Who Measures Condominiums Well?

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Over the past decades, the US has built up an increasing sophisticated apparatus to measure the number of existing housing units and the amount of new construction. This includes refinements to the Decennial Census, the American Community Survey, the American Housing Survey, the very long-running Building Permits Survey, and the addition assessor data via private vendors. The Decennial data differentiate between owner occupied housing and rental housing. However, ownership of US housing units, broadly construed, has another important distinction: between fee simple ownership of a single unit, and condominium ownership.[1] In this latter form, a unit owner owns his or her own unit and also has an undivided and unrevocable interest in the common elements of the housing unit.

This distinction in terms of ownership is important because condominium units face very different long-run price trajectories from single family homes, as we show in a companion paper (Brooks, Han and Stuart, 2024). We hypothesize that this difference comes from the crucial institutional difference between condos and single family homes. While single family home owners make unitary decisions about maintenance and capital reinvestment, owners of condominiums make such decisions jointly. Critically, the "common elements" that condominium fees fund are local – very local – public goods. Table 1 reports the key differences across housing structure and ownership types.

A long social science literature argues that groups will find it difficult to provide even the public goods that all group members agree they want and are willing to pay for (see Samuelson (1954) and Olson (1971); for a modest dissent see Ostrom (2010, 2009)). When there is disagreement about the level or type of public goods – for example, how fancy should the new elevator be? – these problems are only heightened. In the worst possible case, when neighbors disagree on how to fund needed improvements, we end up with the case of the 2021 Surfside condominium collapse. While this is an extreme case, we believe that the US – and other countries as well – are facing a looming backlog of condo maintenance. As the first generation of purpose-built condos from the 1960s and 1970s age, this problem should become more severe and salient.

Our complimentary preliminary work suggests that these problems are of economically important magnitude. We find that condos sell at a discount relatively to similarly situated single-family homes. We further find that virtually all of age-related price depreciation occurs in condominiums. However, it is at

[1] In New York City, and to a much lesser extent elsewhere, there is also the cooperative form of ownership. It is a much smaller share of the onwership market. We will collect data on this form as available, though it is not our main focus in this work.

present difficult to understand how big a threat condominiums are to the health of the US housing stock because no reliable and systematic measure of condominium prevalence exists. Even the national association that represents condominium associations – the Community Association Institute – relies on an estimate of approximately roughly seven and a half million units from the American Housing Survey sample.[2]

We believe that there are four potential ways to identify condominiums in existing data. First, we can use assessor records and each assessor's idiosyncratic coding to identify condominiums. This is both time consuming and reliable. Second, we can use the American Community Survey (ACS), which asks "Is this house, apartment, or mobile home part of a condominium?"[3] Third, we can use CoreLogic Multiple Listing Service (MLS) data, which include the condominium fee as part of the sale description. Fourth, we can use the CoreLogic deeds data – the dataset upon which most social scientists rely for measurment of housing prices.

In this project, we propose to count condominium units by decade of construction, for the seven largest US counties using assessor data from each individual jurisdiction.[4] These seven counties account for almost twelve percent of the US population, and surely more than twelve percent of all US condominium units. For these same seven counties, we propose to evaluate whether other less taxing methods of data collection approach the measurement from the gold standard.

In preliminary work we know that the condo question from the ACS vastly undercounts the prevalence of condominium units, as we show for six of the seven jurisdictions in Table 2.[5] In Harris County, Texas, which has the smallest undercount, Census data find about 33 percent fewer condominiums than actually exist. We find the largest undercount in San Diego County, where Census data report about one-third the number of condominiums we find in the assessor data. This discrepancy is in part due to the ACS question pattern, in which the survey asks the condominium question only to owner occupants.[6]

In the paper for the CRIW-NBER workshop, we would extend this analysis to all seven of the largest US counties, adding Maricopa County. We would perform a similar exercise with CoreLogic deeds and MLS data. From discussions with reearchers, and our preliminary work, we expect that both of these sources also

[2]See the Community Association's citation of the American Housing survey: `https://www.caionline.org/getmedia/cf7d213d-75aa-439f-8341-f100b3af3a48/nationalcondostats.pdf`

[3]This was the language until 2023. As of 2024, the question now asks "Is this house, apartment, or mobile home part of a homeowners association or condominium?"

[4]These are New York (technically the five borough counties), Los Angeles County, Cook County (Chicago), Harris County (Houston), San Diego County, Miami-Dade County, and Maricopa County (Arizona).

[5]Assessor data from Maricopa County are available only for a fee; we have a grant application for these data pending.

[6]See notes on changes to this question in this ACS presentation: `https://dol.ny.gov/system/files/documents/2024/11/acs-program-updates-nicole-scanniello-10-30-24.pdf`.

substantially under-measure condominium prevalence.

With these findings in hand, we would use CoreLogic deeds and MLS data to explore which condominiums are most likely to be mis-measured. For each property, we can regress mismeasurement – defined as one if the assessor definition does not equal either the CoreLogic deeds or MLS definition – on property and condominium characteristics. We hypothesize that this mismeasurement should be most severe for older and smaller condominiums.

These findings will help us understand the prevalence of the condominium form in the US housing market. In combination with assessor information on the year the structure is built, it will also help us estimate the extent of deferred maintenance at condominiums. Apart from direct analysis of condominiums, our work may also help the many researchers who use the CoreLogic deeds or MLS data for analysis of single family homes. If, as we suspect, these "single family homes" contain a fair number of condominium units, estimates that use home prices to value amenities may be biased.

References

Brooks, Leah, Lu Han, and Bryan Stuart. 2024. "Perils and Promise of Living Together: Condominiums in the Urban Landscape." Working paper.

Cribbet, John E. 1963. "Condominium–Home Ownership for Megaopolis?" *University of Michigan Law Review*, 61: 1207.

Lasner, Matthew Gordon. 2012. *High Life: Condo Living in the Suburban Century.* Yale University Press.

Olson, Jr., Mancur. 1971. *The Logic of Collective Action: Public Goods and a Theory of Groups.* . second ed., Harvard University Press.

Ostrom, Elinor. 2009. "A General Framework for Analyzing Sustainability of Social-Ecological Systems." *Science*, 325(5939): 419–422.

Ostrom, Elinor. 2010. "Beyond Markets and States: Polycentric Governance of Complex Economic Systems." *American Economic Review*, 100(3): 641–72.

Samuelson, Paul A. 1954. "The Pure Theory of Public Expenditure." *The Review of Economics and Statistics*, 36(4): 387–389.

Table 1: Housing Classification

	Structure Type			Ownership Type			
	SF detached	SF attached	MF vertical	Unit owned individually	Fractional interest in common elements	Fractional interest in land	All units owned jointly
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Single Family	x			x			
Single Family with HOA	x			x	x		
Single Family condo	x			x	x	x	
Duplex/Triplex/Quadriplex condo		x		x	x	x	
Duplex/Triplex/Quadriplex rental		x					x
Multifamily Condo			x	x	x	x	
Cooperative			x		x		x
Multifamily Rental			x				x

Notes: This table outlines the major classifications of housing ownership and structure combinations.
Source: Material in this table draws from Cribbet (1963), and Lasner (2012).

Table 2: Extent of Condominiums: Census versus Parcel Data

	ACS Data			Parcel Data	
County	Population (1)	Housing Units (2)	Condos (3)	Parcels (4)	Condos (5)
Cook County, Illinois	5,173,911	2,072,146	261,333	1,865,013	458,177
Harris County, Texas	4,727,769	1,735,032	42,108	1,551,454	63,628
Los Angeles County, California	9,827,930	3,375,590	200,694	2,422,723	345,719
Miami-Dade County, Florida	2,637,061	954,171	143,533	770,409	319,687
New York City, New York	8,469,132	3,263,895	208,111	1,150,829	314,821
San Diego County, California	3,286,940	1,162,898	104,678	1,082,646	310,586

Sources: American Community Survey, 2021 1-year Public Use Microdata Sample Files. Population, housing units and condominium units are weighted totals. See Brooks, Han and Stuart (2024) for parcel data sources.
Notes: Because parcels may contain more than one housing unit, the number of parcels should always be smaller than the number of housing units. For the city of New York, we exclude the almost 500,000 units in cooperatives to yield a count of condominiums only. The ACS reports condominium status only for owner-occupied units.