MARKET
RESEARCH

Global Listed Real Estate

Emerging Markets

H1 - 2020

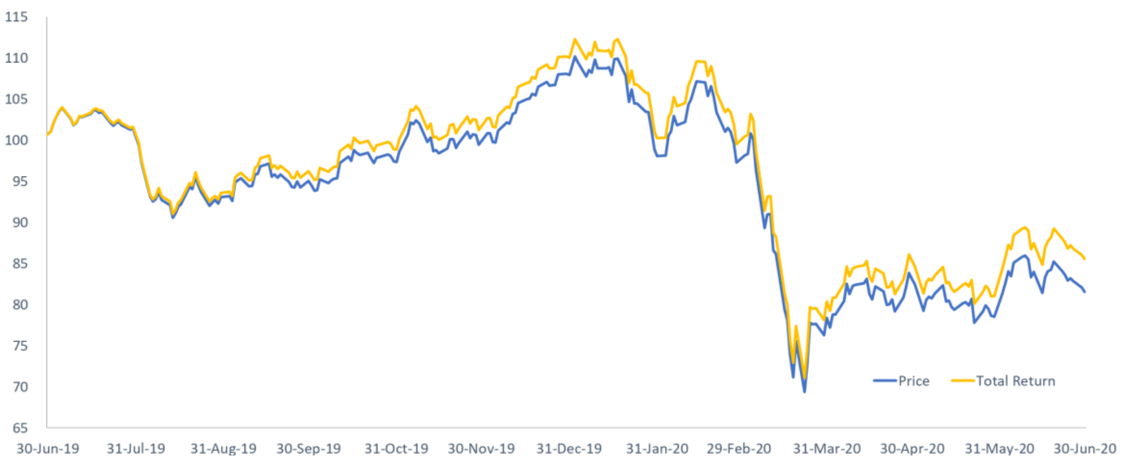
FTSE EPRA Nareit Global Real Estate Index Series

October
2020

I. Executive Summary

COVID-19, the main driver of this year's economy, hit the Emerging Market extremely hard during the first six months of 2020, shifting completely the course followed by the Index last year. After finishing H2 2019 with a 6M-TR of +9.73%, the *FTSE EPRA Nareit Emerging Market Index* (*FEN EM Index*) recorded a -22.22% total return over first six months of the year and a -25.14% as of August. Since February, the Index dropped significantly and the negative momentum continued for more than a month, eventually reaching the bottom towards the end of March. Since then, the index has seen a slight recovery, narrowing the decline of the index value to -14.43% as of June 2020. The listed real estate equities have also underperformed the broader equity markets by 16.14% within the same period. This report looks at the size and performance figures of the main emerging listed real estate markets, alongside the key drivers and changes observed. Finally, the report ends by analysing how the COVID-19 spread influenced and impacted the performance of the listed real estate industry across regions and sub-sectors in the emerging markets.

***FTSE EPRA Nareit Emerging Markets Index* – 12 Months**



Source: EPRA

***FTSE EPRA Nareit Emerging Markets Index* Breakdown – 6 Months**

Source: EPRA

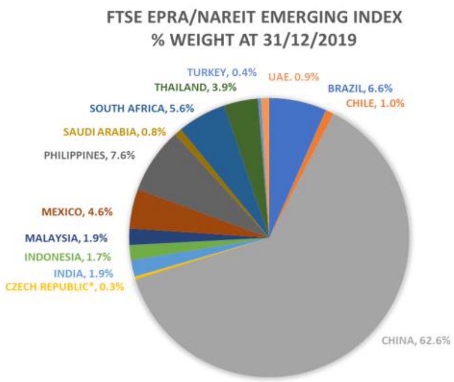
In the *FEN EM Index*, Asia accounts for more than 80%, which explains why the Asia Pacific Index is tracking the Emerging Index closely. The outbreak of coronavirus from Wuhan Province in January brought the Chinese economy to a halt, due to several emergency measures imposed, including a nationwide lockdown, travel bans between regions and factory shutdowns. Later, as the coronavirus raged across the globe, other regions saw a decline in their performances as well. Latin America, Middle East and Africa have lost 40-50% of the index value over the six months period. Russia is the best performing constituent and it is one of the few countries that have recorded a positive return throughout the period. The upside of Middle East/Africa return was offset by the decline in return of South Africa. The performance for the Emerging African Index tracks a similar pattern. The number of cases in the region has been escalating at an alarming rate over the first half of 2020, where Brazil and Mexico are among the top ten most infected countries across the globe, according to data provided by John Hopkins. In contrast, the Asian counterparts have outperformed their peers since April 2020, partly attributed to the Chinese government's effort to restart the economy swiftly in March and cases of coronavirus infection have reached the ceiling and stopped increasing since then.

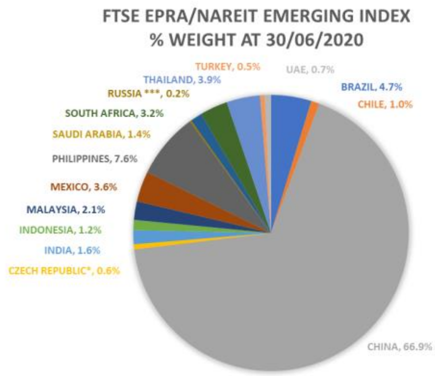
II. FEN Emerging Markets Index size and composition

COVID-19 impacted and is still impacting the Emerging Markets in every single aspect. In H1 2020, the size of the *FEN EM Index* in terms of Free Float Market Cap experienced its peak in January with EUR 190.6 Billion but it was followed by a decreased of 21% as the size of the index moved from EUR 186.7 Billion in December 2019 to EUR 147.9 Billion in June 2020. Besides the crisis impact on the constituents, the FEN EM Index size and composition are also determined by the Quarterly Review Process. During the *Q2-2020 Review* that took place in June 2020, there were 3 deletions and 5 additions, which means that in H1 2020 the composition of the *FEN EM Index* had 2 more constituents than in the previous semester. However, the deletions size amounted EUR 2,554.16 Million of FF Market Cap, compared to the additions size of only EUR 985.22 Million of FF Market Cap which also explained the size decline of the *FEN EM Index*. The constituents' additions were from China (being *"Zhongliang Holdings Group"* the largest one, "*Sinic Holdings*" and "*Redsun Properties Group*"), Kuwait ("*Al Mazaya*") and Saudi Arabia (*"AL Maather REIT"*). On the other side, the deletions were from China ("*Logan Property Holdings*"and "*Ascott Residence Trust*") and Indonesia ("*Sentul City*"). It is worth mentioning that "*Ascott Residence Trust*" was deleted from the *FEN EM Index* and moved to the *FEN Developed Index* (DM Index) as its nationality assignment changed from China to Singapore, so the company will continue as a constituent on the *FEN Global Index series.*

In order to contextualise the size the FEN EM Index, it is useful to consider the value of the Commercial Real Estate in the global markets covered by the *FTSE EPRA Nareit Real Estate Index* that is estimated at USD 30.3 Trillion, with the total listed real estate sector valued at USD 3.2 Trillion (6.5% of CRE). The full index market cap is USD 2 Trillion, representing 62.2% of the total market cap of the listed real estate sector across the globe. The emerging markets, covering 24 countries, have a total estimated Commercial Real Estate value of USD 8.1 trillion and the total listed real estate sector is USD 915 Billion.

***FTSE EPRA NAREIT Emerging Markets Index*: Weights by country**





Source: EPRA

The FEN EM Index country representation by market capitalization did not face significant changes during the last six months as the ranking is still headed by China (66.9%), followed by Philippines (7.6%) and Brazil (4.7%). In other words, the weights are constant. Nevertheless, it is noticeable both the surge of Saudi Arabia that evolved from the bottom 12th position to the 9th position by representation and also the retreat of Turkey being again, after Russia, the least represented country on the *FEN EM Index*. The latter country is currently composed of only one constituent *"Gruppa LSR",* that was added to the index during the Q1 2020 Review.

III. Comparative performance

Regarding the comparative performance of the *FEN Index* constituents, it is important to bear in mind that the whole *FEN Global Real Estate Index series* is based in EUR currency. That means that fluctuations of local currencies play a crucial role in the Index performance, especially in the *FEN EM Index*, where volatility could be stronger than in *DM* due to less diversified economies and restrictive regulations. During the first half of 2020, the currency effect displayed sharp swings as compared to the second half of last year derived from the COVID-19 crisis and steep oil price declines. Therefore, most of the currencies except the Philippine Peso and Hong Kong Dollar depreciated against the EUR and the currencies impact also changed. While in H2 2019 the strongest currency effect on the index came from Chile through a currency depreciation of -9.17% vs EUR -mainly due to the political protests against the president-, in H1 2020 it was the Brazilian Real the currency that suffered the most as it depreciated by -36.6% vs EUR. This could be explained by the lack of policy response against the epidemic that has led Brazil to being considered one of the global epicentres of the COVID-19 and by the political tensions unleashed that derived in less tourisms and less imports from Brazil as investors became much more risk averse. Following the Brazilian Real, there are two other currencies that also devaluated considerably against the EUR: 1) the South African Rand (-24.3%) that despite the implementation of strict measures against the COVID-19, the country remains heavily dependent of Europe and Asia, and 2) the Mexican Peso (-22.4%) mainly due to the decreasing demand for oil which is one of the main Mexican exports. As a result of this unprecedented global crisis, the total currency effect on the *FEN EM Index* was -3.48% over the first half of the year.

Focusing on the table presented below, it is worth recalling that the Chinese currency breakdown which is composed of 3 different currencies: the Hong Kong Dollar, the Singapore Dollar and the Chinese Renminbi. In total, the weight of these 3 currencies on the *FEN EM Index* amounts to 65% which can be decomposed in the following way: 63.1% from the HKD, 1.5% from the SGD and 0.5% from the CNY. In consequence, the changes of the Hong Kong Dollar have a significant impact on the FEN Emerging Market index.

Emerging Markets: Equity Markets vs Listed RE and Currency Effects (6 Months)

Country *	(1) 6M RETURN FROM DIVIDENDS	(2) PRICE RETURN EPRA EMERGING INDEX	(1) + (2) TOTAL RETURN EPRA EMERGING INDEX (EUR)	% WEIGHT EPRA EMERGING INDEX	DIV. YIELD (y/y) at 31/12/2019	CURRENCY PERFORMANCE VS EUR *	CURRENCY EFFECT ON THE INDEX	TOTAL RETURN Equity Market ** (Local Currency)
BRAZIL	0.1%	-49.6%	-49.5%	4.7%	3.5%	-36.57%	-1.7%	-18.2%
CHILE	1.2%	-24.6%	-23.4%	1.0%	2.0%	-9.19%	-0.1%	-16.3%
CHINA	2.9%	-18.1%	-15.2%	66.9%	4.3%	0.36%	0.2%	-1.7%
CZECH REPUBLIC	3.3%	29.4%	32.7%	0.6%	0.0%	0.00%	0.0%	-16.7%
INDIA	0.3%	-33.6%	-33.3%	1.6%	1.6%	-5.84%	-0.1%	-12.9%
INDONESIA	0.6%	-43.1%	-42.5%	1.2%	2.3%	-2.96%	0.0%	-23.3%
MALAYSIA	1.3%	-23.8%	-22.5%	2.1%	3.9%	-4.82%	-0.1%	-4.7%
MEXICO	2.3%	-36.8%	-34.5%	3.6%	7.7%	-22.43%	-0.8%	-14.3%
PHILIPPINES	0.5%	-24.7%	-24.3%	7.6%	1.2%	1.56%	0.1%	-20.4%
RUSSIA	7.4%	46.0%	53.4%	0.2%	15.1%	-14.79%	0.0%	-14.7%
SAUDI ARABIA	0.9%	9.6%	10.5%	1.4%	6.4%	-0.05%	0.0%	-12.6%
SOUTH AFRICA	2.4%	-57.3%	-54.9%	3.2%	10.5%	-24.33%	-0.8%	-10.6%
THAILAND	2.2%	-21.6%	-19.4%	3.9%	3.3%	-3.24%	-0.1%	-15.2%
TURKEY	0.0%	13.1%	13.1%	0.5%	3.0%	-15.25%	-0.1%	1.2%
UAE	0.0%	-33.4%	-33.4%	0.7%	6.5%	-0.06%	0.0%	-13.7%
FTSE EPRA/NAREIT Emerging Index	**2.24%**	**-24.46%**	**-22.22%**	**98.7%**	**4.34%**		**-3.51%**	
Emerging: Weighted Average								**-6.10%**

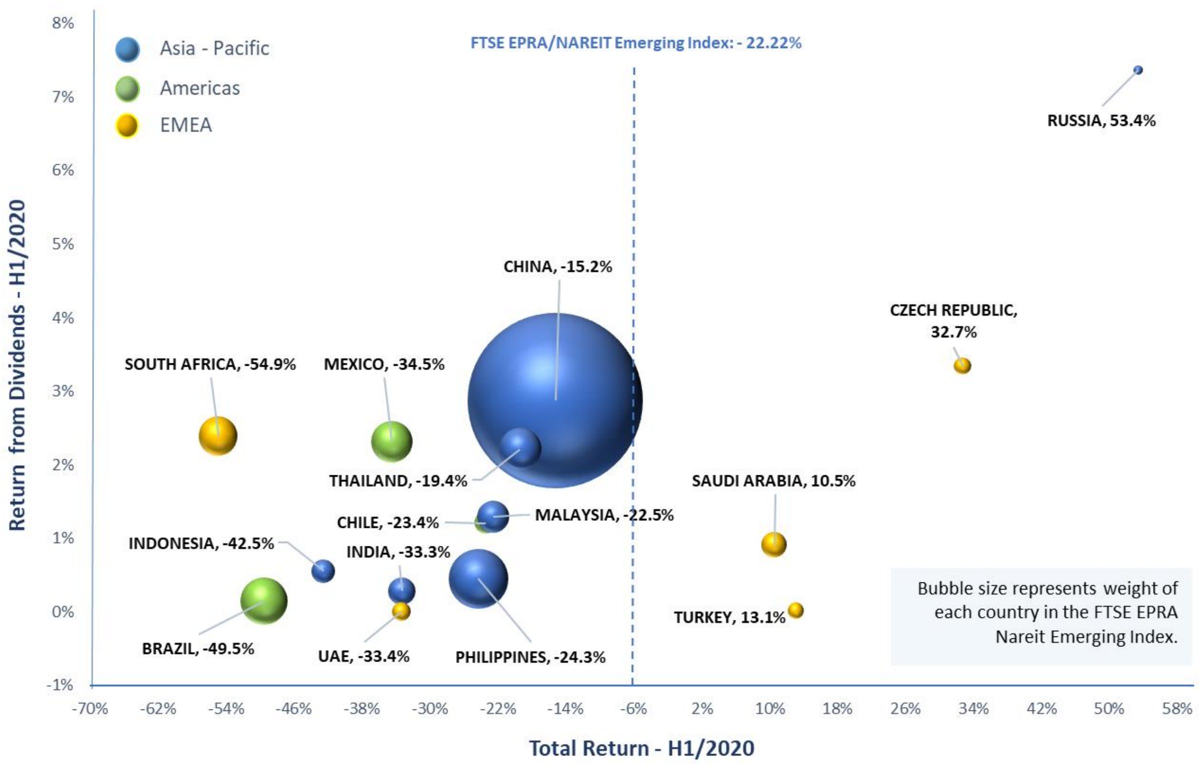
*Currency performance for China combines HKD, SGD and CHN. For India, it combines SGD and INR. For Indonesia, it combines SGD and IDR.
** Equity markets are represented by the Thomson-Reuters TR Index for each country.
*** Since the 23/03/2020 the FEN EM Index counts again with a Russian constituent.
In the FEN DM Index the 6M-TR was -21% split into -23% price return and -2% dividend return.

Source: EPRA (Data as of 30th June 2020)

From the same table we can also observe that the Total return of the *FEN EM Index* (*4th column*) can be split into dividends returns (*2nd column*) and price returns (*3rd column*). This is an interesting disclosure as this breakdown could lead to useful insights when it comes to the real estate sector since "dividends" usually play a key role for investors. So it is important to remember that dividend distribution is compulsory for REITs and a common practise for most of the rental real estate companies, but not necessarily shared by all the companies, and also that a big proportion of the *FEN EM Index* constituents are developers. Therefore, although the total return breakdown could disclose certain patterns in the EM, it will always have some limitations.

Regarding the dividend distribution figures of the FEN EM Index during the H1 2020: Russia (7.4%) and Czech Republic (3.3%) recorded the highest levels followed by China (2.9%) and South Africa (2.4%). In the former case, each country index is composed of only one Non-REIT constituent and in the latter case, most of the Chinese constituents are Non-RETIs and most of the South African are REITs. Considering the overall scenario and the impact of the COVID-19 crisis worldwide, the 6M-total return of the *FEN EM Index* languished to -22.22% (vs. +9.73% achieved last semester) in contrast to 6M-dividend return that reached +2.24%.

FTSE EPRA Nareit Emerging Markets Index

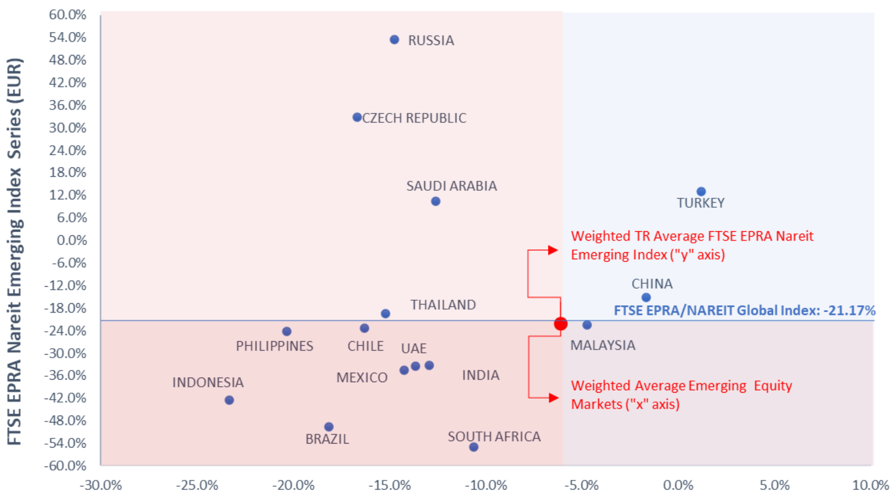


Source: EPRA

However, despite the importance of the "dividend return" figure, when it comes to the analysis of the *FEN EM Index*, the "price return" figure could become a much more significant source of performance as only 22.36% of the Market Cap of *FEN EM Index* is represented by constituents with a "rental" investment focus. The majority of the *FEN EM Index* is therefore composed of companies with "non-rental" investment focus. In terms of performance, during the first half of 2020, the total return dispersion increased by almost 57% from H2 2019 (87.6% vs 55.9%); being Russia and Czech Republic the top performers and South Africa the bottom performer.

Focusing on the graph presented below we can observe that several behaviours occurred during the first semester of the year. One interesting point is that the total return achieved by the FEN Global Index series achieved -21.17%, just 1% above the performance of the FEN EM Index. We can also notice among other things that emerging markets ("x" axis) suffered more than the listed real estate as only Turkey achieved a total return above the emerging equity markets total return weighted average. However, within the listed real estate ("y" axis): Russia, Czech Republic, Saudi Arabia and Turkey were able to achieve a performance above the FEN EM Index total return weighted average.

TOTAL RETURN - H1/2020
Equity Markets vs EPRA Emerging Country Index

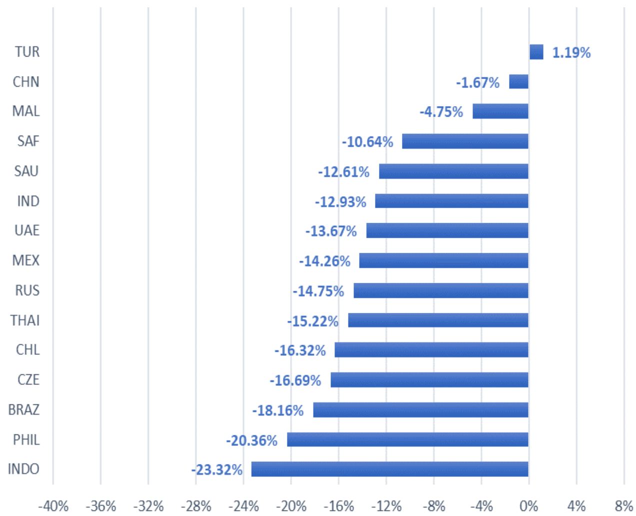


Source: EPRA

As compared to last year, the EM equity markets faced a *simple average* decline of -12.64% vs. +12.28% achieved in H1 2019. On the other hand, the country *weighted average* performance showed slightly better results -6.10% in comparison with the mentioned simple average. In terms of total return in local currency, the EM equity markets saw a decline of c.125% vs. last year (-6.10% vs. +23%).

The top performers in the EM equity markets were Turkey, China and Malaysia whereas in the EM listed real estate sector the top performers were Czech Republic, Turkey (as well) and Saudi Arabia. This semester listed real estate outperformed the general equity market -mainly- due to the outstanding performance of Turkey. The prompt response of the government and the detailed measures that were put in place to control the COVID-19, among others, allowed Turkey to face the pandemic in an exemplary oversight. As a result, the *FEN EM Turkey Index* ended the first half of the year with a total monthly return of +29.88% in June 2020. However, it is also worth mentioning the outstanding performance of South Africa and Brazil on the equity markets relative to their performance on the listed real estate sector

Local Equity Markets -Total Return
31/12/19 - 30/06/20
(Local Currency)



Here below we present a short summary of the key facts affecting the performance of the countries and sectors included in the FEN Emerging Index:

Turkey

Turkey's economy was still recovering from the post-2018 currency crisis, which was followed by a decline in the performance of the economy and a spike in unemployment. Before COVID-19 became wide spread, Turkey was already facing challenges of currency depreciation, a sizeable external financing need and high inflationary pressure. The accommodative monetary policies, a general emerging-market sell-off alongside concerns over the conflict in Syria have all contributed to downward pressure on the currency. In response, the Turkish authorities have persisted with efforts to support the lira, spending billions of dollars in precious foreign reserves, while taking measures aimed at making it harder for foreign investors to bet against the currency. But none of these measures has prevented the lira from reaching an unprecedented all-time low in May. A stable lira is vital for Turkish companies, where their balance sheets are loaded with lots of foreign-currency debt, and for keeping consumer prices flat where inflationary figures were in double digits in the last two years. Restrictions on stock lending and short selling along with a temporary exclusion of foreign banks from the market have led to a massive withdrawal of foreign capital from the country.

Despite all the challenges faced by the country, Turkey remains one of the best performers on the FEN EM Index. Both Emlak Konue and Torunlar account for significant weights within the Turkish REIT constituents and given their relatively high exposure to the residential sector, they were less affected by the spread of COVID-19. The government's effort to promote the real estate sector also played a major role for the boost of the residential market. On the 1st Jan 2020, Turkish public banks have reduced the mortgage loan interest rate for first house sales from 0.99% to 0.79%. This led to a subsequent boom in the residential housing market. According to data from Turkstat, the total housing sales by taking a mortgage for H1 2020 has reached 266,374 units, which is around 3 times higher than H1 2019. It is expected the demand for sales will continue to rise as Turkey's three largest state lenders Ziraat Bank, VakıfBank and Halkbank have released a new mortgage loan package in June. The tenure for the new houses and second hand housing unit mortgage can last as long as 15 years, with interest rates as low as 0.64%. The lodging and retail segments suffered the greatest hit due to travel bans in response to the spread of COVID-19. The occupancy rate for hotels has dropped to 20% in June 2020, translating into more than 40% drop compared with June 2019. The hotel market may improve as Turkey is keen to attract transit passengers between Europe and Asia. All shopping centres were closed during the first five months and allowed to be reopened fully from the beginning of June, even though some stores in remote locations remained closed. According to Collier International, the rise in the level of rents and the fall in vacancy rates during H1 2020 suggest that the impact of COVID-19 on the office market was rather limited.

Performance of the largest constituents in local currency: *Emlak Konut* (Residential, 40%), *Torunlar Gayrimenkul Yatirim Ortakligi* (Diversified, 21%) and *Is Gayrimenkul Yatirim Ortakligi* (Diversified, 11%).

Brazil

Brazil, a country where the economic situation was already fragile before the pandemic arrived, became one of the worst hit countries in the world by COVID-19. The resistance of the President Jair Bolsonaro to implement measures against the epidemic, the existing cracks in the public health system and the low technology quality helped to accelerate the country's economic and healthcare downfall. Behind this, a critical concern is the complex tax system that governs the country consisting in a very high personal taxation system with a lot of particularities, that would not allow the state to afford a generous fiscal support measures for a long term considering the existing high levels of debt in relation to its GDP. This means that the tax reforms, currently under evaluation, are urgently needed if the country wants to recover.

Regarding the real estate sector, one of the latest actions implemented by the National Monetary Council is the approval of an interim measure which enables "already financed real property" to be used as collateral for a new loans with the same bank as the original financing. That would help banks to increase the release of loans and would hopefully provide some relief to the sector. Nevertheless, the country still needs to work hard to get ahead.

In terms of the *FEN EM Index* constituents, as might be expected, they were all hit hard with negative performance.

Performance of the largest constituents in local currency: *Cyrela Brazil Realty S/A Empreendimentose e Participacoes* (Residential, -23%)*, Multiplan Empreendimentos Imobiliaros* (Retail, -38%) and *BR Malls Participacoes* (Retail, -44%).

China

In January, the market was concerned about the escalating trade tension between China and the US as both sides are imposing additional tariffs on each other's goods. There were signs of improving relationship as China has halved the tariffs on some US imports as it moves to implement a "phase one" trade deal with the Trump administration. However, the economy has taken a nose-dive in Q1 as China imposed a lockdown, bringing the economy to almost a complete halt. PMI, a concurrent indicator of the country output, has plunged to 35.7 in February. The previous lowest was 38.8 in November 2008, during the financial crisis. The daily coal consumption at six large power generation groups was down 43% compared to the same month last year. Nevertheless, the Chinese government was rushing to re-open the economy. The PMI experienced a sharp rebound in the following month, reaching 52 in March and sustained above 50 in the rest of Q2. As the epicentre of COVID-19 shifted to Europe and US in the following months, the demand for exported Chinese goods fell dramatically. The Chinese government has, for the first time in history, decided to drop its GDP target, citing the uncertainty of foreign markets as the reason for its decision. The authorities have also implemented monetary and fiscal policies to cushion the economic impact of the outbreak. According to The World Bank, these include the provision of significant liquidity injections, tax relief, emergency health and welfare spending worth approximately 2.8% of GDP, and the authorization of additional special central and local government bond issuances equivalent to about 2.6% of GDP.

Within the real estate sector, the Chinese Property Developers have their showrooms closed in many cities, leading to a plunge in home sales and commercial residential buildings during February. However, in May the situation changed as projects started to come back, the credit environment improved and the home purchase demand started to see its firsts sights of recovery. As a result, property sales jumped to 9.7% in May and home prices expanded 4.9% on an annual basis.

Performance of the largest constituents in local currency: *China Overseas Land & Investment Ltd* (Diversified, -15%), *China Resources Land* (Diversified, -22%) and *Sunac China Holdings* (Diversified, -27%).

Thailand

Thailand has been considered a success story in containing the number of coronavirus cases which helped to keep the Thai Baht strong. However, the Thailand's Central Bank cut its interest rate for a third time this year, lowering its benchmark to a record low of 0.5%. The country's large exposure to tourism and exports -that shrink by 13.5% this H1 2020-, will largely shock Thailand's GDP.

On the real estate sector, during H1 2020 housing prices for condos in greater Bangkok continued to fall as developers competed by offering massive discounts to attract buyers. Townhouses were discounted up to 32%, while the maximum discount for single detached houses was 12%. The sentiment towards the property market remained negative, but their confidence was higher as lockdown restrictions were eased. On the commercial real estate side, local administrations helped commercial tenants on government-owned property providing the same measures, discounts on rent or forgiving late payments penalties. The Mass Rapid Transit Authority of Thailand also announced relief measures for qualifying commercial tenants, under which businesses that were ordered closed by the government will have rental fees waived for two months, while businesses that were not ordered closed will receive a 50% discount on their rent for four months. The Port Authority of Thailand announced a 50% discount on rent for commercial tenants for a three-month period.

Performance of the largest constituents in local currency: *Supalai PCL* (Residential, -3%), *WHA Premium Growth Freehold & Leasehold REIT* (Industrial, -6%) and *Central Pattana* (Retail, -20%).

Philippines

The Asian islands have been hit hard by the effect of COVID-19 on tourism, bringing the country into a painful situation. The lack of tourism, a decline in cash remittances and a weak fiscal policy in the wake of the pandemic plunged the country's GDP by 9.2%. The Central Bank has reduced rates by a total of 175 bps this year, bringing down overnight reverse repurchase, lending, and deposit facilities at record lows of 2.25%, 2.75%, and 1.75%, respectively. However, lending growth in June continued to ease.

Within the real estate market, the country has not escaped the economic onslaught as residential and commercial demand sank once the virus outbreak forced people to stay at home and shift spending to essential goods. Developers faced up to 30% drop on sales too. Nevertheless, the pandemic also stalled new projects in what became the Philippines' most promising sectors: logistic (industrial) and office, as these sectors have shown the highest resilience and would lead the recovery of the property sector. There is a growing demand for flexible offices and there are a lot of manufacturers moving out of China which would be strongly beneficial to the whole island.

Performance of the largest constituents in local currency: SM Prime Holdings (Diversified, -23%), Ayala Land (Diversified, -35%) and Robinsons Land (Diversified, -35%).

Saudi Arabia

The largest economy in the Middle East faced the effects of both the oil price war that hurt revenues hard -oil revenues fell in H1 2020 by 45% year-on-year to USD 25.5 Bl.-, and the impact of the COVID-19 restrictions on tourism. As a response, the government focused on reining in spending and increasing the burden on consumers tripling the VAT rate and terminating with the cost of living allowance for public sector employees.

In the residential market, transaction volumes decreased by 30% in H1 2020, whilst the total value of real estate transactions dropped by 2% over the same period. Average sales prices decreased marginally across most cities, although certain segments of the market such as apartments in Jeddah and the Dammam Metropolitan Area and villas in Riyadh bucked this trend. To counteract the VAT hike, the Minister of Housing of Saudi Arabia announced that first time home buyers who pay USD 226,662.79 or less for the property will not be subject to VAT. This will help stimulate demand for the affordable housing segment in Saudi Arabia. Looking at the performance of the *FEN EM Index* constituents, it is worth it to highlight the outcome of *Jadwa REIT Saudi Fund* that reached a positive total return of 3%. IOverall, the rest of constituents ended H1 2020 with negative performance but slightly better compared to other regions in EM.

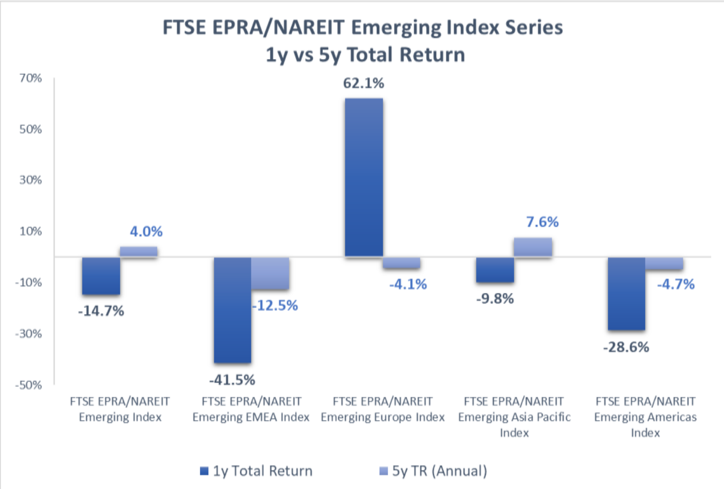
Performance of the largest constituents in local currency: Arabian Centres (Retail, -23%), Jadwa REIT Saudi Fund (Diversified, +3%) and Al Rajhi REIT (Diversified, -9%)

Annual performance of the largest constituents by country (EUR, Local Currency)

Constituent	Country	Sector	REIT/Non-REIT	Total Return in EUR	Total Return in Local Currency
Emlak Konut	Turkey	Residential	REIT	22%	40%
Is Gayrimenkul Yatirim Ortak	Turkey	Diversified	REIT	-4%	11%
Torunlar Gayrimenkul Yatirim Ortakligi	Turkey	Diversified	REIT	5%	21%
BR Malls Participacoes	Brazil	Retail	Non-REIT	-59%	-44%
Multiplan Empreendimentos Imobiliaros	Brazil	Retail	Non-REIT	-54%	-38%
Cyrela Brazil Realty S/A Empreendimentose e Participacoes	Brazil	Residential	Non-REIT	-44%	-23%
China Overseas Grand Oceans	China	Diversified	Non-REIT	-15%	-15%
China Resources Land	China	Diversified	Non-REIT	-21%	-22%
Sunac China Holdings	China	Diversified	Non-REIT	24%	-27%
Central Pattana	Thailand	Retail	Non-REIT	-23%	-20%
Supalai PCL	Thailand	Residential	Non-REIT	-6%	-3%
WHA Premium Growth Freehold & Leasehold REIT	Thailand	Industrial	REIT	-9%	-6%
SM Prime Holdings	Philippines	Diversified	Non-REIT	-23%	-24%
Ayala Land	Philippines	Diversified	Non-REIT	-24%	-25%
Robinsons Land	Philippines	Diversified	Non-REIT	-35%	-36%

Source: EPRA and Bloomberg

FEN Emerging Markets Index: Long term perspective



Despite the difficult situation that surrounds us, the *FEN EM Index* was able to reach a five-year total return of +4.0% as of June 2020, c.19% higher than the one-year total return of -14.7%.

It is noteworthy the outstanding the short-term performance achieved by the *FEN EM Europe Index* that amounted to +62.1% as opposed to the one achieved by the *FEN EM EMEA Index* that declined to -41.5%. In the long term, the best performer was the *FEN EM Asia Pacific Index* that reached a total return of +7.6%. Regarding the FEN EM Americas Index, the performance was negative in both the short and long term.

FTSE EPRA NAREIT Emerging Markets Index Series: Sectors

Note: the only constituent from the *Lodging & Resort* sector was *"Concentradora Fibra Hotelera Mexicana SA" which was* deleted from the Index on March 2020 during the Q1 Review process.

Source: EPRA

With respect to the sector's performance, the impact of COVID-19 decreased by c.-23% of all the sector's performance. However, the general sector trends of the *FEN EM Index* did not change much from last semester. In H2 2019 the *FEN EM Index* was led by *FEN Emerging Lodging & Resort Index* followed by the *FEN Emerging Industrial Index,* but this semester, due to the deletion of the only constituent assigned to the *Lodging & Resort* sector, the *FEN Emerging Industrial Index, similar to the trend in developed markets,* has taken the lead. On the other hand, the *FEN Emerging Retail Index* continued at the bottom list as the lockdown measures impacted sectors recovery.

IV. *COVID-19 evolution on the Emerging Markets*

Emerging Asia

Since the first case of COVID-19 was confirmed in Wuhan China, the spread of coronavirus has a profound impact on the equity markets and the broader economy. However, the outlook remains positive as recovery is supported by solid fundamentals such as GDP growth and airline passenger volume. In order to better understand how the spread of COVID-19 drives the performance of the FTSE Nareit EPRA Emerging Markets Index, we have conducted a simple regression model for the Asia index return against some variables related to the general economic environment and the healthcare and real estate sectors in China.

China accounts for two-thirds of the global emerging markets index series. From a sector point of view, the residential sector accounts for 25% of the global emerging index, alongside with those equities that have exposed to the residential sector but nonetheless being classified in the diversified sector, EPRA estimated that the index has around 50% exposure to the residential markets. Therefore, we chose to focus on a variable that is related to residential markets only but not the general real estate market. We found that introducing a variable related to the latter was not statistically significant to our model. By analysing the data covering the Chinese economy only, we believe that our findings may meaningfully represent the performance of the whole index series.

Our research has identified five statistically significant factors that could explain the performance of the listed real estate securities in Asia. We will first present the model and explain the variables that we deemed crucial to the evolution of our index series. Then, we will move on to explain how the spread of the coronavirus to EMEA and Latin America regions could impact their regional performances.

The regression model is presented as the following:

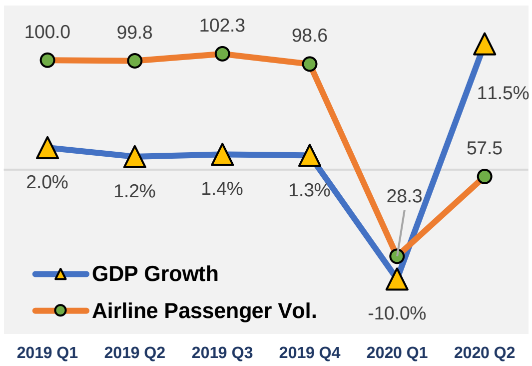
$$\begin{aligned}&\textit{Index Quarterly Return}\\ &\quad = C + (\textit{GDP Growth}) + (\textit{Inflation}) + (\textit{Business Confidence}) + (\textit{Real Estate Related Expenditure})\\ &\quad + (\textit{Healthcare Related Expenditure})\end{aligned}$$

When the coefficients for each corresponding variable are also considered, it becomes:

$$\begin{aligned}&\textit{Index Quarterly Return}\\ &\quad = -0.582 + 39.887 * (\textit{GDP Growth}) - 12.035 * (\%\ \Delta\ \textit{in CPI}) - 9.330 * (\%\ \Delta\ \textit{Business Confidence Index})\\ &\quad - 0.517 * (\%\ \Delta\ \textit{Residence Expenditure per capita}) - 0.798 * (\%\ \Delta\ \textit{Healthcare Expenditure per capita}) + \textit{Error}\end{aligned}$$

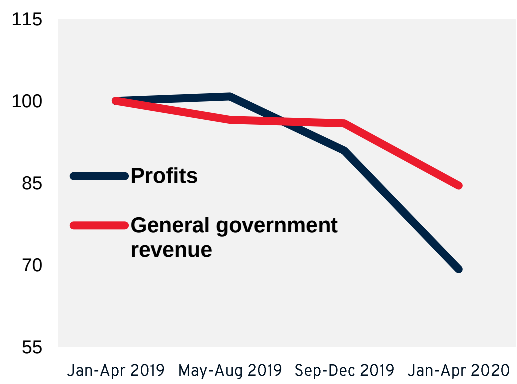
The first relevant factor is the GDP growth of the Chinese economy. Over the last six months, the outbreak of coronavirus has triggered a series of lockdowns and closures, with business activities and industrial production put on hold until February. As a result, GDP at Q1 2020 experienced a noticeable fall.

GDP Growth (%) and Airline Passenger Volume Changes (Index, 100=2019 Q1)



Source: National Bureau of Statistics (China)

Index, 100=Jan-Apr 2019



Source: World Bank

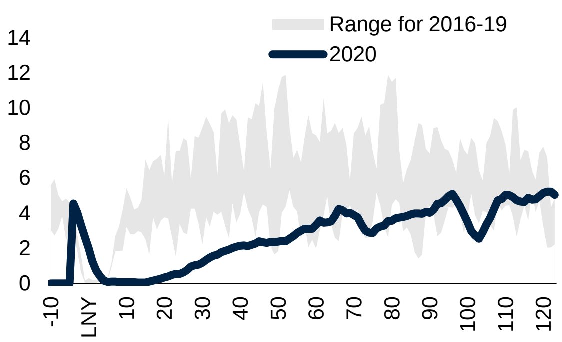
While the airline passenger volume has resumed to normal levels in the next quarter, the industrial profits and government revenue have recorded a significant decline. Our model suggests that the index return is anticipating the growth of the GDP and given the large magnitude of its coefficient, it possesses a relatively stronger predictive power compared to others. However, the prospect of the economic growth remains uncertain due to the ongoing tension between the US and China, conflicts between Hong Kong and mainland China, and whether there is a second outbreak in the coming months.
Inflation also plays an important role in the index return. The combination of generous fiscal packages (worth around 4.5% of GDP) and accommodative monetary policy have provided some support to the global economy and will play a key role in the post-covid recovery, affecting not only current inflation but also future expectations around the general level of process in the economy. Higher inflation may also lead to higher opportunity costs for investing in other instruments different than listed real estate like fixed income and commodities, where future cash flow received would be discounted at a higher rate. Then, investors may have more incentive to re-allocate their capital looking for a higher yield. As the cost of debt is a component of the cost of capital for corporations, equity prices would be subject to a downward pressure as well. This translates into lower returns of the index, which justifies the negative coefficient of the inflation factor.

The rest of the factors are also found to be significant to our model. However, due to two or three quarters of delay in the latest figure releases, it takes longer for the market to incorporate the effects of those factors, resulting a significant higher lag compared to GDP and inflation. Another possible reason for the lag is that the process of drafting a business plan, acquiring the land, obtaining the necessary permits and executing the construction can be time-consuming. Hence, the time required for transforming capital expenditure in project to growth in private sector and further spill over to the listed public real estate sector can take a while.

The Business Confidence Index (BCI) has also a relevant explanatory power, this is an indicator compiled by the OECD reflects the economic environment, based on opinion surveys on developments in production, orders and stocks of finished goods within the industry sector. However, the BCI does not perfectly correlate with the expectation of the economic performance as it focuses only on the industry sector. In more recent decades, the services sector was contributing almost 50% of the GDP and the strict coronavirus containment measures further accelerates the growth of Technology sector, which is not captured by the index. The negative BCI coefficient reflects that real estate return is driven by other sectors, like residential and retail, rather than industrial and services.

The National Residence Expenditure Per Capita is largely related to accommodation, which includes rent, water, electricity, fuel and property management fees. The negative coefficient can be attributed to the entrenched culture of the Chinese population, where most people prefer to own a property rather than renting one. The result is that as the middle class expanded in the last few years, people were spending less on rent but instead spending more on property purchases. Indeed, soaring property prices over the last few years have put urban residents under pressure, making housing affordability a growing concern for policy makers. It is worth mentioning that the residence expenditure excludes both monthly repayments of housing mortgages and property sales. In response, the Chinese government has recently launched the housing rental pilot scheme to encourage more people to rent a place by offering concessions. To sum up, part of the personal disposable income related to accommodation could possibly be captured by property transactions. This may potentially explain why the residence expenditure is inversely proportional to the index return, where the latter could be driven by property purchases instead. Having said that, even if we assumed a positive relationship between the property transactions and our index return, one should note that property sales have taken a nosedive during the lockdown period, which might also explain why our index return posted a lower return in contrast with previous periods.

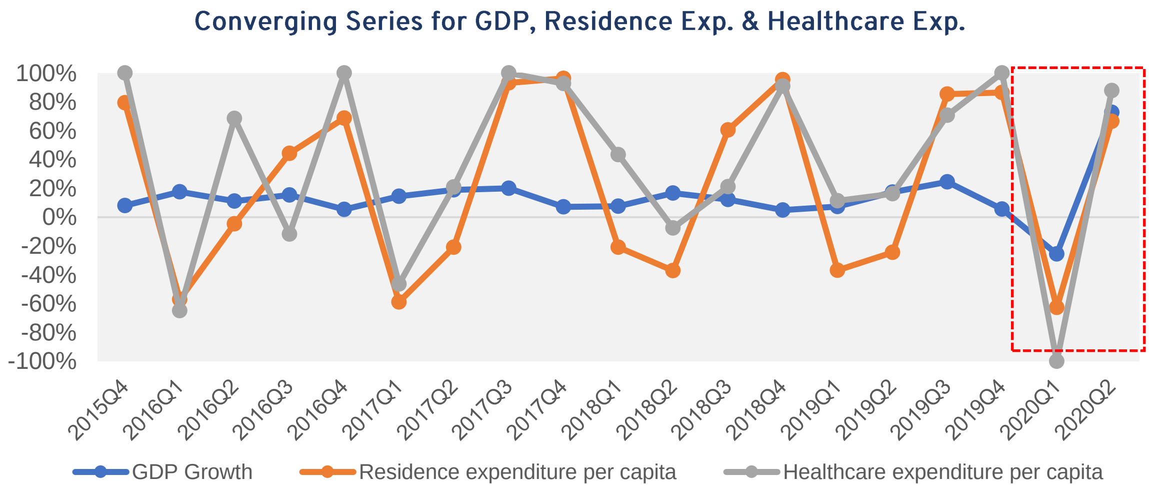
Commercial real estate sales in 30 large and medium-sized cities | Unit, 000s



Source: World Bank

Finally, the National Healthcare Expenditure on a per capita basis refers to the expenses covering medical supplies, devices, pharmaceutical products and health care services. As the number of confirmed cases kept rising over Q1, it is expected the healthcare expenditure should follow the same trend. However, as pointed out in the white paper[1], the Chinese government was providing free treatments for all COVID-19 patients throughout the crisis. According to official figures, the total medical expenses for 58,000 infected inpatients have reached 1.35 Billion RMB, as of 31st May 2020. This might explain why healthcare expenditure declined in the first two quarters of 2020 as citizens no longer need to shoulder the burden for medical treatment if they were diagnosed with coronavirus.

Another possibility is that the demand for medical supplies such as facemasks or disinfectants started to level off as more and more people chose to stay at home for a longer period in order to respect the lockdown policy. Nonetheless, the increase in healthcare expenditure financed by government has increased the country's output. Since GDP is directly related to the index return, this explains why the index return is inversely proportional to the citizen's expenditure for Healthcare services.



Source: National Statistical Bureau (China)

Throughout our analysis, our model also gave us insights about the general sentiments of the market. The summary statistics (see Appendix) suggests that all variables are lagging our index returns and this is indeed the case before the outbreak of the coronavirus at around January 2020. However, all variables, other than inflation, were in sync with our index returns in periods after the outbreak. This implies the heightened uncertainty present in the current market and investors are having a hard time in predicting the returns of equity markets.

So far, we have first explained the factors that were relevant to our index return. We went in-depth into each factor and explained how the series of events might affect a particular factor. In some cases, we extended the discussion into other possible drivers of our index return, particularly when a negative coefficient is found. Overall, coronavirus remains the main theme during H1 2020 and this theme transcends all geographical regions beyond China.

Source: ECDC *Size of bubbles proportionate to the no. of cases

[1] Fighting COVID-19: China in Action

The above diagram shows the evolution of the number of new confirmed cases per month within Asia. As of the end of January, China has recorded 9,687 cases while all other countries listed in the above map had less than 20 cases. The virus then spread across other neighbouring countries swiftly, with South Korea and Malaysia became the most affected regions in Asia, reaching 6,855 and 2,601 cases in March respectively. The number of confirmed cases was stabilised for two months and started to increase exponentially from the beginning of June. India has recorded a staggering 149,093 cases, which is around 7 times more than the second most affected region – Singapore. Meanwhile, China, the epicentre of the coronavirus crisis at the beginning of the year, had less than 200 confirmed cases in June.

This might imply that the economy could suffer the greatest hit from June onwards if new lockdowns and similar measures are introduced. As our model suggests that the lag effect of GDP started to fade at the beginning of the COVID-19, it is possible that the equity performances in those markets would start to deteriorate at the same time.

Emerging EMEA

From Asia to EMEA: it was in January when the first COVID-19 cases were confirmed in the Middle East. The transmitters of the disease west direction were a tourist family from Wuhan that were visiting the United Arab Emirates. As soon as the cases were confirmed, the government took stringent steps aimed at controlling the spread of the virus, like implementing travel bans on non-Emiratis residents, the *stay-home regulations* and the daily sterilisation drive. In terms of country measures, the government also provided some support to investors and citizens reducing customs and municipality fees, interest rates cuts and preparing a USD 27 Bn stimulus package attempted to reduce the impact of the coronavirus on the economy. In the real estate sector, there were some specific measures that took place at regional level, such as the 5% increase in loan-to-value ratios on mortgage loans for first-time homebuyers or the revised limit on bank exposure to the real estate sector. Despite all these efforts, the uncontrolled virus and the plunge in oil prices are leading the country into what could be considered their biggest economic challenge in history, 2020 performance that will be strongly determined by the relation between UAE and Israel currently under pressure.

On the listed real estate sector, the impact on the FEN EM UAE Index constituents' performance started to be noticeable during March 2020 when the monthly total return decreased from c.+1% to c.-36%, however, in June 2020 the index was able to recover and reached a monthly total return of +4.23%.

At the same time the virus approached the UAE in January, the virus was confirmed to have spread to Russia as well, when two Chinese citizens tested positive for the virus. The Government imposed lockdown measures as of the beginning of March besides extensive testing measures, but still the country became the European leader with the highest number of confirmed cases. As cases continued to spread among the old continent, in April Europe became the epicentre of the pandemic.

Latin America

From Europe to America: the coronavirus disease reached the Latin America region a bit later than other continents as the virus was confirmed to have arrived in Brazil at the end of February. Apparently, most of the virus transmission were introduced from Europe. Travel flights, Brazilian meat plans and poor housing -as around 13 million of Brazilians live in favelas, often with more than three people per room and little access to clean water- allowed the virus to spread rapidly from big cities to the country's vast interior. The president's weak policy response to the virus, against the recommendations of suspending interstate travel between states with COVID-19 confirmed cases and closure of businesses or even wearing masks, led the country into a critical situation. Despite having one of the strongest healthcare systems in Latin America, Brazil had the second highest number of confirmed COVID-19 cases in the world as of June 2020, just behind the US. This situation negatively shocked foreign demand and prices but also domestic demand and supply. In addition, as a net oil exporter, Brazil has also been hit by the oil price shock. Due to a sharp decline in demand, oil prices have been reduced by half, with some contracts even falling into negative territory in April 2020.

As a result, regional economic indicators fell sharply during Q2 2020. The labour market increased by 0.7 % points between April and May, the consumer confidence index registered its worst historical performance in April (59.3) but recovered 20% in June. Prices accumulated during the year recorded a deflation of 0.16% and the forecast for Q2 2020 GDP is a drop of approximately 10% compared to Q1 2020.

On the real estate sector the panorama was not better: investments were heavily impacted in Q2 2020 as the number of transactions decreased 60% compared to Q1 2020, real estate funds registered sharp drops in their market values because of the freezing of yield distributions. On the listed real estate sector, the *FEN EM Brazil Index* faced it biggest declined in March 2020 when the monthly total return fall to -48.81%. Nevertheless, the evolution has been quite positive as the performance in June 2020 reached +13.58%.

In Latin America, another country that needs to be mentioned is Mexico. The virus reached the country at the end of February 2020 too introduced by two citizens that previously travelled to Bergamo, Italy. The repercussion of the virus is heavily determined by the country's contextualization as Mexico is a country that, even with the resources and educational, social and economic development systems that had before the pandemic, has not managed yet to overcome poverty, the inequality gap and illiteracy. Thus, the COVID-19 aggravated its economic position but also triggered a healthcare issue. The government tried to act rapidly carrying out a healthcare reconversion and imposing some restrictive measures to control de virus spread like the closure of business. However, these restraints had a huge impact on the Mexican economy, heavily dependent on tourism and private consumption from the EEUU which caused a huge increase in the unemployment rate as well as the departure of lot of citizen from the country. Regarding the listed real estate sector, the worst performance was reached in March 2020 when the monthly total return of the *FEN EM Mexico Index* constituents showed a -37.27%, however and as opposed to Mexico, the country was able to recover a bit but still was not able to turn into positive values in June 2020, where the monthly total returns were of -0.85%.

As a conclusion, we could say that no region in the world has been able to escape from the COVID-19 impact during the first half of 2020 despite the modest recovery achieved by some countries such as Brazil where the FEN EM Brazil TR Index amounted to +7.21% in August in a monthly basis. The evolution and severity of this crisis was different across regions as we have seen. Latin America, South Africa and Middle East faced a huge shocked on the healthcare and social welfare, as these regions typically count with poor health infrastructure as compared to the others, but also from an economic point of view, due to their high dependence on external trade and tourism and the huge increase of debt that they had been forced to submit. On the other hand, in Asia -specifically in China-, despite the alarming number of cases, the prompt response of the Government imposing strict measures, including a massive investment in the healthcare system, helped to control the situation faster than in the other regions (considering the number of cases/population). At this point, where the pandemic does not seem to have and end, it has been proved that specific internal policies and a stronger support from bilateral and multilateral lenders will determine the recovery of these countries.

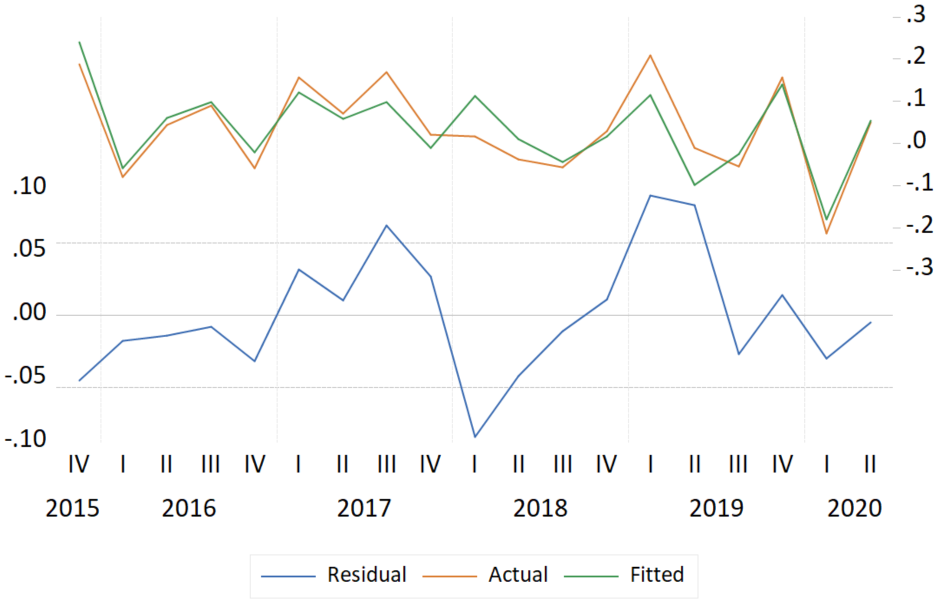
From an investment perspective, despite the current situation and the potential solvency crisis that some emerging countries could face if the lack of liquidity continues to deteriorate, some investors have seen strengths and new opportunities in emerging countries, improving their diversification across countries and sectors. In the listed real estate sector, the monthly performance evolution during the H1 2020 confirmed the potential of these countries. The performance of the *FEN EM Index* was really shaken during March 2020 showing a negative performance of -19.27%, however in June 2020 the monthly performance was able to recovered to +5.60%, resulting in a similar performance the one achieved last year in June 2019 (+5.74%). As of August 2020, some countries such as Czech Republic (+41.6%), Russia (+54.8%) and Saudi Arabia (+18.2%) achieved better performance in the 8M-TR, and some others reached positive monthly performance such as Brazil during the months of July and August. However, the rest of countries continued to struggle with a decrease in their YTD performance. Besides, that, there are leading companies in the emerging markets that unfortunately for ones and fortunately for others are trading at huge discounts. These companies might suffer some erosion from the crisis but it is also important to keep in mind that emerging countries had been always much more exposed to unstable and volatile environments than developed markets, therefore, understanding the balance sheet and the ability to manage the income statement could be essential. As some of these companies will emerge stronger from the crisis.

Appendix

Summary Statistics for the Regression Model				
Dependent Variable: Quarterly Return of FTSE Nareit Emerging Asia Pacific Index Series				
Period: 2015Q4 – 2020Q2				
Variable (lag)	*Coefficient*	*Std. Error*	*t-Statistic*	*Prob.*
C	-0.581907342	0.123321477	-4.718621267	0.000401497
GDP growth (-3)	39.88716636	7.557890002	5.277553173	0.000149556
Consumer Price Index (-1)	-12.0353718	3.771467977	-3.191163727	0.007087132
Business Confidence Index (-7)	-9.330347452	3.86029439	-2.417004122	0.031079189
Residence Expenditure (-10)	-0.516628617	0.247168693	-2.090186304	0.056815006
Healthcare Expenditure (-8)	-0.797626909	0.292916838	-2.72304902	0.017411295

R-squared	0.799128788	*Mean dependent var*	0.036544449
Adjusted R-squared	0.721870629	*S.D. dependent var*	0.108989504
S.E. of regression	0.057478854	*Akaike info criterion*	-2.622709909
Sum squared resid	0.042949643	*Schwarz criterion*	-2.324466021
Log likelihood	30.91574414	*Hannan-Quinn criter.*	-2.572235194
F-statistic	10.34361682		

Plot



AUTHORS

Lourdes Calderon Ruiz
Senior Analyst: Indexes & Research
l.calderonruiz@epra.com

Christopher Ho
Intern: Indexes & Research

David Moreno
Senior Analyst: Indexes & Research
d.moreno@epra.com

Dilek Pekdemir
Research Manager
d.pekdemir@epra.com

Ali Zaidi
Director: Indexes & Research
a.zaidi@epra.com

CONTACT