Sustainability and Financing Project: The UAE Paradigm

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Achieving equality, sustainability and growth together is possible but needs proactive far-sighted leadership
—World Economic Forum, Global Competitiveness Report 2018.

Abstract

The importance of project finance as a method to invest in infrastructure and industrial assets has grown dramatically in the recent years and has become increasingly important not only to public bodies, but primarily to the private sector (Eisenbach et al. in Business Strategy and the Environment 23:375–394, 2014). These trends are expected to continue to grow and one of the major issues within the project finance industry are environmental and social risks (Esty and Sesia in An overview of project finance and infrastructure finance-2009 update. Harvard Business School Publishing, 2010). Project finance industry is increasingly concerned with the volume and awareness of sustainable development (Eisenbach et al. in Business Strategy and the Environment 23:375–394, 2014). Sustainability is becoming a key issue because of its ethical dimensions as well as risk management, firm value and performance. United Arab Emirates (UAE) can be considered a global leader in sustainability. In has actively displayed its commitment by placing sustainable environment and infrastructure as one of its top national priorities in UAE Vision 2021. The purpose of this paper is to mainly present the policies and initiatives that created this unique UAE paradigm. Moreover, the paper examines how sustainability was successfully implemented in UAE's financed infrastructure at various industries (i.e., smart cities, tourism, sports, etc.) and the added value it produces.

Keywords

Alternative finance • Project finance • Sustainability • Infrastructure • Risks • Leadership • UAE

1 Introduction

UAE's history and nation building has been forged by infrastructure investment and development. UAE's is home to some of the most distinguishable and impressive infrastructures in the world. Infrastructure is an important pillar of competitiveness, environmental sustainability and sustainable economic growth. It is transformed by global trends and the Fourth Industrial Revolution (4IR). The development of smart cities, an important part of UAE's policy, is a demonstration of this integration and emerging trends. The integration of new technologies with infrastructure creates new opportunities and challenges. We examine some of these opportunities and challenges.

The purpose of this paper is to answer the research question if the UAE is a global unique paradigm. We assess it mainly in the context of sustainability, both environmentally and economically. The UAE has displayed significant global leadership and vision regarding infrastructure. First, we briefly present global infrastructure trends and the importance of infrastructure. Then we also shortly discuss the significance of UAE policies in infrastructure development. The main discussion concerns a description of different types of infrastructure, transportation, tourist and sport, real estate and free zones and general public infrastructure. We highlight their unique characteristics and find evidence that the UAE is a unique global paradigm regarding infrastructure.

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The uniqueness of the UAE project financing and infrastructure paradigm lies on the diversity of infrastructures, supporting a sustainable economy, innovation, important environmental standards and initiatives, as well as a range of specialized free economic zones. There is vertical and horizontal integration across infrastructure projects, creating value, enhancing a diversified economy and sustainability. Some of the infrastructure is top ranked globally. The UAE also displays a remarkable vision and leadership in policy making and supporting infrastructure development and sustainability. All these reinforce the hypothesis that UAE is a unique paradigm.

This paper serves a dual purpose. It fills the research gap in the literature on infrastructure in the UAE. It can be also used as an initial case study on the UAE's infrastructure development. The methodology that we follow is focusing on the UAE and its distinctiveness. This is because there are not any appropriate comparisons. Other countries do not match the size and characteristics of the UAE. Countries like Singapore and Hong Kong that might have been considered comparable, have not based their development on oil, their economic and geopolitical narrative is different, and most importantly, concerning infrastructure they do not have the range of specialized economic zones as the UAE.

2 Significance of the Study

Infrastructure investment and development occupies a large part of UAE's history. Surprisingly the related literature can be considered quite limited, especially regarding financing. We contribute to the literature by providing an overview of major types of infrastructure in the UAE. Unique features of infrastructure are presented and analyzed. This paper can be used for research purposes and facilitate future research in relation to the UAE. At the same time, it emphasizes important policies, as Specialized Free Economic Zones and their significance to the economy and sustainability. It also highlights opportunities and challenges, as the development of smart cities and the impact of global and technological trends on infrastructure.

3 Global Infrastructure Trends

The World Economic Forum Global Competitiveness Report has introduced a new version of its Global Competitiveness Index, 4.0. The new index comes partly as a response to the Fourth Industrial Revolution (4IR). It emphasizes, based on worldwide consensus, the need for a holistic approach that combines and integrates well-established aspects with new and emerging factors of competitiveness (Schwab 2018). Infrastructure is a well-established, fundamental pillar of the enabling environment and driver of productivity. At the same time, infrastructure can be combined with numerous other pillars. Almost all the other 12 pillars are in a manner enabled by infrastructure.

Infrastructure is also transformed by the Fourth Industrial Revolution. Modern infrastructure is not only brick and mortar. Infrastructure is increasingly integrating innovative technologies. While the infrastructure and urban development industry (IU) has not kept up with digital technologies, there are future scenarios anticipating the effect on global megatrends on transformation of the industry, including the adoption of advanced technologies at scale, and the use of data and digital models (Schwab 2018). Smart infrastructure and smart cities are the most illustrative example. Smart infrastructure is about transforming cities to smart cities through digital technologies. "A smart city uses information and communications technology (ICT) to enhance its livability, workability and sustainability" (Berst and Logsdon 2016). "Smart cities put data and digital technology to work with the goal of improving the quality of life…In particular, smart technologies change the nature and economics of infrastructure" (McKinsey Global Institute 2018). There is no universally agreed smart city definition and it can mean different things to different people and it varies across countries (Government of India 2018). However, it can be widely accepted that it involves the applications of new technologies belonging to the Fourth Industrial Revolution.

In that sense, infrastructure is closely related to another important pillar, innovation capability. Without innovation capability, the infrastructure is going to remain backward looking and eventually become obsolete. Similarly, additional pillar, notably macroeconomic stability and the financial system, is essential in order to support and promote change and sustainable development. Financial innovation is also essential in order to find pioneering ways to both finance infrastructure and sustain it. Many international organizations have highlighted the infrastructure and infrastructure investment gaps (OECD 2018). The influence of the Fourth Industrial Revolution is likely to accelerate and widen this gap. More investment would be necessary to keep up with the pace of technological transformation and impact on infrastructure. In addition, climate change and the scenario of low carbon future could further increase these gaps (Mirabile et al. 2017). The world is entering a new phase and emerging challenges arise. An important challenge is financing sustainable and smart infrastructure.

4 UAE Policy and Infrastructure

The UAE has a vision to support and encourage infrastructure and sustainability. Vision 2021 promotes "sustainable development and infrastructure" and "highlights the

importance of infrastructure and aims for the UAE to be among the best in the world in the quality of airports, ports, road infrastructure, and electricity. And leading telecommunications infrastructure will allow the UAE to become a forerunner in the provision of Smart services" (UAE Vision 2021 2018). A Smart and Sustainable City is a key theme in Dubai's 2021 Strategy Plan. It focuses on developing "fully connected and integrated infrastructure", promoting sustainability in managing and consumption (His Highness Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum 2018). It is related to the Dubai Strategic Plan 2015 (DSP 2015), which drove major investments in infrastructure (Government of Dubai 2018). Abu Dhabi Economic Vision 2030 focuses on four key priorities areas. Infrastructure development and environmental sustainability is a priority area and "Develop a Sufficient and Resilient Infrastructure Capable of Supporting Anticipated Economic Growth" is an ongoing policy focus (Goverment of Abu Dhadi 2008). To sum up, the UAE is actively pursuing infrastructure development with emphasis on sustainability, quality, and economic growth.

5 Infrastructure in UAE

5.1 History

The UAE has a long and distinguished leadership and tradition in infrastructure. Its history and evolution have been defined, to a large extent, by infrastructure. It can be argued that Dubai has defined its global prominence based on building an enabling business environment through infrastructure. The discovery of oil was not only producing revenues to finance infrastructure projects. Oil exploration and energy infrastructure was accompanied by the development of commercial and transportation infrastructure. Most importantly, investment in infrastructure might be an effective method to obtain significant returns in diverse industries, diversify risk and increase resilience. The UAE has significantly diversified its economy by investing in different types of infrastructure. At the same time, it has strengthened other competitiveness pillars as macroeconomic stability and business dynamism. Economic development and infrastructure seem to have a symbiotic relationship in UAE.

5.2 Port and Airport Infrastructure

Port Rashid and Jebel Ali ports are often quoted as examples of vision and leadership. The latter was developed in a period of uncertainty and it displayed a remarkable degree of proactive far sightedness. The recent mega project of Khalifa port displays the continuing commitment of the UAE in port infrastructure investment. Ports have been a business enabler for the UAE to become an important trading hub. In addition, it enabled UAE corporations to expand worldwide. Notably DP World became one of the biggest global port operators. In a similar manner, the project financing of airport infrastructure has demonstrated significant growth.

The Dubai International Airport (DXB) did reach the first position in passengers in 2014 and since then it has remained among the top airports in the world. From approximately 9 million passengers in 1997 it has reached around 90 million in 2017 (Airports Council International 2018). This tenfold increase in 20 years was supported by substantial infrastructure investment. The development of infrastructure has provided the opportunity to The Emirates Group to rapidly expand globally. Emirates Airlines and Emirates Skycargo are some of the companies of the group and among the largest airlines and cargo airlines, respectively. The Abu Dhabi International Airport and Etihad are also expanding fast. Another airport, the Al Maktoum International Airport was recently developed, once again demonstrating the government's intentions to invest in large-scale projects.

What is important in both port and airport infrastructure is that they enhance access and economic activity. It has been found that airport infrastructure does not only diversify the economy, but it also contributes significantly to manufacturing, wholesale and retail, construction, hotels and restaurants and other social and personal services (Oxford Economics 2014). The three biggest Emirates, Abu Dhabi, Dubai, and Sharjah had more than 21 million tourists in 2016 and this number follow increasing trends. Without airport and associated development of airlines, this would have been very difficult to achieve. Travel and tourism combined contribute approximately 12% of GDP (UAE Government 2018a).

5.3 Tourism and Cultural Infrastructure

Tourism is a key economic driver of UAE economy. It is enabled by sustainable and top-quality infrastructure, which attracts tourists with high purchasing power. Dubai tops the list of the global destination cities with average spending by day of $537 (Mastercard 2018). Paris is in the second position with $301. Abu Dhabi is the fastest growing tourist city in the Middle East and Africa, with an annual growth rate of 18.21% between 2009 and 2017 in visitor arrivals, making it among the top 10 cities in international arrivals growth (Haine 2018). The quality and value-added of infrastructure and tourism in the UAE attracts this spending. The UAE is home to one of the best tourism infrastructures in the word. Burj al Arab is one if not the most luxurious hotel in the world. Additionally, Dubai has the highest number of tallest hotel buildings in the world—seven out of

10 (Abbas 2018a). Emirates Palace was one of the most expensive hotels to construct.

The Department of Culture and Tourism supports the sustainable tourism development of the country. The government has launched and is implementing the "green" tourism and hotel initiatives as well as environment-related exhibitions and conferences. "Through our licensing procedures, we are able enforce the highest international standards toward the classification of organizations that contribute to our growing tourism industry, improving infrastructure and promoting competitiveness" (Department of Culture and Tourism 2018). The tourism industry and related government policies further reinforce standards for infrastructure quality and sustainability. An exemplary cultural infrastructure adds value to tourism and other infrastructure. The Sheikh Zayed Grand Mosque is a unique contribution to Islamic art one of the largest and most impressive Mosques in the world. Abu Dhabi has museums on Saadiyat Island, including Louvre Abu Dhabi, Zayed National Museum and Guggenheim Abu Dhabi, also present unique architectural features and quality. The Etihad Museum, the Frame in Dubai, the Sharjah Museum of Islamic Art and Al Noor Mosque the Sheikh Zayed Palace Museum in Al Ain and the Ajman Museum are landmarks that add value to tourism and infrastructure.

5.4 Sport Infrastructure

The UAE has some of the most valuable real estate projects in the world. Except tourism and cultural projects, the UAE has financed many sport projects. The Yas Marina Circuit is considered one of the most technological advanced circuits in the world and the most expensive to build and sold to the Abu Dhabi government for $1.32 billion (Connoly 2018). The Yas Marina Circuit is very interesting from various perspectives. First, it is one of the most sophisticated construction projects. A large part of its sophistication lies on the sustainable development. It was a major challenge to preserve wildlife safe, like gazelles and ostriches, while building the track and surrounding facilities. There was additional sustainable development in the form of flora. Notably, a two square kilometers forest was built to preserve the natural environment on the western shores of Yas Island (Lewis 2009). Another valuable feature of the Yas Marina Circuit is that it is a broader project. It adds value by developing community engagement in health and fitness. This is an expansion on the sport activity dimension. On another dimension, Yas Marina Circuit operates the Yas Conference Center for business events, Yas Central, a hub for retail offerings and consumer experiences (Yas Marina Circuit 2018). Sports infrastructure in this occasion has become a central hub for other sports and numerous other business activities.

The UAE hosts several major international tournaments and accordingly it has invested in state-of-the-art faculties. It provides the best facilities in cricket, football stadiums, equestrian clubs, tennis courts, racetracks and circuits (UAE Government 2018b). Some of the sports infrastructure includes in equestrian sports, the Abu Dhabi Equestrian Club, the Dubai Polo & Equestrian Club, Sharjah Equestrian & Racing Club; in Marine sports the Abu Dhabi Sailing & Yacht Club, the Dubai Marina Yacht Club; in Golf, the Dubai Creek Golf and Yacht Club, the Emirates Golf Club, Jumeirah Golf Estates. These facilities are of top quality with international reputation. Godolphin stables and the Meydan racecourse are also examples of excellence and leadership.

"The [Meydan] project is the culmination of his [His Highness Sheikh Mohammed Bin Rashid Al Maktoum] vision to create not just a venue for horseracing, but an integrated city that is sustainable, environmentally responsible and one that positions Dubai at the centre of the competitive global business stage… link the world with the Emirate of Dubai through international horseracing and equestrian events, a range of commercial developments, hospitality, sports, entertainment and amusement services, a series of state-of-the-art business parks, residential villa communities, schools, hospitals, business towers with luxury waterfront developments and shopping destinations. The centrally located Meydan Free Zone offers a prime location and ease of incorporation…The portfolio consists of The Meydan Hotel, Bab Al Shams Desert Resort & Spa, The Track Meydan Golf, QUBE Sports Lounge, Meydan Tennis Academy, Dubai Equestrian Club, Emirates Equestrian Centre, Dubai Racing Club and the iconic architectural marvel, Meydan Racecourse, home of the world's richest horse race—the Dubai World Cup… remarkable amenities and facilities including the 711 m tall Dubai One Tower, Meydan One Mall, a five-star hotel, a civic plaza with dancing water fountains, an indoor sports facility, a 4 km canal and a marina" (Meydan 2018).

Meydan racecourse shares similarities with the Yas Marina Circuit. Both were developed as part of bigger projects. The Yas Marina Circuit is part of a complex leisure destination project with an estimated cost of $36 billion, including the Ferrari World, Warner Bros theme parks, the Yas Mall, Yas Waterworld, Yas Beach, Yas Marina, du Arena and Forum and many hotels, restaurants and planned residential and commercial projects (Connoly 2018). The broader project supported sustainability. It also created new standards for sustainable development. More specifically, the Yas Mall project was to gain a Two Pearl score from energy rating system, Estidama ("sustainability" in Arabic), the Abu Dhabi Urban Planning Council's (UPC) version of

the USA's LEED (Leadership in Energy and Environmental Design) sustainability ratings (Raven 2014).

5.5 Real Estate Infrastructure

The UAE is a prime global real estate market. It has the landmark Burj Khalifa, by far the tallest building in the world. The artificial islands of the Palms and World are unique. The construction and financing of such megaprojects displays the technical sophistication, as well as sustainability in financing and business. These projects include numerous project options. Burj Khalifa is next to the Dubai Mall, one of the biggest shopping malls in the world, with various luxury shops and restaurants. The area around Burj Khalifa is constantly developed with high quality commercial and residential projects. Luxurious hotels, shops and restaurants and residential property has been and is still developing in the Palms.

The other, many other mega infrastructure projects whereas the Expo 2020 is the main driving force. Construction will continue to be robust in the next two-and-a-half years with a total value of major Expo-related construction projects reaching Dh 156 billion ($42.5 billion) by the end of March 31, 2018, with Dh 63.8 billion spent on infrastructure and transport, Dh 48.4 billion on commercial and residential projects and Dh 40.37 billion on leisure and hospitality impacting both public and private sectors (Abbas 2018b). Again, we observe a nexus of projects being developed simultaneously, with the real estate commercial and residential sectors playing a key role in investments. Expo 2020 is a development driver, but real estate activity would likely to continue with Al Maktoum International Airport, a center-piece of Dubai South and in general Dubai, as another example of an integrated and sustainable city (Abbas 2018b).[1] Most importantly, private investors are interested in real estate and tourism projects based on the long-term potential, which might not be directly linked to Expo 2020, but expands the vision beyond this project and date (Abbas 2018b).[2] The reputation of Dubai and the UAE as a long-term real estate prime markets support investment and future activity.

The UAE features some of the largest and most sophisticated construction and development companies. Aldar properties, Emaar properties, Damac properties, and Nakheel are some of the most important property developers responsible for some of most valuable projects in the UAE. The real estate infrastructure and development is responsible for more jobs and related business activity. The UAE is a global leader and remains first in GCC for construction (Issac 2018). Construction and building accounted for 10.3% and real estate activities 6.9% of GDP of UAE in 2016 (United Arab Emirates 2017a). Real estate development in total contributed 17.2% surpassing even than extractive industries (including Crude Oil and Natural Gas) at 16.7%. Real estate development is the biggest contributor to the UAE economy and the leading indicator that the UAE is achieving its endeavor for a post-oil diversified economy.

Sustainability and innovation are at the heart of real estate development. Masdar City in Abu Dhabi is an effort to develop the world's most sustainable eco-city. With smart investments, Masdar City is successfully pioneering a "greenprint", how cities can achieve rapid urbanization and at the same time dramatically reduce energy, water and waste (Masdar City 2018). A 10-megawatt solar photovoltaic plant and building-mounted solar panels substantially reduce the need for fossil fuels energy. At the same time, Masdar is another case of an integrated sustainable city with a mix of educational and recreational, housing, retail, manufacturing and office spaces (Masdar City 2018). Masdar city is also a free zone.

5.6 Free Zones

The UAE is a pioneer and leader in free economic zones. The free economic zones are not only examples of infrastructure development, but most importantly commercial activity. A valuable distinct characteristic of UAE's free zones is that they are rather specialized, and they can function as effective business clusters. Free economic zones can have multiple benefits. They can attract FDI and consequently generate significant returns. Jebel Ali Free Zone can be viewed as an extension of the port infrastructure. It is an addition enabled by previous infrastructure. It adds to the value chain of trade and economic activity in the UAE. The Abu Dhabi Global Markets and the Dubai International Financial Center (DIFC) and associated infrastructure have assisted the UAE and the respective cities to become highly ranked global financial centers. The example of Meydan Free zone was also mentioned as part of a broader integrated sustainable project. Although the model of free zones is not exclusive to the UAE, no taxes (exception of VAT) and a broad infrastructure investment makes them exceptional.

5.7 General Public Infrastructure

These projects were complemented by essential infrastructure as energy, water/sanitation and roads. In the 2018 Global Competitiveness report UAE ranks 1st in electrification rate, 7th in the efficiency of air transport services, 9th

[1]Quotes by Avin Gidwani, CEO, BNC Network.
[2]See footnote 1.

in the quality of roads and in general 15th in infrastructure globally (Schwab 2018). Concerning energy, the UAE develops sustainable infrastructure for renewable energy and is undergoing a transformation for the diversification of its energy mix (UAE Government 2018c). It is the first Gulf country with a new energy strategy, involving the nuclear power and solar energy, except natural gas (UAE Government 2018d). Regarding transportation and roads, the UAE "continues to construct and maintain roads in accordance with international standards, using the best technology that fits the country's environmental conditions. The roads projects aim to improve efficiency of traffic and connect parts of the country with a modern road network" (UAE Government 2018c).

The UAE has established the Ministry of Infrastructure Development, dedicated to infrastructure projects. Its vision is "A sustainable and integrated infrastructure that supports the country's global competitiveness" and it is strategically aligned to Emirates Vision 2021 and 2071 (United Arab Emirates 2017b). The Ministry of Infrastructure Development's Strategic Plan 2017–2021 has identified sustainability as a key priority. This is reflected in strategic goals 2 and 3, "Manage Federal infrastructure projects in order to achieve balanced and sustainable development in accordance with the best international standards" and "Enhance the efficiency and effectiveness of federal infrastructure assets to maintain sustainability" while one fifth of its strategic objectives and effort concerns "Sustainability & assets management" (United Arab Emirates 2017b). All these activities display a solid commitment to project financing and infrastructure development.

The Ministry of Climate Change and the Environment, with the vision of "Environmental Pioneering for Sustainable Development" work with partners and further strengthen sustainability (United Arab Emirates 2018). Other government agencies Ministry of Energy & Industry (MoEI), General Civil Aviation Authority (GCAA) Federal Transport Authority—Land & Maritime (FTA), Federal Electricity & Water Authority (FEWA), Telecommunications Regulatory Authority (TRA), Sheikh Zayed Housing Programme (SZHP), Emirates Post Group, Federal Competitiveness and Statistics Authority and local municipalities are also involved and support sustainable infrastructure development.

6 Conclusions: The UAE Unique Paradigm

The UAE's infrastructure and real estate market presents some unique characteristics. A key characteristic is the UAE leadership. Its Vison 2021 and beyond, as well as numerous associated initiatives to create Smart and Sustainable Cities and Communities, display the strong commitment of the government to sustainable infrastructure development. These initiatives are soundly supported by significant government investment. In addition, the UAE government has established an institutional framework, another pillar of competitiveness, to support and strengthen the development of sustainable infrastructure. In that sense the government has created a consistent sustainability policy and institutional framework to invest in infrastructure.

The result is that the UAE ranks highly on the infrastructure pillar of the WEF Global Competitiveness Report occupying the 15th place globally. It ranks 7th in efficiency of air transport services and 1st in electrification rate and is ranks very high on related categories. This is predominantly public infrastructure. The UAE ranks 1st in mobile-broadband subscriptions (Schwab 2018). This reveals also an expensive and resilient participation of the private sector in the development of infrastructure, namely telecommunication corporations. Telecommunications infrastructure is crucial for the development of Smart and Sustainable Cites and Communities. In that sense the government policies and projects are also financed and augmented by the corporate sector. The government institutional framework is complemented and leveraged by corporations, creating a unique nexus.

Another concept that makes the UAE paradigm unique is integrated cities. Integrated cities can be viewed as urban agglomeration of diverse infrastructure projects and business clusters that synergistically create value. Illustrative examples are the Jebel Ali port with DP World and Jebel Ali Free zone with thousands of companies, and the Dubai International Airport with Emirates group, Duty Free and other companies. Yas Island with Yas Marina Circuit, hotels shops and other projects also highlights synergies. Masdar is a unique case of an integrated city based on the principles of sustainability. These mega projects encompass diverse projects with significant value. Diversification can make them resilient and sustainable. This can be considered like horizontal integration and related synergies.

Although free economic zones are not only a UAE phenomenon, their number and specialization are rather unique. Free economic zones in the UAE are quite specialized in diverse activities establishing important clusters of economic activities. Moreover, these business clusters are integrated in the cities and communities generating many synergies. Free economic zones are a main driver of Foreign Direct Investment. Financing is channeled not only to business activities per se, but to a broader range of projects like real estate and developing further infrastructure. This symbiotic relationship promotes growth. The benefits of business clusters are many. Rosenfeld (1997) emphasizes the importance of business cluster for economic development.

Clusters can be a factor for service-based tourism and regional economic development (Jackson and Murphy 2006) and improve competitiveness (Lagos and Courtis 2008). Moreover, they can encourage entrepreneurship and economic development (Rocha 2004) as well as innovation (Piperopoulos 2012). Special economic zones have been a powerful tool for attracting foreign investment, promote growth and generate employment, upgrading, encouraging regional integration, enhancing innovation, being sustainable, and protecting the environment (Farole and Akinci 2011). The UAE has successfully created free economic zones that contribute to all these challenges and more importantly actively advancing sustainability and protecting the environment.

The uniqueness of the UAE financing of projects and infrastructure paradigm lies also on the fast that there is not only vertical integration at the municipality and small city level but there exists horizontal integration among diverse municipalities at the city and metropolitan area. This creates a very diversified infrastructure and business ecosystem. The UAE is moving to the post-oil era and diversification is an important strategy to achieve that. Most importantly, infrastructure as represented by construction and building, and real estate activities has surpassed the contribution of natural resources to GDP.

Abu Dhabi and Dubai are home to some of the most expensive, top quality and technologically advanced projects. These projects are environmentally sustainable and, in addition, support business and economic sustainability. The UAE has therefore successfully diversified its economy by financing projects in infrastructure. At the same time, the UAE reduced sustainable development, environmental and social risks (Eisenbach et al. 2014; Esty and Sesia 2010. Moreover, the high policy stability that characterizes the UAE, further reduces investment risks (James and Vaaler 2018). The UAE is also continuously innovating by investing in smart cities and modern technologies. All these policies and characteristics make the UAE a unique global paradigm in infrastructure and prepare it well to face the transformations and challenges of the Fourth Industrial Revolution. The UAE is a leader in financing and infrastructure development and innovative policies can further enhance its regional and global leadership in infrastructure, digital transformation and sustainable development goals (Petratos and Petratos 2019).

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