

ANREV



A CASE FOR CO-LIVING

RESEARCH

Prepared by  **Invesco**

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ANREV's agenda is driven by the members, in particular institutional investors, and is focused on improving transparency and accessibility through market information, professionalism and best practice. Fund managers, investment banks and advisors provide support in addressing key issues facing the Asian non-listed real estate fund markets.

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What is co-living, exactly?

Despite the buzz-worthy nature of its nomenclature, co-living is not a new trend, but merely the re-envisioning of an old one. A living environment whereby tenants share resources and space in exchange for lower costs and cultural commonalities harkens back to socially-minded communes of the 1960's, and further still to the boarding houses of the 19th Century. Put

more succinctly, co-living in the modern era has been defined as purpose-built and managed developments that include a combination of personal and shared amenity space.¹

While this definition may give us a point from which to evaluate the sector, it does not, in our view, adequately capture the operational aspects that make it unique from other accommodation

types. Although not wholly homogenous across regions, most co-living facilities today appear to be a transmutation of several more-established asset types, combining attributes from each (Figure 1).

Beyond the element of shared physical space, what we have found through surveying existing co-living facilities today as common traits include:

- Lease term flexibility, but with minimum commitments (typically 1 month)
- Asset-sponsored programming, with an emphasis on creating sense of community
- All-inclusive billing and fully-furnished suite of spaces
- At least one shared habitation space (bedroom, bathroom, living room or kitchen)
- Charged on a per-bed/per-room, not per-unit basis.

Figure 1: What is co-living? Co-living combines attributes of many established property types

	Traditional multifamily	Hostels	Serviced apartments	Seniors housing	Student housing	Co-living
Flexibility on lease term but with minimum commitment	✗	✗	✓	✗	✗	✓
Asset-sponsored community programming emphasis	✗	✗	✗	✓	✗	✓
Open to any age/demographic	✓	✓	✓	✗	✗	✓
Hassle-free living solution including furnishing and all-inclusive billing	✗	✓	✓	✓	✓	✓
Shared living space	✗	✓	✗	✓	✓	✓

Source: Invesco Real Estate

¹ British Property Forum in conjunction with JLL.

Demand - following the cause-and-effect flow

Urbanization

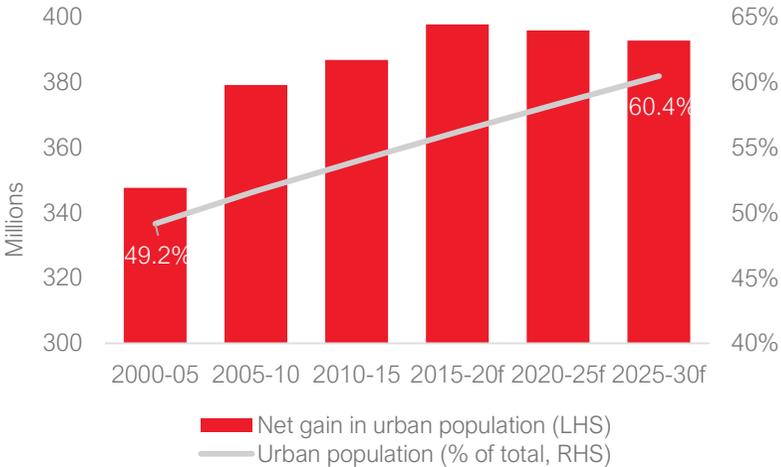
The pace of urbanization in this economic cycle is by now a well-documented global phenomenon. The world’s urban population at mid-year 2015 was estimated at nearly 4 billion (49% of the global population), up 766 million from a decade prior.² By 2030, 60% of the world’s population is projected to be living in cities – an increase of 1.2 billion people in the span of just fifteen years! (Figure 2).

This resurgence of the city has put unprecedented pressure on housing. Greater competition for a finite supply of urban housing has led to higher prices, which has made traditional options unaffordable for many cohorts, particularly younger occupants. This affects both for-sale and rental stock, creating what has been widely accepted as an affordability crisis.

Changing nature of work

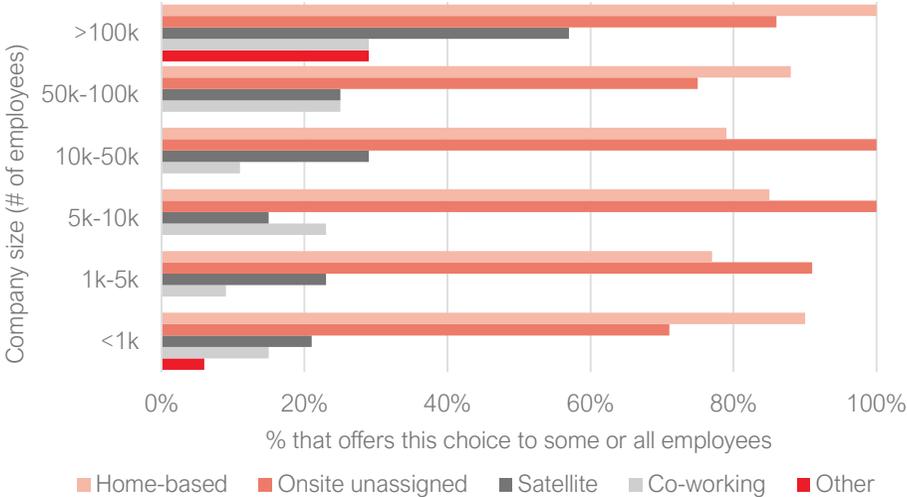
Further exacerbating pressures on urban housing is the changing nature of work. According to a recent survey, in order to attract and retain top talent, most companies have already adopted some form of flexible work (Figure 3). Co-living allows for these employees to obtain institutional housing in locations they either want or need to be in, without prohibitive long-term commitments.

Figure 2: Net gain in population living in cities globally



Source: Invesco Real Estate using data from the United Nations Department of Economic and Social Affairs, Population Division as of September 2018

Figure 3: Percent of flexible work arrangement by company size



Note: Results reflect a total of 142 survey participants responding on behalf of their organizations. US organizations represented 47% of the sample, Asia Pacific 21%, Africa 5%, Europe 18% and South America 9%. Source: Invesco Real Estate using data from Global Workplace Analytics Fifth Biennial Global Benchmarking Study 2018 and Deskmag’s 2017 Global Coworking Survey

² United Nations Department of Economic and Social Affairs Population Division, *World Urbanization Prospects: 2018 Revision*

Demand - following the cause-and-effect flow

Access > ownership

Technological advancements that have facilitated greater work flexibility have also contributed to a rise in digitally collaborative forms of consumption that are disrupting traditional industries. Dubbed “the sharing economy”, the emergence of online platforms that promote access over ownership have sprung up with increasing regularity in recent years. This shift has been particularly prevalent in cities, driven out of necessity, cost and consciousness, and has penetrated virtually every sphere of urban consumption – car ownership has been replaced by Uber and Zipcar; ThredUp and Rent The Runway have supplanted clothing ownership; Spotify and Netflix provide content on-demand; LendingClub and WeSura provide shared access to crowdfunding and insurance.

The exponential growth of these business models and their adoption by young urbanites suggests that there is a high degree of comfort with sharing products and services. This acceptance has prompted this same audience to envisage housing in much the same way; that is, as just another product to be shared.

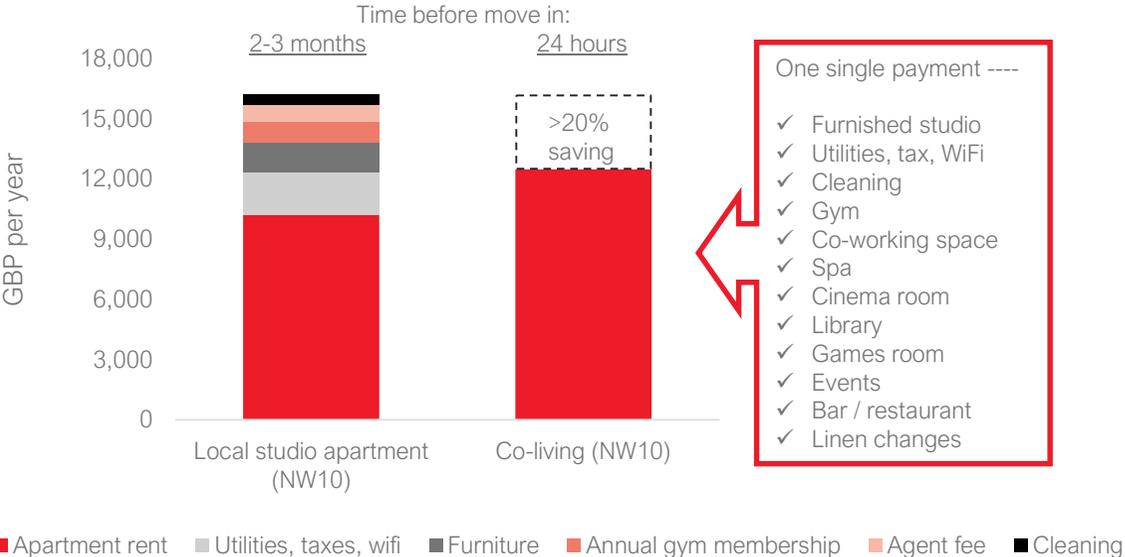
An affordability impetus

Today rents in the most desirable urban locations are well beyond what is affordable for many, regardless of age. Co-living offers many would-be renters a way to gain entry into the institutional marketplace while simultaneously saving money in aggregate. Take, for example, a traditional studio apartment compared to a room in a co-living facility in London. While on a rent per-private-square-foot basis co-living spaces are more

expensive than traditional units, the savings potential is enhanced via greater space and service efficiencies.

For one payment, a renter gains access to a fully furnished space that includes access to a gym and communal spaces, well-developed programmatic platforms, regularly scheduled cleaning and all-inclusive utilities for 20% less

Figure 4: The value proposition for renters: Local studio vs co-living studio, London



Source: Invesco Real Estate using data from London-based co-living operator, August 2018

Demand - following the cause-and-effect flow

than the comparable studio alternative, let alone the time saved before move-in (Figure 4). Put another way, a renter making an average London income of £37,000 would have an all-in rent-to-income ratio of 43.8% in a traditional studio; this ratio improves considerably with the value proposition of a co-living facility, declining to 33.7% of annual income.

One may assert then that co-living is borne out of economic necessity. Some may rightly wonder whether co-living is merely affordable housing in new packaging. Affordable housing is often used as a blanket term to cover all manner of residential product – in the US, it can mean subsidized housing (through federal, state or local grants used to offset rents for select populations), low income and rent controlled housing (whereby households making well below the area median income have dedicated and protected housing options), and rent stabilized (whereby households qualify for reductions to market-rate apartments and annual renewals are subject to escalations approved by local administration).

While these are vital to promoting and maintaining diversity in cities, co-living is not beholden to any pricing regulations as dictated by governmental bodies. Thus, while the notion of co-living may

have been the result of elevated prices, it is not addressing affordability in the traditional sense (that is, addressing subsidized or controlled). A survey of existing co-living operators' rents today suggests the product is not solving for true affordable housing, but instead is offering a discounted premium product targeted towards a specific subset of renters. This alone makes co-living more akin to traditional market-rate multifamily product, where owners can determine rent levels and increases independently.

A note on community

A commonality among co-living operators globally is a strong focus on community building. While it may seem that this notion of “know thy neighbor” is merely a fresh additive to traditional multifamily marketing, there appears to be a psychological shift occurring that suggests co-living may indeed be a solution to societal challenges. According to research conducted in the US, loneliness has become increasingly widespread in young adults, correlated positively with increased social media usage.³ This corroborates the results of Space10's (IKEA's future-living lab) One Shared House 2030 survey, which suggest the main reason people are interested in co-living is because they want to be social and connect with people in a meaningful way.

³ American Journal of Preventive Medicine, “Social Media Use and Perceived Social Isolation Among Young Adults in the US”, 2017.

Current market landscape

The demand drivers of co-living are robust and not like to weaken any time soon; yet the asset class has thus far been largely ignored by the institutional real estate community, save for a select few who have embraced the concept and spearheaded its expansion.

The most dynamic region in the world for co-living is Asia. Invesco Real Estate estimates that more than 500 professionally-managed locations exist in the region today, with more in the pipeline. The region has exhibited the strongest growth in co-living spaces globally and is gaining increased

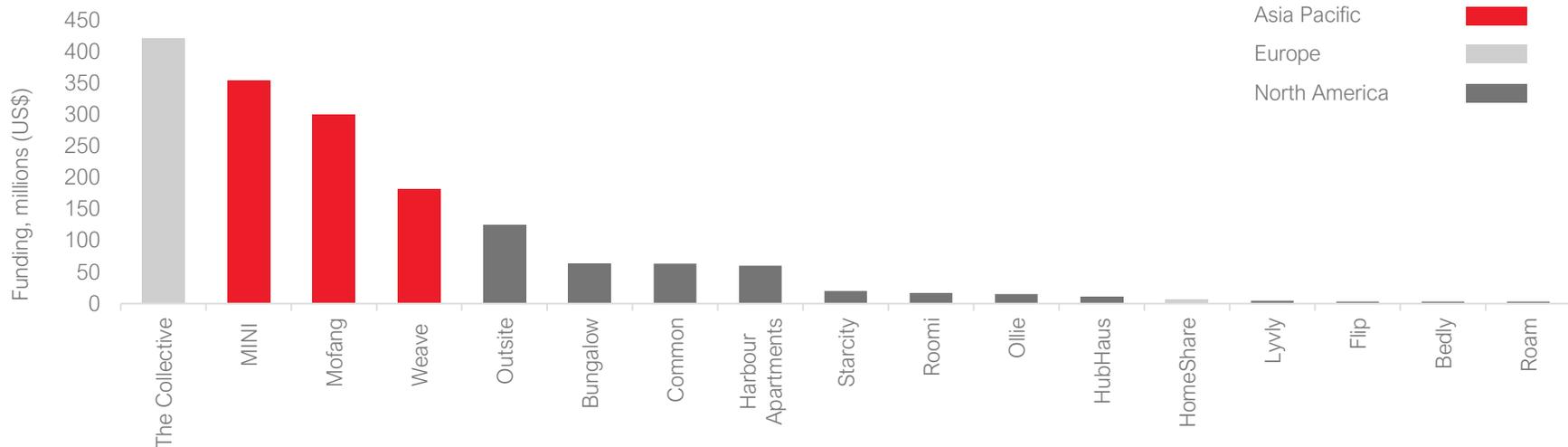
institutional interest from global investors.

By comparison, the existing US and European markets combined represent less than half of the estimated co-living stock in Asia. Despite a dearth of institutional for-rent product in Europe, co-living facilities throughout the region total less than 100 as estimated by Invesco Real Estate, with much of the existing footprint isolated to the UK and Germany.

Despite the unproven long-term operating covenant of many co-living operators today,

funding into the budding sector has totaled more than USD \$1.6 billion, with The Collective (UK), MINI Living (China) and Mofang taking the lion's share (Figure 5).

Figure 5: Recent co-living funding summary: Select global co-living operators total funding by company



Note: Funding totals based on publicly available information as of the date of this publication and may not be inclusive of funding rounds not publicly disclosed.

Source: Invesco Real Estate using data from Crunchbase as of December 2018

Real estate implications

Part of the challenge posed to real estate investors is how best to create, operate and execute co-living facilities to meet the needs and wants of the target demographic while still achieving satisfactory returns.

Yet by its very nature, where co-living is most needed is where it may be the costliest to create. Co-living as an asset class is only likely feasible in markets with rising affordability burdens due to supply-demand imbalances. While this fares favorably for real estate owners, it can make obtaining land for new co-living development expensive and difficult.

Thus, much of the co-living stock today has been the result of existing building conversions.

Approximately three-quarters of global co-living operators reported operating in converted existing buildings after 2016, as opposed to just 27% that were in purpose-built co-living buildings.⁴

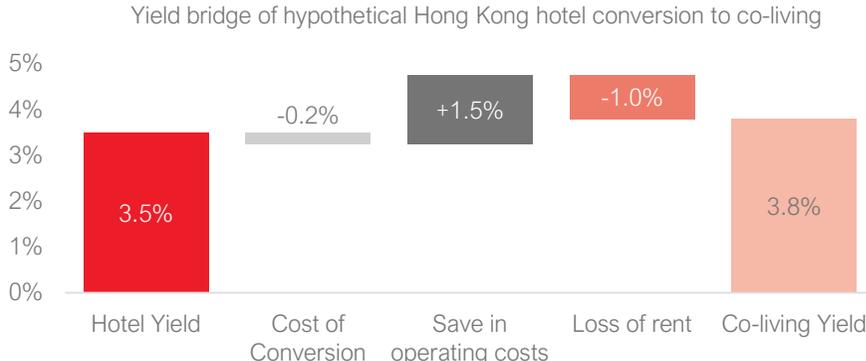
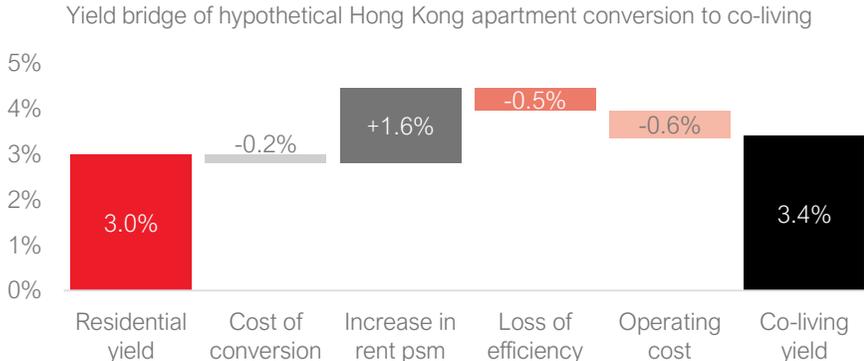
Utilizing data from JLL, Figure 6 compares two conversion schemes in Hong Kong – a hotel and residential building to co-living. The results reflect net operating income (NOI) yield increasing between 8% and 12%, after accounting for the capital expenditure and downtime required for conversion.

However, conversions can be a lengthy and challenging process – many cities’ regulations regarding what constitutes a legal housing unit can hinder redevelopment (such is the case in

New York City, where laws dictate housing units must have access to light and air). Juxtaposed against these regulatory challenges, pure-play development may offer the path of least resistance in certain locations.

This may also serve to explain why slightly more than half of co-living facilities today exist just beyond the borders of cities’ downtowns or urban cores. In a survey of 50 co-living locations in the U.S., 44% were within a 3-mile radius of the Central Business District; 22% were within a five-mile ring, and 34% were more than ten miles from the respective metros’ downtown (Figure 7). However, the results are arguably skewed, as the lion’s share of co-living properties that exist in the US today are in New York, which constitutes

Figure 6: Value creation of co-living conversion

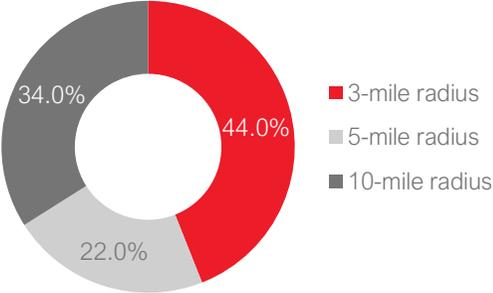


Note: assuming 100% hotel occupancy, converting previous hotel gym, F&B areas to co-living common area
Source: Invesco Real Estate using data from JLL, as of Q2 2018

⁴ HOMY Co-living survey, Spring 2018

Real estate implications

Figure 7: US co-living operators' distance from CBD



Source: Invesco Real Estate using data from ESRI and co-living operators' websites as of November 2018.

nearly all the assets that are more than ten miles from a downtown. Ultimately, asset selection and location will be largely dependent on the flexibility of local regulations and the availability of developable land.

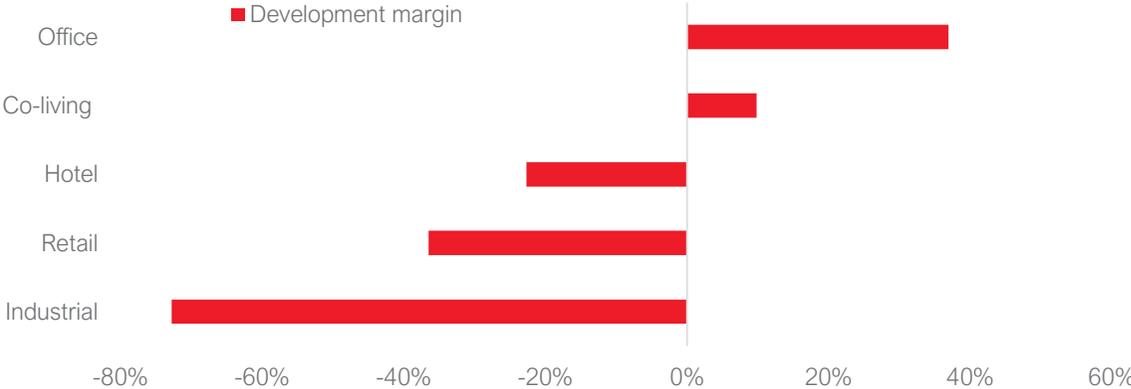
While much of the co-living stock today is in converted buildings, there has been an uptick in new developments' share as well, increasing from 12% prior to 2016 to 27% after. This suggests that as the legitimacy of the asset class has grown, early investors' ability to achieve return hurdles has been sufficient to justify the cost of new development when land is available. But how does co-living's return on development stack up against other property types?

Given the relative maturity of the asset class in the Asia Pacific region, Invesco Real Estate sought to analyze a hypothetical co-living development project's feasibility versus other asset types on a site in the inner ring road of Shanghai using assumptions based on operational co-living properties (Figure 8). While actual margins may vary from the assumptions used based on land and development cost, the results show that co-living is the second highest-and-best use for the land site after office. However, given a constricted lending environment for speculative office development, financing availability may be more

easily accessed for co-living. And with no pre-leasing requirement, as is the case for office, a new co-living building may deliver quicker to market, minimizing market cycle risk.

The issue of whether to convert or create is due in part to the unique spatial configuration that co-living requires. Achieving the right balance of public and private space in a co-living facility is critical, but can be a difficult ratio to pinpoint. Too much private space negates the positive communal benefits; not enough can lead to clutter, conflict, and ultimately, dissatisfied

Figure 8: Development feasibility: Development margin comparison of different land usages for a hypothetical site in Shanghai



Note: Analyses represents results based on occupancy assumptions:
1. The land plot is situated in the inner ring road of Shanghai;
2. Asset quality is institutional grade, i.e. Grade A office, prime retail mall, modern logistics warehouse, average standard high-rise apartments, 3 star hotel.

Source: Invesco Real Estate, October 2018

Real estate implications

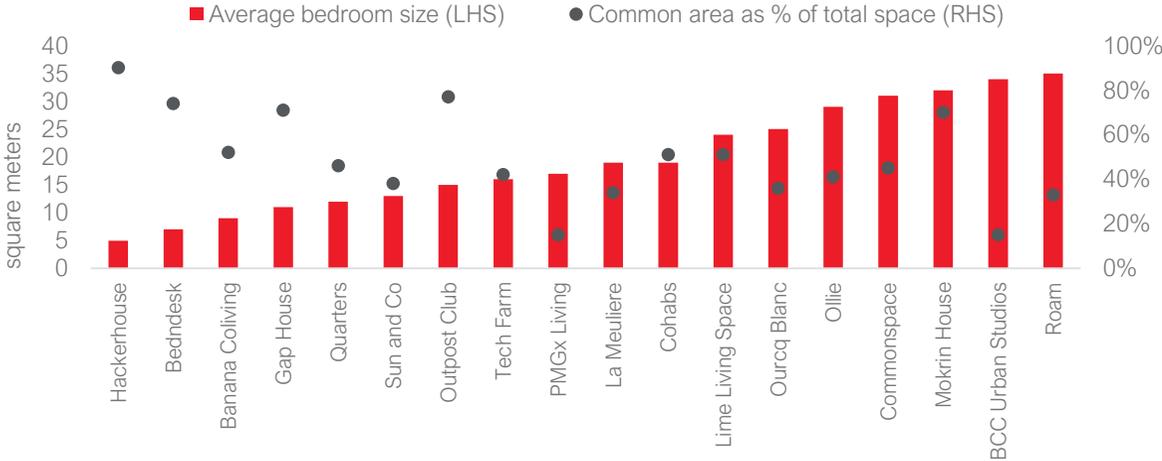
residents. Data from the One Shared House 2030 survey suggests that many people interested in co-living would rather live in tight-knit communities of smaller sizes (ideally 4 to 10 people) and would rather share internet, gardens, workspaces, and utilities than bathrooms. Lack of privacy was noted as a top concern by respondents.

How has this translated into space utilization? Co-living operators have been experimenting with varying degrees of shared and private space, to mixed results. Across eighteen global co-living operators, the average private bedroom measures

a rather sizable 19 square meters (205 square feet), although within the sample, the range is significant; the smallest, Hackerhouse, has bedrooms of just 5 square meters (54 square feet), and the largest, 35 square meters (377 square feet). In New York, dedicated private space amongst co-living operators is 18.8 square meters (202 square feet), or roughly 37% of a traditional studio. Shared space across co-living facilities broadly represents roughly 50% of the total usable space of a facility, although that too has considerable variability amongst the sample (Figure 9).

Anecdotal data from the UK suggests that co-living facilities maintain a similar stabilized occupancy to that of traditional multifamily but can add upwards of 10% to operating expenditures as a share of revenue, given the greater usage of shared spaces and potential for more frequent turnover. Significant programming schedules also add greater operational intensity, which may require enhanced staffing dedicated to the function. Despite the potential for an elevated op-ex schedule, yields for co-living appear to offer a 25- to 50- basis point spread above traditional multifamily yields.

Figure 9: Co-living space allocation: Bedroom size and common area percentage across various co-living operators, 2018



Invesco Real Estate believes a partnership with an existing operator could lessen the operational burden through consolidated hands-on property management. Structured waterfall management agreements would ensure interests are aligned and threshold returns are achieved.

Note: Survey results based on responses from global co-living operators in Belgium, Colombia, France, Germany, Great Britain, India, Indonesia, Italy, Serbia, Spain, Sweden, Switzerland, Taiwan and the United States. Operators ordered by size of average bedroom from smallest to largest, left to right. Source: Invesco Real Estate using data from HOMY Coliving, Cohabiter.

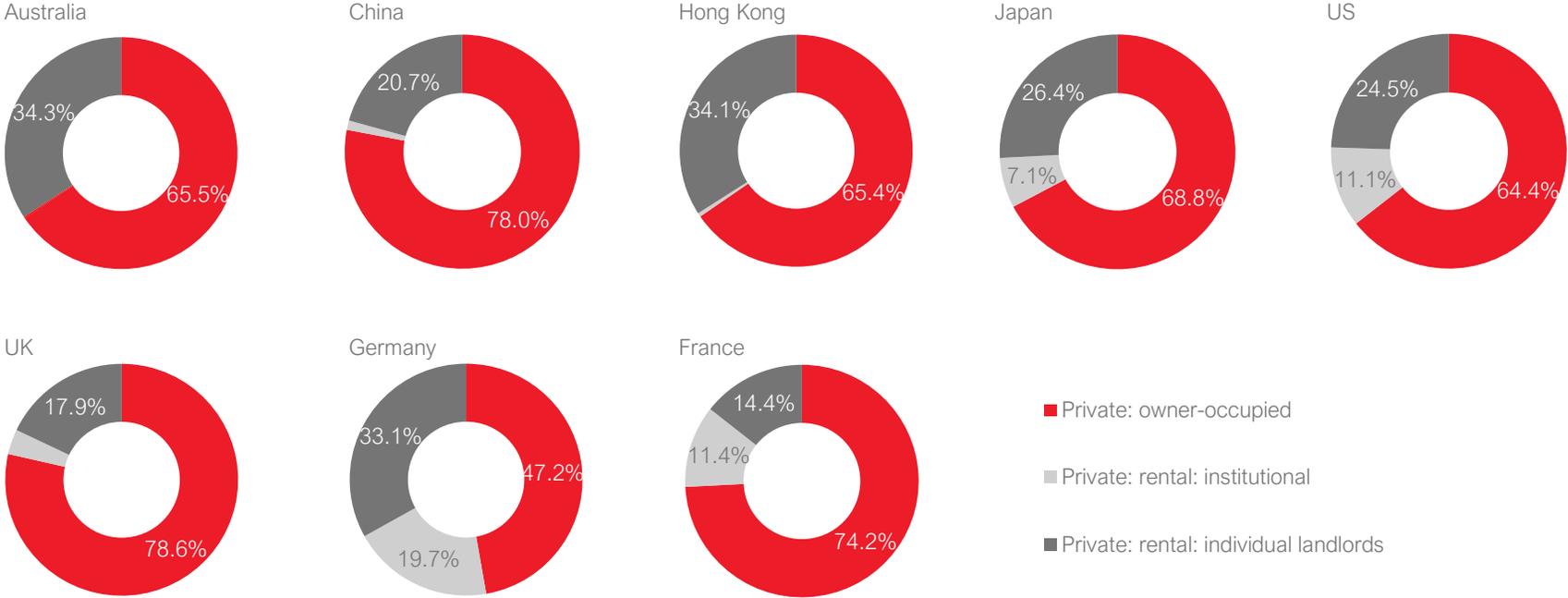
Investment implications

The measure of co-living opportunities varies considerably across the globe. While in the US, France, and Germany institutional rental product comprises more than 10% of the total residential market, this share is virtually non-existent in places like China, Hong Kong, Australia and the

UK (Figure 10). The fledgling, fragmented nature of these countries' for-rent residential markets suggests more room for growth as the sector gains greater institutional representation, and co-living is like to play a key role in its development.

The opportunity for investors today is to take part in the initial offering of institutional-quality residential product, which is expected to garner significant demand from an underserved population.

Figure 10: Private residential market share estimates



Source: Invesco Real Estate estimates, as of October 2018

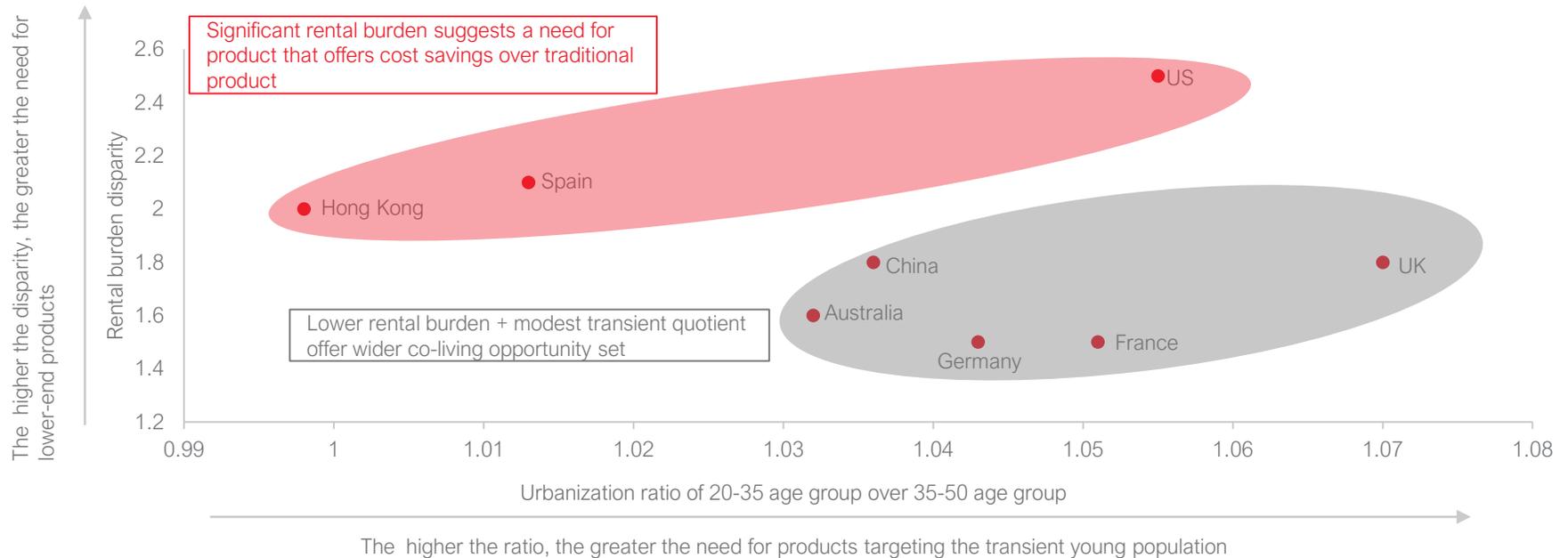
Investment implications

However, this offering should take different forms in different parts of the world. The opportunity in the US, for example, should likely target those with lower incomes that have previously been priced out of the institutional market entirely, capturing demand from the informal market, while

in Asia Pacific and the UK (where there is limited institutional multifamily product) there is a broader opportunity set to cater to both cost-sensitive individuals as well as middle- to high-income urban renters (Figure 11).

Using an aggregate of city-center studio rent paid by the urban renter pool aged 20-39 as a proxy for co-living market size potential, Invesco Real Estate believes that the US and China represent the greatest investment potential for co-living, followed by Japan, Germany and the UK.

Figure 11: Market opportunity differentiation: Rental burden disparity vs. the level of young transient in cities, selected countries



Note: Rental burden disparity is calculated by % of rent over income of the bottom quintile income group over rental burden of median income group

Source: Invesco Real Estate estimates based on data from OECD, Macrobond, Census and Statistics Department of Hong Kong, Shanghai E-House Real Estate Research Institute, the United Nations Department of Economic and Social Affairs, Population Division, October 2018

Investment implications

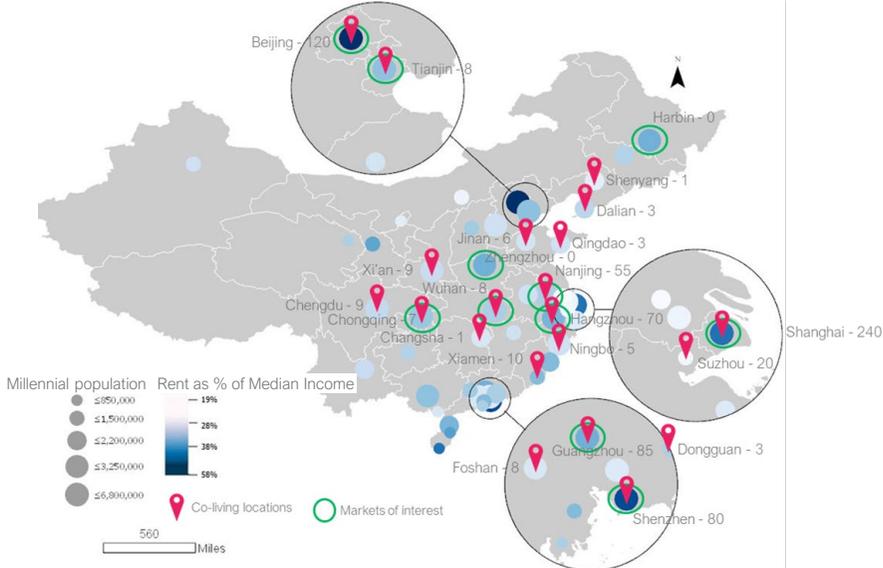
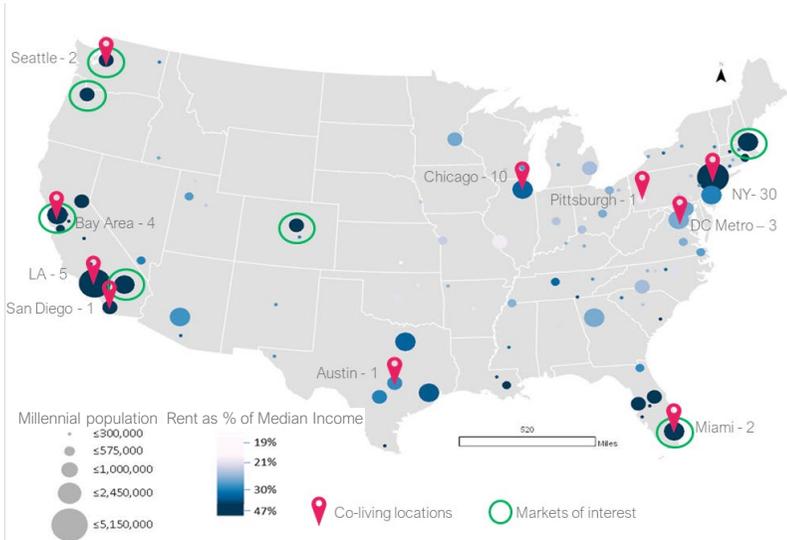
Looking more closely at the two countries with the greatest potential, cities that boast a sizable Millennial population and high relative housing unaffordability may be primed for co-living. In the US, this includes many coastal markets such as Boston, New York, Miami, Los Angeles, and the Bay Area, as well as a handful of highly desirable inland markets. Of these, several (Boston, Denver, Riverside, and Portland) remain entirely untapped by co-living, while others (Miami, the

Bay Area, and Seattle) appear to be underserved (Figure 12).

In China, Tier 1 cities (Beijing, Shanghai, Shenzhen, Guangzhou) as well as some Tier 2 cities (Tianjin, Zhengzhou, Wuhan, Hangzhou, Nanjing) stand out with a compelling combination of strong Millennial and migrant population and heightened affordability pressures (Figure 13).

Due to the growing supply pipeline in the five-year outlook, some cities mentioned above, primarily Beijing and Shanghai, may reach equilibrium in demand/supply balance in the medium term, and as a result, product differentiation will become increasingly more important. In comparison, Guangzhou, Shenzhen, Wuhan, Tianjin, Hangzhou, Nanjing, Harbin, and Zhengzhou are likely to remain underserved in the near term.

Figure 12 (Left): Identifying cities with opportunities (US): Millennial population, rent affordability and co-living clusters in the US, 2018
Figure 13 (Right): Identifying cities with opportunities (China)



Note: Rent as a percent of median income is calculated based on median market rents as reported by Zillow as of August 2018 and median household incomes for the respective metros as of the latest quarter available. Number of co-living locations reflect confirmed locations in each market operated by what Invesco Real Estate defines as institutional operators and includes Roam, Outsite, Common, Node Living, X Living (PMG), Quarters, WeLive, Ollie, Outpost Club and Dwell. Data as of August 2018.

Source (Figure 12): Invesco Real Estate using data from Zillow, ESRI, and various co-living operators websites as of September 2018

Source (Figure 13): Invesco Real Estate estimate based on data from EIU, NBS, EhouseChina, Lianjia, and various co-living operators websites as of December 2018

Conclusion

Co-living has developed as a natural progression from co-working, both responding to similar demographic forces. Both are an answer to younger generations' desire for affordable space in global cities that offers flexibility. Yet while co-working has gained widespread institutional acceptance and integration, co-living has, until now, remained the domain of niche operators.

Yet the profile suggests there is a depth of demand that may warrant a broader institutional response that has not yet materialized. Despite unique operational aspects, co-living can serve as an attractive compliment to a portfolio's residential allocation, offering slightly higher yields but with similar defensive properties, as lease rates can be adjusted quickly to align with market movements.

However, given the lack of data on long-term performance, co-living opportunities should be carefully vetted against their traditional multifamily counterparts, as co-living pricing is likely to be dictated by the strength or weakness of the multifamily market. We prefer pursuing co-living opportunities in infill and infill-adjacent urban locations that offer proximity to transit and employment centers that can offer a discount to existing product.

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