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The Impact of Current Events

on

United States & Gulf Coast

Industrial Construction

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Introduction:

Industrial construction has advanced rapidly along the Gulf Coast in recent years; and after a slight slowdown in 2019, activity appeared ready to re-accelerate. This growth would increase pressure on the skilled construction trades, reducing the worker availability and raising wages. However, the events of the first quarter put those prospects at serious risk. The coronavirus (COVID-19) and the Russian-Saudi Arabian price war substantially change the outlook for both the U.S. economy and for industrial construction. These changes present a case study in uncertainty and the impacts of each are unclear. To assist in clearing the fog, at least minimally, we are providing an early overview of our thoughts on how events of the next year will unfold.

What is our best estimate of the impacts? The spread of COVID-19 will potentially restrain U.S. economic activity for up to three to six months, keeping workers from their jobs, consumers from their stores, and travelers from their trips. It will continue to affect supply chains and hinder workflows. The demand and supply shocks will be palpable – less output means less income, which means less spending.

The impacts of the oil price war are also deep, although probably less broad. Currently we suspect the oil price war between Russia and Saudi Arabia will last between six months and one year. It will have painful consequences for all oil producers, whether OPEC members, OPEC affiliates, or independent oil producers. The Gulf Coast will experience a special impact. Low oil prices will force many companies to cut capital spending, potentially hamstringing efforts to upgrade refineries, construct chemical plants, and build liquified natural gas export terminals. The deferral or cancellation of these projects will in turn reduce the demand for highly skilled workers – boilermakers, electricians, insulators, ironworkers, millwrights, welders, instrumentation technicians and pipefitters among others.

At the outset of 2020, the expansion of local refineries, the construction of chemical plants, and the building of LNG terminals was not only continuing, but apparently accelerating as major companies like ExxonMobil, Sempra Energy, and Cheniere Energy added capacity in a race to gain share in growing international markets. The most spectacular examples of these activities are liquified natural gas export terminals. Work on those terminals under construction continued even as the queue of approved terminals lengthened. Between October 8, 2019 and the present, the Federal Energy Regulatory Commission permitted an additional four LNG export facilities, all in Texas.

In the Beaumont-Port Arthur metropolitan area, work on ExxonMobil's Golden Pass LNG terminal along the Sabine Pass continued to advance. Preparations for the start of Sempra Energy's Port Arthur LNG began with the start of highway improvements needed to support construction[1,2]. Work on the Motiva refinery expansion went forward and the construction of a new refinery

[1] Brooks, Sharon. 2020. "In the Pipeline-2020 promises continuing expansion", Southeast Texas Business Journal, Volume 10, Issue 10 (January, 2020) pp. 1- 5 passim. Please see https://etypeservices.com/SWF/LocalUser/Beaumont2//Magazine314320/Full/index.aspx?II=314320#1/z

[2] The FERC the key agency issuing permits for LNG facilities. The terminal is currently (as of February 5th) still in listed as approved but appears ready to start. It is not identified as under construction in the Federal Energy Regulatory Commission's listing of North American LNG export terminals. Please see https://www.ferc.gov/industries/gas/indus-act/lng/lng-approved-export-new.pdf.

complex to process light petroleum by ExxonMobil commenced in Port Arthur. As of January 2020, local sources reported additional large projects ($1 billion or more) were under review for tax abatements in Beaumont-Port Arthur.

The consequences of heightened construction activity for the skilled construction trades would have been tighter labor markets and rising wages. The addition of new projects to the construction industry could have lifted five-year wage escalation rates for the skilled trades to an average 4% to 5% per annum with risks on the upside.

Those concerns can be put to rest in the near-term. By the close of 2019, oil, gas, and chemical companies were facing multiple overlapping challenges. They were sustaining high levels of capital spending despite comparatively low prices for crude petroleum, refined petroleum products, and liquefied natural gas. Shale drillers were under even greater pressure, suffering from reduced asset valuations as they sought to renew their credit lines amid lower drilling rates and weak prices.

In the long term, adding capacity in North America, where extraction of petroleum from tight oil deposits via hydraulic fracturing produces copious amount of associated natural gas, still makes sense. Fracking has led to very low natural gas prices – in West Texas they briefly turned negative – and it appears likely American hydrocarbons will enjoy a long-lasting cost advantage[3]. What will happen short-term is another question. In the face of exceptionally low oil prices and a world-wide glut of LNG, one key question is, "What will happen to industrial construction projects along the Gulf Coast?"

Our expectations are:

i) major projects *already under construction* will continue with at most a slowdown in construction activity, stretching completion dates further into the future,
ii) major projects *not yet started will be delayed* until market prices for energy and chemical products improve, and
iii) uncertainties about how weak the world economy will be and when the current oil price war will end make it hard to speculate about the future.

Ultimately, we believe high levels of industrial construction will continue for at least the next two years. Thereafter, construction will briefly diminish before re-accelerating as the world economy regains momentum, demand for energy strengthens and product prices improve.

[3] Bloomberg Wire Service. 2019. "The Permian Basin is getting gassier as wells age and output declines," (Dallas Morning News, 14 December 2019). Article notes that output gets gassier as wells age and that wells get gassier as production shifts from the Midland to the Delaware portions of the Permian Basin. https://www.dallasnews.com/business/energy/2019/12/24/the-permian-basin-is-getting-gassier-as-wells-age-and-oil-output-declines/.

The Economic Outlook:

The United States economy has been rolling along for over a decade, adding additional months to an expansion nearing eleven years duration. Both the U.S. Federal Reserve and the U.S. Congress have contributed to its record longevity, the former by keeping interest rates low and markets liquid, and the latter through an expansive fiscal policy. While there has been on-going worry that the effectiveness of both monetary and fiscal policy has been blunted by over-use, any reckoning seemed comfortably in the future.

The emergence of a new coronavirus (COVID-19) in the City of Wuhan, China during late December 2019 presents an acid test to the durability of the expansion. The virus has spread to over one hundred nations with about 250,000 confirmed cases globally (183 countries), concentrated in South Korea, Japan, Iran, and Italy. The United States has now confirmed more 14,000 cases and the total is growing rapidly.

Economic impacts of the COVID-19 on the U.S. are growing. On March 6th, the U.S. Department of Labor reported robust job growth for February 2020 with total farm employment up by 273,000. However, the data for the report date from mid-February, about the time the virus is believed to have entered the nation. With the virus spreading, governments and central banks began serious remedial efforts.

The U.S. Federal Reserve, expecting problems with supply chains, loan quality, and liquidity, announced an emergency one-half percent cut in its target rate for federal funds on March 3rd, lowering it to between 1.00% to 1.25%. It followed that cut by another on Sunday, March 15th reducing the target rate by an additional one percent, as well as providing liquidity to the U.S. financial system and aiding foreign central banks[4].

What are the potential economic impacts of COVID-19 on the U.S. economy? The answer to this question requires modeling the flow of goods and services internally between industries. A more direct way of calculating the impact of the virus is to estimate the percentage of U.S. workers who contract the virus and the amount of work time on average they lose.

U.S. payroll employment in the U.S. is approximate 152 million plus an estimated 12 million self-employed. For this particular model, let's assume 60% of workers are affected. Under the baseline scenario, we believe affected workers will lose two weeks of work time, reducing both output and incomes. Of course, the outcome could be better. If efforts at containment are even partially successful, fewer than 60% of workers would be affected. The alternate scenario doubles the average number of weeks lost. Both scenarios assume substantial federal support for worker incomes beginning at the beginning of second quarter 2020.

Baseline Scenario: Imagine each worker loses an average of two weeks through illness, supply chain irregularities, workflow problems, quarantines, work at home requirements, bans on public

[4] Press Release. 2020. Federal Reserve issues FOMC statement. Federal Reserve Board Open Market Committee (15 March 2020). Please see https://www.federalreserve.gov/newsevents/pressreleases/monetary20200315a.htm#:~:text=Consistent%20with%20its%20statutory%20mandate,maximum%20employment%20and%20price%20stability.&text=The%20Federal%20Reserve%20is%20prepared,employment%20and%20price%20stability%20goals.

gatherings, and the closure of stores, bars and restaurants. In that case, the loss of output would be equal 2.3% of GDP, slightly above expected 2020 GDP growth rate of 2.0%[5]. In other words, expectations would be for a mild recession this year, probably spread over the second and third quarters with U.S. economic growth rebounding during the final quarter of the year[6].

Alternate Scenario: Imagine each worker loses an average four weeks of productive work through the same restrictions supply chain irregularities, workflow problems, and so on, as noted above. In that case the loss of output would be equal to 4.6% of national output, suggesting a longer deeper recession. A prolonged recession could also lead to insolvencies and defaults which would make the recession worse. Such a recession would begin during the second quarter 2020 and last through the close of the year or the first quarter of 2021.

Consequences of the Oil Price War Outlook:

Energy prices were already weak before Saudi Arabia's decision to expand its production of crude oil. The decision came on the heels of a Russian refusal to reduce its output as part of additional OPEC production cuts. According to some sources, crude oil demand was down by as much as 4 million barrels per day due to the COVID-19 related slowdown in economic activity. In addition, liquified natural gas carriers were reportedly waiting offshore from their Asian ports of call because declining industrial activity had reduced demand.

Without an agreement to either further cut crude oil output or extend the current reduction of 1.5 million barrel per day, individual members are free to raise production. Saudi Arabia began the first round of competitive price cuts by reducing crude petroleum prices by $4.00 – $8.00 per barrel, which led quickly to steeper drops in benchmark prices. Brent Crude initially fell to as little as $30 per barrel before rebounding.

Even before the OPEC's failure to agree on output limits, low prices had forced American LNG companies like Tellurian, developer of the 4.0 billion cubic foot per day Driftwood LNG, to delay the final investment decision and to extend the maturity of loans[7]. The importance of crude oil prices for the Gulf Coast economy is highlighted in the Dallas Federal Reserve's twelve-month employment forecast for a 2.1% gain through the close of 2020 by senior economist Keith Phillips, who in his commentary of January 31st, wrote:

> "The biggest downside risks to the forecast are a sharp decline in oil prices, trade war escalation or a national recession[8]."

[5] The calculations are two weeks of lost work divided by the 52 weeks of the year multiplied by 60% of all workers equals 2.31%.
[6] Please see Vatter, Marc. OPEC's risk premia and volatility in oil prices. International Advances in Economic Research, 25:2.
[7] Nair, Shanti S. 2020. "Tellurian to Cut Costs Amid Weak LNG Demand", Reuters Commodities, (March 2, 2020). Please see https://www.reuters.com/article/us-tellurian-outlook/tellurian-to-cut-costs-amid-weak-lng-demand-idUSKBN20P2EQ
[8] Phillips, Keith. 2020. "Texas Expansion Likely to Continue,", Federal Reserve Bank of Dallas, (31 January 2020). Please see https://www.dallasfed.org/news/releases/2020/nr200131teo.aspx.

How wide will the price war become and how long will it last? The financially weaker OPEC members and private companies probably hope it will be over quickly.

Baseline Scenario: The baseline scenario takes the view that the "oil price war" initiated by Saudi Arabia is aimed primarily at American shale oil drillers, who Russian Federation President Vladimir Putin has blamed for low crude oil prices, and against whom Saudi Arabia launched a price war at the end of 2014. Efforts to curb American production of crude oil, light oil and natural gas liquids come at a time of vulnerability, so the overall effect will be to make the U.S. companies more cautious. A reasonable estimate of time it will take to damage American producers is approximately six months[9].

Alternate Scenario: The alternate scenario allows for the possibility that the Russian-Saudi Arabian disagreement over production quotas and crude prices is more about dominance within the cartel and competition over leadership in the Middle East. In that case the competition would continue for a longer period.

Prospects for the U.S. Economy and Industrial Construction:

The near-term outlook, even under the *baseline scenario*, appears difficult because the next six months will prove challenging. During that time the U.S. economy will experience a dip in GDP and exceptionally low oil prices that will weigh on Gulf Coast jobs and threaten to derail industrial construction. The relatively short duration of the recession and the need to finish projects already underway means those already under construction will continue. Subsequently, activity will slip, but then re-accelerate during the years 2023 and 2024 as demand for energy products and petrochemicals strengthens.

The *alternate scenario* presents still greater difficulties which include an extended recession, lower oil prices for longer, and the possibility of insolvencies and defaults. However, even these difficulties will not last. By mid-2021, both the economy and industrial construction will be on the mend, although upward progress will begin at lower levels of income and output.

There is another key possibility, that America has success in slowing or even halting progress of the COVID-19 virus. State and local officials are acting firmly and expeditiously, closing schools and public places, prohibiting large groups, redlining districts, restricting bars and restaurant hours, and encouraging people to remain at home. These measures are sure to slow the progress of COVID-19, decreasing the number of people who contract the virus and reducing the intensity of their exposure. If the proportion of workers who contract the virus is less than 60%, and they have milder symptom, the economic impacts will be milder as well.

[9] Please see Vatter, Mark. 2019. OE'S risk premia and volatility in oil prices. International Advances in Economic Research, 25:2.

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