OIL AND GAS

THE IMPACT OF COVID-19 AND OIL PRICE DECLINES ON OIL SENSITIVE OFFICE MARKETS







OIL PRICE COLLAPSE THE IMPACT ON OIL SENSITIVE OFFICE MARKETS

As the global economy reels under the weight of COVID-19, the oil and gas industry has been affected by another shock as global oil prices have collapsed for the third time in the last 13 years. This decline is compounding the impact of the pandemic in cities where the oil and gas industry is an important, or even dominant contributor to the local economy.

A RECENT HISTORY OF SHARP OIL PRICE DECLINES

Since reaching an all-time high of \$145.29 per barrel in July 2008, there have been three major price collapses in West Texas Intermediate (WTI) oil, the U.S. benchmark. Each decline ended with prices falling between -69% and -77%. The latest decline brought the price of oil down to nearly \$10.00 per barrel.

THREE U.S. OIL PRICE DECLINES





U.S. Energy Information Administration

THREE DIFFERENT TRIGGERS

THE GREAT FINANCIAL CRISIS

In 2008, demand collapsed during the Great Financial Crisis (GFC) as the global economy experienced its worst performance since the Great Depression. In the U.S., oil consumption dropped 12.1% during the recession, taking roughly 2.5 million barrels (mbd) of consumption out of the market per day.

This demand drop triggered a \$111.00 per barrel decline in the global price of oil, the largest dollar decline in history. The price shock hit markets where oil and gas make up a large segment of the local economy just as those markets were ramping up office construction, resulting in a sharp increase in vacancy and decline in asking rents.

THE SHALE BOOM

In the years 2011 to 2014, the average price of oil remained above \$90 a barrel, making shale oil exploration and production profitable. That factor, coupled with low interest rates and billions of dollars in loans available to oil companies, drove an enormous increase in production from massive shale oil deposits in the U.S. and Canada. The result was a supply side price shock.

From its low of 5.0 mbd in 2007, U.S. production surged to 9.1 mbd in 2014 and in Canada, output increased from 3.3 mbd to 4.3 mbd. Even Brazilian production was ramped up from 1.8 mbd to 2.5 mbd.

These increases were part of a global surge in production that saw the world pumping 91.5 mbd in 2015, compared to 81.5 mbd in 2007. It outstripped demand growth and led to a global oversupply that put downward pressure on prices. From June 2014 to February 2016, WTI prices fell from \$107.00 to \$26.00—a 75% decline—generating the second largest decline in history.

All three of the major price declines had different triggers.

COVID-19, THE GLOBAL PANDEMIC

The third largest decline began in April 2019 but accelerated dramatically since February 2020 as the effects of COVID-19 spread globally. What differentiates this drop, as with many of the effects of the pandemic, has been the speed with which it occurred. From April 2019 to April 2020, the price of a barrel of WTI crude oil fell by 69.7% as supply continued to rise while demand collapsed. Most of the roughly \$55.00 per barrel decline occurred in the last three months as the price fell from approximately \$63.00 per barrel to \$11.00 per barrel. This decline was the result of both supply and demand factors.

On the supply side, led by the U.S. pumping approximately 13 mbd per day, the world continued to increase oil production aggressively over the last five years. And beginning in the first quarter of 2020, demand has fallen dramatically as COVID-19 has hit transportation hard—particularly air and automobile travel.

U.S. CRUDE OIL INVENTORY



U.S. Energy Information Administration

Major global oil producers are striving to cut output, but demand is falling even faster. As of April 13, 2020, a total of 23 major oil producers including OPEC, Russia, the U.S. and Mexico agreed to lower production by approximately 10 mbd. This is by far the largest output reduction in history. As of April 20, prices continued to fall with WTI crude dropping to \$10.01 per barrel, the lowest level ever recorded for a WTI contract going back to 1983.

The biggest challenge facing the industry may be where to store the oil that's produced. Inventories are climbing to record levels, and the world is in danger of running out of storage capacity. Clearly, the key to resolving the oil glut is on the demand side of the equation. Until the global economy begins to recover, demand for oil will remain weak and prices will likely continue to fall.

For the oil producing industry, the damage has already occurred. The local economies that rely on the oil industry as a major economic engine are already experiencing weakness.

The balance of this report focuses on six markets across the Americas where the oil and gas industry greatly contribute to local economic activity and commercial real estate markets. The markets include Calgary, Dallas, Denver, Houston, Rio de Janeiro and St. John's, Newfoundland and Labrador. Each market features an overview into the oil sector, market drivers, the impact on commercial real estate (CRE) throughout past oil market downturns and lessons learned.

CALGARY

Alberta is by far Canada's largest oil- and natural gas-producing province, accounting for more than 80% of the country's crude oil production, three quarters of which comes from the vast oil sands in Northern Alberta. Calgary, well known as a world-class energy city, is home to 118 of the 800 largest corporate headquarters in Canada, mostly located in the downtown office market. Of these, 73% are in the energy sector. Not surprisingly, the city is also home to a diverse energy-related ecosystem made up of engineering, geoscience and environmental sectors.

Calgary	2005	2019	Change	Change	National Rank
Population ('000)	889.2	1,286.0	396.8	44.6%	4
Payroll Employment ('000)	629.1	868.3	239.2	38.0%	4
Office-Using Employment ('000)	192.4	267.3	74.9	38.9%	5
Inventory (sf)	46,278,820	69,921,777	23,642,957	51.1%	3

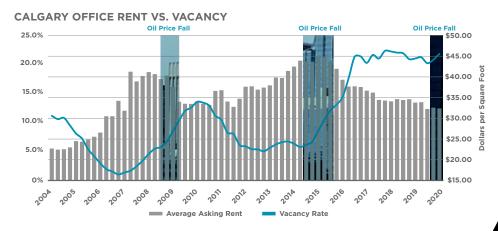
Statistics Canada, Moody's Analytics, Cushman & Wakefield Research

KEY MARKET DRIVERS

Aside from the energy industry, other major office demand sectors include technology, engineering, medical research, advertising, media, professional services and transportation. The technology sector, particularly focused on companies that specialize in energy-related innovation, has also driven growth in recent years. Aviation, aerospace and logistics have also been very active. Medical research is another sector with promise. In 2019, Calgary-based Parvus Therapeutics made headlines when it signed a C\$1-billion deal to develop revolutionary new drugs for autoimmune diseases.

As a Western Canadian hub for the distribution of goods and services, Calgary's industrial sector has experienced steady growth in recent years. Prior to the pandemic, the city hosted a vibrant restaurant, entertainment and hospitality scene. Construction activity has been a key driver of job growth, accounting for some 67,600 jobs in March 2020 and is expected to resume as recovery takes hold.

THE IMPACT



Calgary's downtown office market has struggled with an availability rate topping 20% since the oil price decline began in 2014. While energy market counterparts in the U.S. recovered as the price of WTI rebounded, Calgary-based companies remained hampered by low Western Canadian Select (WCS) prices—the benchmark for Alberta crude oil pricing. Although Keystone XL pipeline finally received the green light in March, the high cost of extraction from Alberta's oil sands makes it extremely difficult for companies to profitably get product to market when the price for WCS remains in the single digits.

Present

After the June 2014 oil price shock, Calgary's CBD availability soared, hitting 23.7% by Q1 2018. Since then, a fragile recovery started to take hold. Even though green shoots of recovery were starting to appear prior to the outbreak of COVID-19, Calgary's oil and gas industry was still facing significant challenges. Not only has the current availability rate notched upward to 23.2%, but Husky Energy had placed over 200,000 sf on the sublease market and Encana, a huge office space user, announced plans to rename the company and relocate its headquarters to Denver, CO. To compound matters, oil prices have sunk to unfathomable lows not seen since the 1990s.

Prior to the pandemic, Calgary had one of the highest unemployment rates among major Canadian cities, at 7.2% in February 2020. On the positive side, residential markets were active, and retail had seen some resurgence in recent years, driven primarily by local startups. Industrial commercial real estate had flourished across Canada, and Calgary's experience was no exception. Industrial absorption topped 8 msf between 2015 and the end of 2019.

Looking Ahead

Even though Calgary's CBD office availability rate was at a high 23.2% in Q1 2020, positive absorption was beginning to occur. In the downtown market, where a flight to quality was underway, the Triple A availability rate had fallen to 14.7%, while Double A had fallen to 12.9% by Q4 2019. As a result, pricing stability took hold and net rates strengthened across premium assets. While the reductions in capital investment and layoffs across a wide range of sectors are unprecedented and will push up availability, the Conference Board of Canada projects Alberta's economy will shrink by 5.8% in 2020, but pent-up demand and low interest rates will support a 6.1% rebound in 2021.

LESSONS LEARNED

As energy-dependent markets are clearly more exposed to the economic risks associated with the pandemic, the good news is that the city has made significant strides in diversifying its economy. The emergence of technology is an area that shows long-term growth potential. Companies like Vancouver-based Finger Food Advanced Technology Group, which services oil and gas companies with augmented-reality technology, signed a lease in Q4 2019 to open a new office in Calgary at Brookfield Place. Additionally, e-commerce will continue to gain traction and drive absorption in industrial markets.

Calgary's energy market is its main driver of growth. In the four years leading up to the energy shock in 2014, energy-related employment rose by an impressive 28.4% or by over 13,400 jobs.² Since then, it has fallen by 17.8% to approximately 49,900 employees. While energy is unlikely to propel the office markets as they have in the past, at least for the foreseeable future, there is no question that when global business resumes, pricing and demand for oil will rise, which will support a slow revitalization of Calgary's central and suburban office markets.

DALLAS

Headquarters to major energy companies like ExxonMobil and Pioneer Natural Resources, the Dallas-Fort Worth (DFW) market has a strong energy sector presence. Leasing activity in the industry averaged 2.9% of total activity from 2005 to 2019. Despite a strong presence in energy, DFW boasts a diverse economy with a multitude of industries.

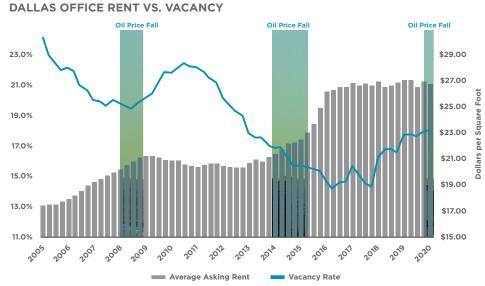
Dallas - Fort Worth	2005	2019	Change	Change	National Rank
Population ('000)	5,777	7,638	1,861	32.2%	4
Payroll Employment ('000)	2,823	3,797	974	34.5%	4
Office-Using Employment ('000)	757	1,087	330	43.5%	4
Inventory (sf)	162,904,051	238,035,495	75,131,444	46.1%	2

Moody's Analytics, Cushman & Wakefield Research

KEY MARKET DRIVERS

DFW experienced immense growth from 2005 to 2019 as population, employment and office inventory increased more than 30%.³ The market's allure of zero corporate and personal income tax coupled with a low cost of doing business—3% less than the national average⁴—has attracted companies like JPMorgan Chase, McKesson, Toyota and Uber to relocate from more expensive locations. As the fourth largest metro in the U.S. with 7.7 million people³, DFW has a lower cost of living compared to other large metros like Atlanta, Chicago, Denver and Seattle.⁵ The market also averaged 3% employment growth,³ with all industries experiencing growth over the past five years.² The transportation and warehousing, healthcare and professional/scientific/technical industries saw the highest employment growth.² Cumulatively, these three industries accounted for more than a third of the market's employment growth over those five years.²

THE IMPACT



Historically, the energy sector's office leasing activity in DFW closely aligned with oil price decreases. However, the energy sector's office leasing activity decreased an average of 23% more than the oil price decline in 2008 and 2014. The Pioneer Natural Resource's new 1.13 msf lease caused the 2017 energy sector leasing spike.

Comparatively, the overall market was more resilient to oil price decreases due to substantial industry diversity. Overall office leasing activity declined by 42% from 2008 to 2009 but increased by 8% from 2014 to 2015. The DFW office market also had a delayed response to the GFC. The office market reported both increasing vacancy rates and decreasing rental rates for a year beginning in Q3 2009, a quarter after the national recession ended. In 2014 when oil prices declined, the DFW office market reported decreasing vacancy and increasing rental rates during the same period that continued for more than a year. The two historical trends indicate that declining oil prices had less impact on the office market's performance unless the price declines are coupled with a national recession.

Present

Currently, the DFW office market has a lower vacancy rate than it did during the 2008 oil decline but a higher vacancy rate than it did during the 2014 oil decline. The current office market has higher rental rates and a smaller construction pipeline compared to the two previous oil declines.

Dallas-Fort Worth Office Market	Q2 2008	Q3 2014	Q1 2020
Vacancy	19.5%	16.2%	18.0%
Gross Rental Rate	\$20.46	\$22.08	\$26.53
Under Construction (sf)	5,357,580	6,103,093	4,679,471

Looking Ahead

The DFW market has grown immensely since the last 2014 oil price decline. Energy sector jobs decreased by 5% due in part to significant growth in other sectors, for example high-tech employment increased by almost 16% during the same period.³ The technology boom and corporate relocations incentivized by lower costs has fueled DFW growth over the past few years. The population between 25–44 years old in DFW grew by almost 10% and office-using employment grew close to 13% since 2014.³ Overall the market, since the last oil price decline, maintained strong growth and continued industry diversification.

LESSONS LEARNED

Considering this performance, DFW's energy sector leasing activity will likely have a downward trajectory during oil price decreases. The overall office market, however, will only experience both increased vacancy and decreased rental rates if oil price declines happen in conjunction with a national recession. The 2008 experience suggests that the office market will likely have a lagging response and may experience milder and shorter recessionary impacts than the nation. Given the market's strong growth over recent years, DFW should be bolstered by an increased diversity of industries and is well positioned to handle the current oil price drops.

DENVER

Colorado is home to one of the most significant oil and gas basins in North America, the Niobrara-DJ Basin encompassing much of the north and northeast portions of the state. With this large basin in Denver's backyard and the market's central proximity to other large basins throughout the Western United States, it comes as no surprise that the oil and gas business is a significant employment sector for the Colorado and Denver Metro economy.

From 2005 to 2019, Denver's employment increased approximately 28% while its oil and gas employment recorded an increase of approximately 118%.3 Even with this large increase in employment, oil and gas occupiers account for less than 5% of office space around the Denver Metro area. However, they are highly concentrated in Denver's CBD, currently leasing approximately 11% of total inventory. The CBD has been home to small, mid-cap and large companies like Noble Energy, Halliburton, Occidental (formerly Anadarko) and Ovintiv (formerly Encana). During the 1980s, oil and gas users accounted for over 30% of CBD office product, a figure which has decreased consistently over time.

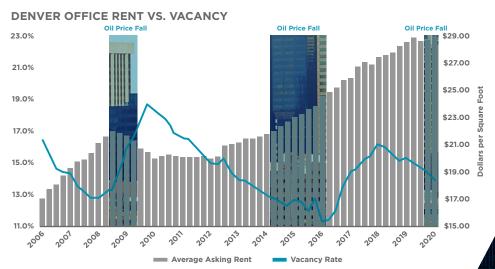
Denver Metro Area	2005	2019	Change	Change	National Rank
Population ('000)	2,354	2,697	613	26.0%	19
Payroll Employment ('000)	1,212	1,556	344	28.4%	16
Office-Using Employment ('000)	345	448	103	29.8%	17
Inventory (sf)	66,777,502	117,131,662	30,354,160	35.0%	12

Statistics Canada, Moody's Analytics, Cushman & Wakefield Research

KEY MARKET DRIVERS

Denver's Metro and CBD inventory have grown significantly since 2005, increasing roughly 35% and 33% respectively. Tech has been the driving force behind Denver's growing tenant mix over the past 36 months, although aerospace and defense, communications, healthcare and FIRE (finance, insurance and real estate) industries also continue to grow throughout the region.

THE IMPACT



Historically, Denver's office sector has been largely impacted by downturns in oil and gas. During the 1980s downturn, the Denver metro office market witnessed up to 4.0 msf of oil and gas tenants disappear from the metro area. The CBD was hit the hardest during the downturn, giving downtown Denver a ghost town feel, with vacancy increasing to over 30% and rental rates plummeting.

Fast forward to the oil crisis of 2014, Denver's CBD recorded strong volatility from the sector. As oil prices continued to plummet worldwide, the submarket exhibited an abundance of sublease space with just shy of 1.0 msf space available. At the time, the vast amount of new office developments—over 1.7 msf from 2014 through 2016—led overall vacancy to increase 500 basis-points (bps). In 2016, Denver's CBD was once again hit hard, causing approximately -237,000 sf of net absorption.

Present

Market volatility surrounding the oil and gas sector as a result of the current condition of oil prices has started to impact Denver occupiers. At the end of Q1 2020, just north of 344,000 sf was available via sublease from oil and gas tenants throughout the CBD. It is important to note that a portion of these are due to merger and acquisition activity that occurred within the industry, but does not account for all of the upward trend. Given that these occupiers utilize less density than most employers, the effect on office absorption will be outsized negatively. Based off historical oil and gas crisis fundamentals, coupled with the COVID-19 crisis, it is likely these trends will continue throughout Q2 2020 and beyond.

At the end of Q1 2020, the Denver Metro and CBD office markets recorded strong office fundamentals with contracting vacancy, rent growth and positive absorption. The CBD's overall vacancy trended downward for the fifth consecutive quarter, decreasing 60 bps quarter-overquarter to 15.9%, driven by the approximately 73,000 sf absorbed during Q1 2020. Overall gross rental rates grew quarter-over-quarter but have exhibited modest growth year-over-year, increasing 2.3% to \$37.56 psf by the end of Q1 2020. The metro currently has just over 2.2 msf (1.1 msf in the CBD) under construction, with three new projects nearing 550,000 sf breaking ground during Q1 2020.

Looking ahead

Denver's industry diversification is primarily a result of the tech industry, which has further insulated the Denver office markets from oil and gas volatility. With over 3.0 msf delivered in the CBD and 8.2 msf delivered across the Denver Metro, the office market conditions have continued to evolve and diversify, which will help mitigate current and future industry volatility.

LESSONS LEARNED

The Denver market is less vulnerable due to the industry diversification and shrinking oil and gas footprint throughout the metro area. After the state bill SB19-181 passed in 2019 (oil and gas fracking authority regulations shifted to local governments allowing for stricter oversight by municipalities) Denver's oil and gas office exposure continued to decline.

Even with the short-term fallout, the oil and gas industry will come back and the space it sheds will be backfilled by newly-formed entities or other users in the market. Denver's desirability will remain as the market continues to evolve into a top destination for occupiers around the Rocky Mountain region. The CBD will remain at the forefront of activity, which is reassuring, as Denver's highly-educated talent base continues to reside in the urban core.

HOUSTON

Houston, known as the energy capital of the world, employs nearly one third of the nation's jobs in oil and gas extraction with more than 4,600 energy-related firms, including nearly 800 oilfield service companies and more than 650 exploration and production firms.⁶ Although Houston has diversified, it is still driven by the energy market, more specifically the price of oil. The mining and logging industry represent 2.5% of Houston's total employment, this increases to 8.3% when other energy-related industries including engineering services and chemical manufacturing are included.⁷ In 2018, the average job in the energy-related industry was approximately \$142,000 a year, more than double the metro average.⁶ These higher paying energy-related jobs help stimulate Houston's economy, especially when it comes to housing, retail and entertainment. When oil prices drop it negatively impacts other office-occupying industries as well as housing, retail and entertainment.

Houston	2005	2019	Change	Change	National Rank
Population ('000)	5,234	7,129	1,895	36.2%	4
Payroll Employment ('000)	2,588	3,364	776	30.0%	6
Office-Using Employment ('000)	1,031	1289	258	25.0%	9
Inventory (sf)	151,698,073	189,185,378	37,487,305	24.7%	5

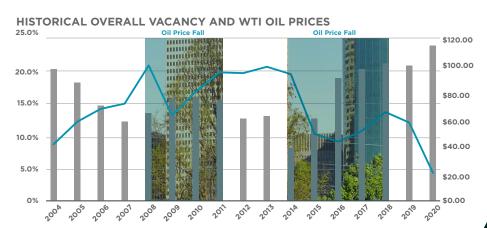
EMSI, Moody's Analytics, Cushman & Wakefield Research

KEY MARKET DRIVERS

While the energy industry drives Houston, its growth is also influenced by the strength of the U.S. and global economies. Other key industries include life science, manufacturing, logistics and aerospace. Houston is home to one of the largest ports in the country and two international airports, making it a hub for foreign trade and foreign investments. Houston's Texas Medical Center is the world's largest medical complex, which continues to foster growth in the healthcare industry.

The energy industry is broken up into three segments: upstream, midstream and downstream. Each sector reacts differently to lower oil prices. While the upstream sector of exploration and production (office-occupying) is negatively impacted, it can be somewhat offset by the positive impact on the downstream sector of petrochemical manufacturing (industrial-occupying).

THE IMPACT



The oil crash in 2009 during the GFC had a large influence on Houston's overall economy. Oil prices dropped from an annual average of \$100 per barrel in 2008 to \$62 per barrel in 2009.8 Houston lost over 110,500 jobs that year.7 Vacancy climbed 470 bps and rents dropped 7.9%. Oil prices began to climb, averaging \$80 per barrel in 2010 and remained in the mid-90s until year-end 2014. By November 2011, Houston had recovered all jobs lost. The rebound in oil prices resulted in strong employment growth and helped jumpstart Houston's recovery from the GFC.

The energy industry was more prepared for the 2014 oil crash. Houston's economy had become more diverse with strong growth in other industries including construction and healthcare. At this point in time, Houston lost 80,000 energy jobs, yet total employment was only down to 4,700 jobs from 2015 to 2016.6 While the previous oil crash impacted Houston's economy, the 2014 oil crash was more focused on the office sector. Bankruptcies, layoffs and mergers and acquisitions increased causing demand to slow while supply continued to climb. Houston's office vacancy climbed 900 bps from 2014 to 2017. Available sublease space skyrocketed, increasing 146% to 11.0 msf in 2016. Although asking rents only dropped 2.7%, most landlords offered concessions including free rent and additional tenant improvement dollars in order to compete with prime sublease space at discounted rates.

Present

Houston's office market is still recovering from the 2014 oil crash, and COVID-19 along with the most recent oil crash will push recovery out even further. Since 2015, Houston's office market has had 4.6 msf of negative absorption, and the overall vacancy increased for the third consecutive quarter to 23.8% this past March. Leasing activity has slowed and is expected to remain sluggish indefinitely.

Looking Ahead

As stay-at-home orders continue due to the pandemic, the demand for oil plummeted and for the first time, WTI crude oil was negative. According to local economists, COVID-19 and the oil crash could result in Houston losing between 150,000 and 350,000 jobs.⁶ Energy companies will suffer from this "double whammy," and more exploration budget cuts are expected along with an increase in bankruptcies. Non-energy employment is less volatile and office-employment growth will rely on industries which are expected to recover more quickly including financial services, construction and business services. Even as the workforce returns and commuting and travel pick up, the excess amount of oil is expected to slow down Houston's economic recovery.

LESSONS LEARNED

Low oil prices will continue to hold back growth and the Texas economy could struggle longer, compared to the rest of the country. While rising oil prices helped Houston lead the economic recovery following the GFC, this recovery, more so than in the past, will likely be driven by the U.S. economy.

The current economic situation will likely result in rising sublease space as companies shed excess office space. Rents are expected to decrease while concessions including free rent and additional tenant improvement dollars will probably increase. Houston's office market fundamentals will remain soft and tenant-favorable over the next few years. Still, Houston is resilient and although it may take a few years to rebuild, it is known for its boom-to-bust cycles.

RIO DE JANEIRO

Over 3 msf in São Paulo and Rio de Janeiro is occupied by oil and gas companies, 23% of which is in Class A office buildings. In 2007, after the announcement of the World Cup and Rio Olympic Games, the market entered a virtuous cycle that produced positive momentum. Foreign investments and government funding pushed forward, aiding in the development of the real estate market. From 2007 to 2014, 806,000 jobs were created in Rio de Janerio that generated over 24 msf of building completions.

Beginning in 2014, a series of crises—the impeachment of President Rousseff, the steep drop in oil prices and a corruption investigation into the state oil company Petrobras (known as Operation Car Wash)—pushed Brazil's economy into an economic recession. The impact resulted in the oil and gas field to decrease by 3,678 employees since 2014 and the vacancy in CBD Class A buildings to skyrocket above 40% in 2017.

Rio de Janeiro city	2007	2019	Change	Change (%)	National Rank
Population ('000)	6,093	6,718	625	10.26%	2
Payroll Employment ('000)	2,175	2,266	91	4.2%	2
Office-Using Employment ('000)	499	529	29	5.8%	2
Total Inventory (sf)	51,584,585	74,829,182	23,244,597	45.06%	2

IBGE, Ministério do Trabalho, Cushman & Wakefield Research

KEY MARKET DRIVERS

Although Rio depends on the energy industry, other industries including finance, banking, insurance, public administration and public companies drive the markets growth. Specifically, companies within the finance, banking and insurance sectors have expanded in the last four years during the flight-to-quality movement.

THE IMPACT

CBD A and A+

RIO DE JANEIRO OFFICE RENT VS. VACANCY

\$14.00

40%

\$10.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 | \$12.00 |

*Average exchange rate (end of each quarter) ** No \$ value for 2007Q4 and 2008Q1

Rio de Janeiro had outstanding performance between 2007 and 2014 with low vacancy rates, positive absorption and numerous completions. Petrobras, a driving force in the market, occupied many of the top Class A buildings. In 2013, it signed a 966,000 sf lease at Centro Empresarial Senado.

The oil price downturn, local recession and the large number of completions profoundly affected the real estate market after 2014. In 2016, Petrobras reduced its footprint by 597,000 sf and once again in 2018 by 463,000 sf. This sublease space coupled with the other companies affected by the oil industry contributed to a vacancy rate above 40%.

Present

Due to the oil demand shock and uncertainty around COVID-19, the WTI price dropped to its lowest level in April 2020. Even with the recently announced reduction of global supply, it is unlikely that prices will rise significantly any time soon. Petrobras has already reduced services from supplier providers in Brazil and announced the halt of operations at 45 oil platforms in the Northeast and Southeast regions. Although the number of barrels produced per day will reduce, the future of office space is unclear.

Petrobras hiring cutbacks and selling of exploration basins revealed signs of a changed strategy. As a result, other industry sectors started to gain space and market share in Rio. Unlike the 2014 crisis period, the current market presents opportunity for tenants to renegotiate lease agreements and rental prices as well as employ the flight-to-quality trend.

Looking Ahead

The pre-salt layer already produces over 60% of Petrobras's national production. In 2015, Petrobras announced the pre-salt exploration had a breakeven of \$45.00 per barrel. The new oil crisis might halt the operations causing uncertainly in Rio's recovering market.

Although the current market landscape is challenging, Rio expects the largest auction of oil and gas blocks with 128 blocks offered in 64.100 square kilometers. This can attract more companies and aid in new investment for corporate, retail, hotel, residential and leisure construction activity. However, recently the National Petroleum Agency (ANP) approved the temporary suspension of the 17th Bidding Round for areas of exploration and production, without a concession regime, which was scheduled for this year.

LESSONS LEARNED

Without a doubt, the oil price downturns will impact the national long-term investments and economic activity as the sector represents 13% of the Brazilian GDP, according to the ANP. Although the real estate industry tracks very closely with the macro-economic indicators, other industries continue to grow their market share in Rio, paving the way for new beginnings in Rio de Janeiro.

Furthermore, landlords have learned to overcome past downturns through portfolio diversification and better negotiation terms, better positioning themselves for the road ahead.

ST. JOHN'S, NEWFOUNDLAND AND LABRADOR

As the third largest oil producing province in Canada, the offshore oil and gas industry is a massive contributor to Newfoundland and Labrador's economy. Direct beneficiaries have been the office and industrial markets in the province's capital, St. John's. Commercial oil production took hold in 1997 and, by 2018, Newfoundland and Labrador accounted for 5.1% of Canada's crude oil production and more than 25% of Canada's light oil production.9

Mining, guarrying and oil and gas extraction accounted for more than 25% of the province's GDP in 2018 and averaged almost 30% between 2010 and 2017. In 2018, the industry created 5,200 direct jobs and was responsible for thousands of additional jobs across many sectors, including construction, professional services and legal.

St. John's Newfoundland and Labrador	2007	2019	Change	Change (%)	National Rank
Population ('000)	151,500	186,500	35,000	23.1%	22
Payroll Employment ('000)	89,800	115,600	25,800	28.7%	22
Office-Using Employment ('000)	28.5	35.2	6.7	23.3	19
Total Inventory (sf)	2,413,776	3,774,358	1,360,582	56.3%	11

Statistics Canada, Moody's Analytics, Cushman & Wakefield Research

KEY MARKET DRIVERS

Almost every sector in Newfoundland and Labrador is influenced by the health of the oil and gas industry. Capital-intensive projects have driven job growth within engineering, support services and on construction sites such as the C\$14-billion offshore Hebron project. Mega construction projects in public utilities and mining will continue to support employment. Examples include the Vale Long Harbour Nickle Refinery (C\$4.25 billion) and Nalcor's Muskrat Falls Hydro Development Project (C\$12.7 billion). Other sectors underpinning the province's economy include the fishery, banking and financial services, tourism, food distribution and trucking.

Due to steep oil price drops since 2014 and cost overruns on huge infrastructure projects, Newfoundland and Labrador-facing an estimated debt load of almost C\$14 billion-was under financial strain long before COVID-19 and the more recent oil price shock. To help prop up the hardest-hit provinces. The Bank of Canada initiated a provincial and corporate bond buying program to deliver near-term cash flow and economic stability.

THE IMPACT

ST. JOHN'S, NEWFOUNDLAND AND LABRADOR OFFICE RENT VS. VACANCY Oil Price Fall \$40.00 Oil Price Fall \$35.00 20% 15% \$30.00 \$25.00 10% \$20.00 2020 Average Asking Rent Vacancy Rate

In the heady days of record-high oil prices, there was tremendous pent-up demand for office space in St. John's. The arrival of two new office towers in 2014 provided the opportunity for companies to relocate and lock down 10-year leases as they looked to a bright future. When oil prices began their precipitous fall in June 2014, companies retrenched and laid off staff, causing a significant amount of office space to return to market.

So, while Q2 2014 saw St. John's Class A office availability fall to almost 0%, by Q4 2017, it had skyrocketed to 27.7%. By 2018, availability rates fell back to 20.6%, although this recovery was tenuous.

Present

St. John's CBD all-classes availability at 21.4% is expected to reach almost 30% when Exxon and CNLOPB relocate to the suburbs in Q2 2020. While face rates have held remarkably firm, particularly in the new developments, generous tenant inducements have put downward pressure on net effective rents. With the dramatic decline in business activity due to the pandemic and the free fall in oil prices, this trend shows no signs of letting up. The fishery has also been hard hit by social distancing, challenges on boats and reduced demand for fish exports. The province's tourist industry is also in jeopardy and it has an older and aging population that will continue to weigh on labour markets and healthcare sectors. The silver lining is that the technology sector has been driving some new construction, including a 72,000-sf building in the suburbs.

Looking Ahead

It should be noted that Newfoundland and Labrador was on the cusp of seeing massive investments in oil and gas exploration and development before COVID-19. However, huge reductions in capital expenditures across the energy sector, including the revelation that Exxon Mobile will halt drilling for up to 18 months, has intensified worries for this Atlantic Canadian province. In March, Equinor and Husky Energy announced that the Bay du Nord project, the first deep-water oil field, will be indefinitely postponed. CNOOC International announced a delay in its Flemish Pass drilling project as it cannot safely execute offshore work during the pandemic. Drilling activity on Hibernia was suspended but oil production on the gigantic oil platform off of the provinces' east coast will continue. Further, hundreds of workers were ordered off two major worksites in Labrador in order to prevent the spread of COVID-19. Vale halted mining and construction activities at its Voisey's Bay site and Nalcor Energy called for a controlled demobilization of its workforce at the Muskrat Falls construction site. Overall, the outlook for capital expenditures looks bleak. Statistics Canada projected an 11.8% drop in capital spending intentions in Newfoundland and Labrador for 2020, the weakest among the provinces.

LESSONS LEARNED

Office availability in St. John's CBD market was expected to reach 30% due to migrating tenants in 2020. This, however, did not factor in the devastating impact that COVID-19 and the recent steep oil price drop would have on business and public revenues at a time when provincial debt was precipitously high. To mitigate steep job losses, the provincial government announced it will maintain public employment at current levels during the crisis.

While it will take a significant increase in oil prices to turn around the St. John's real estate market, the province continues to pressure Ottawa for additional stimulus relief to prop up the economy. Prime Minister Justin Trudeau announced the provision of C\$750 million for the oil sector to help companies invest in technologies, with 10% targeting Newfoundland and Labrador. With continued support from the federal government and the eventual global economic recovery, the province will begin a slow climb towards stability.

⁹Canadian Energy Regulator



ABOUT CUSHMAN & WAKEFIELD

Cushman & Wakefield (NYSE: CWK) is a leading global real estate services firm that delivers exceptional value for real estate occupiers and owners. Cushman & Wakefield is among the largest real estate services firms with approximately 53,000 employees in 400 offices and 60 countries. In 2019, the firm had revenue of \$8.8 billion across core services of property, facilities and project management, leasing, capital markets, valuation and other services. To learn more, visit www.cushmanwakefield.com or follow @CushWake on Twitter.

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