction was based on a trend derived from the results of twice-yearly rent surveys conducted by a local association of apartment landlords, the Metro Multifamily Housing Association (MMHA). This data and trend appear in Figure 2. The rents are expressed as percentages of spring 2011 values. A linear regression line (SPSS version 11) was drawn through all the plotted points. From spring 2007 to spring 2011, the trend was equivalent to a 2.44% per year increase in rent. After correcting rents using this factor, the tentative valuation formula was

$$V_1 = GRM_p I_{p(da)} + GRM_{adu} I_{adu(da)} \quad (4)$$

where  $I_{p(da)}$  and  $I_{adu(da)}$  are the date-adjusted rents for the primary and accessory units.

Equation (4) calculates appraised value as the simple addition of appraised values for two distinct

single-unit properties. However, at a property with an ADU, both dwellings share a single property. Some correction factor(s) should be added to account for this proximity and land sharing.

One approach is to simply remove the portion of  $GRM_{adu}$  that represents land. The land discount formula is as follows:

$$V_1 = GRM_p I_{p(da)} + (1 - L) GRM_{adu} I_{adu(da)} \quad (5)$$

Here,  $L$  is the land-to-value ratio, or the portion of value of local properties that is typically represented by land and not improvements.  $L$  is determined using the same comparable properties used to define  $GRM_p$ . For each of those properties, at least two relevant bare-land sales were located. Then, the bare-land prices were divided by the comparable's sale price and averaged across all comparables to create a single typical  $L$  for the study properties (0.35).

Equation (5) is called the *land discount formula* because it accounts for an apparent duplication of land values. It does so by mixing market land-price data into a valuation formula based on income. However, an advocate of fundamental, income-based valuation might say that quantity of land is irrelevant; all that matters is how proximity and land sharing between primary and accessory units affects rents. Effects could be positive or negative. Perhaps renters find that a decrease in privacy demands a lower rent, or perhaps renters find the presence of a nearby occupant, who perhaps maintains a common garden, makes a higher rent acceptable. Nearly all such effects are speculation, because permitted ADUs are too rare for data to be available.

Only one effect of proximity and land sharing is currently supported by research. This is the tendency of tenants on ADU properties to pay less than market rent, probably because they tend to be friends, relatives, or helpers of the owner. Hickey reports on this phenomenon and estimates the rent discount averages 20%.<sup>36</sup> If renters occupy only the accessory unit, this discount should only be applied to that unit. However, it is not uncommon for owners to occupy the accessory unit and rent out the primary one, so the following *rent discount formula* anticipates both possibilities:

34. RMLS.com database.

35. "PortlandMaps."

36. Hickey, *Urban Consolidation*, 70.



$$V_I = GRM_p I_{p(pa)} + GRM_{adu} I_{adu(pa)} \quad (6)$$

Here,  $I_{p(pa)}$  and  $I_{adu(pa)}$  are the proximity-adjusted rents, calculated as  $F_p I_{p(da)}$  and  $F_{adu} I_{adu(da)}$ , respectively.  $F_p$  and  $F_{adu}$  are the rent factors for the primary and accessory dwellings, meaning the proportions of market rent likely to be paid by tenants. Following Hickey literally would call for setting  $F_p$  to 1.0 and  $F_{adu}$  to 0.8. However, we cannot assume to know which unit an owner occupies, or if an owner is there at all, so the rent discount is split between the two units, setting  $F_p$  and  $F_{adu}$  at 0.9.

It is suggested that the land discount formula (Equation 5) and the rent discount formula (Equation 6) are each practical methods of appraising properties with ADUs. Note that these formulae are *alternative* methods of correcting for the issue of proximity of dwellings; both corrections should not be applied simultaneously.

## Results

### Characteristics of Study Properties

Table 1 provides a summary of the properties studied and the key results. The 14 properties had an average sale price of \$397,557. Nearly all accessory units (86%) were detached units, such as backyard cottages and converted garages. The accessory units were usually small—the median was 487 finished square feet, 75% were 758 square feet or smaller, and the maximum was 1176 square feet. Meanwhile the primary units ranged in size from 912 to 2111 square feet, with a median size of 1536 square feet. GRMs ranged from 147.9 to 268.3 for the primary units, and from 87.8 to 324.5 for the ADUs. For 79% of properties, the owner occupied at least one unit.

### Appraised Values vs. Actual Sale Prices

Appraised values using the income capitalization approach were typically higher than sale prices, as illustrated in Figure 3. Using the rent discount formula, appraised values exceeded actual sale prices significantly, by an average of \$29,067 ( $p=0.03$ , paired samples  $t$ -test, SPSS version 11) or 9.8% ( $p=0.02$ ). Using the land discount formula, appraised values via income exceeded sale prices significantly, by an average of \$21,121 ( $p=0.07$ ) or 7.2% ( $p=0.05$ ). Appraised values were only slightly less variable than sale prices: using the rent discount formula, the standard deviations were roughly \$88,939 and \$97,630 respectively. This difference in variability was

not significant statistically ( $p > 0.5$ , Levene's test for equality of variances, SPSS version 11).

One benefit of the income capitalization approach is it clearly assigns contributory values to each unit. By either formula, ADUs provided a substantial proportion of appraised value. In the land discount scenario, contributory values for ADUs ranged from \$67,460 to \$152,157, or 17% to 38% of total appraised value. The average contributory value was \$99,076 or 25%. In the rent discount scenario, contributory values for ADUs ranged from \$93,406 to \$210,679, or 23% to 48% of the total property value. The mean contributory value was \$137,183 or 34%. While both the land discount and rent discount formulas give similar total appraised values, the land discount formula assigns more of that value to the primary unit.

## Discussion

These results provide at least one clear suggestion: though legal ADUs are currently rare, they can represent a significant portion of a property's value. While the guidelines of government-sponsored enterprises might make it simpler to presume that a legal ADU's contributory value is incidental or insignificant, that is not likely to be an accurate assumption. Whether one's interest is practical or theoretical, appraisers and players in the market should be more thoughtful and systematic about ADUs.

### Practical Implications for Appraisers

When appraisers encounter a residence with an ADU, they should immediately consider the highest and best use of the property, and the format or institutional form their reporting will use.

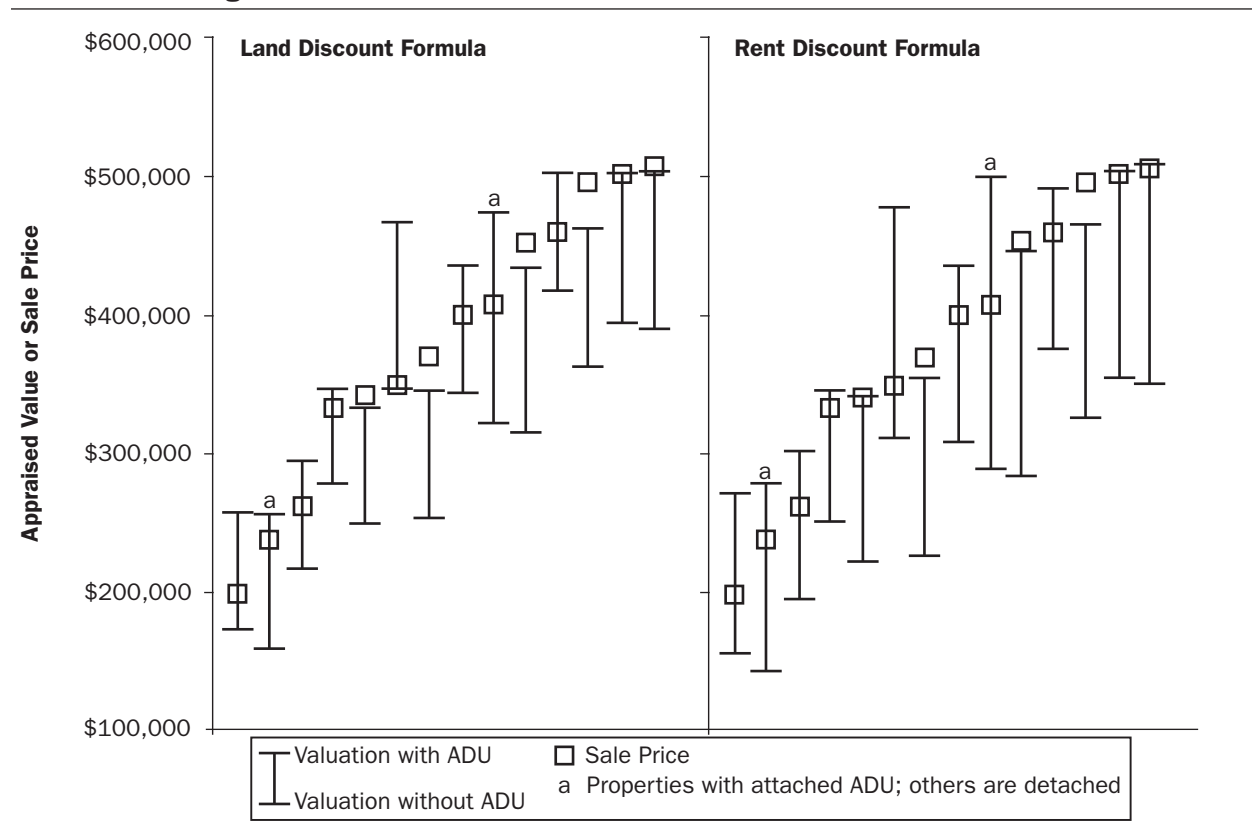
In residential settings, the critical part of the highest and best use analysis may be researching the ADU's legal status—is it in fact fully permitted and legally rentable? If not, applying an income capitalization approach to value could be misleading. Since ADUs are widely misunderstood by owners and real estate brokers, it may be worthwhile to confirm the permit status with local planning and/or zoning departments. Real estate listings may downplay the value of ADUs, even when the units are in fact fully permitted.

If the ADU is permitted, the appraisal assignment could require more analysis than a typical single-unit property. The appraiser may need to discuss and revise the scope of work with the client. Applying the income approach to a residence with an ADU creates a scope of work that is similar to the appraisal of a duplex.

**Table 1 Statistical Summary of Properties**

	Mean	Std. Dev.	Minimum	Median	Maximum
<b>Property Characteristics</b>					
Square footage of primary unit (finished sf)	1,552	424	912	1,536	2,111
Square footage of accessory unit (finished sf)	608	230	420	487	1,176
Sale date	2/16/2009	n/a	12/7/2006	12/13/2008	6/3/2011
Sale price (\$)	379,557	99,489	198,000	384,950	506,500
<b>Land Discount Formula</b>					
Monthly GRM for primary unit	197.9	35.7	147.9	194.6	268.3
Monthly GRM for ADU (incorporates land discount)	126.5	34.8	87.8	114.5	210.9
Corrected rent for primary dwelling (\$)	1,520	321	1,005	1,568	1,971
Corrected rent for ADU (\$)	802	129	556	847	1,000
Contributory value of primary (based on income) (\$)	301,601	81,827	159,427	318,486	417,629
Contributory value of ADU (based on income) (\$)	99,076	21,833	67,460	94,605	152,157
Property value by income (V <sub>i</sub> ) (\$)	400,678	91,839	256,778	433,730	503,485
Difference between valuation and actual (\$)	21,121	40,982	(32,056)	16,024	116,733
Difference between valuation and sale price (%)	7.2	12.5	-6.7	6.0	33.4
<b>Rent Discount Formula</b>					
Monthly GRM for primary unit	197.9	35.7	147.9	194.6	268.3
Monthly GRM for ADU	194.6	53.5	135.0	176.1	324.5
Corrected rent for primary dwelling (\$)	1,368	289	904	1,412	1,773
Corrected rent for ADU (\$)	722	116	501	762	900
Contributory value of primary (based on income) (\$)	271,441	73,645	143,485	286,637	375,866
Contributory value of ADU (based on income) (\$)	137,183	30,230	93,406	130,991	210,679
Property value by income (V <sub>i</sub> ) (\$)	408,624	88,939	272,660	440,890	508,098
Difference between valuation and actual (\$)	29,067	44,207	(29,322)	21,410	128,182
Difference between valuation and sale price (%)	9.8	14.2	-5.9	5.1	37.7

**Figure 3 Appraised Values Based on Income versus Sale Prices, 14 Portland Properties Featuring ADUs**



If the appraiser and client decide the income approach is necessary for achieving credible results, there are several choices for the format of the report. The most appropriate form might be Fannie Mae Form 1025, the Small Residential Income Property Appraisal Report, frequently used for 2–4 unit income-producing properties. It can describe the particularities of a property with an ADU and report the development and results of the income capitalization approach to value.

Alternatively, Fannie Mae Form 1004, the Uniform Residential Appraisal Report (URAR), is commonly used for single-unit residential appraisals but is flexible enough to adequately describe a property with an ADU. If applying the income approach to the primary dwelling as well as the ADU, it is likely that two additional Single Family Comparable Rent Schedules (e.g., Fannie Mae Form 1007) will be necessary to report the opinions of market rent, one for each dwelling. Additional analysis and discussion can be included in the

income approach section of the URAR as well as any type of comment addendum.

#### **Interpretation of Valuations and Theories of Value**

Valuations based on income may diverge significantly from those based on sales and create opportunities for misinterpretation. For example, the results based on the rent discount formula found the average Portland ADU contributed 34% of the property's value. Does that mean adding an ADU to a single-unit property will immediately increase its market value by  $0.34/(1-0.34)$ , or 51%? Experience in the market suggests the answer is no. The divergence in expectations flows not from an inherent faultiness in the income capitalization approach, but from two different perspectives of value.

Market prices, such as the actual sale prices used in the Portland study, seem most relevant to owners or lienholders who want to sell or buy property in the short term. These are transactional data,<sup>37</sup> i.e., specific, concrete prices that buyers have actually

37. Fanning, Blazejack, and Mann, "Price versus Fundamentals."

paid. It is unclear how repeatable each sale price is, given the specific and individual nature of real estate transactions on residential properties, which involve emotions, transient opportunities for financing, and so forth. This is not saying the market is entirely arbitrary, merely that individual sale prices are not faultless indicators of value.

Meanwhile, valuation by income seems most relevant to the owner or investor interested in operating a property over a long period. Though valuation by income is not wholly separated from the noise of the transaction market, it does incorporate more fundamental data,<sup>38</sup> the market rents for similar dwellings, which express the productivity of the property. Adding an ADU to a single-unit property could reasonably add 51% to longer-term measures of value or return—a situation that market sale prices may eventually recognize.

The differences between appraised value by income and sale price in the study properties suggests there may be an investment opportunity for parties willing to buy or develop Portland properties with ADUs and hold them for a long period, renting one or both units for income. Such parties could include homebuyers or investors planning to stay involved in a neighborhood long term; lenders willing to lend such buyers money and consider the income capitalization approach in their lending decisions; real estate investment trusts; and nonprofit housing organizations such as land trusts.

However, for the Portland properties studied, few buyers seemed to be competing for these properties from an income-investing perspective. Eleven of the 14 properties were owner-occupied, suggesting absentee landlords were not a major presence. Sale prices for these properties were below what the GRMs suggested income investors might be willing to pay. Nevertheless buyers (and by implication, the appraisers working

for their lenders) seemed to be finding *some* value in accessory dwellings, since in every case in the study, the actual sale price was more than the contributory value (via the income capitalization approach) of the primary dwelling. The difference between mean contributory value for the primary dwelling, in the rent discount scenario, and mean actual sale price was \$108,116.

### **The Role of Reconciliation**

For practicing appraisers, these results demonstrate that an income capitalization approach to value can provide valuable perspective to the sales comparison approach when the subject property features an ADU. When an institution such as Freddie Mac forbids the income approach as the primary method of valuation, the income method can still play a role in the reconciliation phase, lending weight to any final opinion of value developed via the sales comparison or cost approaches. This should be especially useful when precise comparables are rare, as properties featuring legal ADUs are likely to be in the short term. Over the long term, though, this form of microdevelopment seems so attractive to planners and certain citizens that appraisers may eventually find them common.

### **Conclusion**

Properties with permitted ADUs have been widely misunderstood by real estate professionals. Besides the social and environmental benefits they may provide, ADUs have legitimate income potential, and when income is the basis for valuation, perceptions of the value of these properties can change substantially. Appraisers requiring an alternative or counterpoint to the sales comparison approach for properties featuring ADUs can gain insight through the income approach, helping them develop more credible and consistent valuations for this emerging form of development.

---

38. Ibid.

**Martin John Brown** is a writer and researcher with a background in statistics and ecology, and an interest in architecture and development. As an analyst, Brown's research and statistical analysis have been published in rigorous peer-reviewed journals such as the *Journal of Ecology* and *The American Naturalist*. As a popular writer, his reporting on environment and housing have appeared in numerous popular publications, including *Sierra*, *MAKE*, *E—The Environmental Magazine*, *Air & Space/Smithsonian*, and *GOOD*. He has also coauthored two nonfiction books from national publishers.

Brown has a BS in biology from McGill University.

**Contact:** [mjb2000@gmail.com](mailto:mjb2000@gmail.com)

**Taylor Watkins** is a certified residential appraiser and the owner of Watkins & Associates, a leader in data collection and appraisal of green homes in Portland, Oregon. Since 1990, he has been providing residential real estate valuations for the mortgage-lending marketplace as well as real estate consulting services in the Portland and Vancouver, Washington, areas. Taylor is a member of the Appraisal Institute and AI's Green Education Committee; he developed the Appraisal Institute's new *Introduction to Green Buildings* course. Taylor also is a member of the US Green Building Council. He has an MA in English from Portland State University and a BA in English from the University of Oregon.

**Contact:** [taylor.watkins@comcast.net](mailto:taylor.watkins@comcast.net)

This work was supported by a grant from The Appraisers Research Foundation and a grant of services from [rdbOregon.com](http://rdbOregon.com). The manuscript benefited greatly from the comments of Sandra Adomatis, SRA, and three anonymous peer reviewers.

## Web Connections

*Internet resources suggested by the Y. T. and Louise Lee Lum Library*

AARP—Accessory Dwelling Units, Model Laws

[http://www.transformca.org/ia/acssdwel/sup/AARP+APA\\_ADUReport\\_ModelAct+Ordinance.pdf](http://www.transformca.org/ia/acssdwel/sup/AARP+APA_ADUReport_ModelAct+Ordinance.pdf)

AccessoryDwellings.org

<http://accessorydwellings.org>

American Planning Association—Accessory Dwelling Units

<http://www.planning.org/pas/quicknotes/pdf/QN19.pdf>

Florida Department of Community Services—Accessory Dwelling Units Report to the Florida Legislature

<http://law.wustl.edu/landuselaw/Articles/ADU.Report.pdf>

Municipal Research and Services Center of Washington—Accessory Dwelling Units

<http://www.mrsc.org/publications/textadu.aspx>

National Resource Center on Supportive Housing and Home Modification

<http://gero.usc.edu/nrcshhm/library/PDF/access.pdf>

US Department of Housing and Urban Development—Accessory Dwelling Units: Case Study

<http://www.huduser.org/portal/publications/adu.pdf>