How REITs Contribute to Emerging Market Economic Development

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Preface

The inspiration behind my research lies in uncovering the effect an often-overlooked financial player, REITs, have on its larger economy. The past few decades have seen tremendous growth in emerging markets, including Mexico and Turkey amongst many others where real estate played a critical role in propelling their economy forward. With such an important asset class in a growing economy, I aim to examine how REITs, a vehicle of ease for public investment into real estate, can contribute to emerging market economic development. My hope is that my research can shed light onto the benefits of REITs for emerging markets to hopefully encourage policy makers, regulators, financial experts, and the public to encourage the further adoption of REITs in these markets.

Acknowledgements

First, I would like to thank Professors Bruno Abrahao and Raymond Ro for their initial guidance in my research focus. I would also like to thank Professor Francisco Drohojowski for helping me connect with the appropriate resources, such as BTG Pactual's Gordon Lee, who gave me a more in-depth real estate examination into the Mexican market than I could have ever hoped for. I would also like to thank all of those in the real estate market whom I connected to for general guidance and who served as a source of information for me over the past two years - when I first started having an interest in the REIT market.

Abstract

Every economy, from developing to developed, can have its growth be attributed to its real estate which provides the bedrock that propels economic development of all industries. Emerging markets are especially eager to develop their real estate market to slowly evolve into becoming a developed, more globally influential market. One growth driver of real estate are REITs (real estate investment trusts) that serve as a vehicle to financially expose investors to the real estate market, serve as an alternative source of funding for development, and ultimately advance the real estate market. Surprisingly, there is a lack of existing research into REITs and their effects on emerging markets that leave little guidance on its potential further adoption and utilization. My research focuses on the potency of the effect that REITs have on emerging markets, specifically analyzing Mexico and Turkey, by examining the countries' GDP, job creation, and affordable housing among other economic metrics. My results show that REIT growth does correspond with overall GDP growth while also influencing employment during times of high volatility. Additionally, while REITs do have the framework in place to develop affordable housing, it appears emerging markets are not developed enough to fully capitalize on this opportunity. My research points to an indication of REITs fueling emerging market economic development but more studies must be conducted to definitively assert this influence.

Keywords

REITs, Emerging Markets, Economic Development, Real Estate

Contents

Introduction

Real estate is defined as being the physical land that an individual or entity owns which can include any buildings, air rights, or minerals that are physically attached to the underlying asset [3]. It is on this land that entire economies are built upon - where businesses, individuals, and governments will alter the land to better fit an economic incentive, such as developing a new product or residential center with the hopes of eventually making money from its ownership (although there are exceptions of course).

The real estate market can be divided into three distinct parts: commercial, residential, and uncultivated. Commercial real estate gives businesses the capability to establish offices, logistic centers, retail stores, and even niches like gambling centers [45]. All businesses rely on real estate at least in some part to operate itself, even software companies that rely on large data centers to fuel their computational workloads. On the residential side, workers must have a place for them to recover from a hard day's labor and thus houses, co-ops, condos, and many other types of residential properties emerged. In the instance where land is not cultivated to use in either commercial or residential capacity, that unused land still has economic value. This uncultivated land is the core of a variety of businesses such as developers, builders, and architects that are financed to eventually turn that land into economic usability. This usability is the backbone of any economy that emerging markets especially rely on to incite economic growth.

While emerging markets have some variance from country to country, the IMF broadly defines them as being based on "such attributes as sustained market access, progress in reaching middle-income levels, and greater global economic relevance" [16]. Some examples of emerging markets include the likes of Mexico, Brazil, Turkey, Egypt, South Africa, and Vietnam among many others [29]. With real estate being such a core part of obtaining these characteristics of sound economic development, these emerging markets have invested heavily into real estate to catalyze the entire economy. Governments ease interest rates, lower taxes, encourage FDI (foreign direct investment), or even introduce REITs (real estate investment trusts).

A REIT, simply put, is a company that owns income-producing real estate [11]. These organizations pool together capital to then purchase or lease property that entitles them to earn that property's income which is then distributed to the REITs' shareholders as dividends. There are also a variety of different types of REITs, such as those that specialize in logistics, retail, or office. Another type of REIT are mortgage REITs that, rather than generate revenue through owning and operating property, make money by financing it in the form of mortgages through interest instead - still largely having the same structure as other REIT types [45].

While every country that utilizes REITs has their only unique approach to classifying and operating them, there are some general, shared characteristics that REITs across the globe follow. One of the biggest characteristics is that REITs have most of their assets tied into real estate, cash, or bonds. In the United States, where the REIT market is rather mature (being over 60 years old) this majority is defined as at least 75% of the REIT's total assets [35] [27]. Additionally, REITs must pay most of their taxable income to their shareholders that is defined as 90% in the United States or even 95% in Mexico, which we will discuss in more detail later. These relatively high dividend yields (compared to that of other assets such as or bonds where the interest rates are 85 bps below the average US REIT yield), is just one of the many reasons that investors choose REITs as a reasonable investment strategy [45].

A common confusion for REITs is how they differentiate from the traditional method of investing in real estate by an investor purchasing a property outright. Here, REITs eliminate the need for investors to get their hands dirty who end up negotiating a reasonable mortgage with the bank, renovating the property, and then managing it [45]. In a REIT, all this workload is handled by the operating team that takes a small fee in return. With this hands-off approach, investors are also free to buy and sell shares in a REIT at their own willingness and with as much (or as little) capital that they wish to invest with (within reason). Most REITs are publicly traded where they operate like stocks that give investors this complete flexibility. The flexibility, openness, and freedom of public participation in REITs are key reasons that compel my research.

My research is aimed to discover how REITs affect emerging markets' growth by examining the emerging markets of Mexico and Turkey while using the United States as a benchmark for REIT development and growth. In terms of REITs' 'effect', I aim to examine how they contribute to various other sectors of the economy such as how they propel job growth and increase availability of affordable housing. To answer these questions, my research will focus on both foundational analyses, by examining related studies and research, while also analyzing historical data of each market, such as their GDP, REITs average returns, and unemployment rate amongst other metrics.

Related Work

Atchison and Yeung discuss at great lengths about REIT impact on Asian economies [4]. Their research takes a full holistic view that examines both micro and macro qualities that come from REITs. They focus on the cycle of real estate and how the financing from REITs catalyzes the cycle and promote, not only real estate growth, but also improve jobs, lower costs of capital, and fuel other businesses' growth amongst other benefits in countries such as Japan. Their research, while very detailed and specific to the Asian markets, obviously fails to answer how relatable REITs are to other markets. Asian countries in recent years have had unique, massive growth that the researchers themselves express its influence on bolstering the REIT market.

Shifting research to Europe, Bayraktar of Istanbul Bilgi University had his research focus on the REIT market specifically in Turkey [7] . He analyzed REIT risk and compared that to the broader market and other stocks (including the BIST 100 index). He ultimately found strong correlation between REITs and economic growth periods while also noting that the opposite was not true during periods of low economic growth. His research is one of the first in Turkey to examine how REITs fit into the wider economic picture, but only does so from a pure technical analysis, such as by YoY growth and average yields.

Diala et al. in *Affordable Housing Ambidexterity of Real Estate Investment Trusts: SWOT Analysis for N-REITs,* drew positive correlations from REIT development to affordable housing in Nigeria [15]. They specifically surveyed and examined certain REITs and non-listed direct real estate companies and saw a significantly higher correlation in growth between the REITs and affordable housing. They did, however, point out a few areas of improvement such as with increased transparency and with a more seasoned management structure, which naturally comes with further development.

Egbo et al. also focused their research on Nigeria, but their approach was more about the specific financing that REITs could provide to development projects [17]. They explained how developing nations, such as Nigeria, face massive difficulty with corruption, high default rates and political risk with a lack of financing options for new projects - much less at fair rates. Their research showed that REITs can contribute greatly to further economic development due to their tax incentives, liquidity, and transparency in certain markets, spurring on new development projects.

Dr. Manoj PK similarly wrote about housing development, but in India [37]. His research was more on suggestions and regulations that the government can support to encourage affordable housing growth. The issue with his research, however, is that he quickly glossed over the benefits and spent much of his research on why and how specific regulation can contribute positively, rather than focusing on the REITs' influence. His research is certainly unique as it brings the government into the picture that other research did not necessarily consider as much.

Building off Dr. Manoj's research, Zhang et al. have their research in the form of guidelines set towards the further adoption of REITs [47]. In their research, they argue the added financial capabilities that REITs can provide can, in turn, create affordable housing options more common. For the benefit of affordable housing, Zhang et al. point to more efficient planning development that cuts down on pricing with smaller, more affordable units. Their research, formatted in a suggestions style, does not consider REITs' relationship with the government, as Dr. Manoj accomplished in his research, but also does not explain REITs in the context of the general economy as my research will aim to do [37].

Addressing the greater economic level was research conducted by Ali Türel and Hülya Koç where they address the lax regulation in housing within Turkey [43]. In their findings, they show that Turkish housing supply outpaces the increase in households. They point to the cause stemming from the government's attitude towards promoting real estate, particularly due to high foreign demand that floods into Turkey because of this real estate boom. While their research did not necessarily focus on REITs, they did point to a systematic problem that may severely hurt REITs which is the housing supply mania that may lead to a real estate crisis in the long-term for Turkey.

To connect this boom in construction directly to REITs, we can then turn our attention to research conducted by Dr. Viktorija Cohen and Dr. Arūnas Burinskas where they drew direct correlations between these two variables [13]. After reviewing statistical, historical data from the European real estate and construction markets, their findings point to a strong influence in the supply side of property to that of its price. With their research, we can now fit the mold of REITs in its place in the greater economy, being influenced dramatically by construction prices and total housing supply, paving the way for my own research.

Market Overview

The markets I aim to focus my research around are Mexico and Turkey, selected for a few reasons. The first reason is that Mexico and Turkey are considered more 'mature' emerging markets. Both countries have been classified as emerging markets for the better part of two decades now and have generally consistent growth over this time, compared to the volatility of other markets such as Argentina which was reclassified from an emerging market to a standalone market in 2021 due to recent economic turmoil and a currency crisis [30]. The second reason for selecting Mexico and Turkey is because of their geographic locations of South America and Europe, respectively. Focusing my research on two sides of the world allows for a more international perspective that limits the effect that unique, proxy policy has on an economy. Lastly, both markets have a large and active REIT landscape that provides a fair amount of data for my research to analyze.

Turkey

The Turkish economy has grown rapidly over the past two decades from an influx of foreign direct investment of a cumulative $225 billion and booming tourism, agriculture, and tourism sectors from the early 2000s that continues to grow today [22]. This boom has catapulted Turkey's GDP to $720 billion in 2020, up from $274 billion in 2000, or a 163% increase, into becoming the 19th largest economy by GDP [24] [44]. Turkish citizens felt this boom too, with Turkey seeing a drastic decrease in poverty rates from 33% of the population in 2000 to 10% in 2020 [46]. A key factor of this growth can be attributed to its unique geographic location.

Turkey's economy greatly benefits from being physically set in between two massive economic hubs of Europe in the West and Asia in the East. In recent years, Turkey has leveraged their unique positioning and has embraced free trade by signing agreements such as the Customer Union Agreement in 1996, promoting free trade in areas such as agriculture with EU (European Union) nations, while also strengthening existing relationships such as that with North Atlantic Treaty Organization (NATO), particularly with military support post-Cold War [12].

In terms of real estate, Turkey has an impressive 6% of their GDP tied into real estate with a strong future outlook [28]. Foreigners, in particular, have recently been obsessed with recent Turkish economic turmoil as a result of the Lira's depreciation, and have been eager to buy up property with nearly 6% of total real estate sales, or $7.5 billion, going to foreigners in 2021, with nearly 50% of total FDI going into either real estate or construction [20] [28]. The growth of the real estate market in Turkey came from 5 key factors: advanced infrastructure, strong banking regulations (although this part is in debate in recent years with inflation soaring), strong FDI, a massive 82 million population, and a lucrative tourism industry [26]. These factors pushed the real estate market to great heights that also helped propel the Turkish REIT market as well (technically, trusts don't exist in Turkey and REITs are considered as REICs in Turkey, but I will still refer to them as REITs in this research for simplicity). Turkish REITs (or T-REITs as they are sometimes called as well) had a total asset value of $10.02 billion in 2020 from a total of

33 REITs [19]. Even with this impressive total asset valuation size, one important note to Turkish REITs, however, is that even though the real estate market continues to grow, the ROA (return on assets) of these REITs has fallen to its lowest level in a decade of 6% in 2020 [9].

Mexico

Let us now turn our attention to Mexico. Mexico is one of the largest emerging markets in the world with a GDP of $1.07 trillion with a growth of 51% from their GDP in 2000 of $708 billion [23]. A large part of this growth was fueled by FDI, primarily financed by the United States, of $29 billion in 2020 alone [31]. Of this FDI, 23% was put into manufacturing that helped accelerate Mexican exports, particularly of automobiles that accounted for 36% of total manufacturing exports. Unlike Turkey which saw a massive decrease in poverty over the years, this strong economic growth and a bustling manufacturing industry had failed to alleviate the country’s poverty crisis.

Poverty in Mexico has always been a massive problem to tackle largely due to the country’s massive 131 million population and frequent political turmoil. Additionally, cartels and violence are all too common in Mexico that ranks it as the 3rd most corrupt country in the world, behind only Iraq and Colombia [33]. The public felt these effects the greatest, exemplified by a generally consistent poverty rate of 43% in 2020 - only 1% lower than it was in 2000 [34]. Even while poverty remains generally stagnant and a massive problem for economic advancement, real estate in Mexico has proven to be a dominant player on the global stage.

Mexican real estate accounts for 11% of their total GDP, while Mexico also boasts the largest REIT market of any emerging market, valued at a total market cap of $20 billion [19]. This massive REIT market cap is driven by only a select few Mexican REITs (locally called Fibras) of only 15 - each with wide diversification and strong governmental backing. This government backing has been seen throughout Fibras relatively young history, being established only in 2011 and having frequent reforms throughout the years, such as in 2013 where regulations and public policy pushed for more transparency in their structures and financials, to please American investors [14].

Findings & Discussion

In Mexico, the S&P/BMV Fibras Index, which measures the largest REITs in Mexico, has seen a 10-year total return of 10.61% with a 6.01% price return annualized from February 2012 to March 2022 [40]. This growth comes from a surprise as the REIT market in Mexico is very young, only evolving to their modern form in 2012. In the US, the REIT market was initially established in 1960 but took 30 years to gain any sort of traction - pointing to the remarkably quick success Mexican REITs have had.

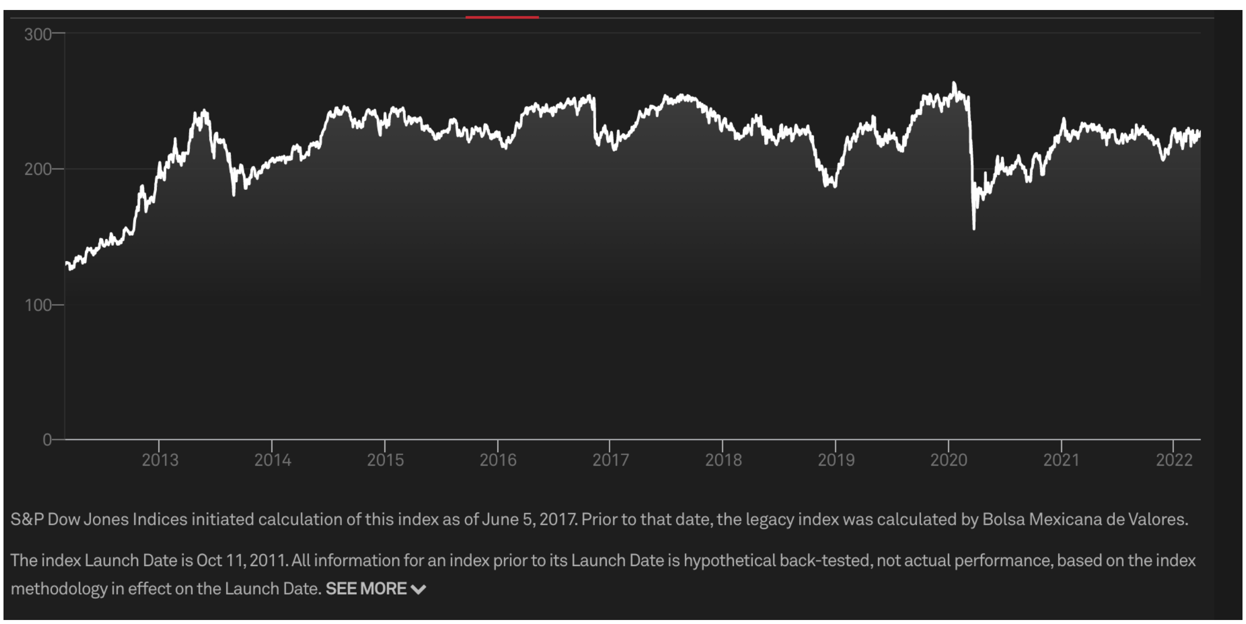

Figure 1: The S&P/BMV FIBRAS Index (FBMEX) that shows the past 10 years of historic price changes in the largest and most liquid Mexican REITs.
Source=https://www.spglobal.com/spdji/en/indices/equity/sp-bmv-fibras-index

Turkey's REIT market is less consistent compared to Mexico but is especially strong in recent years. Solactive Turkish REITs Index (SBOXTR) is Turkey's primary measure of REIT performance as it tracks international REITs that primarily invest in Turkish real estate. Since its inception in 2006, total returns have been 94.5% (with dividends reinvested) [21]. A very interesting characteristic of the index is that the REIT index's performance from March 2019 to March 2021 has seen an increase of over 200%, reaching a high of 300 TRY (Turkish Lira) from 100 TRY in this short 2-year period. This short-term increase is primarily due to the recent currency crisis in Turkey where the Lira has been depreciating in value due to a refusal to raise interest rates by the president, Erdogan, who refuses in an effort to promote investment in energy and construction, is resulting in an annual inflation rate of 48.7% in 2022, a 20 year high [42].

The effects from a weakening currency and low interest rates drive up real estate prices in any economy as borrowing becomes easier and holding onto cash becomes riskier. Real estate has traditionally been a haven to combat inflation, so the threat of continued inflation drives investment into real estate, and subsequently into REITs that drove the recent massive price surge [36].

Figure 2: The Solactive Turkish REITs Index (SBOXTR) that shows the historic price changes in the largest Turkish REITs from 2006 to 2021.
Source=https://tradingeconomics.com/

In this inflation-driven economy, we see how vital REITs are, as they provide a way for individuals to put their money out of banks and into more safe assets such as real estate. Current financial craze in Turkey has the public turning to gold, bonds, stocks, and even cryptocurrency as they turn to any means necessary to get their cash converted into assets [32]. Real estate provided the public another opportunity to limit their exposure to the economic currency crisis, suggesting that its overall economic effects will be minimized because of REITs and other assets that limit the public's exposure to inflation.

To build off this relationship between REITs and economic toil, let us take a deeper look and gauge how the performance of REITs affects an economy by turning our attention to the most fundamental economic metric: GDP.

GDP

On the surface, there seems to be a positive correlation between real GDP growth and REIT growth. Considering quarterly growth from the start of 2013 to the end of 2020, the correlations for Mexico and Turkey, comparing their respective REIT indexes, are 0.3496 and 0.4592, respectively. Both correlations can be defined as moderately strong [8]. To test for significance, the p-value of Mexico's correlation was 0.0461 while the p-value of Turkey's correlation was noted to be 0.0072, both indicating significance or precision.

	Mexico Real GDP Index
Mexico Real GDP Index	1.0000

FBMEX Index	0.3496*
p-value	0.0461

Table 1: Shows the correlation and its significance between Mexico's Real GDP (measured by the IMF) and the REIT index FMBEX. Results deemed significant are denoted by a star if the p-value is < 0.05

	Turkey Real GDP Index
Turkey Real GDP Index	1.0000
SBOXTR Index	0.4592*
p-value	0.0072

Table 2: Shows the correlation and its significance between Turkey's Real GDP (measured by the IMF) and the REIT index SBOXTR. Results deemed significant are denoted by a star if the p-value is < 0.05.

Both measures do correspond to other research around correlations in the US between REITs and US GDP. From 1999 to 2018, the asset correlation between REITs and United States GDP was 0.44, showing a moderate correlation and suggesting that emerging markets like Turkey and Mexico are on developing, at least on a REIT front, like that of the US [45] [5]. Even with a moderate correlation, GDP is still far too encompassing with too many factors that make it difficult to measure the exact effects that REITs have on GDP, so we must narrow our focus and consider other specific metrics.

Affordable Housing

Let us now turn our attention towards affordable housing. Governments have kept a close eye on affordable housing within their borders and aim to keep it low to alleviate poverty. A key method to increasing affordable housing is to abide by simple and demand economics, and to increase its supply. With higher supply relative to demand, housing prices would naturally be decrease.

Before we dive into the details of affordable housing, let us first lay some foundations of what it entails. Affordable housing is generally defined by if the housing costs are less than roughly 30% of what the local population earns, with enough additional income to purchase other necessities such as food, healthcare, or clothing [1]. In the context of the greater economy, affordable housing can serve as a general metric for gauging a country's development. Countries such as India have an estimated 70% of their population living at or below the poverty rate being eligible for affordable housing where a lack of its supply, particularly in urban centers where there is an estimated shortage of 18.78 million units, can reinforce poverty [38] [6].

Bouncing off the research conducted by Zhang et al. discussed prior where they suggest breaking down projects into simpler, more affordable units, my research suggests that the creation of multi-family homes can help to increase the supply of affordable housing [47]. These homes are properties that are divided into multiple units, often being priced lower than single-family homes or other alternative properties, being suitable options for perhaps alleviating poverty.

In Mexico, unfortunately there is a lack of REITs specializing in multifamily homes. The primary reason is that the existing system in Mexico is more in favor of the tenants where a non-paying tenant is very difficult to evict given the current regulations [25]. This increased risk prevents REITs from specializing in multifamily homes where there would be too much unpredictability with cash flows. REITs tend to be more risk-averse and in the near term are unlikely to finance multi-family homes in Mexico, however, there is progress on the horizon.

There are a few multi-family REITs in Mexico that are currently eyeing an IPO, such as Fibra Multi-family backed by local developer Grupo Favier [10]. These REITs, however, are focusing exclusively on more premium multifamily houses because of their higher stability of cash flows.

Another issue that Mexican REITs have with spurring affordable housing is its weak financial incentive. Sectors such as the Mexican industrial sector are currently extremely attractive to investors due to their high cap rates, low interest rates, and long-term economic outlook [2]. Multi-family homes, on the other hand, have one of the highest mortgage interest rates in Mexico with low cap rates for even the most premium properties [14]. With the recent pandemic, more focus has turned to incentivizing the growth of affordable housing and multi-family homes, so while the current relationship between affordable housing and REITs is rather weak, the future prospects look more promising.

Considering Turkey, multi-family homes are not really in the picture and are instead overshadowed by increasingly high real estate prices. We discussed earlier how Turkish housing prices have drastically increased over the past two decades, yet the Turkish government has had a lax approach to extending financial support for middle-to-lower income households, even with new property construction outpacing households [43] [18].

Most developed countries have some social or welfare policy that ensures that affordable housing can be met but Turkey's lax real estate regulation has unfortunately left these ideas behind. Turkey currently has minimal or nonexistent policies such as subsidized rents, price controls, or mortgage tax breaks for middle-to-lower income households [43]. This immediately limits the adoption of Turkish REITs to develop multi-family homes as the very foundation of the Turkish market limits affordability at the starting line.

Like Mexico, the economy in Turkey has yet to develop enough to set the stage for REITs to create affordable housing options. Developed countries such as the US, while certainly no beacon for affordable housing, have multi-family homes as the largest REIT asset class of $2.9 trillion that sets the stage for affordable housing development [41]. Additionally, some US REITs, such as the Housing Partnership Equity Trust, have branded themselves as ‘social REITs’ with a focus on affordable housing that may be the start of more to come in developed and possibly emerging markets [39].

Job Creation

Naturally with an increase in capital for real estate investment coming from REITs, more economic development will spur on the creation of new roles that will need to be filled to keep up with this growth. REITs are one of the most capital-intensive asset classes in the world with its development and management of properties contributing to its long economic life span [45].

The industry most likely to benefit from an influx of REIT investment is construction. Numerous studies have pointed to the correlation between construction growth and REIT growth such as with research accomplished by Cohen and Burinskas which asserted a strong influence between the two variables [13]. As REITs invest in more developments, especially new developments, construction companies would need to fit this demand and continue hiring.

Governments in emerging markets around the world have taken notice and started to begin initiatives. A survey done by the government of India pointed to an additional 10 million man-years of indirect employment by a construction of 2 million units [37]. Europe too has seen REITs’ effects on employment with one report that points to French REITs (called SIICs) creating 66,300 jobs in 2011 with an estimate of contributing to 140 million working hours by 2016 [4]. These job creations also do not consider other industries as well such as retail, manufacturing, or suppliers - all jobs which would increase in demand during an influx of new construction. It is here, unfortunately, where my research is limited.

A difficulty with drawing up correlations between labor and REIT performance is due to so many factors affecting labor. Market sentiment, inflation, economic policies, or even a proxy event in an overweight industry could also swing labor from a peak to a trough.

The issue with the above approach is that Turkish REITs, although representing a market cap of $10 billion USD, is still relatively small in its effect on economic metrics such as labor [19]. One approach to get a more accurate measurement of REITs impact on labor, is to broaden our variable for REITs to new home sales. Earlier in this paper, it was discussed at length about how REITs promote new development, and an important note is that this is inclusive of home sales, as supply increasing would lead to more homes for sale. If we were to now view a correlation between employment rate and new home sales, we can see a clearer trend over the past 5 years below:

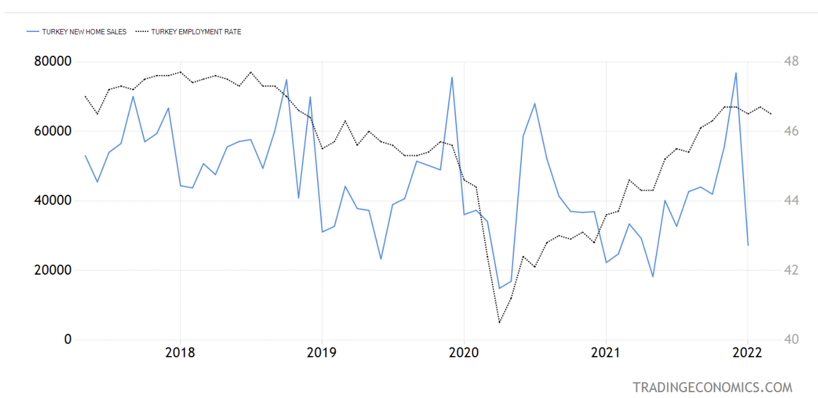

Figure 3: Shows the relationship between Turkey's new home sales and Turkey's employment rate. Indicates a general pattern in trend.
Source=https://tradingeconomics.com/

From this above chart, we can shallowly infer that there exists a correlation strong enough on these two variables to influence each other. One argument can be made, however, that employment rate affects new home sales and not vis-a-versa. This argument may hold water given that even with new construction continuing in the background, home sales may still decrease because of general unemployment, even with an increase in construction employment in Turkey.

To validify the relationship between new construction and employment, we can get more specific by viewing permits issued compared with that of unemployment in Turkey:

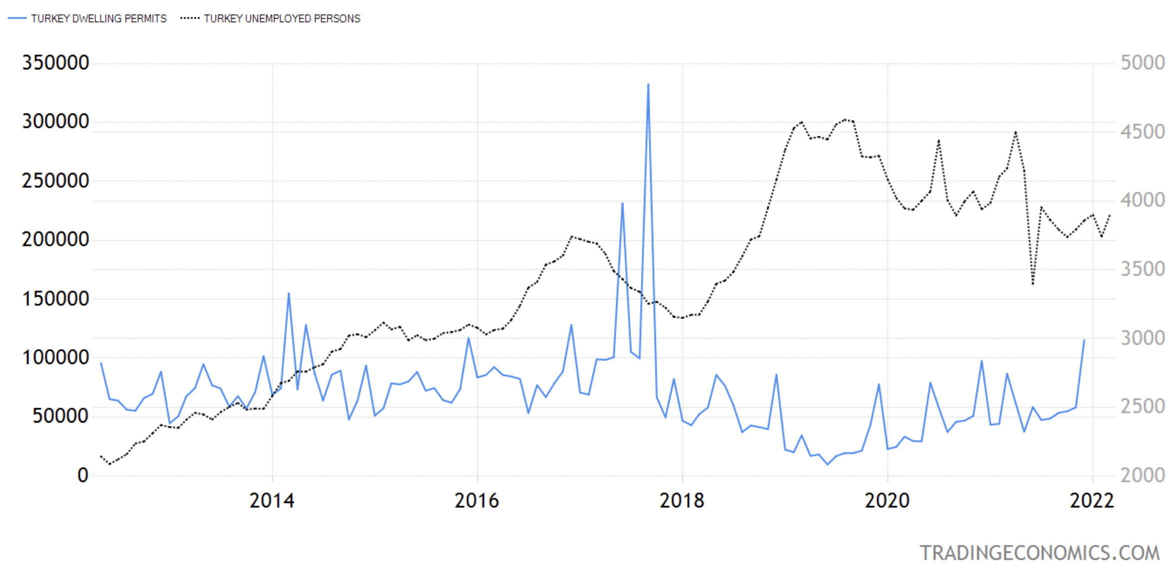

Figure 4: Indicates the relationship between building permits and Turkey's unemployment.
Source=https://tradingeconomics.com/

The chart above now shows a bleaker picture of labor regarding construction. In Turkey, it appears that unemployment started to have a weak correlation with new permits issued at the start of the 2010s but in 2018 took a shift away and began to move with a negative correlation, where only in recent years seeming to converge. From the charts above, we can say that new construction, irrespective of being funded by REITs or not, does NOT have an overly strong correlation with unemployment.

We can now turn our attention back to Mexico and see if the results here echo the sentiment discussed in Turkey with the relationship between Mexican unemployment and construction output is listed below:

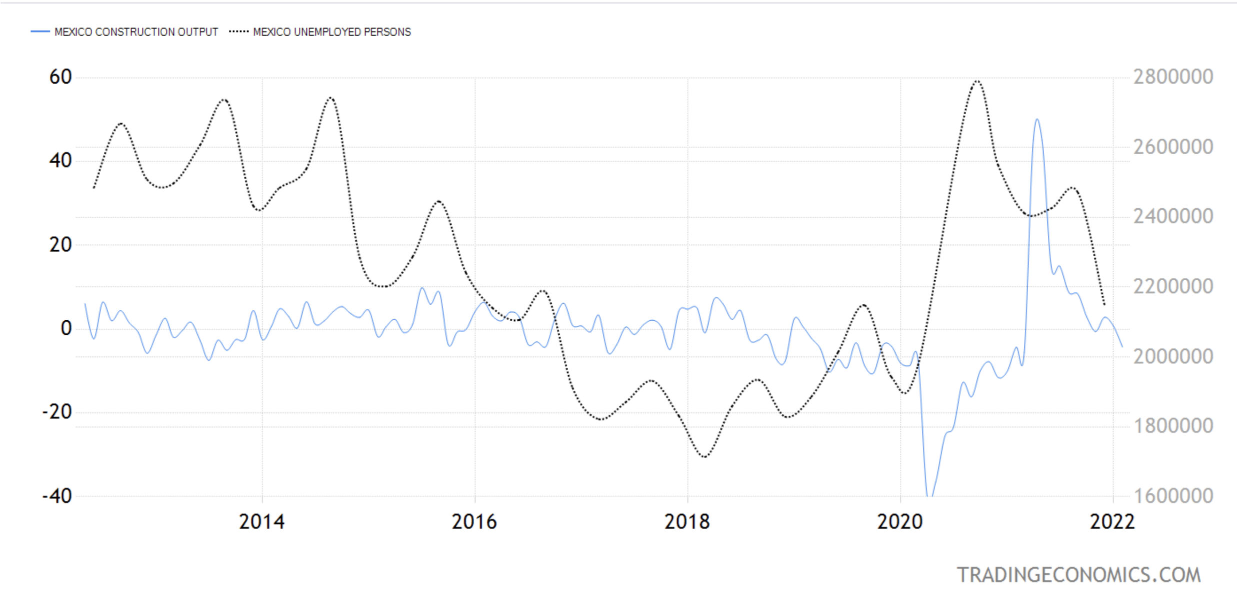

Figure 5: Shows the relationship between Mexico's construction output and Mexico's unemployment.
Source=https://tradingeconomics.com/

For Mexico, it appears that correlation between new construction output, once again regardless of source of financing, does NOT appear to be very correlated with overall unemployment rate, sharing similar findings to that of Turkey. One notable finding, however, is in recent years, due to the COVID pandemic, it appears that a sudden surge of construction output in 2021 may have also surged for a rise in needed labor that drove the unemployment down soon after. Speculation for this drive may suggest that only drastic increases/decreases in construction can have a profound impact on employment.

Conclusion

My research findings point to an indication that REITs in emerging markets do have a noticeable effect on its corresponding market, however, my findings are not conclusive enough to determine by how much and to what degree it affects the market. From a market-level perspective, it appeared that REITs did correspond with overall GDP growth with a more-than-precise significance value to prove its accuracy. REIT growth, however, did not seem to correlate with affordable housing in emerging markets, not as a result from a lack of framework to do so, but more from external regulatory incentives that dissuade REITs from investing in affordable housing, such as multi-family homes. Additionally, my research suggests that labor is influenced by REITs in times of extreme volatility, such as the COVID pandemic which lowered interest rates and encouraged construction, either for current or new developments. This research serves as a sound foundation for further research to be conducted that can lead to more concrete evidence of REITs' influence on emerging markets such as Mexico or Turkey.

The first suggestion I have for further research is to identify the influence of REITs on construction and new developments. Examining specific weight contributions on metrics such as construction output could lead to exactly how much influence REITs would have on the larger economic development, including total employment. By incorporating these weights of REITs influence, I propose this will give a clearer, more focused picture on REITs that limit external effects like regulatory policy.

I also suggest a closer examination on the financial structure of REITs in emerging markets. My research did discuss the general structure of REITs, but I feel that a deeper dive into how each market uniquely crafts REITs would provide for more insight on how REITs directly interact with local developments. This includes financials such as the types of loans (i.e. AAA loans, Mezzanine loans, etc.) which can also suggest general risk for REIT adoption and expansion.

A final suggestion I have to other researchers to expand off my own research is to consider more developed countries, such as France or Germany, and compare their REIT landscape to that of emerging markets. In my research, I did briefly touch on the United States REIT market but stopped short of really doing a full analysis of the market as I wanted to focus my research exclusively on REITs' influence on emerging markets and not so much comparing with developed countries. After I concluded my research, however, I realized that a more detailed examination of developed markets working with REITs can serve as a reference point and almost as a 'goal' for emerging markets to strive for - marking a clear incentive for, to put it simply, caring about REITs in emerging markets.

References

[1] “Affordable Housing Area Median Income.” *NYC.gov*, Housing Preservation & Development, https://www1.nyc.gov/site/hpd/services-and-information/area-median-income.page#:~:text=About%20Affordable%20Housing.

[2] Alejandro González Castillo, Antonio, and Fletcher Wheaton. “Investing in Mexican Reits.” *Cabo San Lucas Real Estate*, 26 June 2020, https://cabokey.com/f/investing-in-mexican-reits.

[3] Amadeo, Kimberly. “What Is Real Estate?” *The Balance*, The Balance, 6 Feb. 2022, https://www.thebalance.com/real-estate-what-it-is-and-how-it-works-3305882.

[4] Atchison, Ken, and Victor S Yeung. “The Impact of REITs on Asian Economies.” *Asia Pacific Real Estate Association Limited (APREA)*, Apr. 2014, https://doi.org/https://irei.com/wp-content/uploads/2017/02/apreareportreitsapril2014.pdf.

[5] “Asset Class Correlation Map.” *Asset Class Correlation Map | Guggenheim Investments*, Guggenheim, 2022, https://www.guggenheiminvestments.com/mutual-funds/resources/interactive-tools/asset-class-correlation-map.

[6] Batra, Manpreet. “India's Enduring Urban Housing Shortage: The Case for Upgrading Informal Settlements.” *ORF*, ORF, 22 Nov. 2021, https://www.orfonline.org/research/indias-enduring-urban-housing-shortage/#:~:text=Introduction,was%20for%20low%2Dincome%20households.

[7] Bayraktar, Sema. "Performance Stability of Turkish REITs". Financial Management from an Emerging Market Perspective, edited by Guray Kucukkocaoglu, Soner Gokten, IntechOpen, 2017. 10.5772/intechopen.71629.

[8] Bhandari, Pritha. “A Guide to Correlation Coefficients.” *Scribbr*, 2 Dec. 2021, https://www.scribbr.com/statistics/correlation-coefficient/.

[9] Bilgehan Tekin, 2021. "The Factors Affecting the Market Value/Book Value and Profitability of REITs in Turkey," International Real Estate Review, Global Social Science Institute, vol. 24(3), pages 469-499.

[10] Bruni, Jo. “Fibra Multifamily Readies IPO in Mexico.” *LatinFinance.com*, Latin Finance, 12 May 2021, https://www.latinfinance.com/daily-briefs/2021/5/12/fibra-multifamily-readies-ipo-in-mexico.

[11] Chen, James. “Real Estate Investment Trust (REIT).” *Investopedia*, Investopedia, 5 Apr. 2022, https://www.investopedia.com/terms/r/reit.asp.

[12] Claus, Damon. “Emerging Markets Turkey.” *Castus Global*, CASTUS, 6 Jan. 2020, https://castusglobal.com/blog/emerging-market-turkey.

[13] Cohen V., and Burinskas A. "The Evaluation of the Impact of Macroeconomic Indicators on the Performance of Listed Real Estate Companies and Reits". *Ekonomika*, Vol. 99, no. 1, June 2020, pp. 79-92, doi:10.15388/Ekon.2020.1.5.

[14] Cruz, Mariana, and Garcia, Alvaro, and Lee, Gordon (2019). *Mexican Real Estate - The best of times and the worst of times.* BTG Pactual Global Research.

[15] Diala, Oluchi Adeline, et al. "Affordable Housing Ambidexterity of Real Estate Investment Trusts: SWOT Analysis for N-Reits." *European Journal of Business and Management*, vol. 13, no. 12, 2 July 2021, https://doi.org/10.7176/ejbm/13-12-02.

[16] Duttagupta, Rupa, and Ceyla Pazarbasioglu. "Miles to Go: The Future of Emerging Markets – IMF F&D." *International Monetary Fund*, 2021, https://www.imf.org/external/pubs/ft/fandd/2021/06/the-future-of-emerging-markets-duttagupta-and-pazarbasioglu.htm.

[17] Egbo, Philips Nnajiofor, et al. "Assessing the Potential of Real Estate Investment Trust in Financing Real Estate Development Projects." *International Journal of Science and Management Studies (IJSMS)*, 2021, pp. 219–237., https://doi.org/10.51386/25815946/ijsms-v4i5p118.

[18] Emekci, S. How the pandemic has affected Turkish housing affordability: why the housing running cost is so important. *City Territ Archit* 8, 4 (2021). https://doi.org/10.1186/s40410-021-00132-3

[19] *EPRA Global REIT Survey 2021*. European Public Real Estate Association, https://prodapp.epra.com/media/EPRA_Global_REIT_Survey_2021_v5_1630572816126.0.pdf.

[20] Esen, Engin. "Turkey Eyes $7.5 Bln in Property Sales to Foreigners - Latest News." *Hürriyet Daily News*, Hurriyetdailynews.com, 16 Sept. 2021, https://www.hurriyetdailynews.com/turkey-eyes-7-5-bln-in-property-sales-to-foreigners-167899.

[21] "FACTSHEET - Solactive Turkish REITs Index." *Solactive*, Solactive - German Index Engineering, 30 Oct. 2020, https://www.solactive.com/wp-content/uploads/solactiveip/en/Factsheet_DE000A0JZHR5.pdf.

[22] "FDI in türkiye." *FDI in Türkiye - Invest in Türkiye*, Presidency of the Republic of Türkiye - Investment Office, https://www.invest.gov.tr/en/whyturkey/pages/fdi-in-turkey.aspx.

[23] "GDP (Current US$) - Mexico." *Data*, https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=MX.

[24] "GDP (Current US$) - Turkey." *Data*, https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=TR.

[25] Global Property Guide. "Laws Are pro-Tenant." *Global Property Guide*, 31 May 2006, https://www.globalpropertyguide.com/Latin-America/Mexico/Landlord-and-Tenant.

[26] Imtilak Real Estate. “Information on the Real Estate Sector in Turkey.” *Imtilak Real Estate*, 21 Oct. 2021, https://www.imtilak.net/en/articles/important-information-turkish-real-estate-sector.

[27] “Instructions for Form 1120-REIT (2021).” *Internal Revenue Service*, 1 Jan. 1970, https://www.irs.gov/instructions/i1120rei#idm139967521591968.

[28] “Keeping an Eye on Real Estate Sector in Turkey.” *Invest in Group*, 1 June 2016, https://investingroup.org/snapshot/276/keeping-an-eye-on-real-estate-sector-in-turkey-turkey/.

[29] “List of 152 Developing Countries of the Third World.” *Worlddata.info*, https://www.worlddata.info/developing-countries.php.

[30] Luegmayer, Sebastin, and Alejo Muñoz de Toro. “Argentina Was Reclassified as MSCI Standalone Market by MSCI.” *OFarrell*, 2 July 1970, https://www.estudio-ofarrell.com/en/argentina-was-reclassified-as-msci-standalone-market-by-msci/.

[31] “Mexico - United States Department of State.” *U.S. Department of State*, U.S. Department of State, 19 July 2021, https://www.state.gov/reports/2021-investment-climate-statements/mexico/.

[32] Michaelson, Ruth. “Tales from the Crypto: Lira Crisis Fuels Bitcoin Boom in Turkey.” *The Guardian*, Guardian News and Media, 25 Jan. 2022, https://www.theguardian.com/business/2022/jan/21/tales-from-the-crypto-lira-crisis-fuels-bitcoin-boom-in-turkey

[33] “Most Corrupt Countries 2022.” *World Population Review*, 2022, https://worldpopulationreview.com/country-rankings/most-corrupt-countries.

[34] Ng, Juan Jose Li, and Carlos Serrano. “Mexico: 3.8 Million More Poor and 2.1 Million More in Extreme Poverty between 2018-2020.” *BBVA Research*, 10 Aug. 2021, https://www.bbvaresearch.com/en/publicaciones/mexico-38-million-more-poor-and-21-million-more-in-extreme-poverty-between-2018-2020.

[35] Office of Investor Education and Advocacy. “Investor Bulletin - SEC.” *SEC*, Dec. 2011, https://www.sec.gov/files/reits.pdf.

[36] Orzano, Michael, and John Welling. *The Impact of Rising Interest Rates on REITs*. S&P Dow Jones Indices, July 2017, https://www.spglobal.com/spdji/en/documents/research/the-impact-of-rising-interest-rates-on-reits.pdf.

[37] P K, Manoj. (2016). Real Estate Investment Trusts (REITs) for Faster Housing Development in India: An Analysis in the Context of the New Regulatory Policies of SEBI. International Journal of Advance Research in Computer Science and Management. 4. 152-167.

[38] “Poverty in India: Facts and Figures on the Daily Struggle for Survival.” *SOS Children's Villages Canada*, https://www.soschildrensvillages.ca/news/poverty-in-india-602.

[39] Robaton, Anna. “Social Purpose REITs Tackle Affordable Housing Challenges.” *Nareit*, 5 Oct. 2019, https://www.reit.com/news/reit-magazine/may-june-2019/social-purpose-reits-tackle-affordable-housing-challenges.

[40] “S&P/BMV Fibras Index.” *S&P Dow Jones Indices*, https://www.spglobal.com/spdji/en/indices/equity/sp-bmv-fibras-index/#overview.

[41] Thompson, Alexandra. “Total Size of U.S. Commercial Real Estate Estimated Between $14 and $17 Trillion.” *Nareit*, 9 July 2019, https://www.reit.com/news/blog/market-commentary/total-size-of-us-commercial-real-estate-estimated-between-14-and-17-trillion.

[42] Turak, Natasha. “Turkey's Inflation Hits Nearly 50%, Highest in Two Decades.” *CNBC*, CNBC, 3 Feb. 2022, https://www.cnbc.com/2022/02/03/turkeys-inflation-hits-nearly-50percent-highest-in-two-decades-.html.

[43] Türel, A., Koç, H. Housing production under less-regulated market conditions in Turkey. *J Hous and the Built Environ* 30, 53–68 (2015). https://doi.org/10.1007/s10901-014-9393-6

[44] “Turkey (TUR) Exports, Imports, and Trade Partners.” *OEC*, https://oec.world/en/profile/country/tur.

[45] Wachovia Capital Markets LLC (2005). *Real Estate in Real Terms - Wachovia Real Estate Primer*. Del Monte Realty. https://www.yumpu.com/en/document/read/7760991/wachovia-real-estate-primer-del-monte-realty

[46] “World Development Indicators.” *WDI - Home*, https://datatopics.worldbank.org/world-development-indicators/.

[47] Zhang, Y., Yuan, W., Lin, J. (2012). The REITs Applied Research of Indemnificatory Apartments Financing. In: Zhang, L., Zhang, C. (eds) Engineering Education and Management. Lecture Notes in Electrical Engineering, vol 112. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-24820-7_75