26 February 2020

Dear All,

We hope you are having a productive spring and are pleased to bring you our latest research letter, which covers quite a bit of ground. This has been an exceedingly busy period for us both from an investment and a fundraising perspective, and we hope the following pages give you a sense of why this is so.

In the following pages we provide some thought-provoking historical context to current discussions of office rental levels, we talk about one of our ESG initiatives that we are refining and seeking to implement ahead of other market participants, we discuss a broad structural change to multiple real estate markets around the UK and then we turn to a cyclical update where we describe some of the rationale behind our renewed focus on London. After this we'll share a our thoughts around many market participants' belief in a long-term low-rate environment and we finish on the UK capital markets, where we believe are benefitting from a rare investing environment that reminds us of a famous movie from the 90s.

We greatly enjoyed putting this together and welcome further discussion, so please don't hesitate to reach out to us.

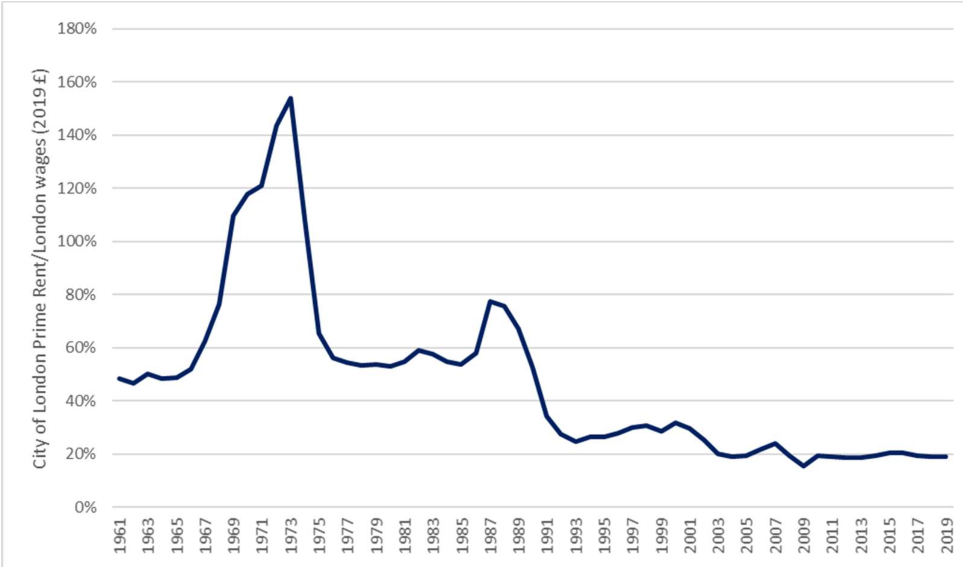
A Heavy Cost to Bear?

As we have discussed in previous letters, over the past 20 years the UK property industry has seen a substantial rise in construction costs, which has lead to a large and sustained increase in the replacement cost of buildings. Since 2000, construction costs have outstripped inflation by nearly two times and in an average year have grown about 60% faster than inflation. We expect this trend to continue in light of the current economic climate and the impact of Brexit: cheaper and younger labour from places in southern and eastern Europe will be less able to make up for a shortfall in the UK construction workforce. Thus, we believe buildings should broadly continue to be more expensive to build. This implies that equilibrium rent levels should rise, as developers will only be incentivised to add new supply at a higher rental level given a higher cost basis.

However, if rents should continue to increase to a higher equilibrium level, this raises the question of how occupiers manage higher levels of rents going forward. In our decades of leasing negotiations with tenants, we've yet to hear that tenant who tells us that our asking rents hardly seem enough! So, we investigated what occupiers currently pay in rent compared to wages to try to understand how occupiers might respond.

In doing so we found an interesting trend: while costs and rents may be likely to continue to increase, when we look at the total occupational cost of one office desk in London (that is, rent and estimated rates and service charge) compared to the cost of a median London employee's salary, rents are currently at their lowest relative level for over 60 years. Oddly, despite rising rents it is now more affordable than ever to house an employee in a London office.

According to our own research (using UK wage data and CBRE rental data), as illustrated in the following graph, at the early 1970s peak, City of London occupational costs per employee as a percentage of the estimated median London wage was about 150%, whereas today it is less than 20%! In effect, wages have grown but rents haven't done so to nearly the same extent over the last fifty years. Further, this analysis does not consider the fact that space per employee has decreased to about 1/3 of the level it was in the early 1970s.



To us, this change makes intuitive sense. With the growth of the knowledge economy since the 1970s and a decline in the space required to house filing cabinets, servers, telecommunications equipment, etc., there has been an increased investment by companies in people over space.

While this has led to a relative decline of spend on space versus spend on salaries, conversely, it also means that companies have increased financial headroom to spend more on their space as necessary, as they no longer require as much space per employee as they have in the past.

Employees have begun to demand – and companies have begun to respond to – more from their workspace: proximity to good transport links, proximity to other people in the same industry, increased comfort within their office space, better in-office communal amenities, better food and beverage provision, and proximity to good local amenities. Because in many industries talent has become key to maintaining competitiveness, businesses now place increased emphasis on attracting, retaining and maximising talent and pay increased attention to their potential and current employees' concerns. We expect that rental levels of high-quality buildings near substantial transport hubs in areas with good amenities are likely to claim a greater premium as London neighbourhoods have been linked together efficiently through public transport. And, as we believe that occupiers have the scope to pay more in rent per employee compared to historic levels, we believe many will choose to do so in order to attract and maintain the best talent.

Reducing the Carbon Footprint of New Developments

With recent political movements drawing greater attention to the potential impacts of human activity on climate change and governments coming together to discuss ways to reduce and mitigate these impacts, it is no surprise that ESG issues are at the forefront of the minds of stakeholders in the property industry. Therefore, we believe it is in our and our investors' best interests to be forward thinking regarding ESG issues.

This view is certainly not unique. On the funds side, 91% of fund managers who took part in the Global ESG Real Estate Investment Survey reported that they use sustainability disclosure frameworks (such as UN PRI or GRESB) to track various ESG indicators. On the government side, the UK government has recognised the broader issue, and, in June 2019, passed a law requiring net zero carbon emissions by 2050. Though limited steps have been taken to achieve this target to date, these are ambitious goals: in the UK the built environment is currently responsible for 40% of the total carbon footprint, and the UK Green Building Council notes that offices should reduce their energy consumption by 60% by 2050 to help the UK achieve net zero.

Operating in an environmentally responsible way is valuable, not just to be ahead of incoming legislation but also to attract tenants. As awareness of the issue has increased, we have seen tenant desires evolve, with occupiers actively seeking efficient, health-focused and green-certified buildings for which they have shown willingness to pay more. As such, savvy developers and investors now see value in the ability to attract and retain environment-focused tenants and in aligning their organisational goals to existing and prospective government policy to stay ahead of potential legislation that may significantly impact their businesses.

However, while many asset managers have been focused on switching to green energy providers, reducing heating needs and implementing photovoltaic energy generation, these changes only address carbon emissions from operations. They do not consider the embodied carbon emissions in the full development and future life of the building. As such, we are now engaged in a project with an architect and an engineering practice, both of which are at the forefront of carbon reduction in the built environment, to investigate developing completely zero-carbon buildings while minimising the need for carbon offsets (which are investments in projects that are designed to reduce greenhouse gas emissions elsewhere in the world).

Through this process we have learned some very interesting facts. The primary challenge to hitting a zero-carbon building is that all building materials represent a certain level of embodied carbon emissions that went into the extraction, transportation and creation of that material. Around 45% of the carbon embodied in a building's construction sits within its sub and superstructure. By doing things like minimising spans and loading, using hollow structures, and maximising timber use, it is possible potentially to design a structure that represents a 60-75% reduction in embodied carbon emissions. With the help of our team, we are doing this exercise across the building process, hitting all the major embodied carbon elements: structure, external façade and internal partitions. We also, of course, look to minimise operational carbon use.

We believe that being at the forefront of environmental policy now will enable us to be ahead of the curve when regulations inevitably catch up with the agenda set out by the UK government and with the desire of diverse stakeholders to minimise the impact of the built environment on climate change. We look forward to continuing to anticipate and address these issues and opportunities.

Ivory Towers and Crumbling Ramparts

Here in the UK, the university system is regulated by the central government, and recent pieces of legislation have had and will continue to have large impacts on the relative fates of universities and the towns they occupy. This is important to us as national real estate investors because the cities around these universities are impacted by the growth of the resident universities, the expansion of the universities' linkages with local businesses and the retention of graduating students who continue working in these cities post university. Perhaps more importantly, we do not think the vast majority of the UK investment market fully appreciates the potential impact of this legislation.

Two key policy changes have led to a divergence in the relative health of English universities. From 1998, before which time university fees were free, until 2012, English university fees remained relatively low, maxing out at £3,000 per year, while universities took a large proportion of their income from government grants.

This changed substantially with the first key piece of legislation in 2012: English universities were permitted to triple their fees and charge up to £9,000 a year (while government funding concurrently reduced proportionately). Most universities subsequently increased their fees to the maximum level they could. However, the Government continued to restrict universities to offering a fixed number of allocated places, meaning all universities were restricted in expanding their offering. So, while students were paying a higher rate at virtually any university they attended and were even keener to attend the best universities in the most attractive cities, the "invisible hand" of the market could do nothing to increase enrolment at the best universities.

This all changed in 2015, when caps on the number of undergraduates that English universities could recruit were removed. With the price ceiling remaining in place but the quantity of places offered allowed to be determined by the universities themselves, this has since led to a strong drive by some top universities to increase capacity to satisfy demand. The better universities have seen their level of applications and acceptances (and thus revenue) rise, while the poorer universities have seen the same fall, as students are, on the margin, more able to get places at those better universities.

Looking at the dynamic in a bit more depth, these changes have also meaningfully impacted the fortunes of English cities in a number of ways. In general, the Russell Group universities (a group of 24 of the top UK universities) have been expanding in terms of student numbers, and the cities housing those universities have seen increases in young working-age population. When comparing acceptances at Russell Group universities to those at ranked (the top 131) non-Russell Group universities, we see that from 2011-18 the former has increased by 24% while the latter has increased by only 4%.

For example, Bristol has clearly benefited by these changes in legislation, being one of the top five locations in our research. Applications at the University of Bristol (part of the Russell Group and ranked 16th (of 131) in the Complete University Guide) increased by 23% from 2011-18 and acceptances (placements) increased by 66%. Further, Bristol has seen a 16% increase in its 18-24 population over the same period and is ranked as the seventh best location for technology in the UK by CBRE. We understand, anecdotally, that student housing is in short supply due to this student population growth, and we expect that as these students continue to choose to stay in the city this shortage in space could extend to housing, offices and retail in the longer term.

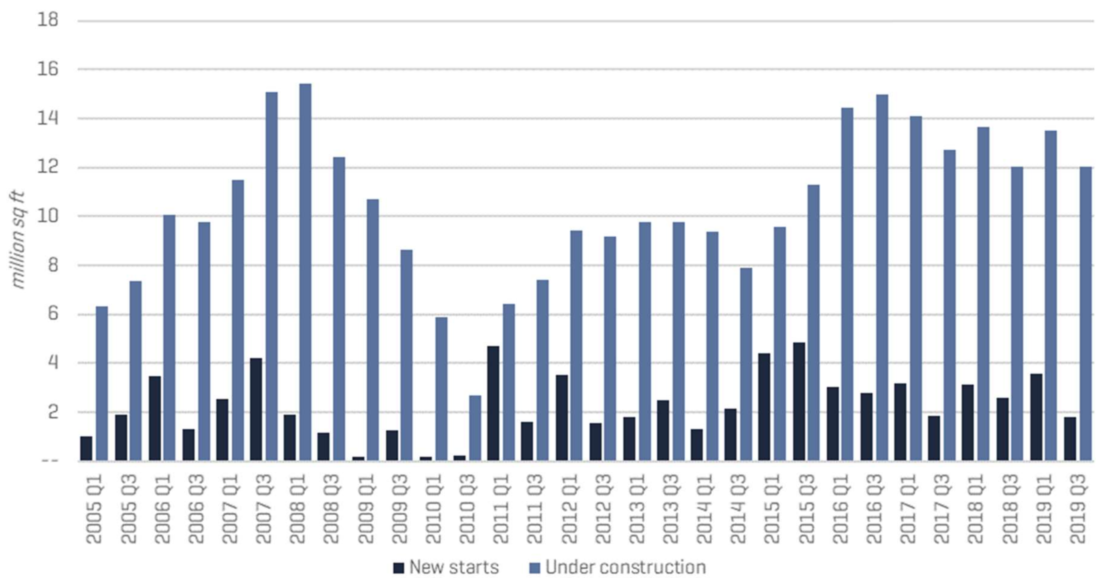
Compare this with Plymouth, where the University of Plymouth (not part of the Russell Group and ranked 78th) has seen applications fall by 23% from 2011-18, and struggles to compete with nearby University of Exeter (part of the Russell Group and ranked 11th) for students. The city, which is not considered a tech hub, has also seen no increase in the 18-24 population, suggesting that students are not remaining in the city after graduation. The opposite trend to Bristol is occurring, as student housing has been overbuilt relative to the fall in enrolment: there are already approximately 1,000 surplus student rooms in a city of 24,000 students. Again, with relatively lower growth in the younger population, in the longer term, housing, office and retail provision is less likely to encounter undersupply in these markets.

In sum, we believe that this change in policy will lead to a greater impact of universities on UK cities and that this will prove relevant across multiple asset classes. The number of students that remain in university cities after graduation is important to us, as these are likely to be individuals who are starting out in their careers and hence require more affordable accommodation, office space and associated amenities.

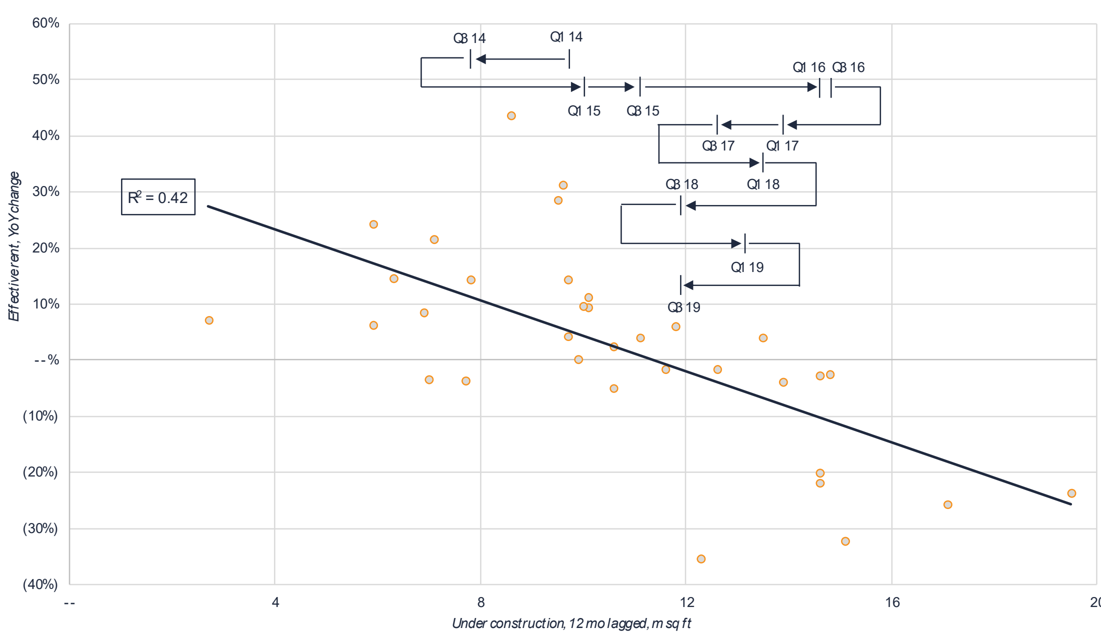
Opportunities in London Offices: A Story in Graphs

Somewhat to our continued frustration, but also to our fortune, London office market participants always seem to want to focus on occupier demand pre- and post-general election. It is likely they will continue to do so in light of investors' fears over post-Brexit trade agreement negotiations and declining office demand from flexible providers as a result of the ongoing WeWork drama. However, as we have discussed in past letters, the more powerful predictor of office rents remains office stock under construction. In fact, demand alone is not a statistically significant factor in predicting near term rental growth while space under construction alone is statistically significant. So, it is with keen interest that we follow the declining level of space under construction (four years' worth, however slowly), which we believe is starting to indicate that the central London office market may become more attractive to investors like us.

As illustrated in the graph below, according to the Deloitte Crane Survey, central London space under construction stands at 11.9 million sq ft, 10% below the level in Q1 2019, and the number of new starts is 1.8 million sq ft, the lowest volume since Q1 2014. The data suggest that new supply additions are on the decline and that we could start seeing more rental growth over the near term.

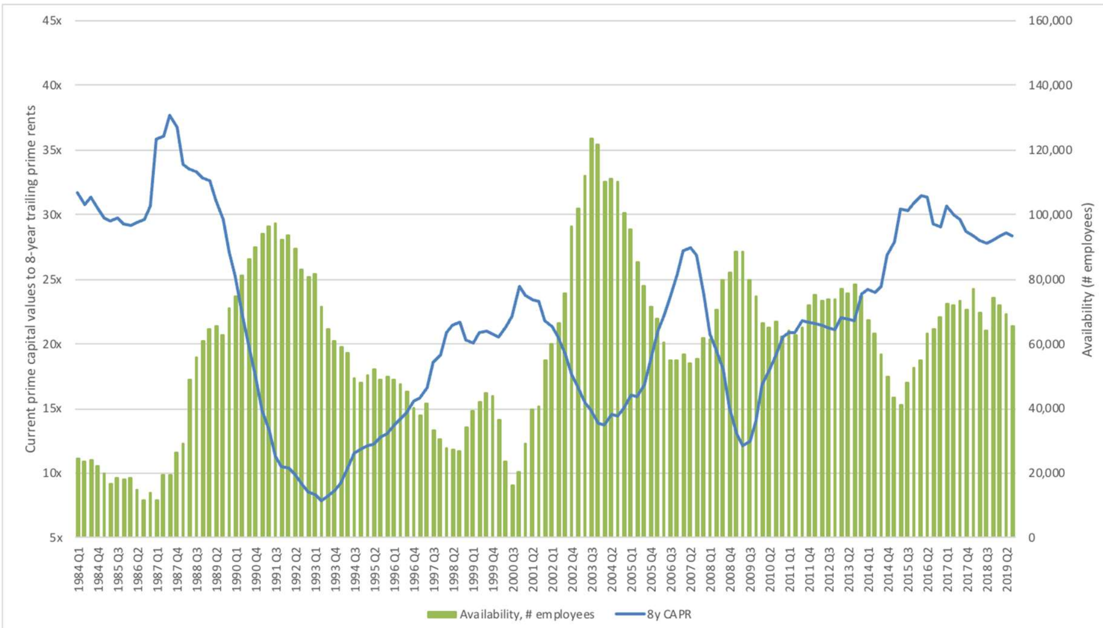


To illustrate the power of this point, we track the statistically significant relationship of the central London space under construction one year in the past with the subsequent year-on-year rental growth in prime net effective rents (that is, prime headline rents discounted by the tenant incentives granted) in the City of London. The below scatterplot shows that, historically, as space under construction in central London decreases, prime net effective rental growth in the City of London increases. The R-squared value indicates that nearly half of the variation seen in the one-year forward growth rates in net effective rents can be explained purely by the amount of space under construction right now. Statistically this is a reasonably high degree of correlation.



Even more interestingly, when space under construction is less than roughly 12 million sq ft, it is likely that rents will increase by some degree. As the “snake” in the top of the graph shows, space under construction now sits just below that level, and we know from the pipeline of space under construction and low levels of new starts that it is likely to remain below this level in the near future.

In addition to looking at the impact of supply additions to rents, where we are now seeing the potential for rental growth, we also look to enter markets with capital value tailwinds. One of the ways we examine this in central London is by analysing the relationship of capital values to rents. More specifically, we examine a ratio of current prime capital values to the average rents of the previous eight years. This gives us a "cyclically-adjusted" price to rents ratio ("CAPR"). The current CAPR level suggests that prices may be at a local minimum, and there could be some room for capital value improvement in the near term. We note, however, that prices are still elevated based on historical levels, which could be tied to historically low interest rates, so we remain cautious around capital value growth.



Further, we compare the CAPR to current availability as measured by the number of employees the available floor space is capable of accommodating. To get to this employee number we adjust the available floor space by an estimate of the then-current average occupational density. There appears to be a historical trend that as and when availability increases the CAPR measure tends to fall, and vice versa, suggesting a close link between capital values and available supply. This is likely tied to the fact that predicted rental growth translates into higher capital values, so lower available supply means an expectation of rental growth and thus higher prices.

In short, we see a developing opportunity.

With lower levels of construction meaning lower available supply, and with prices seemingly coming off the heightened levels we saw in 2014/15, we think the London market finally looks more attractive. Combine this with the fact that many of the open-ended funds are running scared (as we discuss below), the pullback of some international capital investing in London and the trouble many small- and mid-cap private equity funds have had in raising funds, we find ourselves in an exciting situation for the first time in several years.

Lower for Longer, but Lower for … Forever?

Following the financial crisis, central banks turned to low interest rates and unconventional monetary policy to increase lending liquidity in order to encourage inflation and employment growth. Many initially hoped these policies would be temporary, but over time rates have remained low and growth subdued, with inflation below targets in much of the developed world.

Pundits have turned to structural factors to show why "lower for longer" is set to continue into the medium and long term. Some argue that in higher-income countries the longer-term decline in the working-age population has led to a fall in aggregate demand well below the level of potential output, ultimately leading to a fall in equilibrium interest rates that a zero-bound policy rate cannot adequately address, and thus that rates will remain low indefinitely. Other believers in secular stagnation focus on the supply side, arguing that advanced economies are contending with factors such as ageing populations and growing inequality, which results in weaker potential output and lower equilibrium rates for the foreseeable future.

What both camps seem to agree on is that equilibrium rates will remain very low for a very long time. And while we do not doubt the genius of many of the individuals making these arguments, **we believe there could be reasons one might expect inflation in the medium term as the global working-age population declines and as the deflationary impact of increased globalisation reverses**.

Fundamentally, equilibrium interest rates are set by the interaction of desired savings and investment. Demographic pressures tend to have the same directional impact on aggregate desired savings and aggregate desired investment (as the share of working-age population increases it would be expected that the population in the aggregate would look to both save and spend their additional earnings). And, an increase (or decrease) in each of these factors at the same time puts pressure in <u>opposing</u> directions on interest rates. Therefore, the strength of the relative change, not necessarily the direction of change, in these factors is what actually determines equilibrium interest rates.

What we have seen over past decades is that the move from a young-working-age population to a peak-earnings-age population (for example, between 1980 and 2015) has been deflationary, as desired savings has risen faster than desired investment, leading to a decrease in equilibrium interest rates. But as the this population now ages into retirement, one could expect this trend to reverse. In a 2017 Bank of International Settlements research piece (https://www.bis.org/publ/work656.pdf), the authors forecast that as the global workforce declines and peak-earnings-age populations move toward retirement-age populations, desired savings will fall faster than desired investment, leading to an increase in equilibrium interest rates. In fact, on the investment side evidence suggests that, contrary to conventional wisdom, ageing leads to somewhat increased consumption (and thus desired investment): consumption post-retirement remains flat or even rises with age. The reason for this is that in most of the higher-income economies, the government tends to provide a high degree of spending on the aged population. On the desired savings side, the knowledge of this safety net is incorporated into the saving habits of individuals and they tend to draw down from their savings after retirement, safe in the knowledge that they will be looked after by the state. Cumulatively, therefore, this change in demographics could lead to increased desired investment and reduced desired saving, which could ultimately lead to higher equilibrium interest rates.

Turning away from demographics to focus on globalisation, we also see trends that also support higher interest rates. Over the past 75 years the developed world has seen immense changes to the global trade order. Starting with Bretton Woods and the establishment of the IMF and World Bank, followed by the 1971 elimination of the convertibility of the US dollar to gold, the deregulation of the late 1970s and 1980s, the 1989 fall of the Berlin Wall and accession of Eastern Europe into the EU, and the 2001 accession of China to the WTO, up until the Global Financial Crisis, global trade barriers have fallen like dominoes. Compared to 1950, when global trade volumes accounted for about 20% of global GDP, today trade accounts for about 50% of global GDP.

The same BIS report argues that an increase in trade and capital flows has increased the global supply of labour and capital available to developed economies, thus having had a deflationary effect over the past four decades. With an infusion of over one billion employees into advanced-economy workforces by 2015 (effectively through the outsourcing of production) from labour markets that were virtually closed to the West prior to the 1980s and 1990s compared to an advanced-economy-only workforce of about

700 million, globalisation of the labour market represents more than a one-time doubling in the workforce available for global production. At the same time, a glut of capital brought about through higher desired saving from all these global workers helped keep the supply of capital increasingly looking for a place to invest, even as the demand for capital investment in advanced economies suffered arguably due at least in part to an abundant supply of labour.

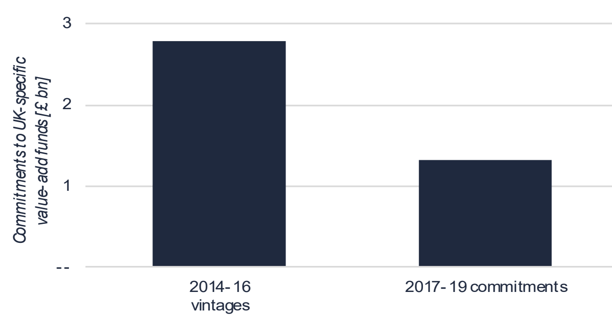
The tide now seems to be turning. Following the Global Financial Crisis and the subsequent rise of protectionism, trade is suffering. With increased disputes over global trade and the introduction of trade barriers between China and the US, the concept of free trade has become a key political focus. Just as the removal of trade barriers has led to deflationary pressures, it is conceivable that the reinstatement of these barriers could lead to inflationary pressures. And even if trade barriers do not increase materially, it would be hard to see where the next wave of two or three billion workers will come from that will replicate the effects that China and Eastern Europe played on the then-established global labour force, thus keeping the rate of global labour supply growth high. According to Michael O'Sullivan, former Chief Investment Officer of International Wealth Management at Credit Suisse, and author of *The Levelling*: "[T]he world is entering a transition phase moving toward a state of being that will be different from what we have enjoyed in the past thirty years."

In summary, contrary to conventional wisdom about interest rates remaining lower for longer, there is an accumulation of evidence that also supports inflationary pressures in the near to medium term. As a result, we have been focused on creating high cash flow yields in our assets while continuing to develop the operational capacity required to manage high-quality, short-duration income that grows if we see these inflationary pressures come into play. While it is too early to make a call one way or the other, we are wary of strategies that look to lock in long term leases at the expense of being able to capture inflationary pressures if they do arise. Our investments give us a reasonable degree of comfort that if inflation were to increase and interest rates rise, we will be well placed to capture the upside.

Shrimping After the Storm

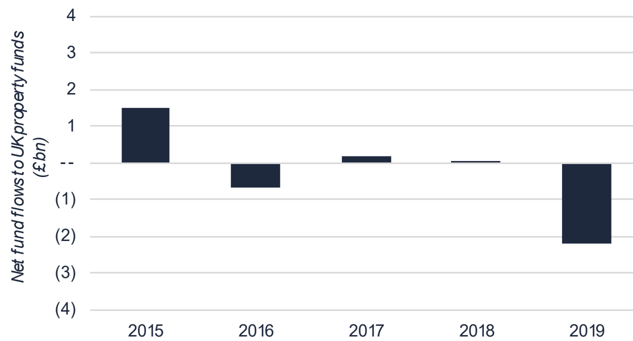
Mike has a penchant for good (and some bad) movies, especially older ones. And 1994's Forrest Gump is increasingly becoming one of those older ones (where does the time go…?). So when Mike, Brandon and Julian were recently running through the stats for UK fundraising and the wider capital markets environment during the uncertain Brexit years of 2017 to 2019, it was no surprise that the first thing Mike thought of was the scene when Forrest and Lt Dan motor back into Bayou La Batre, Alabama on the *Jenny*, amidst a wreckage of shrimping boats destroyed by Hurricane Carmen.

We are proud to have completed successful closes for our latest fund and to be well on our way to hitting our fund target with several new investors in diligence, but it certainly hasn't been easy going. With fund commitments across our competitive set down by over 50% in the last three years compared to the three years prior, it feels like the UK-specific value-add fund industry has been through a storm.



The battering has not been only to our relatively small segment of the UK real estate capital markets. December marked the 15th consecutive month of outflows from UK real estate funds according to Calastone, a tracker of open-ended structures, with redemptions of £314 million in December, up from £249 million in November and £207 million in October.

In fact, in 2019 alone investors pulled more than £2.2 billion from open-ended real estate funds – more than three times that of 2016 – when withdrawals from open-ended funds were halted after the Brexit referendum vote. Some of the hardest hit funds have been those available to smaller retail investors. Particularly troubling was the news at the beginning of December that M&G halted trading in its £2.5 billion M&G Property Portfolio. This fear followed a major fund valuation markdown in November and some general investor skittishness surrounding Brexit and the general election.



Importantly, however, open-ended funds may not be returning to business as usual after this most recent tempest.

The fundamental issue with these open-ended funds is simple: a mismatch of lower liquidity assets and high liquidity (in some cases, daily) liabilities. Regulators and investors on both sides of the pond have been aware of this for years – how many "unprecedented circumstances" do we need to see from the German open-ended industry before lack of liquidity is no longer "unprecedented"? – but regulators are finally starting to craft hard rules to combat this inherent flaw.

In 2016, the SEC acted with a new liquidity rule (Rule 22e-4) that forced open-ended funds to classify their investments in four buckets based on their time to liquidation. There can be no more than 15% of the fund invested in the illiquid bucket (those assets that take more than seven calendar days to sell). Following high-profile issues surrounding Woodford Asset Management and GAM, the FCA followed suit with new rules that looked to increase the daily monitoring of open-ended funds and impose higher regulation surrounding the management of illiquidity risk. **The new FCA rules specifically require that funds investing in inherently illiquid assets must suspend dealing where an independent valuer determines that there is material uncertainty regarding the value of more than 20% of the fund's assets from September 2020 onward**.

In the current market this new rule particularly impacts funds that hold a large portion of retail properties in their portfolios (all of them!), as recently there have been limited transactions in this space due to a large buyer-seller pricing gap. It is broadly believed that market values are likely to be much lower than the book value of these assets (and we concur having reviewed quite a few off-market situations). But longer term, even after the retail portions of the funds' portfolios take the necessary write downs, the FCA regulations will have long-lasting implications on the level of real estate risk these funds decide to take on.

We believe that open-ended funds will need to start pricing these regulations into their cost of capital and move away from more illiquid (read: value-add or opportunistic) investments in order to satisfy investors, in the same way that banks were forced to do following the global financial crisis. Back then the regulators reduced the ability of banks and insurance companies to make certain loans through new "slotting" rules as well as Basel and Solvency frameworks. These regulations forced these institutions to start pricing in risk more adequately than they had been, sometimes requiring five times as much capital to be held against more risky commercial loans. Like banks did prior to these slotting rules, open-ended funds have had an artificially low cost of capital for years as they have not been adequately pricing in liquidity risk.

This will need to change. As a result of the new regulations in place and those yet to come, we expect that open-ended funds will be incentivised to exit the less-liquid value-add space and enter into more core or core-plus projects, where they will likely look to assure investors with higher liquidity and a higher income return. We are already seeing this happen. In response to redemption requests, and in order to respond to these new and potential regulations, open-ended funds appear to be looking to shore up capital by selling down value-add investments in need of near-term capital investment and avoiding capital-intensive new acquisitions.

Over the past six to nine months, we have been seeing some excellent opportunities to pick up high-quality institutional assets, with considerably less competition from our traditional competitive set of small- and mid-cap private equity funds. We have been especially successful in negotiating efficient purchases and providing execution certainty to funds in advance of further redemptions or FCA rule implementation. Longer term, more stringent controls over the UK open-ended property fund sector may further reduce competition for value-add assets from the open-ended funds themselves, shifting their demand to core assets.

In short, more shrimp for those of us who have made it through the hurricane.

Conclusion

We hope you have enjoyed this letter and that it has given a little background as to why we are so excited about today's environment. As always, please let us know if you would like to delve into anything in more detail.

Best Regards,

Brandon Hollihan | Mike Kovacs | Adam MacLeod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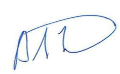
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