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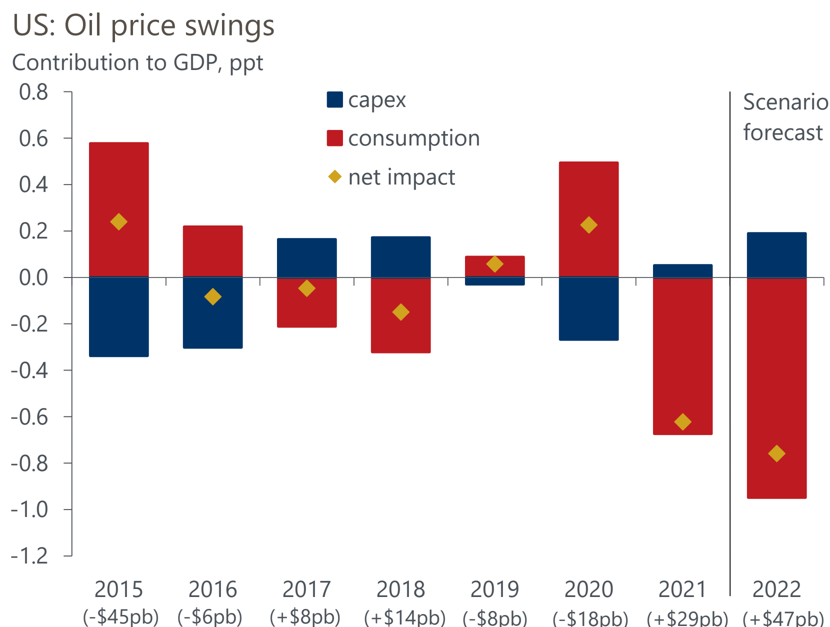
Research Briefing | US

Oil shock will leave a stain on the US economy

- **With oil prices spiking well above $100/barrel, the Russia-Ukraine war will have a noticeable impact on the US economy in 2022. We estimate that if the price of oil remains around $120 through the end of the year, it will shave 0.8ppts off GDP growth this year as reduced consumer outlays are only mildly offset by increased energy extraction activity. The shock could be exacerbated by financial market stress, which could then spill over to the real economy.**
- **For consumers, the equivalent $1.40 rise in prices at the pump would represent an annualized $190 billion gas "tax" this year, or $1,500 per household, and impose a 1ppt drag on GDP growth. The burden will fall disproportionately on lower and middle-income families whose relative share of spending on energy is higher and whose excess savings are small to non-existent.**
- **However, strong job creation and faster wage growth for low-income workers should provide a buffer against rising energy prices. Meanwhile, higher-income households will dig into some of the $2.6tn of excess savings accumulated during the pandemic to sustain their spending.**
- **While higher oil prices typically deliver a boost to the economy through stronger energy capex, we think this time will be different. Domestic oil producers have been reluctant to ramp up production; plus, they face significant challenges to grow output further, including aging wells, supply issues of raw materials, and labor shortages. Against this backdrop, we anticipate oil and gas capex would boost GDP growth by only 0.2ppts in 2022.**

At a time when consumers are feeling the effects of the hottest inflation in four decades, the Russia-Ukraine war has added more fuel to the fire. Rising geopolitical tensions and the prospects of severe disruption to Russia's oil exports have set off gyrations in energy markets. Brent oil has soared 35% and touched $139/barrel, a 13-year high and only $6 below its all-time high of around $145/barrel reached in July 2008. And gasoline prices rapidly followed suit, surging above $4 per gallon to an all-time high.

Chart 1: GDP impact of oil price shock



Source: Oxford Economics/Haver Analytics

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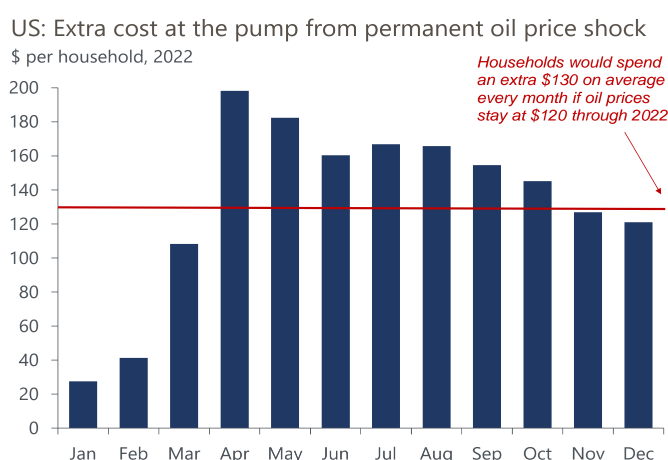
Burning a hole in the consumer's pocket

Even before the Russian invasion, the surge in oil prices since the start of the year had led to a 33 cents/gallon increase in average gasoline prices, to around $3.60/gallon. The recent oil price spike has propelled gasoline prices even higher. The national average price of a gallon of gas has jumped 65 cents over the past week to an all-time high of $4.25/gallon, shattering the prior record of $4.11/gallon set in July 2008.

We estimate that a $10 rise in oil prices implies a roughly 30 cents/gallon increase in the average price of regular grade gasoline. Such an increase would cost US households roughly $40 billion at the pump this year, imposing a 0.2ppt drag on US GDP. If oil prices stay at around $120/barrel the rest of the year, then gasoline prices would likely rise the equivalent of $1.40 this year and average $4.40/gallon. This would represent an additional cost of $190bn a year for US households, or $1,500 per household (**Chart 2**).

Chart 2: Households' extra cost at the pump



Source : Oxford Economics/Haver Analytics

The impact on the economy would be notable, with a 1.4ppt drag on consumer spending in 2022 and a 0.95ppt drag on real GDP (**Table 1**). Given the current volatility in energy prices, we also modelled a more pessimistic scenario in which oil prices rise to average $130 this year, while gasoline prices average $4.85/gallon, about 185 cents more than in 2021. This would cost US consumers about $250 billion in 2022, or $1,985 per household. The negative impact on the economy would be greater as it would represent a 1.3ppt drag on real GDP growth. But if oil prices fall back down to average $100 this year, the drag on real GDP growth would be lower at around 0.6ppt.

Table 1: Consumer impact of higher gasoline prices

	2022	2022	2022
	Scenario 1	Scenario 2	Scenario 3
WTI oil prices (average)	$115	$130	$100
Gasoline prices (average)	$4.40/gallon	$4.85/gallon	$3.95/gallon
Change from prior year	+140 cents	+185 cents	+95 cents
National cost at the pump	$190 billion	$250 billion	$125 billion
Extra $ per household	$1,500	$1,985	$1,000
Impact on real GDP growth	-1pp	-1.3pp	-0.6pp

Source: Oxford Economics

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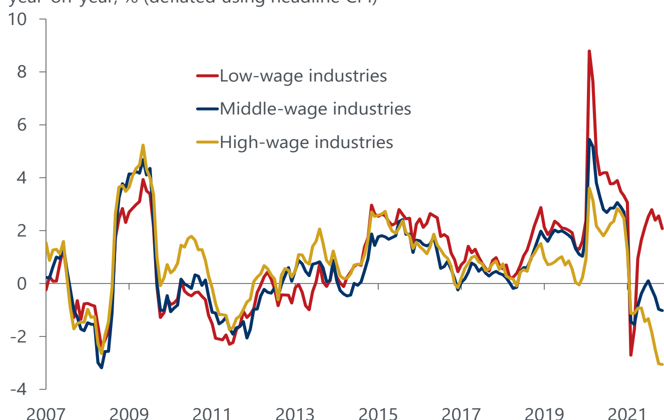
Wage growth and excess savings as buffers

Sharply higher gas prices will be salient to consumers as they spend a sizeable share of their income each month filling their gas tanks. In Q4 2021, consumers allocated nearly 4% of disposable income to gasoline purchases. While higher-income households will likely use some of their $2.6 trillion of excess savings accumulated over the course of the pandemic – equivalent to about 13% of GDP – to smooth spending and compensate for the loss of spending power, the burden of higher prices at the pump would fall disproportionately on middle and lower-income families whose relative share of spending on energy is higher and whose excess savings are smaller to non-existent. We estimate that 69% of the excess savings was held by the top income quintile and 40% held by the top 1% of earners alone at the end of Q3 2021.

On the brighter side, strong wage growth at the bottom of the pay scale should offer some relief to low-income earners. The lowest-paid workers have seen the sharpest increases in wage growth over the past year, with average hourly earnings more than keeping up with the elevated pace of inflation (Chart 3). The Atlanta Fed's Wage Growth Tracker also shows that wage growth for the lowest income quartile was growing at an annual rate that was double the pace of the highest income quartile in January. Going forward, tight labor market conditions should keep upward pressure on wages, though some cooling is expected as participation in the labor force continues to rebound.

Chart 3: Wage growth and inflation



Source : Oxford Economics/Haver Analytics

A muted response from oil and gas investment

While oil-related investment is naturally tied to swings in oil prices, this relationship was reinforced over the past decade as the US shale boom unfolded. Notably, the response of oil and gas business investment to changes in the price of oil became larger and faster, with an increase in oil prices eliciting a rise in rig counts the next quarter. Private fixed investment in oil and gas exploration and machinery lagged price changes by one to two quarters (**Chart 4**).

However, this tight relationship between energy prices and capital expenditures appears to have broken down in recent quarters, as the marked rebound in oil prices in 2021 did not lead to a significant ramp up in energy investment. Pre-pandemic, the average $29 increase in WTI oil prices seen in 2021 would have implied an increase in energy investment worth around $36 billion, or the equivalent of a 0.18ppt boost to real GDP. But energy investment only rose by $10 billion last year, thereby providing a smaller 0.05ppt increase to GDP growth.

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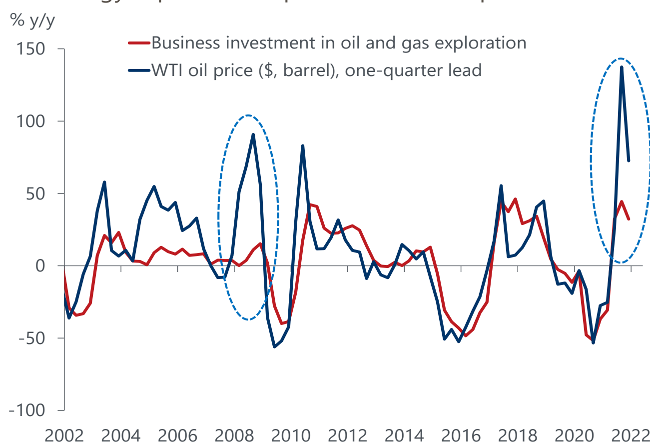
Chart 4: Oil and gas capex and WTI oil price



Source : Oxford Economics/Haver Analytics

The slower capex response can be attributed to a paradigm shift in the US oil and gas industry in the aftermath of the pandemic. While sharply higher energy prices have been met by calls from both consumers and the White House to raise oil production, domestic shale producers have been reluctant to invest as heavily as in the past. As such, domestic output has rebounded more slowly and remains roughly 10% below pre-pandemic levels. Instead, firms have focused on rebuilding their balance sheets and paying down debt, while rewarding shareholders amid growing pressure to divest away from fossil fuels. Moreover, even if producers wanted to greatly expand their production, they are facing significant challenges, including aging wells and shortages of labor and raw materials such as the sand used in fracking to extract shale oil. Against this backdrop, we anticipate only a modest ramp up in extraction activity and estimate that if oil prices remain at around $120 for the remainder of the year, energy-related investment would only rise around $38 billion over the course of 2022, adding just 0.2ppts to real GDP growth.

Limited policy room to soften the blow

President Biden has pledged to minimize the impact of energy prices on US households, but his options are limited. The US administration in conjunction with other International Energy Agency (IEA) member states authorized the release of 60 million barrels of oil from their emergency stockpiles – of which 30 million barrels are coming from the US. However, the actual impact on prices is likely to be modest since the US consumed an average of about 19.5 million barrels of petroleum per day pre-pandemic. It is not surprising then that Biden's recent November drawdown from the Strategic Petroleum Reserve only provided a small and temporary respite.

Prior to the Russian invasion, the White House and some Democrats proposed a suspension of the 18.4-cent federal gasoline tax, an idea that saw a lukewarm reception from members of both parties. So far, there is no indication that support for suspending that tax, which would need to be legislated by Congress, has grown since Russia invaded Ukraine. Lawmakers in some states are also starting to call for a temporary suspension of their state gasoline tax. Such measures would alleviate the burden of soaring prices at the pump but would also likely deal a significant blow to state budgets. Looking abroad, the prospect of pared-back sanctions against Iran could provide gasoline prices a respite though it could take several months for sanctions to be lifted once a deal is struck, and for oil flow to be restored.

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