Choo Choo Economics

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Everyone is aware that last fall and winter oil prices plummeted around 50%. After hitting bottom earlier this year, prices have since risen a reasonable amount. They are still a good way from the trading range of $90 to $110, which seemed to have become the new normal after we recovered from the 08/09 recession. But now there are reasons to believe that new normal may be long gone.

Various OPEC spokespeople have suggested there is no way the price of oil will see $100 any time soon. And a recent Goldman Sachs report suggested that oil would be trading around an average of $55 to 2020. The implication of these grim outlooks is that a newer new normal for oil prices may be much lower than the domestic upstream oil & gas industry, its investors and its suppliers would prefer to believe.

A new normal of $50 or even $60 oil dramatically reduces the cash flow of domestic upstream oil & gas companies that have been living in a $90 to $110 world. Compounding this situation is the recent contraction in natural gas prices from over $4 per million BTUs to under $3. This isn't as measurable a drop as oil prices, but then one must remember that a decade ago natural gas was trading in the $6 to $8 range. And on a couple of occasions it spiked above $13. Ten years later, gas producers seem to be living a new normal in the $2.50 to $4.50 range, a far cry from $6 to $8.

A number of people are now wondering if what happened to the natural gas market is also going to happen to the oil market. It's certainly a topic of debate, but if oil even somewhat follows gas' lead it will mean a measurable drop in cash flow for the domestic upstream oil & gas industry.

Most of the upstream oil & gas cash flow is reinvested into more drilling and production activity. With oil and gas prices much lower, cash flow will be lower so reinvestment is going to be lower. Various forecasts for 2015 domestic upstream oil & gas spending suggest reductions from 30% to 50%.

The domestic drilling rig count, a reasonable measure of upstream oil & gas reinvestment, has dropped from over 1,800 working rigs a year ago to less than 900 as of last week. That is a greater than 50% drop in working rigs, which implies that overall reductions in upstream reinvestment for 2015 may drop as much as 50% in just one year.

Spending from the upstream oil & gas industry impacts a significant number of service and supply companies. With less demand for drilling rigs, even those under contract will find it challenging to charge worthwhile prices. There will be fewer drilling sites to construct and reduced demand for drill pipe (steel) and a host of different fabricated metal, mechanical, electronic and other products that go into the drilling process.

Also impacted are the related services performed by numerous professionals in the technical and administrative fields, as well as a host of blue-collar labor that does all the dirty fingernail work. Payrolls in the oil and gas regions will obviously follow the drop in working drilling rigs and new capital investment.

To put all this into perspective, in early 2014 *The Oil & Gas Journal* projected that upstream spending for that year would come in at around $250B. A 30% reduction in upstream spending for 2015 would

take $75B out of the domestic economy. A 50% drop in spending would take $125B out of the domestic economy.

$125B out of a $12T annual economy doesn't seem like much, and there is of course economic stimulus that comes from lower oil and gas prices. Consumers are paying less for their gasoline and power, which is certainly helpful to our overall economy. But a significant reduction in domestic upstream oil & gas spending hits Houston squarely between the eyes.

Virtually everyone knows Houston as the energy capital of the world, but more specifically, it is the upstream oil & gas capital of the world. No other city in the world manages as much investment in oil & gas and related activity. A significant amount of the products used in oil & gas drilling and production are made in Houston. And no other place in the world hosts near the amount of oil & gas technical and administrative talent than Houston does.

There may be over a hundred oil & gas exploration and production companies based in Houston, as well as a large number of oilfield products manufacturers, suppliers and service companies. All these companies and all their employees are dependent on the cash flow of upstream oil & gas companies. So when cash flow is contracting significantly in the upstream oil & gas sector it will have an obvious effect on Houston's economy. As a banker friend recently suggested, "In Houston, even the orthodontist is in the oilfield services business." If an oil & gas industry middle manager loses his job, little Johnny may not get those braces.

How does this discussion about the state of the domestic upstream oil & gas industry tie into "Choo Choo Economics"? To best understand the concept, we first needed to understand the dramatic decrease in domestic upstream oil & gas spending.

Economies are like a freight train. They all have an engine. Big economies have multiple engines. These economic engines pull all the "freight cars" behind them. Those freight cars are the various industries that depend on and/or benefit from the engine pulling them, and in Houston this includes industries as far-flung from oil & gas as orthodontics.

When economic engines are running at a high level, they can pull a lot of freight cars. But if an engine starts sputtering, our economic freight train is going to slow down.

When a large freight train loses an engine it does not stop or even slow down immediately. The weight of all the freight cars behind the engine keep the train moving forward for a good while, so much so that it won't even be obvious for some time that the train is slowing. But freight cars don't drive an economy. Economy requires engines.

Houston has three very powerful economic engines. One is the domestic upstream oil & gas industry. The other two are the domestic oil & gas midstream industry and the domestic oil & gas processing industry.

The fuel for all economic engines is capital. The money these engines spend waterfalls down, supporting all those freight cars.

Houston's economy now has one sputtering engine. Cash flows are contracting in domestic upstream oil & gas. This means less new capital investment, fewer jobs and less fuel for Houston's economy.

But since the midstream and processing industries can only invest in new assets after oil & gas production grows, which has recently happened, there is a lag effect in their capital investments.

Those midstream and processing assets don't pop up overnight. It takes several years from start to finish for a midstream asset like a pipeline or a processing asset like an ethylene plant to be built. For the near term, capital investment from the midstream and processing engines will continue even as capital investment in upstream is contracting.

At some point, though, we will have built a sufficient amount of midstream and processing assets to support our expanded oil & gas production. When that happens, midstream and processing capital investment will decline. This means capital flow, the economic fuel running through Houston's economy, will contract.

Capital flowing through one of Houston's primary economic engines, domestic upstream oil & gas, is now contracting considerably. In a couple of years, the same should be happening in Houston's other two primary economic engines. For those wondering what's going to happen to Houston's economy, and all those "orthodontists," there seems a good chance the current economic euphoria may soon be coming to a close.

Ever since the disastrous 1980s, there has been talk in Houston about economic diversification. Looks like we are about to see if all that talk proves to be a reality. Thirty years later, the same economic engines still seem to be driving Houston's economy.

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