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Strategic focus: ERV prospects amid regulation; Residual land value & pricing

February 2021

Research & Strategy

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Tenancy agreement (TA) framework variations can be significant by market & geography

Drives typical duration of income, probable churn thus influencing investment & asset management approach

Tenancy agreement (TA) is the legal contract that sets the duration of a lease between the lessee and lessor and provides a framework for either renewing or terminating the contract between the two parties

Broadly TAs fall into three categories in respect of minimum term

Short	Medium-long	Perpetual
• Private Assured shorthold tenancy duration 12m with break at 3-6m	• Private TA between 3-8 years • Dependent on landlord entity	• Private TA open-ended

Mechanism for rent setting and indexation

Short	Medium-long	Perpetual
• Open-market	• Negotiation between tenant and landlord • National standard	• City or national index, committee or points system

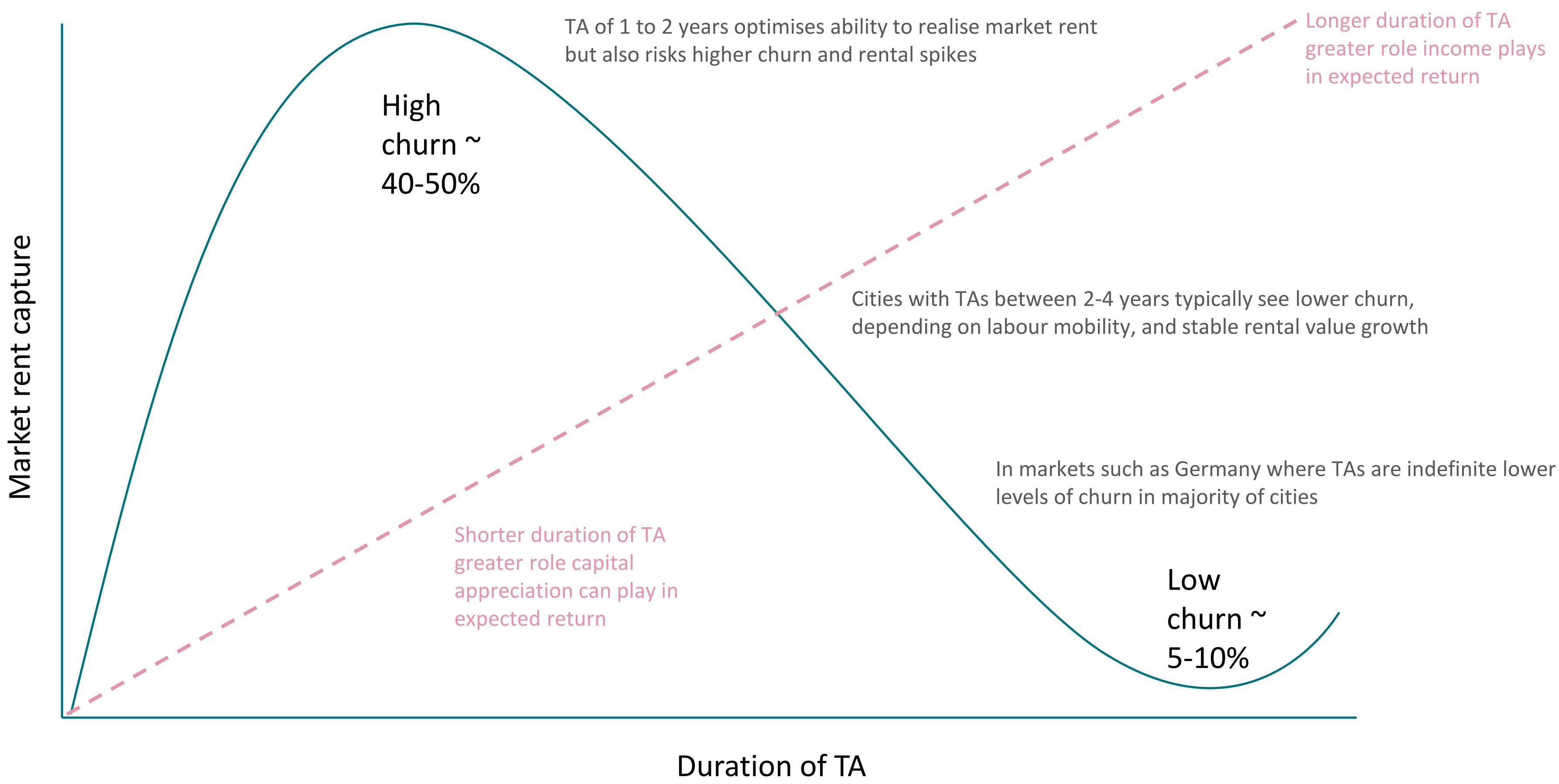
Criteria for landlord terminating lease

Short	Medium-long	Perpetual
• 3-6 month notice period	• Legal grounds i.e. failure to pay rent	• Major development / refurbishment • Personal occupancy

Source: AXA IM – Real Assets, 1 February 2021. Important Notice: The information has been established on the basis of data, projections, forecasts, anticipations and hypotheses which are subjective. This analysis and conclusions are the expression of an opinion, based on available data at a specific date. Due to the subjective aspect of these analyses, the effective evolution of the economic variables and values of the financial markets could be significantly different from the projections, forecast, anticipations and hypotheses which are communicated in this Material. For illustrative purposes only. Diagrams for illustrative purposes only

Impact of TA on ability to realise ERV

Mobility of labour market typically drives leasing churn and ability to capture ERV



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Regulation shouldn't bar investment but requires constant monitoring & local presence

Berlin is the best example of extreme regulatory change while Barcelona is the most recent city to adopt caps

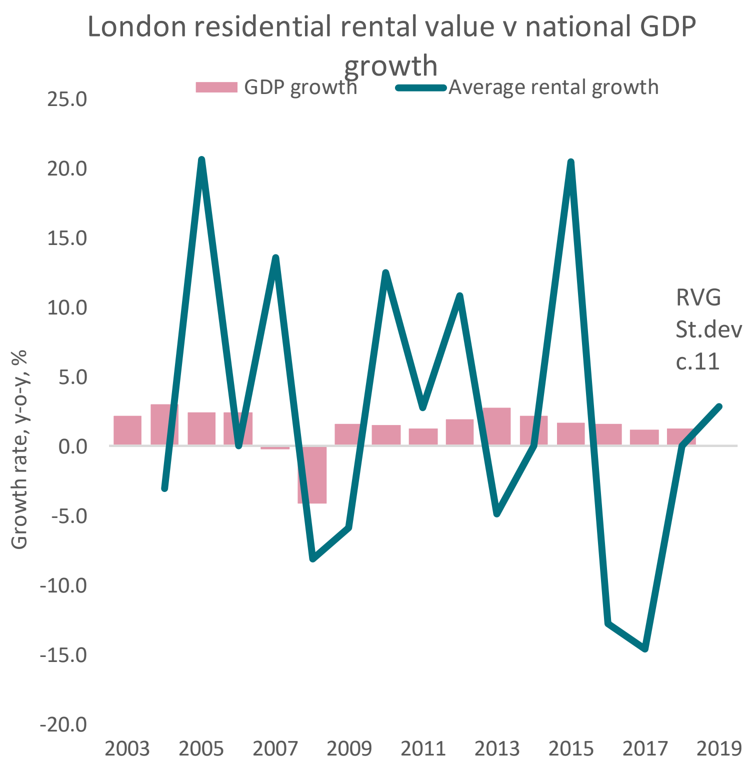
Overview of the residential regulatory regimes across select European cities

Cities	Regulatory level: Tenant rights/Rent control	Rent growth calculation	Regulatory movement (past 3 years)	Next move for regulation
Paris	Moderate, typically 3yr TA review	**Reference set by area: rents on new leases cannot exceed reference by >20%, in-place tenant rental uplifts inline with reference index annually**	↑	ELAN may see commune's adopt rent controls for five years in areas of rental tension 2019-2023
London	Low/Low, 12 month period break at 6	**Open market**	→	Potential change under London Plan - London Private Rent Commission, higher affordable provision, Class E (conversion of other uses) & covid evictions ban review
Amsterdam	Moderate/moderate, open-ended	**Points based system for social housing with rent capped at 1752.22 (144 points) and open-market on stock with >145 points**	→	Restriction around purchase of second-home for purpose of renting out, mid-priced rentals need to remain priced between 1737-11027 pcm (2020) with rental uplift p.a. CPI +1% for 20yrs down from 25yrs
Barcelona/Madrid	Moderate/moderate, moderate/low, 5yr private and 7yr period legal entity	**Rent cap/Open market**	↑	Ley de Arrendamientos Urbanos (LAU) - Barcelona applied rental cap to new leases signed from September 22 2020: benchmarking rent via reference index based on size and age of building; will apply to dwellings of 150 sq m or less, if previous rent higher than reference then rent must be reduced, renal growth cannot exceed 20% of reference index (unless refurbished or new dwelling) - other regions resisting but political change may bring further regs. May see fixed % of affordable housing to new devs
Milan	Moderate/low, 4yr tenancy	**CPI indexation first 4 years then reverts to open market**	→	no change
Lisbon	Low/low, 12 month tenancy	**Coefficient multiple of CPI**	→	no change
Berlin	High/high, open-ended tenancy	**Five year rental freeze on pre-2014 stock, rents can be increased by no more than 1.3% per annum from 2021 and only up to the rent cap 19.80 per sq m, capex limited to 11 per sq m and must meet three of five rigorous criteria**	↑	5 year rental freeze - likely to be reviewed
Copenhagen	High/moderate, mostly open-ended TA	**There are different types of rent regulation per rental dwelling type. Only in new dwellings (+post-1991) is rent unregulated; market rent with annual CPI uplifts (unless existing tenant which is only CPI)**	↑	Changes to rules around modernising rent controlled stock 5.2
Dublin	Moderate/moderate, typically 6 months then entitled to 6yrs tenancy	**Growth capped at 4% p.a.**	↑	Part 4 tenancy increases tenure following 1st 6m to 6 yrs from 4yrs
Stockholm	High/moderate, open-ended TA	**Either normative rents (set base rent with tenant association for 15-year period with annual CPI uplifts) or rent agreed with tenant without going through tenant association (more risk)**	→	Discussion about de-regulating part of the market specifically new developments

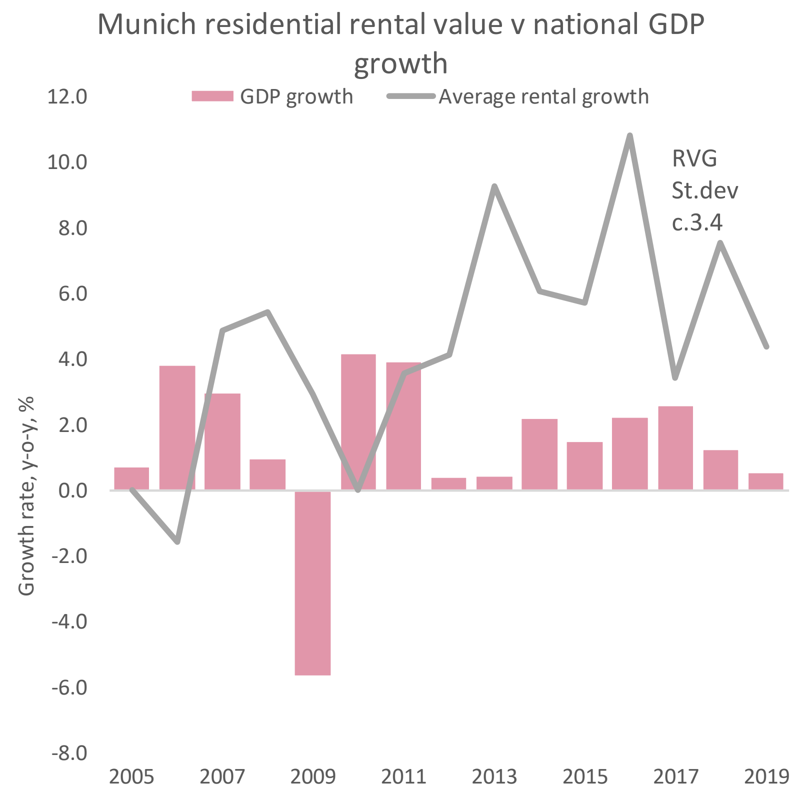
Source: various national government guidelines, AXA IM - Real Assets, data as at 8 January 2021

Regulated markets can still produce robust rental value growth

Growth typically less volatile in regulated markets and less synchronised to GDP developments



*Source: ONS, Eurostat Agent Survey, Macrobond, AXA IM - Real Assets, data as at February 2020, fx rates are end of year, *good quality as per Agent Survey definition (Zone 2)*



Source: BulwienGesa, IMF, AXA IM - Real Assets, data as at 12 November 2020

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Regulation constraining capex exacerbates depreciation and erodes net income

Berlin is an example requiring re-appraisal of underwriting given additional time to capture reversion

Pre-Berlin rent freeze

Rental increases post modernization

Base assumption		
current in-place rent	€/sq m/month	7
Average unit size	sq m	65
Standard modernization		
Old rent	€/sq m/month	7
Investment	€/sq m	600
Capex portion of investment c.50%	€/sq m	300
8% thereof passed to tenants	€/sq m/month	2
New rent	€/sq m/month	9
Absolute rent increase (old v new)	%	29
Outcome		
Additional annual return	€/sq m	24
Invested capital	€/sq m	600
Unlevered yield on cost	in %	4

Source: Deutsche Bank, AXA IM - Real Assets, data as at May 2020, nb: existing rent cannot be adjusted by more than €3 p sq m per month within six years (ex Mietspiegel adjustment). If starting rent is <€7 p sq m month the maximum six year uplift is €2 p sq m month

Post-Berlin rent freeze

Rental increases post modernization

Base assumption		
current in-place rent	€/sq m/month	7
Average unit size	sq m	65
Standard modernization		
Old rent	€/sq m/month	7
Investment	€/sq m	600
Capex portion of investment c.50%	€/sq m	300
Rent uplift capped @ €1* p sq m mon	€/sq m/month	1
New rent	€/sq m/month	8
Absolute rent increase (old v new)	%	14
Outcome		
Additional annual return	€/sq m	12
Invested capital	€/sq m	600
Unlevered yield on cost	in %	2

Source: Deutsche Bank, AXA IM - Real Assets, data as at May 2020, nb: rent increase must be approved by Investitionsbank Berlin and for new lettings, the rent cannot exceed upper cap €9.8 p sq m per month and three of five criteria must be met ~ (barrier free accessible lift, kitchen, state of art bathroom, high-quality flooring and low emissions)

At t+1 the capped annual index uplift of 1.3% would result in the rental value exceeding the cap preventing pay back on capex until end of cap post-2025

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Key market summary

Country		Summary
Germany		**Very large and investible, approximately as big as all other major European markets combined, *but very expensive***
UK		***Growing* institutional activity and an as yet unregulated private market. Substantial potential for growth and a chronic housing shortage presents interesting opportunities. Institutions likely have to develop stock themselves through *JVs (esp London) and forward funding***
Netherlands		**Large established market recovering post GFC. *Rent-liberalized stock has grown but emissions regulations pressuring pricing***
Sweden		**Tightly regulated market with low yields. Potential for long-term income growth *and for development opportunities pending government reforms***
Denmark		**High level of private renting in Copenhagen. Pre-1991 properties are regulated**
France		**A large, disaggregated, privately-owned rental market, with limited institutional activity to date; potential for growth. More regulated than other markets, such as the UK**
Switzerland		**A very substantial market, tightly held by Swiss institutions. Very expensive and likely to be of limited international appeal**
Finland		**Relatively small market but institutional stock available, *but pricing suggests focus on capital***
Irelands		**Relatively small market but very strong demand/supply fundamentals**
Italy, Spain, Belgium, Norway		**Limited current investment opportunities for institutions, but offer strong growth potential**

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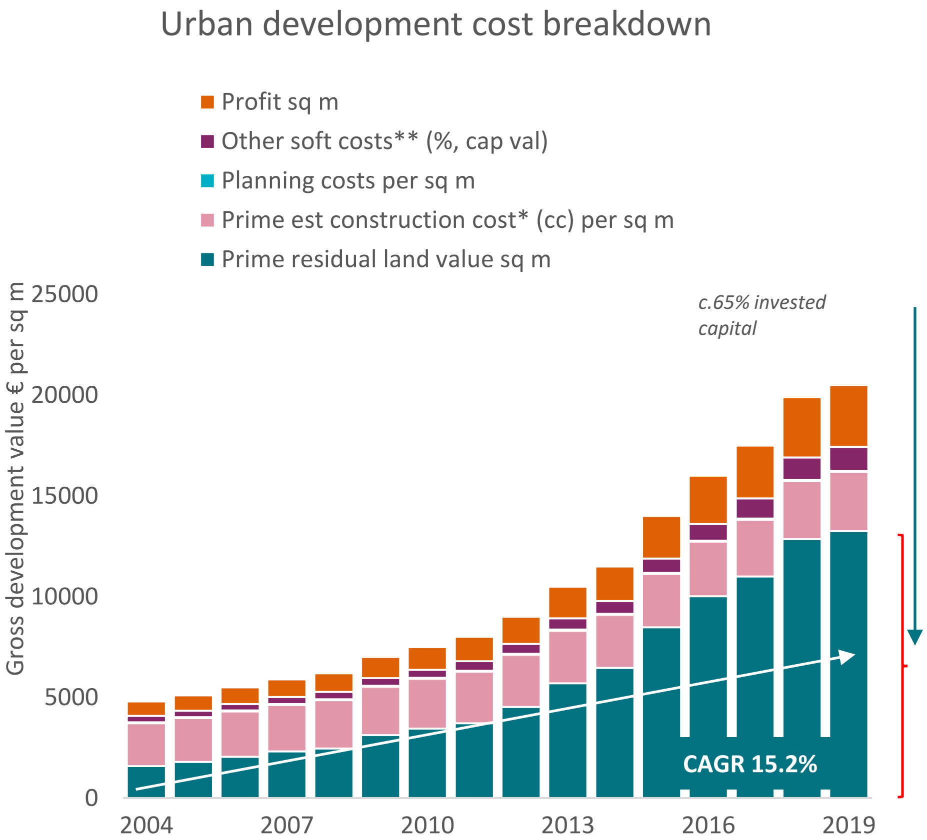
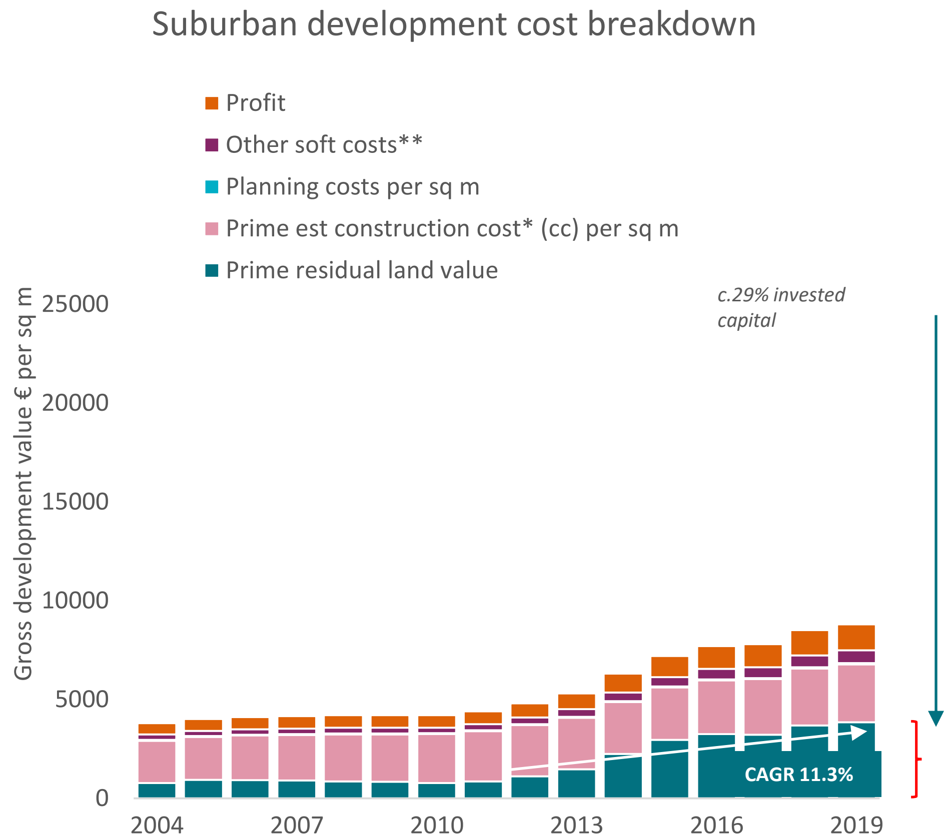
Higher residual land value supports long-term urban investment outperformance

CapEx requirements lower % of NOI, higher ERV/RVG prospects, more alternate use



Source: AXA IM - Real Assets, BulwienGesa, Destatis, IPF, CMS, data as at 12 November 2020

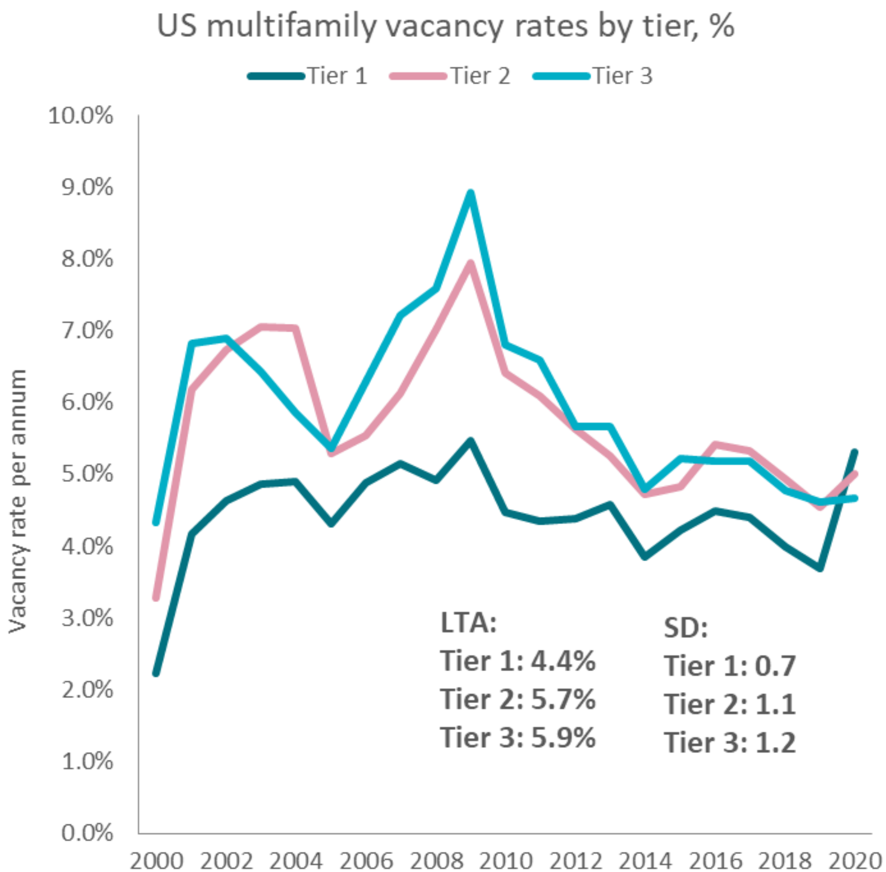


Source: AXA IM - Real Assets, BulwienGesa, Destatis, IPF, CMS, data as at 12 November 2020

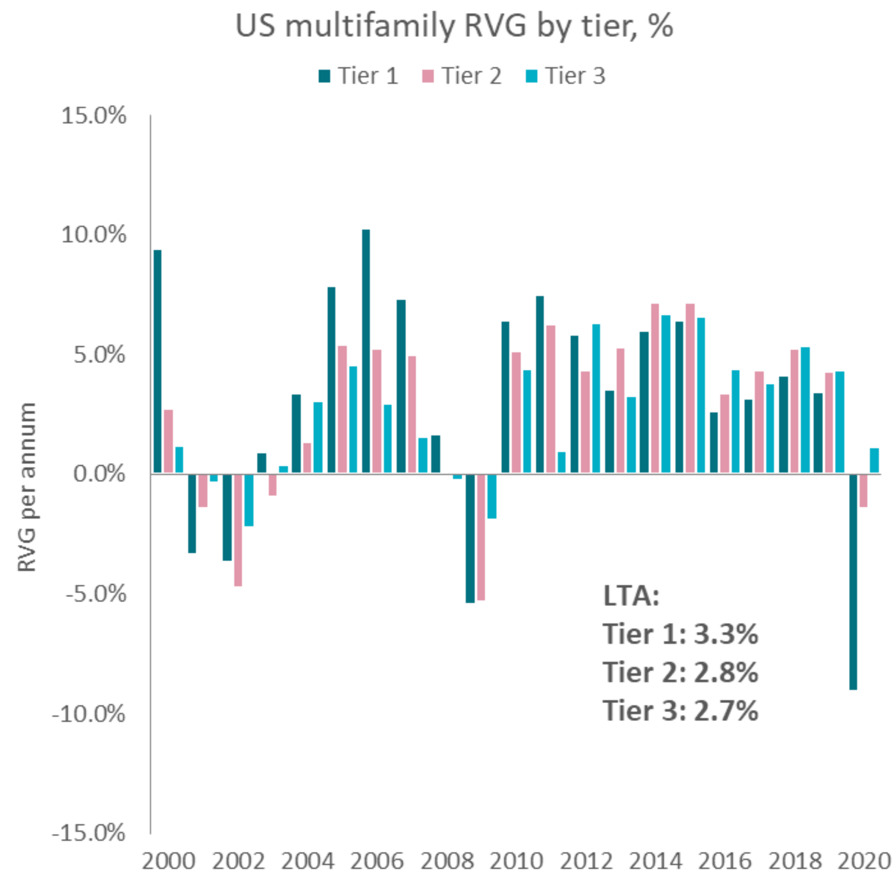
Using cost of construction per sq m assumptions from German development examples in Munich (held constant over time) as a proportion of capital values sq m, including hard and soft build costs and an assumed profit to the developer of 15% the residual land value is backed out. In the case of prime developments the cost of development is derived by multiplying the average cost of construction per sq m by the sum of the following: ratio between average and prime capital values (1.2) plus an additional 10% ~ 1.35. Planning costs and notary/conveyancing charges vary by city/country.

Tier 1 city fundamentals outperform over the longer term

Average vacancy rates are lower and less volatile while LTA rental growth also outperforms



Source: Axiometrics, AXA IM - Real Assets, data as at Q4 2020



Source: Axiometrics, AXA IM - Real Assets, data as at Q4 2020

Tier 1 cities: New York, San Fran, Los Angeles, Boston, Seattle, Washington DC
Tier 2 cities: Dallas, Denver, Phoenix, Houston, Chicago, San Diego, Miami, Austin, San Jose, Portland, Philadelphia, Atlanta
Tier 3 cities: Nashville, Orlando, Tampa, Columbus, Charlotte, San Antonia, Baltimore, Minneapolis, Detroit, Las Vegas, Fort Lauderdale, Palm Beach, Raleigh, Sacramento

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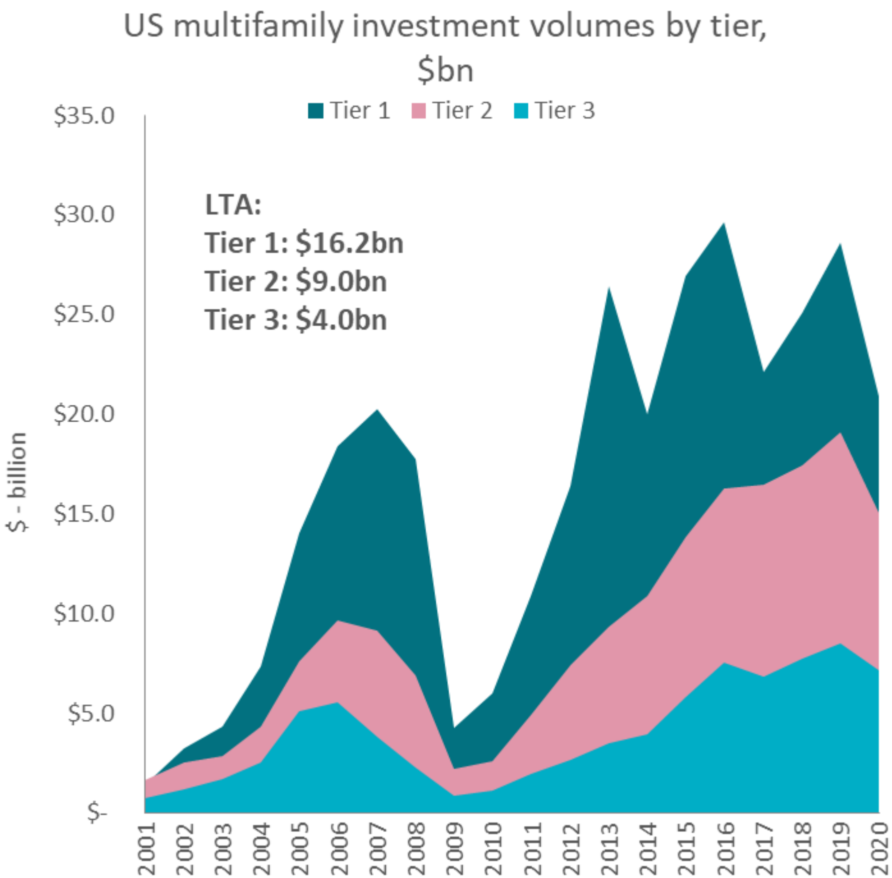
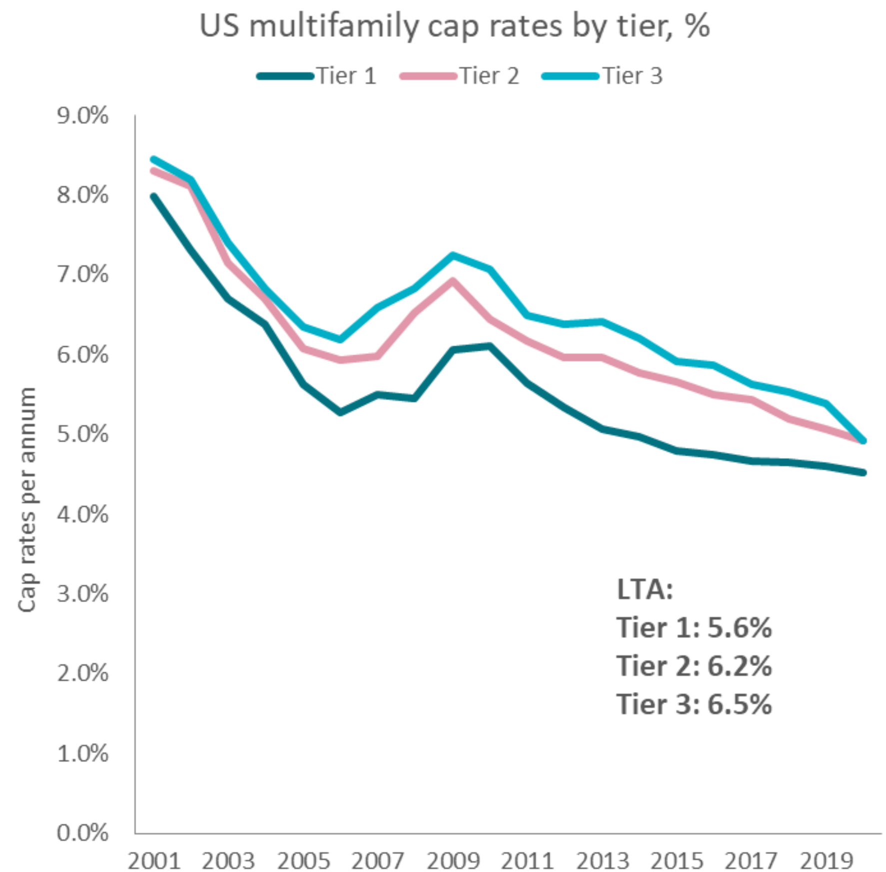
Tier 1 cities also benefit from consistently lower yield levels

Cyclical timing and underlying prospects for fundamentals tend to drive relative value trade across tiers



Source: Axiometrics, AXA IM - Real Assets, data as at Q4 2020



Source: Axiometrics, AXA IM - Real Assets, data as at Q4 2020

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Summary and investment strategy considerations

Higher residual land values imply outperformance over long term

Underlying depth & strength of employment base supports suburban gateway investment vs Tier 3 cities

Regs & TA

Markets with light touch regulation and short TAs are increasingly rare and therefore pose some risk of regulatory creep. Regulation (in moderation) typically provides greater income resiliency and more defensive rental growth profile

ERV

Capturing ERV challenging; trade-off between market diversification and regulatory roll out. Moratoriums on evictions supporting tenants and as this supports lifts some modest impact on NOI expected, mass market expected to remain resilient

Residual land value

Gateway centres despite high land prices provide land value growth and reduce the impact of depreciation on net income: edge of centre locations have recently produced rental value growth inline or above centres but with lower land costs implying a greater proportion of the depreciation burden is borne by net income/invested capital

Urbanisation

Still too early to tell impact from Covid but urban preference expected to reman dominant once vaccine facilitates return to office and travel; suburbanisation will likely continue to grow but job creation and cultural amenities continue to reside in urban cores

Strategy

Spreads of 25-50bps for suburban locations in Gateway cities. Targeting Gateway standing investments or infill sites for development as core strategy. Prime suburban development on sites close to proven transport connections provides tactical satellite approach

Source: AXA IM – Real Assets, as at 5th January 2021

Investment Managers

Appendix

Housing has been at the forefront of Covid-19 responses either directly or indirectly

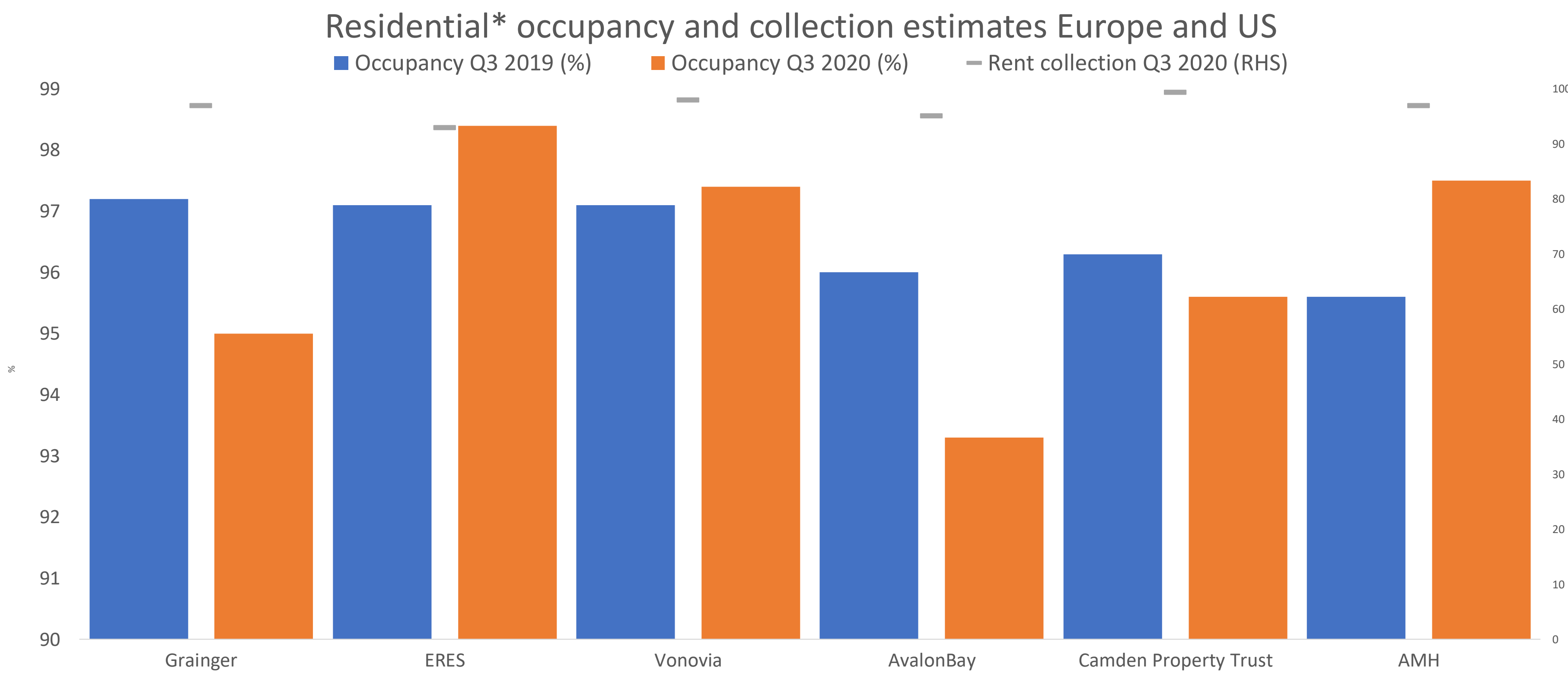
Evictions moratoriums being extended and landlords should be contingency planning for when support ends

	UK	Italy	France	Germany	Ireland	Netherlands	Spain	Sweden	Denmark
Size of population	65,000,000	60,500,000	65,300,000	83,800,000	4,900,000	17,300,000	46,800,000	10,100,000	5,800,000
Homeownership %	65	72.4	65.1	51.5	70.3	68.9	76.3	64	60.5
Rented total %	35	27.6	34.9	48.5	29.7	31.1	23.7	36	34.9
Mortgage holiday	Yes	No	Yes	Yes	No	Yes	Moratorium	No	No
Mortgage payment support	No	Yes	-	No	Yes	No	Yes	No	Yes
Ban on evictions	Yes, until after 11th Jan 2021, gov likely to review again	Yes, end Sept 2020	Yes, extension of winter truce, end March 2021	Yes, demonstrably due to COVID	Yes, 3-months, to 1 Dec 2020 and under review again	Yes	Yes, until April 2021	N/A	N/A
Tenancy agreement extension	No	No	No	No	No	Yes, if during crisis, extended end 2020	Yes, if during crisis, extended end 2020	N/A	N/A
Rents frozen	No	No	No	No	If financially impacted rent frozen until 10 Jan 2021	Yes in social sector	Yes, during period of alert and 4 months thereafter	No	No
Rental rate reductions	No	No	No	No	No	Yes, social sector, deferral of payment or temp rental discount, if private may apply for social	Yes, landlords with 10+ properties 50% reduction for four months from end of State of Emergency	No	No
Rental payment plan	No	No	Social only	Yes, 30 June 2022; possibly at 4% interest	No	Yes, social sector	Yes, 10yr payment plan	No	No
Prospective rental income impact?	Low-medium	Medium-high	Low-medium	Low	Medium	Low-medium	Medium-high	Low	Low

Source: Government agencies, national government websites, Bruegel, Allen & Overy, Ashurst, data as 7 January 2021

To date residential occupancy and rent collection has held up well

Risks remain as government support ends and unemployment rises but impact is expected to be minimal



*Source: AXA IM - Real Assets, various company reports, Green Street, data as at 30 November 2020, *only reflective of listed residential portfolio, nb: reporting means that metrics not all measured across l-f-l periods, Vonovia collection estimated as at*

Next four quarters will likely see occupancy and collection decline as unemployment bites

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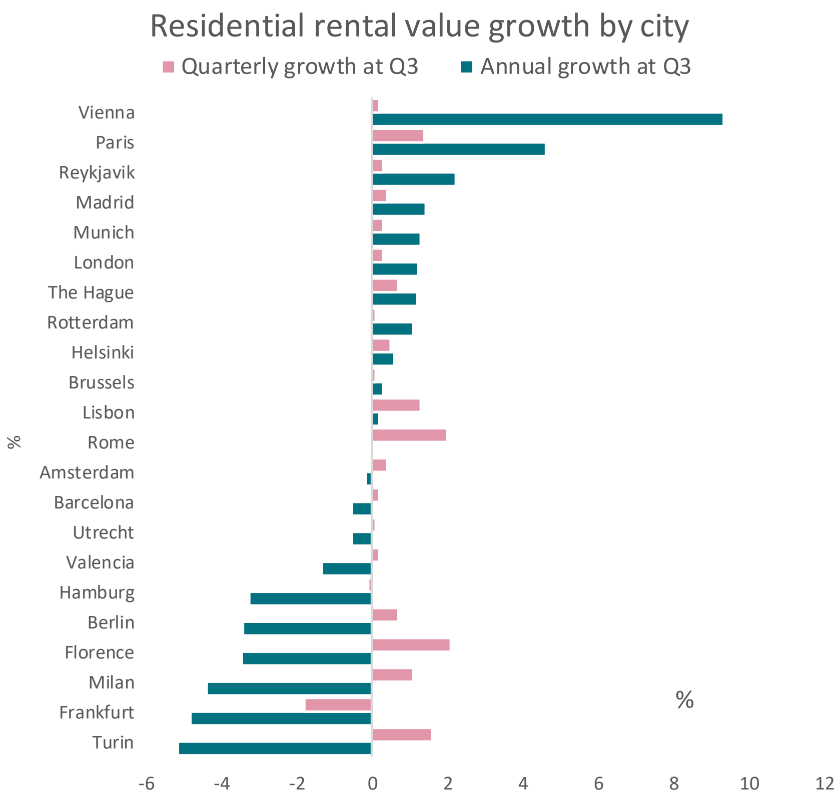
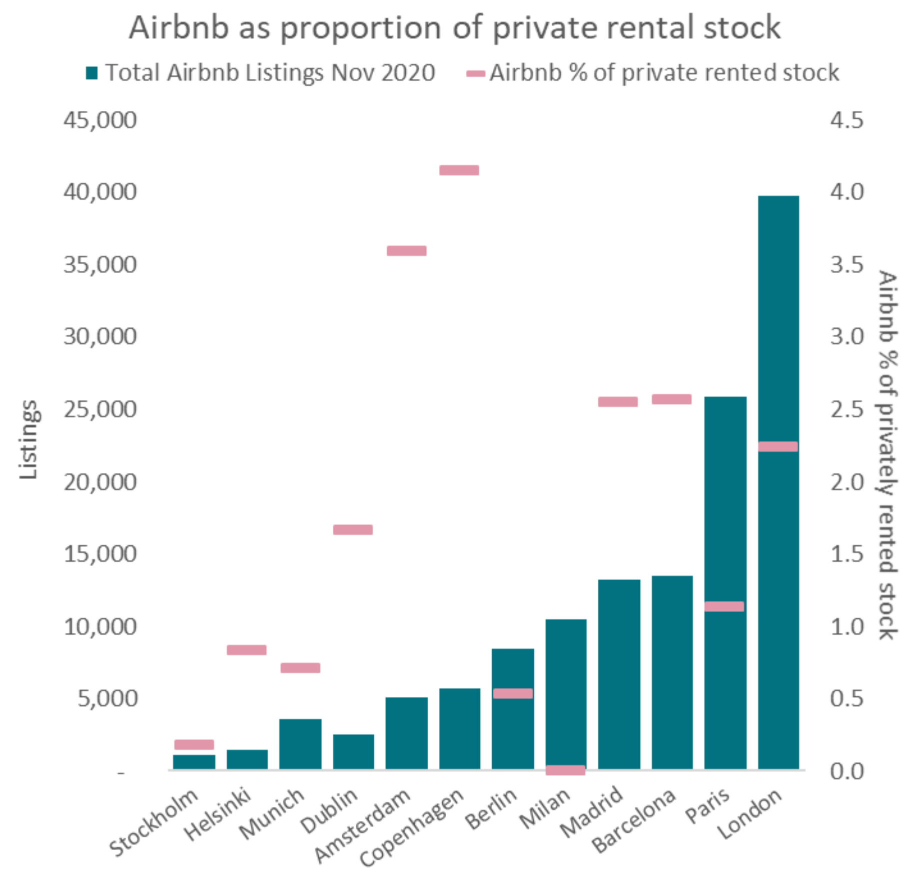
Lockdown has not hampered rental growth so far

Airbnb saw stock contract by on average 30% following the second lockdown but has not yet hit rents



Source: AXA IM - Real Assets, Housinganywhere, data as at Q3 2020



Source: AXA IM - Real Assets, AIRDNA, various national government housing data as at November 2020

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Metropolisation expected to continue but some trade-off is likely

Evolving demand to drive suburbanisation and working from home that will challenge urban centres

Density

Urban areas are bearing the brunt of COVID-19 with the urban poor, young and vulnerable hit hardest, which may result in policy makers re-thinking how cities are set-up to handle future growth and health crises - may accelerate trend of suburbanisation but also reinvigorate city centres

Mobility

Housing markets are unlikely to return to full strength until inhabitants feel safe moving about and some sense of 'normal' has returned, moreover international travel – a facilitator of urbanisation as well as housing churn - will need to recover to boost mobility within cities

Intensity

Densification and high connectivity drive growth but social distancing has put a question mark on the intensity placed on cities – suburbs are likely to be sucked into growing metropolises - as infrastructure expands cities will expand further outward

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Multi family: more resilient due to essential nature of housing

Rental growth expected to pause short term and only some temporary income hit in worst affected cities

Leasing

Home is the new office as lockdown forces people to work from home. Near term churn and voids likely to remain very low in most markets and many tenants approaching renewal are likely to extend

Granularity of leases

The scale and nature of multi family creates diversification through multiple leases and underlying tenant incomes. This should help mitigate the risks of lease defaults should a spike in unemployment not be met with fiscal support

Low void

In most major cities residential void rates were very low pre-outbreak. As such while unemployment may rise it is not expected to feed through into high tenant default rates

Resilient income

While rents may be frozen or cut temporarily to support tenants in the worst affected cities, reducing NOI growth, income will remain in place for the majority of assets

Source: AXA IM – Real Assets, Green Street various company reports, 1 February 2021

Anecdotes and data

The private rental market generally has seen higher levels of churn and pressure on rents and we have outperformed due to the quality of our assets, our mid-market position and importantly the quality of our people and operating platform,"

Grainger, CEO Helen Gordon, 18th November 2020

AvalonBay witnessed a decline in average physical occupancy of its urban communities to 90.5% from 93.6% in Q2 vs a marginal shrink in suburban occupancy to 94.4% (0.6% decline)

AvalonBay, 14th September 2020

58% decline in income in the third quarter, with urban flight severely impacting its apartment portfolio. "This occupancy pressure in turn caused further rent declines and increased concessions,"

Equity Residential, 28th October 2020

Important Notice: The information has been established on the basis of data, projections, forecasts, anticipations and hypotheses which are subjective. This analysis and conclusions are the expression of an opinion, based on available data at a specific date. Due to the subjective aspect of these analyses, the effective evolution of the economic variables and values of the financial markets could be significantly different from the projections, forecast, anticipations and hypotheses which are communicated in this Material. For illustrative purposes only.

Diagrams for illustrative purposes only

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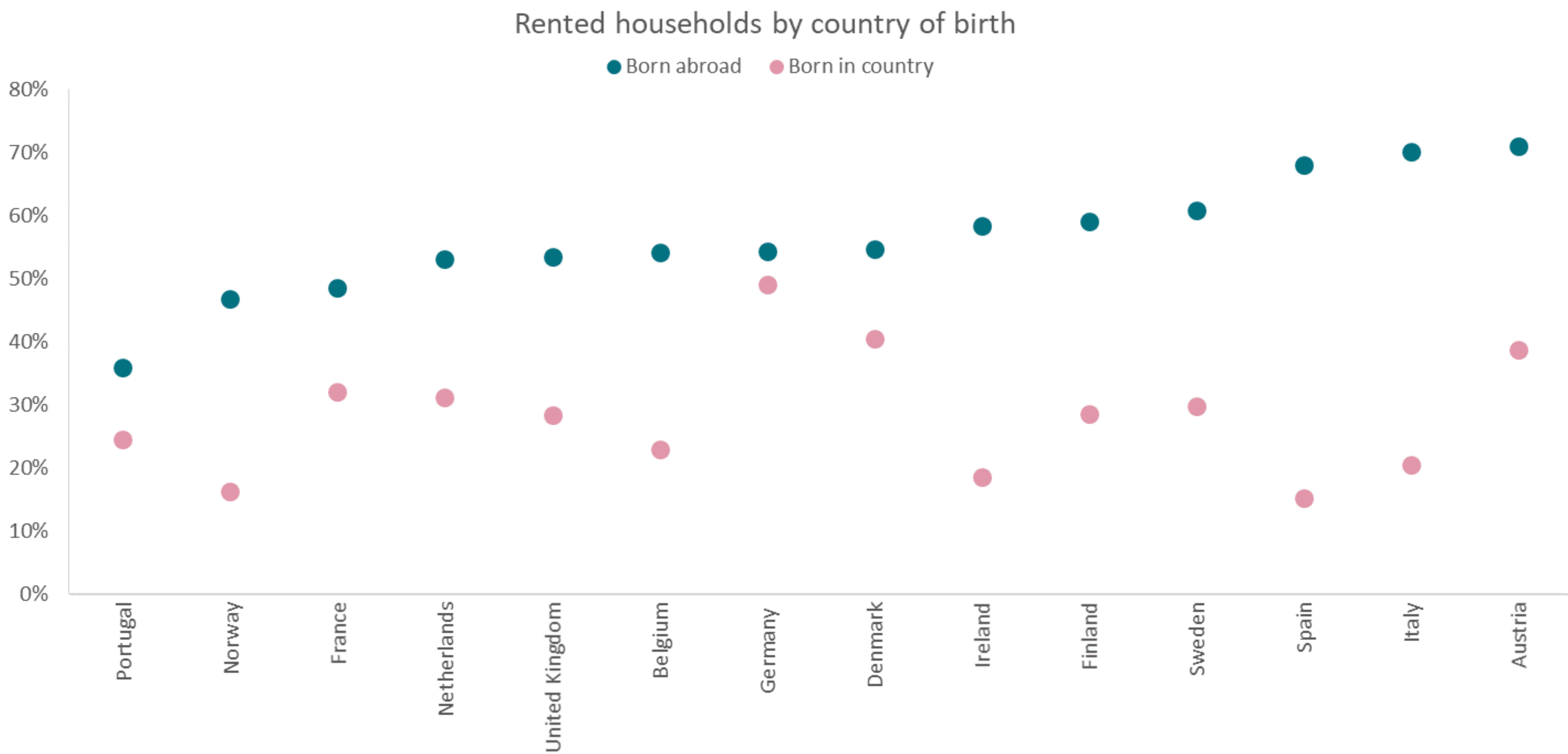
AXA Investment Managers

Demand-side

Mobility is important especially as the younger cohorts (Gen Z) are footloose

Internationals tend to rent when they first arrive in a country and job mobility drives both prices and rents



Source: Eurostat, AXA IM - Real Assets, data as at 27th October 2020, nb: data to 2019 otherwise 2018 for 18yrs + population

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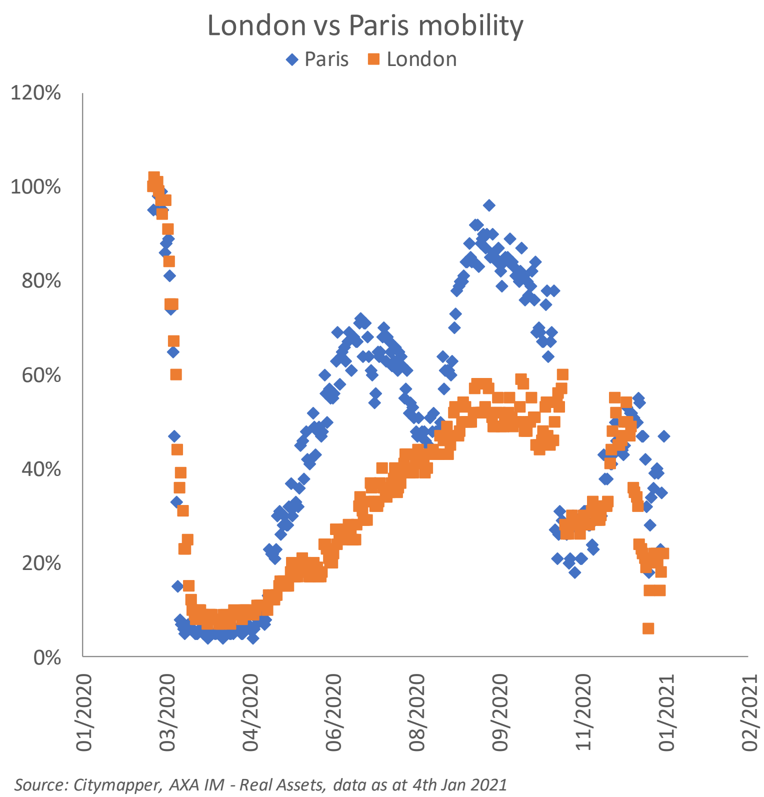
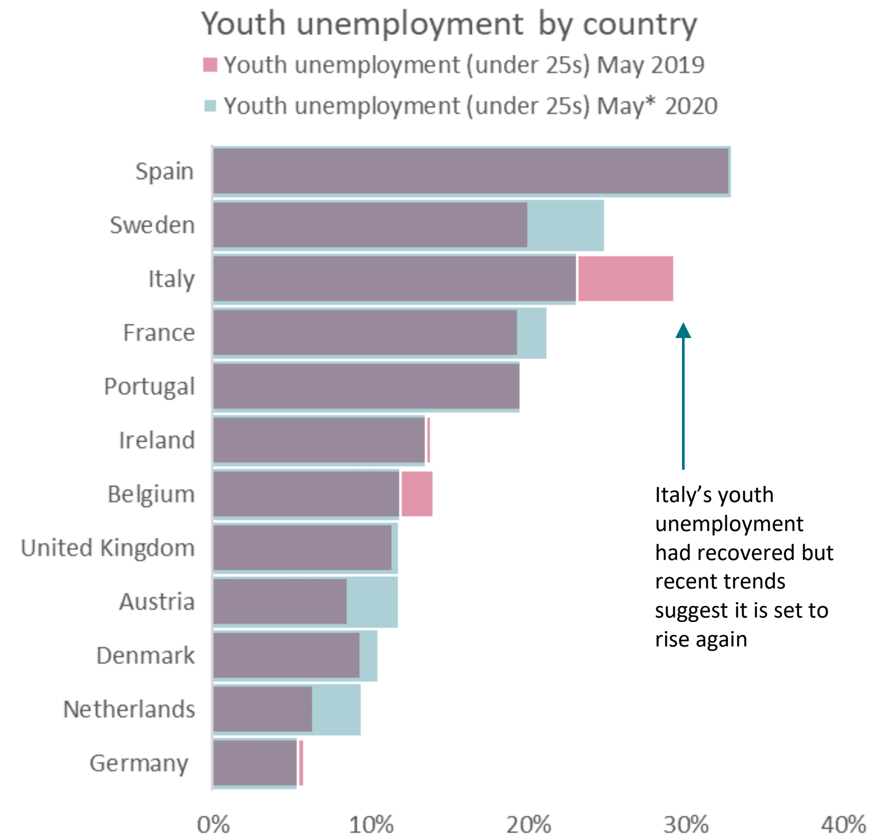
European city based mobility correlated to lockdowns but varies by country

Employees aged 15–24 years are almost twice as likely as those aged 25–54 years to have jobs at risk



Source: Citymapper, AXA IM – Real Assets, data as at June 2020



*Source: Eurostat, AXA IM - Real Assets, data as at July 2020, *most data to end May otherwise most recent month*

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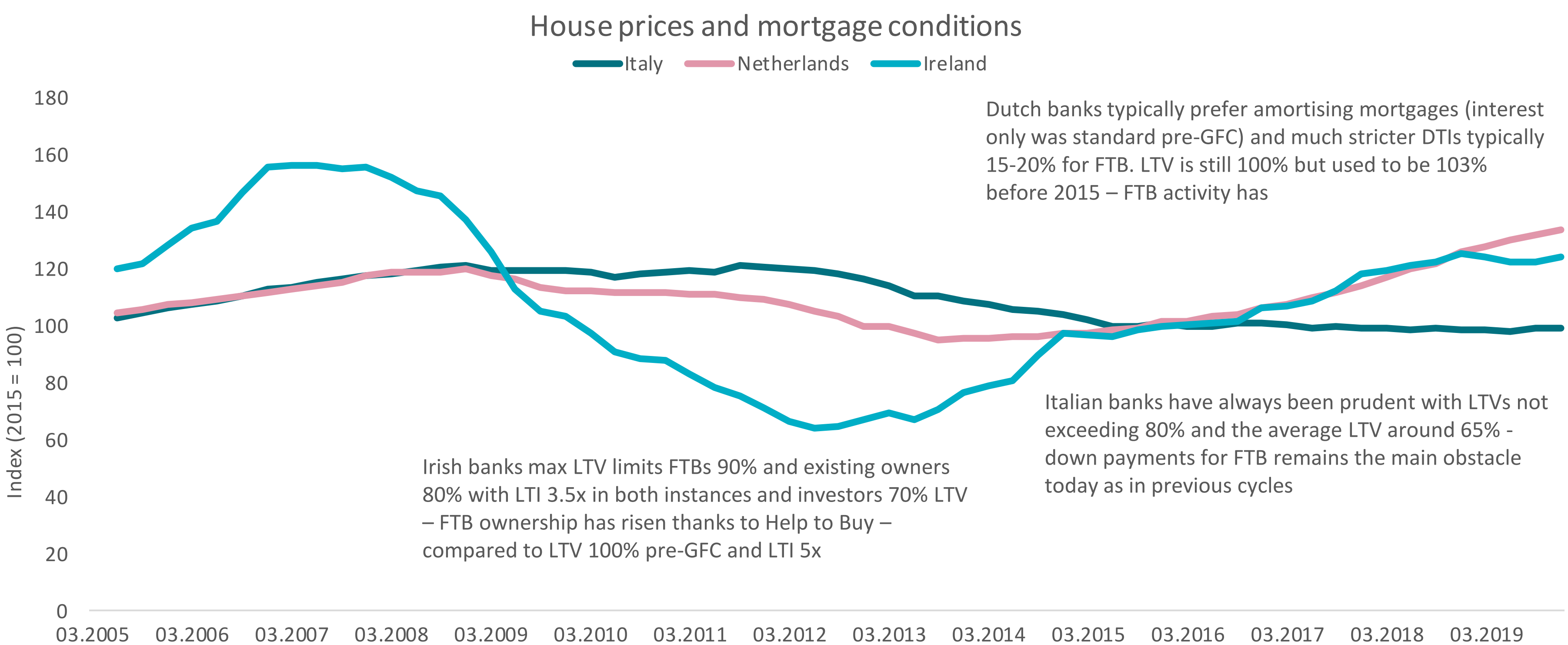
Eurozone house prices slower to recover partly as a result of tougher lending conditions

Loans across Europe and elsewhere have tightened up in terms of LTV, amortization and affordability criteria



Source: BIS, Hypostat 2019, AXA IM - Real Assets, data as at June 2020

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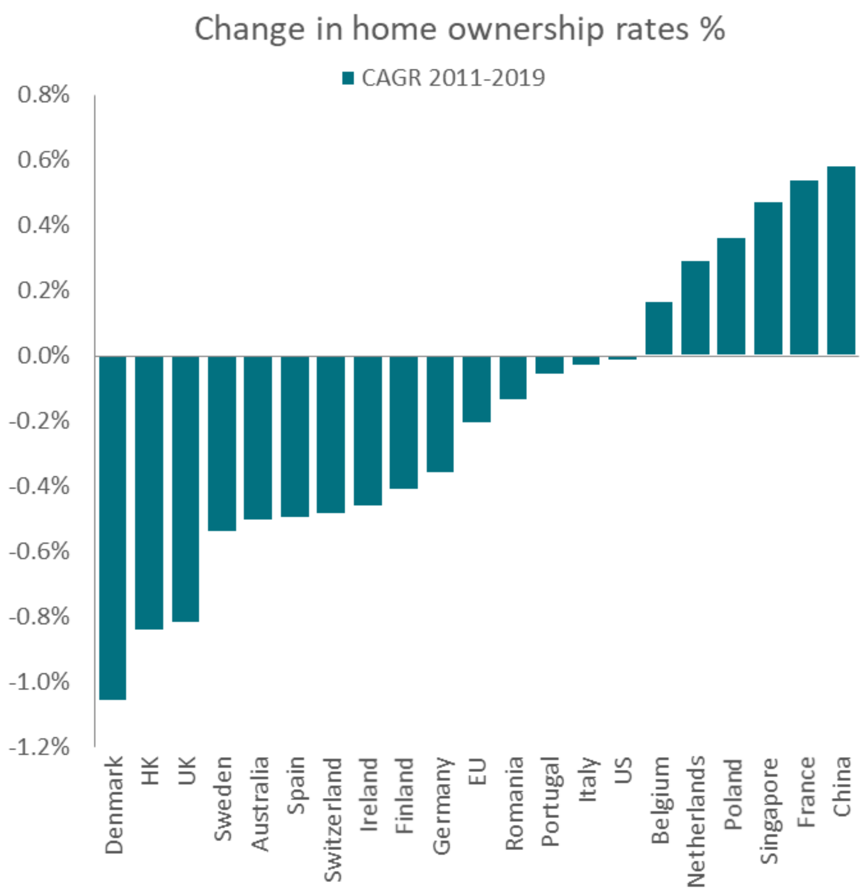
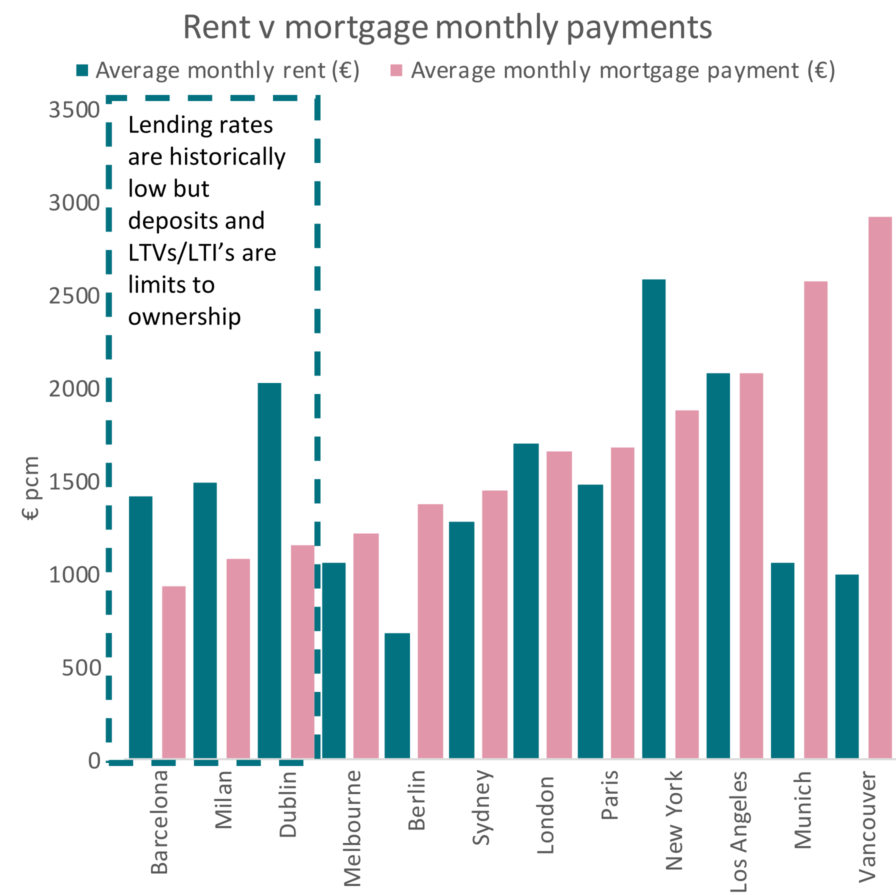
Home ownership affordability in major cities still strained particularly for under-30s

Despite negative rates banks remain cautious and are seeking additional margin pushing up monthly payments



Source: Trading Economics, Statista, AXA IM - Real Assets, data as at 2019



Source: AXA IM - Real Assets, various national agencies, ECB, CBRE average global house prices end 2019, data as at May 2020

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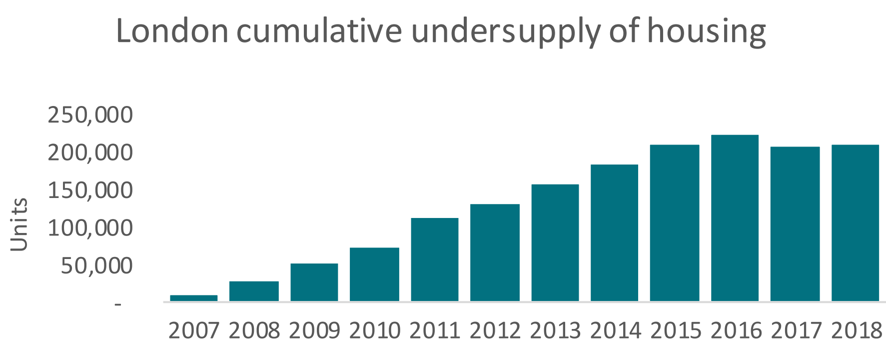
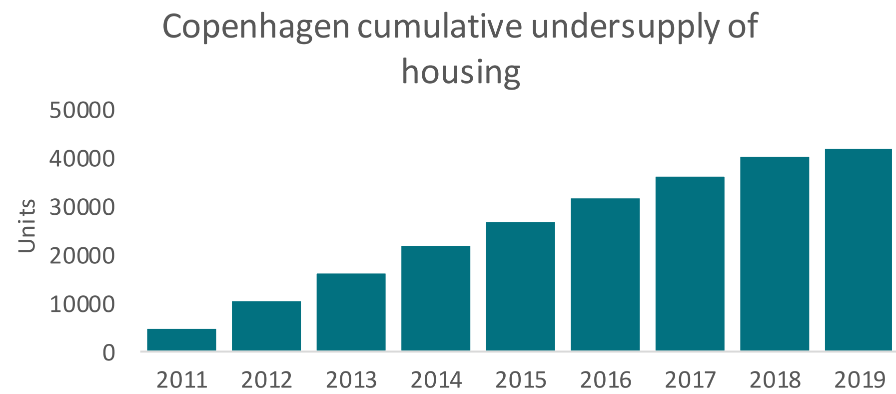
Supply-side

Many cities have experienced a shortfall in housing supply since the GFC

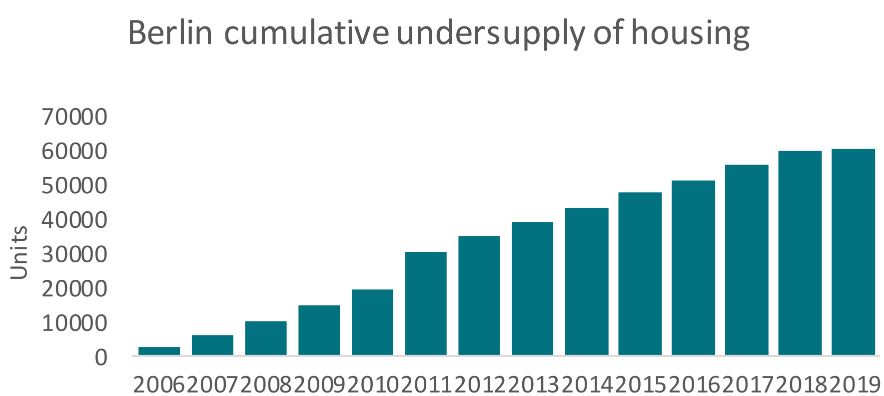
Gentrification bite is seeing supply response come through unevenly across cities



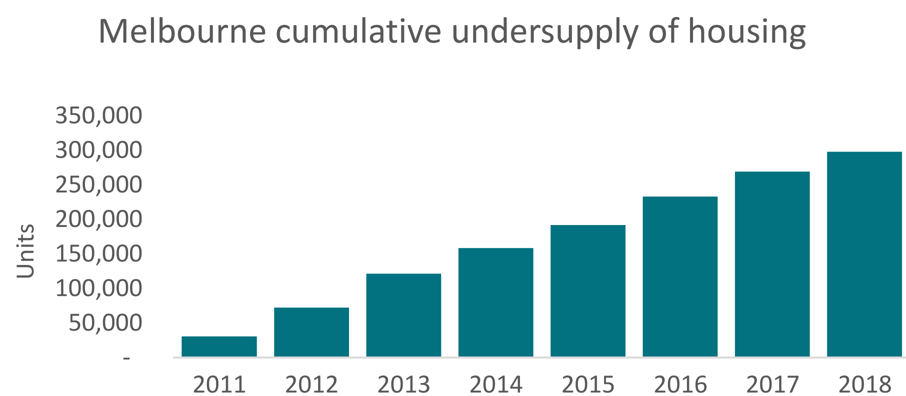
Source: NOMIS, ONS, DCLG, AXA IM - Real Assets, data as at February 2020, formula = (actual population growth/average number of persons per household) - net new supply of residential units, (cumulative)



Source: AXA IM - Real Assets, DST, Macro Trends, Eurostat, data as at 21 May 2020



Source: AXA IM - Real Asset, Buwog, Macrotrends, Eurostat, data as at May 2020



Source: ABS, AIFS, AXA IM - Real Assets, data as at February 2020

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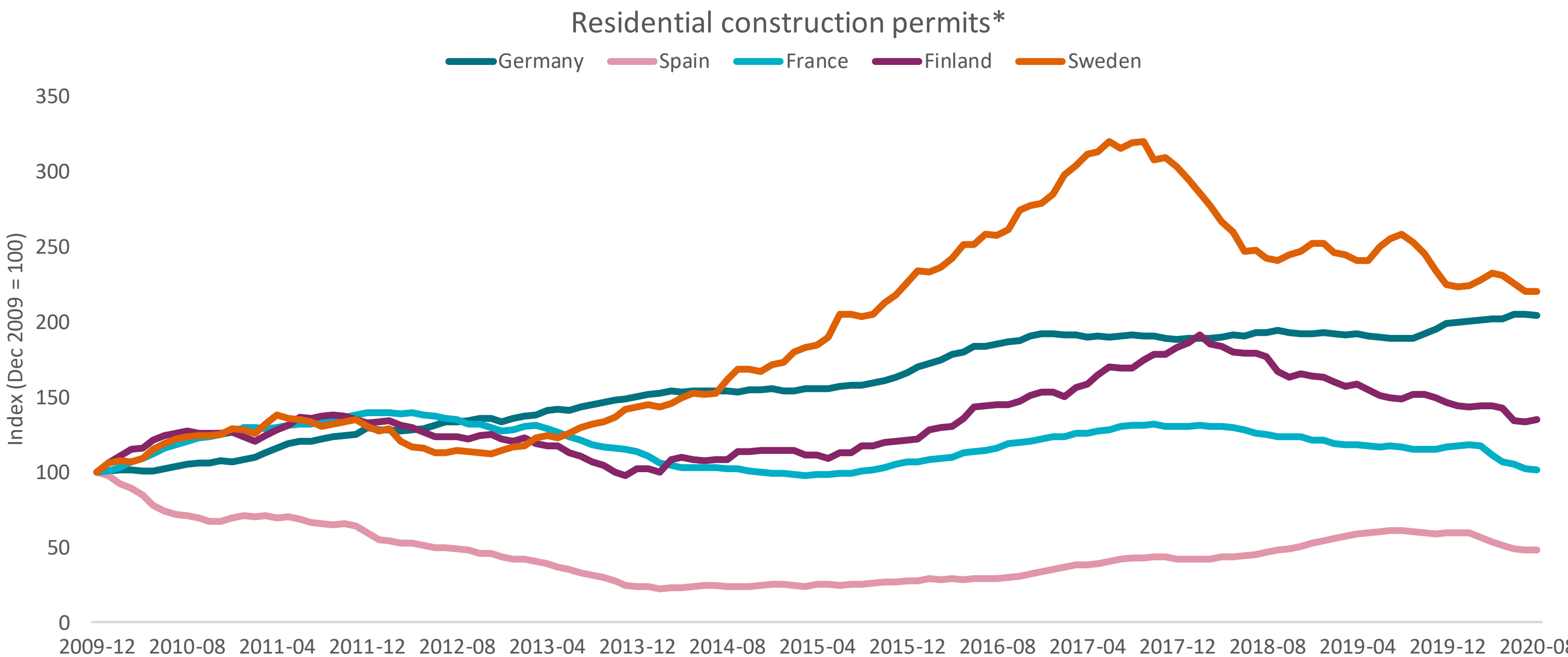
Permit issuance has slowed following a brief pick-up in many markets

Lockdown has affected capacity and increasing environmental standards are impacting cost



*Source: AXA IM - Real Assets, Eurostat, data as at 22 October 2020, *index 12-month rolling average*

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Nevertheless opportunities exist to develop even in the most mature for-rent countries

Sweden, Germany and the UK have some of the oldest housing stock while Japan has a loose zoning system

Proportion of residential stock by age of construction - ranked lowest to highest Post 2000

	Pre-1946	1946-1980	1980-2000	Post 2000
Sweden	24.3	47.7	12.3	4.6
Germany	24.3	46.5	23.1	6.1
United Kingdom	37.8	39.7	15.6	6.9
Denmark	34.1	44.6	14.1	7.2
Italy	20.7	51.4	19.8	7.9
Belgium	37.1	38.2	16.5	8.2
Netherlands	18.9	41.9	26.4	9.5
France	28.7	37	23.9	10.4
Finland	9.6	48.7	29.7	10.7
US	31.7	33.4	21.5	10.7
Austria	25.5	40.1	22.7	11.7
Luxembourg	21.8	31.5	21.6	14
Portugal	10.7	37.1	36	16.3
Canada	2.6	33.6	47.1	16.7
Spain	11.1	43	24.7	18.5
Ireland	13.3	22.9	20.7	22
Japan				

Countries with c.10% or less of their total housing stock built since 2000: note 6/10 of the top ten have had or have government regulation in their for-rent market

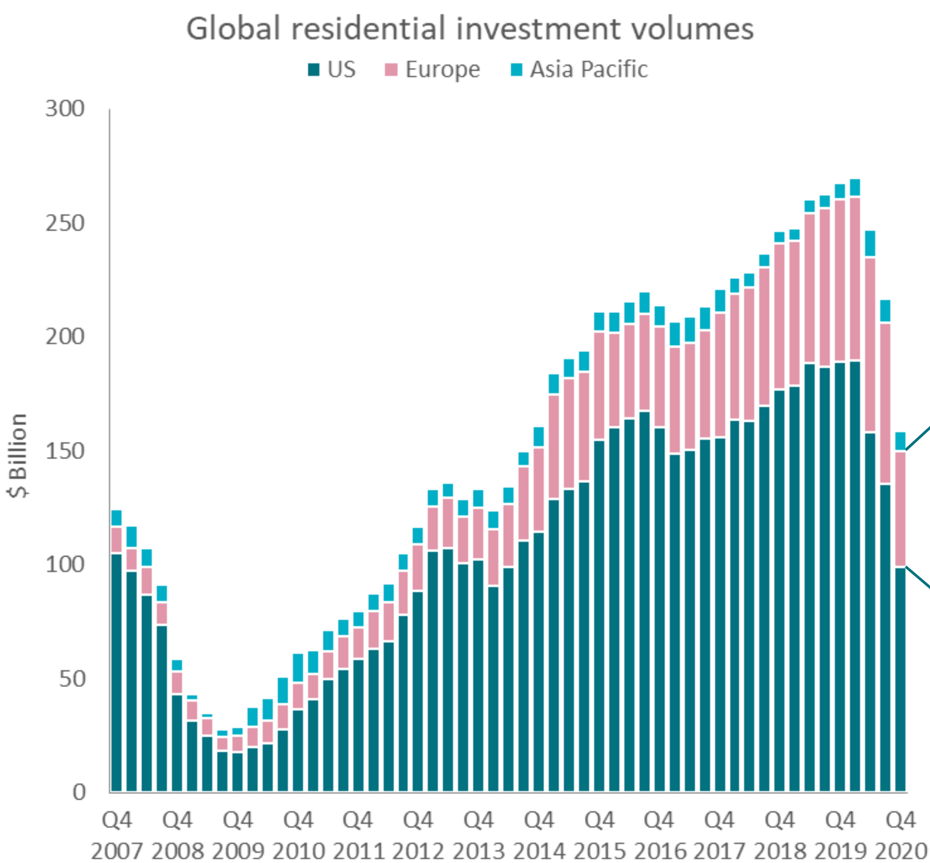
Japan constantly re-rebuilds its housing stock

Note: not all stock sums to 100 due to incomplete records

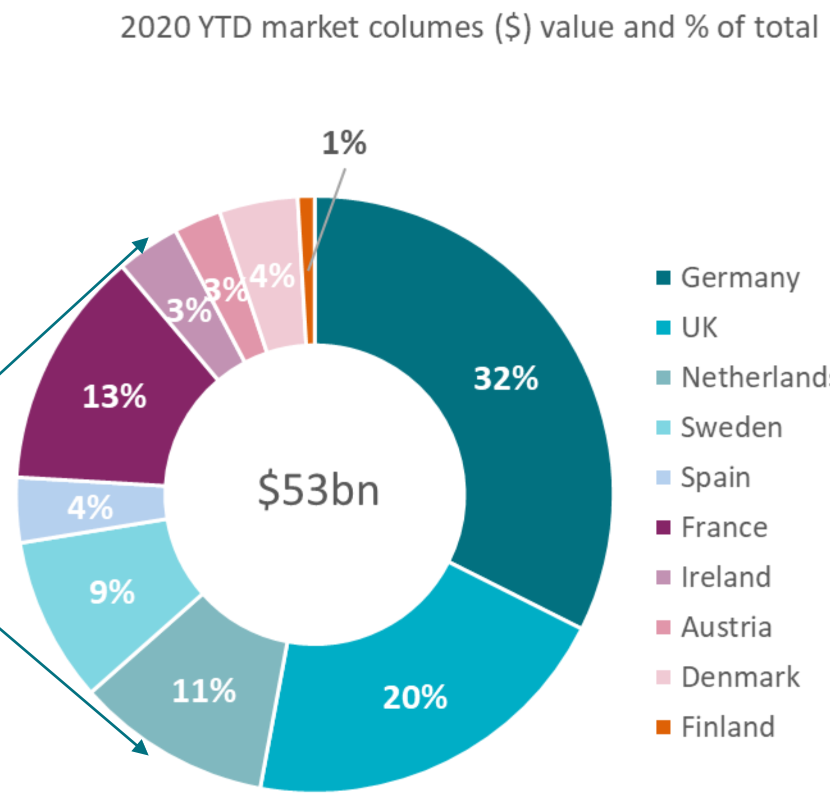
Source: BRE, US Census, Canadian Housing Observatory, data as at various census between 2015 and 2017

The lack of institutional purpose-built stock is an opportunity to develop

Europe offers many maturing markets that can potentially support significant investment



Source: RCA, AXA IM - Real Assets, data as at 27th November 2020



Source: RCA, AXA IM – Real Assets, data as at 27th November 2020

Charts are for illustrative purposes only
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