THE REAL ECONOMY

VOLUME 88

ENERGY AND THE MIDDLE MARKET: THE NEW LANDSCAPE

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THE WAR IN UKRAINE, the cutoff of Russian exports and the possible removal of roughly 4.3 million barrels of crude from U.S. and European markets are likely to harm household balance sheets.

Should the conflict continue, we expect it will result in price increases for everything from rare metals to crude oil, with the former affecting the cost of electronics and the latter likely to have an indirect effect on the cost of most other products.

As history has shown, steep price increases can lead to changes in consumer taste and behavior and result in self-rationing among households.

In the 1970s, your parents traded in that gas-guzzling car for a fuel-efficient import. These days that shift is happening with electric vehicles. But it's not there yet, and since demand for energy and transportation is inelastic, corporations and the federal government will have to mitigate the price shock that households are experiencing.

We expect consumer behavior to facilitate a quicker pace of change in the energy sector and reshape domestic auto production.



THE FOSSIL FUEL INDUSTRY WILL REMAIN ESSENTIAL DURING THE TRANSITION TO RENEWABLE, CLEAN ALTERNATIVES. THIS IMPLIES THAT FUEL PRICES ARE UNLIKELY TO GO DOWN.

MIDDLE MARKET INSIGHT

We expect further shortages of energy in Europe to affect the price of oil in the United States and expect further transportation delays to increase the cost of all goods along the global supply chain.

The changing energy sector

The price of crude oil has surged since the invasion began. The removal of Russian exports from the market and the nonresponse of OPEC producers are likely to push the Brent crude benchmark higher.

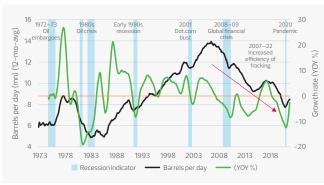
If Russia continues to be ostracized from markets in the West, there is the potential for gasoline to reach \$6 per gallon in the higher-cost Northeast and West Coast urban centers.

But what about the United States achieving energy independence? American imports of petroleum have declined as advances in fracking made the United States and Canada the swing producers for the world. (Canada exports 95% of its oil to the United States, where it is refined and then sold in other markets.)

But without price controls—used during World War II and the oil embargoes of the 1970s and 1980s—commodity prices will be determined by the global market.

As we have learned during the recovery from the pandemic, it's not all that easy for producers to simply restart wells turned off when the drop in demand in 2020 sent the price of West Texas Intermediate crude to less than \$17 per barrel. And over the longer term, the investment community faces growing pressure to stay away from fossil fuels.

U.S. petroleum imports since 1973



Source: U.S. Energy Information Administration; RSM US LLP

There is precedent for oil producers to be concerned about their industry's strength and staying power. Fuel efficiency standards for new vehicles were imposed in 1975, largely in response to the 1973 oil embargo.

A report by the Union of Concerned Scientists found that sound fuel-economy policy and good engineering "can deliver the cleaner and more fuel-efficient cars, trucks and SUVs we need to help tackle our oil consumption and climate-change problems."

The analysis also said that "investing in technologies that increase the fuel economy of America's vehicle fleet will create domestic jobs, save consumers money at the pump, cut global warming pollution and put us on a path to cut projected U.S. oil consumption in half over the next 20 years."

Interestingly, improvements in fuel efficiency occurred even when political support for higher standards slipped. That speaks to consumer choice driving competitiveness among domestic and foreign auto manufacturers and the importance of the California market, which has set the de facto efficiency and omission standards.

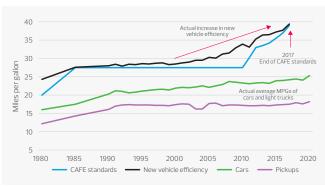


AS HISTORY HAS SHOWN, STEEP PRICE INCREASES CAN LEAD TO CHANGES IN CONSUMER TASTE AND BEHAVIOR AND RESULT IN SELF-RATIONING AMONG HOUSEHOLDS.

When the oil embargoes hit in the 1970s, consumers rushed to the fuel efficiency of Japan's Toyotas and Datsuns. Detroit's gas-guzzling land yachts of earlier generations became unaffordable relics and were quickly replaced by a myriad efficient and better engineered foreign and domestic models.

We expect the energy shock to further the demand for electric vehicles. The largest-selling American model, the Ford F-150 pickup, is going electric.

Average fuel efficiency of U.S. light duty vehicles and CAFE standards for new vehicle efficiency



Source: U.S. Bureau of Transportation Statistics: RSM US LLP

The impact of consumer choice didn't stop at the fuel efficiency of cars. Investments in double- and triplepaned replacement windows lowered heating and airconditioning bills and improved living conditions.

Public acceptance of decreased auto emissions ended the smog that suffocated Los Angeles in the 1980s. Same for the demise of diesel-fired furnaces in Brooklyn, all of which led to healthier and cost-saving outcomes.

MIDDLE MARKET INSIGHT

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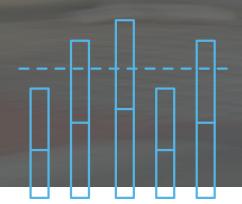
We expect both increased employment and quality-oflife benefits from the diminished role of fossil fuels among developed economies. But that's not to say the demand for fossil fuels will vanish overnight.

Rather, the fossil fuel industry will remain essential during the transition to renewable, clean alternatives. That implies that fuel prices are unlikely to go down, with supplies limited to the few low-cost producers, like the Saudis and the Russians.

Inflation's impact on lower-income households

The price of crude oil has spiked and there are reports of supply chain slowdowns because of the conflict in Ukraine. We expect further shortages of energy in Europe to affect the price of oil in the United States and expect further transportation delays to increase the cost of all goods along the global supply chain. These price increases should provide consumers with the incentive to adjust both their propensity to spend and their buying habits in the months ahead.

But the ability to choose depends on socioeconomic factors, ranging from household income to where you live. For instance, spending in a low-income household is limited to buying food, paying rent and transportation, and little else. When the cost of commuting to work increases, spending choices are further limited.



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MIDDLE MARKET INSIGHT

Extending the child tax credit would maintain household spending on essential goods while promoting economic growth.

In effect, inflation becomes a tax on all households. But the burden of supply chain bottlenecks and product shortages will fall mainly on low-income families with limited discretionary income.

As our analysis suggests, increases in the U.S. poverty rate have corresponded with increases in inflation. Conversely, decreases in the poverty rate have coincided with decreases in inflation.

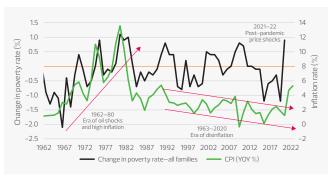
This relationship was clearly the case in the 1960s and well into the 1990s. After that, inflation was squeezed out of the economy, first by Paul Volcker's monetary policy and the worldwide recession that followed, and then by the availability of cheap goods manufactured along the global supply chain. By the 1990s, austerity had become politically fashionable even as employment opportunities were whisked away, and poverty was growing.

Since 2015 and the peak of the business cycle, the relationship between increased inflation and changes in the poverty level has been restored, with the latest bout of inflation corresponding with a rise in the number of families in distress.

Researchers have found that stimulus checks during the pandemic had the largest anti-poverty impact, keeping 12.4 million people from falling into poverty last year. That echoes the U.S. Census Bureau's findings for 2020, when stimulus checks kept 11.7 million people out of poverty.

While allowing that public assistance to expire might have been excusable for the large segment of the population that was able to go back to work, the proven effect of direct financial aid in reducing child poverty and hunger needs to be reconsidered during what could be a double-dip crisis of the early 2020s.

When inflation increases, the U.S. poverty rate tends to increase



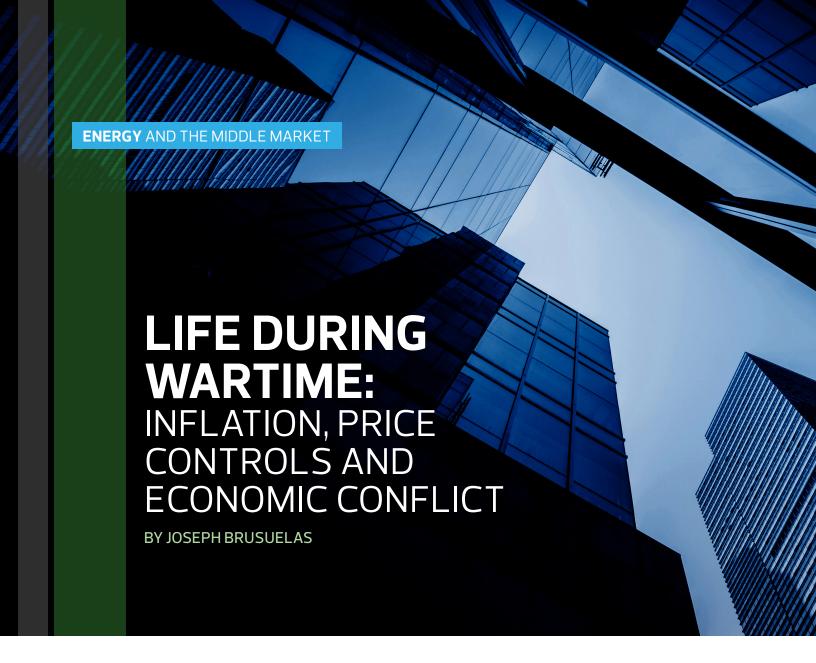
Source: U.S. Census Bureau; RSM US LLP

The takeaway

We expect inflation to increase as Russia's oil and natural gas are removed from energy markets. Increases in energy prices become a tax on households, restricting their spending and creating a drag on economic activity.

We also recommend a fiscal response to higher prices for energy and food by restoring some aspects of the pandemic's emergency income support. Extending the child tax credit would maintain household spending on essential goods while promoting economic growth.

Because of the threat to household balance sheets, we expect the Federal Reserve to moderate inflation expectations through gradual increases in the federal funds rate, and through a pause in the unwinding of Fed purchases of securities for the duration of the crisis.



INFLATION RISES during war and economic conflict. Price dislocation, price controls and self–rationing are facts of life during wartime.

Today, with inflation at a 40-year high and a policy rate near the zero boundary, policymakers face significant constraints as they try to find ways to mitigate rising costs on American households that are conditioned to general disinflation.

Over the past century, price instability reached its highest level during the two world wars and then again during the two consecutive economic wars declared by Mideast oil producers in the early 1970s and 1980s.

We have most likely arrived at a turning point where elevated inflation will define the economic narrative for several years. That may require much higher interest rates than have been observed in recent years and will diminish the probability of central banks achieving a soft landing of the economy.

The probability of a recession will most likely jump from the current 15% to roughly one in three as the economic data is released over the coming weeks.

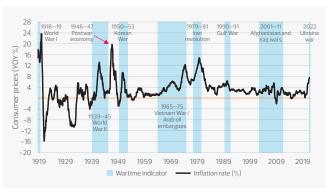
While we think the <u>current price shock</u> will shave roughly 1 to 1.5 percentage points off growth over the next 12 months, it should not result in a general recession in the United States, though it will almost certainly spur a recession in the European Union.



WE HAVE MOST LIKELY ARRIVED AT A TURNING POINT WHERE ELEVATED INFLATION WILL DEFINE THE ECONOMIC NARRATIVE FOR SEVERAL YEARS.

The primary difference is the underlying resilience of the American economy, as demonstrated in the recovery from the pandemic, along with a reduced dependence on Russian energy and commodity exports. These factors should lead to a slowing of the economy, but not to an economic contraction.

U.S. inflation rate in wartime periods



Source: U.S. Bureau of Labor Statistics; National Bureau of Economic Research; RSM US LLP

The combination of a unique confluence of factors during the pandemic and now the disruption to the flow of oil will almost surely unleash a period of inflation unlike anything since the 1970s.

But not all wartime inflation is the same.

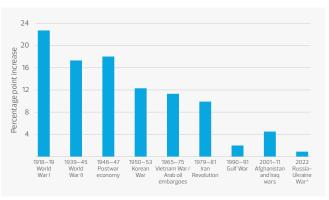
The percentage point increases in inflation during wartime have diminished over the past century. That reduction, though, can be attributed to the moderation of the business cycles and the secular decline in inflation since the late 1980s.

The growth of the middle class and the broadening out of wealth over the past century have also contributed to a less abrasive impact of inflation on household behavior. In addition, the maturation of monetary and fiscal policies over the past three decades, forward–looking metrics of inflation expectations and credibility built up by central banks during that period have all contributed to diminished inflation risk.

More important, the diversification away from an overreliance upon fossil fuels, oil imports and a move toward the integration of renewable energy have

resulted in the ability of the U.S. economy to better absorb such shocks.

Increase in U.S. inflation rate during wartime periods



Source: U.S. Bureau of Labor Statistics; National Bureau of Economic Research; RSM LLL P

*As of February 2022

Other factors like the wave of cheap goods from China and the entry of millions of new workers into the global economy have directly contributed to the general disinflation that has defined the past 30 years.

There is the possibility of currency devaluations and a continuation of the flood of cheap goods into the United States, which would play a role in providing a check on inflation.

But the economy is in new territory. This is the first European conflict during the era of globalization that involves significant economic sanctions, so it would be a mistake to assume that inflation and the policy responses that are sure to follow will look like those in the near or distant past.

Other than the interim period between the oil crises of the 1970s and 1980s, wartime inflation spikes were relative to prevailing low levels of inflation.

The shock of Russia's invasion of Ukraine occurred just as the U.S. inflation rate had already surpassed 7%. Supply chain issues in meeting the post–pandemic surge in demand—and the difficulty of reestablishing oil production levels—had yet to be fully overcome but appeared to be within the range of resolution.

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Changes in inflation	rate during	perioas of	i wartime and	a conflict

	Date before conflict	Inflation rate before conflict	Date of peak inflation	Peak inflation rate	Number of months to reach peak	Percentage point increase in inflation rate
World War I	Jun 1914	1.0%	June 1920	23.7%	72	22.7
World War II	Oct 1938	-4.1%	May 1942	13.2%	43	17.3
Postwar economy	Feb 1946	1.7%	Mar 1947	19.7%	13	18.0
Korean War	Aug 1949	-2.9%	Feb 1951	9.4%	18	12.3
Vietnam/oil embargoes	Aug 1964	1.0%	Dec 1974	12.3%	124	11.3
Iran revolution	Dec 1976	4.9%	Mar 1980	14.8%	39	9.9
Gulf War	Sept 1989	4.3%	Nov 1990	6.3%	14	2.0
Afghanistan/Iraq wars	Feb 2002	1.1%	July 2008	5.6%	77	4.5
Russia-Ukraine War	Dec 2021	7.0%	Feb 2022	7.9%	2	0.9

Source: U.S. Bureau of Labor Statistics; Bloomberg; RSM US LLP

In some respects, this represents a major risk to the recovery from the pandemic. Given the damage to world order and to further expected disruptions in the global supply chain, there is reason to think that the current 7.9% inflation rate is just the beginning.

It is entirely possible that top-line inflation may exceed 10% this year before settling into the high single digits to close out the year.

As we have shown in prior work, energy prices remain a significant determinant of consumer price increases, if only because of their weight. And the prospect of removing Russian exports of natural gas and crude oil from the world market has already pushed energy prices higher.

Although Europe would be hit the hardest by further sanctions on Russian energy sources, energy is priced in a global marketplace. Anticipated and actual disruptions in supply are bound to spill over into the North American economies.

Because of the omnipresence of gas station signs, an ever-increasing price of gasoline will have an impact on inflation expectations and consumer spending behavior.

Are price controls in order?

The EU is looking at capping electricity prices to address the fallout from the sanctions placed on Russia. That prompts a question: Are price controls part of the solution?

We think the answer is no. Based on the experience of oil shortages during the two 1970s Arab embargoes and the aftermath of the 1979 Iranian Revolution—which we think is the best analogy for the current price shock government intervention into the market for gasoline and energy would be counterproductive and would most likely backfire. Price controls would only lead to further shortages and price dislocation that would take years to recover from.

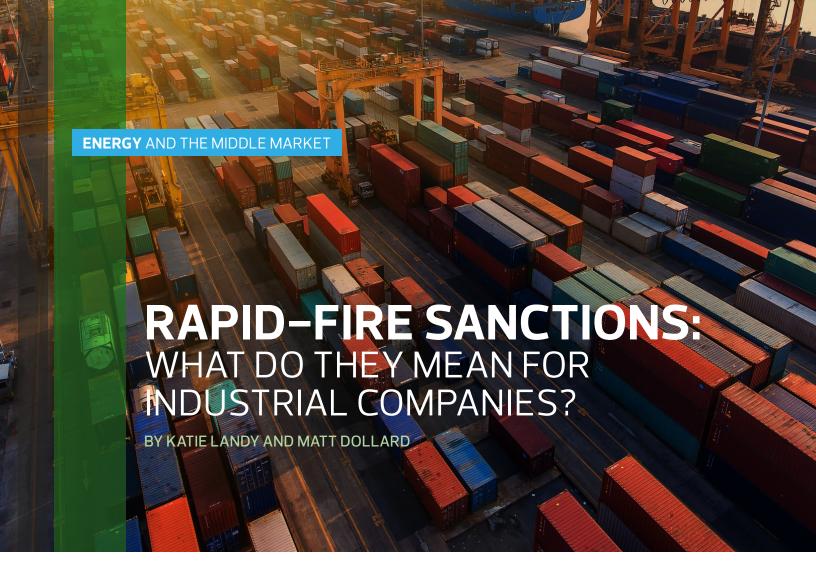
A 2019 study found that price controls on gasoline imposed after the Iranian Revolution exacerbated shortages by not allowing rising prices to curb demand. On the supply side and in an environment of rising prices, price controls incentivized refiners to withhold gasoline and sell it later at higher prices.

The takeaway

We can try to quantify the impact of inflation by looking at past experiences, but the world has changed. Today, the U.S. economy is less dependent on energy than it was in the 1970s and 1980s—a result of engineering advances that have lessened the pass-through effects of energy price increases on other products.

Still, the prospect of higher prices is likely to have a dampening effect on consumer spending, which would become a drag on overall economic activity.

Although we have no idea how long the Ukraine war will last, it seems clear that impediments to the peaceful transaction of commerce will exact a cost on households.



RUSSIA IS KNOWN for its commodity exports to the world, and the short– and long–term impact of the recent sanctions on the country are not yet completely clear.

But given the wide–reaching implications of these sanctions on everything from energy and metals to airplane parts and shipping, we can reasonably expect that manufacturers and companies in the broader industrial space will need to brace for impact—if they haven't felt it already.

What, then, will the severe sanctions placed on Russia really mean for middle market industrial businesses?

In less than two weeks, Russia became the most sanctioned country in the world. Before Feb. 22, Russia was already under 2,754 sanctions and was the second most sanctioned country after Iran. By mid–March, the number of sanctions doubled to over 6,330 and was still growing, according to a Russia Sanctions Dashboard maintained by Castellum.Al.

MIDDLE MARKET INSIGHT

Higher energy costs will induce longer lead times for purchasing certain energy intensive materials, as manufacturers try to cope with the increased costs.

The U.S. Department of Commerce Bureau of Industry and Security issued <u>controls</u> in late February that "target Russia's defense, aerospace, and maritime sectors and will cut off Russia's access to vital technological inputs, [and] atrophy key sectors of its industrial base."

These controls prohibit the sale of critical oil field parts, software, computers, telecom equipment, information security equipment and more. Businesses that sell controlled equipment or technology will need to know their end customers before selling their goods or services or risk running afoul of the export controls.



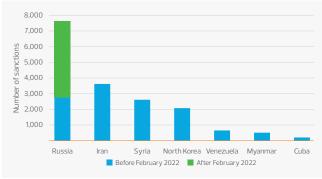
IN LESS THAN TWO WEEKS, RUSSIA BECAME THE MOST SANCTIONED COUNTRY IN THE WORLD, BEFORE FEB. 22, RUSSIA WAS ALREADY UNDER 2,754 SANCTIONS AND WAS THE SECOND MOST-SANCTIONED COUNTRY AFTER IRAN. BY MID-MARCH, THE NUMBER OF SANCTIONS DOUBLED TO OVER 6,330 AND WAS STILL GROWING.

On the supply front, higher energy costs will induce longer lead times for purchasing certain energyintensive materials as manufacturers try to cope with the increased costs. Industrial companies—along with other businesses that rely on industrial products, such as construction companies and contractors—need to assess their ability to pass these rising costs off to the end customer. In practice, organizations are inserting language in new contracts to help protect against continuing price volatility.

People and businesses sanctioned

Most of the 4.860 new sanctions at the time of this article were targeted directly at individuals, and 519 are entities. not including a handful of vessels and aircraft. Those entities include foreign-owned Russian or Belarusian subsidiaries, businesses outside Russia and Belarus that trade directly with sanctioned and unsanctioned entities. and those indirectly affected through supplier networks.

Russia is now the world's most sanctioned country



Source: Castellum.AI; RSM US LLP

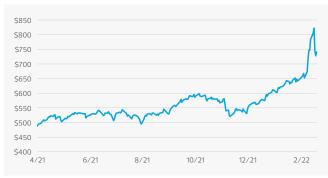
MIDDLE MARKET INSIGHT

Organizations are inserting language in new contracts to help protect against continuing price volatility.

By far, the broadest impacts are the inflationary increases. The consumer price index rose further to 7.9% in February's Bureau of Labor and Statistics report. And we expect inflation to continue rising: "The invasion and sanctions will drive inflation to an expected 10% this year, given constraints of the world energy supply, transportation costs, and a broadening of inflation into shelter and foodstuffs," says RSM chief economist Joseph Brusuelas.

Global commodity prices measured by the S&P Commodity Spot Index spiked in late February, peaked March 8 and remain elevated.

S&P Commodity Spot Index



Source: Bloomberg; RSM US LLF



WHILE RUSSIA ACCOUNTS FOR LESS THAN 2% OF GLOBAL GROSS DOMESTIC PRODUCT, RUSSIA AND UKRAINE ARE ESSENTIAL SUPPLIERS OF SEVERAL BASE METALS OR NONPRECIOUS METALS LIKE IRON STEEL, ALUMINUM AND NICKEL.

MIDDLE MARKET INSIGHT

Most of the 4,860 new sanctions at the time of this article were targeted directly at individuals and 519 are entities, not including a handful of vessels and aircraft.

Businesses outside Russia that trade with sanctioned entities in Russia have their hands tied and can no longer legally transact. Most others are unable to trade anyway due to treasury sanctions on the SWIFT banking system, making a pullout or a pause in Russian trade a fait accompli.

There is also a reputational risk for businesses that can continue to do business in Russia. As of this writing, over 375 businesses are voting with their feet via "self-sanctions," announcing they have or will make some sort of withdrawal from Russia. The Yale School of Management maintains an active list of companies that have left Russia and those that remain, which is becoming a list on which companies will be evaluated by public opinion. This places pressure on companies, boards and shareholders that must decide whether to still do business in Russia.

Energy and supply chains

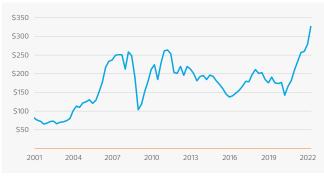
The United States decided to cease imports of all Russian energy supplies which is further driving the inflationary increases. The White House is also moving to ban all new U.S. investments in the Russian energy sector and is laying the groundwork to deny investments into any sector in Russia in the future whenever deemed necessary.

Supply networks are disrupted on several fronts from sanctions as well. Maersk, the world's largest shipping line and vessel operator, provides Russia/Ukraine updates on shipping to and from Russia and Belarus; most of all, sea, rail and land shipping to Russia are canceled, with some exceptions for foodstuffs, medical and humanitarian supplies. For security reasons, Maersk also canceled all sea or rail routes to Ukraine.

Metal matters

While Russia accounts for less than 2% of global gross domestic product, it and Ukraine are essential suppliers of several base metals or nonprecious metals like iron steel, aluminum and nickel. The base metals spot price commodity index dropped in 2020 due to the pandemic, and it has been on a rally since. Russia's invasion pushed the index beyond its already new highs. Businesses should expect to incur further increases in the near term unless demand slows and the war in Ukraine stops.

Base metals spot price commodity index



Source: Bloomberg; RSM US LLP



THE RUSSIAN RUBLE WAS DEPRECIATING FOR YEARS BEFORE THE WAR IN UKRAINE, AND SANCTIONS SENT THE CURRENCY PLUMMETING IN EARLY MARCH TO A NEW LOW.

MIDDLE MARKET INSIGHT

Industrial companies that relay on certain metals from Russia should anticipate continued rising costs in what was an already low supply environment.

Russia is also the world's largest exporter of palladium, a nonbase metal crucial in manufacturing automobile catalytic converters. Spot prices for this resource have risen 48% from their lowest point on Dec. 15 and are trading at \$2,365 per ounce as of the writing of this article.

Another extreme example is nickel. Russia isn't the largest producer or exporter of nickel, but the metal experienced a price increase that forced the London Metal Exchange to halt trading. The metal usually trades between \$10,000 and \$20,000 per ton but reached \$100,000 per ton, driven by short positions from large nickel producers who expected to increase production. The invasion caused the price to rise and set off a chain reaction.

Industrial companies that rely on these metals should anticipate continued rising costs in what was an already low supply environment that escalated in response to the Russian invasion of Ukraine. Further, companies should consider alternative sources to these nonprecious metals that have been historically sourced from these countries.

Disruptions old and new

The Russian currency was depreciating for years before the war in Ukraine, and sanctions sent it plummeting in early March to a new low; one U.S. dollar could buy 117 rubles. These current conditions and frozen Russian USD accounts outside of Russia have guestioned the Russian companies' and banks' ability to meet their obligations. As such, middle market companies should assess their potential exposure if Russia defaults on its debts now or in the future.

Given that Russia is the world's 12th largest trading partner, businesses in or close to the manufacturing space should also assess their risk and potential trade exposure, especially in deep, multilayer supply chain networks. Companies may need to diversify their critical suppliers and continuously evaluate the performance of providers and subsuppliers throughout the supply chain. With industrial companies relying heavily on third parties throughout the supply chain, visibility and connectivity across the extended ecosystem will be essential in understanding the impact from the current environment and building resiliency.



AS COVID-19 CONCERNS dissipate across the United States, hospitality and leisure–focused businesses must now contend with a new risk—stubborn, elevated inflation that could further curb recovery in the travel industry.

The war in Ukraine has driven up global oil prices, pressuring already high U.S. energy costs, including jet fuel and gasoline. Consumer discretionary spending on nonessentials, including flights and accommodations, is closely monitored. In short, what was supposed to be the summer of "revenge" travel may end up disappointing expectations.

Leaving on a jet plane

Bloomberg reports that jet-fuel prices have surged 50% year to date and are up 74% from 2019 levels. This escalation has not yet been pushed through to consumers in the form of higher fares, as airlines are

in a battle over shares of the resurging leisure travel market. This competition, along with the lagged recovery in the business travel sector, has muted the pricing power of airlines.

U.S. average gasoline price per gallon



Source: Bloomberg; RSM US LLP

On the road again

The pandemic-induced resurgence of the Great American Road Trip had travelers logging extra miles; social distancing measures helped boost the popularity of drive-to destinations during quarantine. As we head into the summer travel season, expectations for rising travel demand are high, but there is also concern that elevated prices at the pump will negatively influence traveler decisions. The price for a gallon of gas clocked in at an average \$4.73 in the United States as of March 9, a 55% increase over the average price of \$3.06 since 2005.

Aftershock

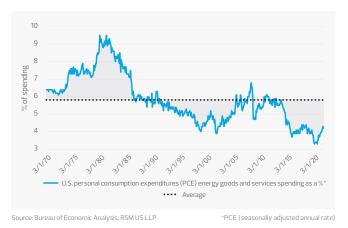
Despite the recent shock of higher gas prices, the proportion of spending by consumers on energy-related goods has been on a long-term decline. From March 1970 to January 2022, average spending on those essentials as a percentage of household budgets was 5.81%. Compare that to January 2022, when the figure stood at 4.2%, and it's easy to see that consumer spending on energy is nowhere near its peak of the early 1980s, when the average skyrocketed to 9.5% of total household spending.

Based on research from Bloomberg, gasoline prices would need to eclipse \$5 per gallon—with crude oil reaching \$160 per barrel—to negatively affect consumer spending. At that point, the cost would exceed real aggregate labor income; wages have grown 5.8% year over year through February, though adjusted for inflation real wages are down 2.6%, illustrating the impact of existing inflation already affecting consumers' bottom line.

MIDDLE MARKET INSIGHT

As we head into the summer travel season, expectations for rising travel demand are high, but there is also concern about the impact of rising gas prices.

U.S. spending on energy goods and services as a percentage of total spending



Labor remains hospitality's biggest concern

Recovery within the hospitality sector is a work in progress. Resort properties and drive-to destinations continue to experience solid occupancy and hold daily rate pricing power; meanwhile, downtown properties in central business districts are lagging amid still-muted business traveler demand. While increasing energy prices may have an impact on the leisure traveler segment currently leading the recovery in the overall industry, hotels have a more acute concern—namely, the availability and cost of labor as operations scale to meet traveler demands post-COVID-19. It is expected that the cost of hiring and retention of labor will continue to eat into profitability.

INDUSTRY **SPOTLIGHT**



ENERGY AND THE MIDDLE MARKET

WHAT IS LIMITING U.S. OIL PRODUCTION?

BY ETHAN SCHMIDT

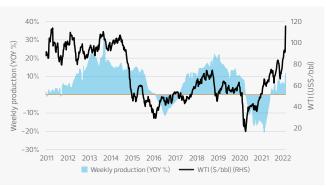
AS THE PANDEMIC, and now the Russian invasion of Ukraine have disrupted global energy markets, oil production in the United States has lagged the steep price increase.

The math would suggest otherwise. For producers, the break-even price to extract shale oil from the ground continues to fall, reaching an average of about \$37 per barrel. At the same time, the price of oil has surged, with West Texas Intermediate recently reaching as high as \$123 a barrel. Yet U.S. production has only marginally increased. What gives?

Part of the answer is that many investors are imposing more discipline on producers and are reluctant to get caught with excess supply when prices plunge—as they inevitably will. Domestic and global demand has changed dramatically in recent years, with the transition toward renewables being one reason for this change.

In addition, the unexpected global supply shocks caused by both the pandemic and now the economic sanctions placed on Russia will almost certainly result in an extended period of adjustment within the domestic economy before increased production provides relief to beleaguered households.

Yearly growth rate of U.S. field production of crude oil and WTI crude futures price



Source: U.S. Energy Information Administration; Bloomberg; RSM US LLP



THE UNEXPECTED GLOBAL SUPPLY SHOCKS CAUSED BY BOTH THE PANDEMIC AND THE ECONOMIC SANCTIONS PLACED ON RUSSIA WILL ALMOST CERTAINLY RESULT IN AN **EXTENDED PERIOD OF ADJUSTMENT WITHIN** THE DOMESTIC ECONOMY.

MIDDLE MARKET INSIGHT

Many investors are imposing more discipline on producers and are reluctant to get caught with excess supply when prices plunge.

Then there is the practical challenge of drilling new wells. Some time is needed to bring new rigs online, and although there are signs that production has already started to respond to the higher prices, it's not as nimble as it was in the 2010s. The Energy Information <u>Administration highlighted</u> these factors in February.

- **Production lags price:** U.S. crude oil production typically lags crude oil price changes by four to six months.
- Rigs are coming online: The Baker Hughes U.S. oildirected active rig count increased from 275 rigs the week of Jan. 8, 2021, to 497 the week of Feb. 4 this year.
- Production is starting to follow: U.S. crude oil production increased from 10.7 million barrels per day in the first quarter last year to 11.7 million by the fourth quarter.

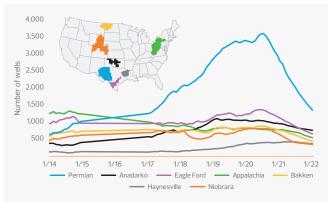
The agency noted that some exploration and production activity in the United States last year did not respond as quickly to price increases as it had in the past—perhaps a reflection of investors' wariness.

The result is lagging production. The price of crude is now nearly three times higher than its low point in 2020—and it is expected to continue rising as Russian oil is kept off the world market—U.S. field production has increased by only 12.6%. What happened to the idea that Canada and the United States had become the swing producers?

Drilled but uncompleted wells

To understand America's ability to respond to higher prices with increased production, look to those wells that are drilled but uncompleted, or DUCs. These wells are mostly developed and can be guickly tapped. By contrast, the development of new wells from scratch even within established oil fields takes a minimum of three months and often much longer. DUCs represent latent potential, and that latent potential has shrunk.

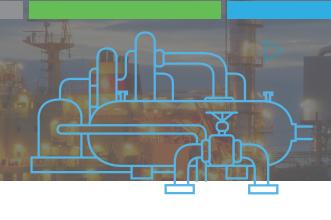
U.S. inventory of drilled but uncompleted wells (DUCs) in major shale and tight oil basins*



*Jan. 2014-Jan. 2022

Even though the steep drop in the number of DUCs corresponds with the COVID-19 pandemic, this trend has deeper origins. Before the start of the pandemic, U.S. producers had begun reducing investment in new projects and started exerting more capital discipline.

In other words, as the initial frenzy of the shale boom wore off and the industry began to mature during the 2010s, producers came to the consensus that the shift toward "Shale 3.0" would place emphasis on returning cash to investors over rampant production growth.



THE PRICE OF CRUDE IS NOW NEARLY THREE TIMES HIGHER THAN ITS LOW POINT IN 2020, BUT U.S. FIELD PRODUCTION HAS INCREASED BY ONLY 12.6%.

MIDDLE MARKET INSIGHT

Before the start of the pandemic, U.S. producers had begun reducing investment in new projects.

Investors, frustrated by years of low returns from the sector, had punished companies that looked to grow production at the expense of shareholder return and rewarded those that did not pursue liberal outlays on capital–intensive new projects.

While overall production and development increased throughout the decade, the development of new wells was more or less stagnant in every major shale basin except the Permian.

The COVID-19 effect

The onset of COVID-19 saw demand for oil plunge, putting prices into a freefall, and forcing domestic producers to close some of their active wells. In addition, many participants inside and outside the industry believed the pandemic was the catalyst for a Green Revolution, and producers began to curtail the scope and number of new projects.

When the economy emerged from the worst of the pandemic, producers responded to rebounding demand by tapping DUCs without drilling new wells to replace the latent capacity. This move was understandable for an industry that was supposed to act more judiciously with its capital, in a world that was supposed to move away from oil.

Now that Russia's invasion of Ukraine has shifted the paradigm again, U.S. producers are significantly behind the curve, and the degree to which they can resume production is constrained by the fact that they have already expended their backlog of DUCs.

Regulatory limits

There are other factors at play. Producers claim that limits on fracking by certain states and the closing of certain coastlines (e.g., Alaska and California to offshore drilling) have also impeded their ability to drill new wells. The impact of President Biden's attempts to suspend federal auctions for drilling is unclear, although it has become a hotly contested issue in Washington.

In addition, the oil industry is not immune to the effects of the <u>national labor shortage</u> either. The oil industry relies on engineers who are in short supply, truckers who deliver goods and equipment from site to site, and contractors who face worker shortages of their own.

What is certain is that even if domestic producers develop new wells in record time—something that seems unlikely—the United States still, fundamentally, will not be able to drill itself out of this shortage.

The structural exclusion of Russia, the world's third-largest oil producer, from global markets was always going to hurt. It will certainly hurt Europe more than the United States, as Russian crude oil comprises a negligible 1% to 2% of U.S. imports.

But oil is a fungible commodity for which Russia accounts for 14% of global supply. The amount excluded from the larger market is simply too large for producers in the United States and elsewhere to make up in a short period. In fact, the sanctions' effectiveness is necessarily linked to price increases in the West. If there are none, then the sanctions cannot have worked.

The takeaway

Yet it is precisely for this reason that the United States and its allies will have to take diversifying their energy streams seriously in the decade to come if they wish to maintain real global influence in the long run.



AS RUSSIA'S INVASION of Ukraine takes a mounting human and economic toll, it also has the potential to threaten the food supply for millions of people who depend on agricultural commodities from those two countries.

Russian and Ukrainian grain exports have plunged, leaving many countries scrambling to find other sources.

That's no small task. Together, the two countries account for a quarter of global exports of wheat, a fifth of corn, just under 10% of oats and 30% of barley. They are also among the top exporters of major grains and cooking oils.

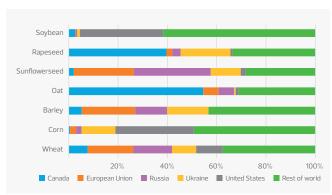
The longer the war drags on and exports are interrupted, the more the food security of nations dependent on those products becomes threatened. Already, prices of everything from grains to fertilizer to livestock have surged.

The picture is not entirely bleak, though: The United States and Canada produce many of the same agricultural products that are suddenly in short supply and could be in position to replace some of the lost exports on the global market.

MIDDLE MARKET INSIGHT

Even if North American producers can bridge some of the gap, livestock farmers and food manufacturers will face higher prices.

Exports of major grains and cooking oils



Source: U.S. Department of Agriculture: RSM Canada



MIDDLE MARKET INSIGHT

The United States and Canada produce many of the same agricultural products that are suddenly in short supply, and they could be in position to replace some of the lost exports.

The breadbasket of Europe

Getting there, though, will be difficult. Ukraine plays a crucial role in food production in Europe as well as globally. Nicknamed the breadbasket of Europe, it has been a leading exporter of grains and agricultural commodities.

But that status is now threatened. As farmers face increasing obstacles to maintain their production, they also face disruptions like port closures and damaged transportation infrastructure. That will only make it more difficult to keep the exports flowing.

Russia is also an important exporter of agricultural commodities, but sweeping economic sanctions threaten to cut off those supplies. And it's not just the sanctions putting pressure on Russian exports. Russia itself, which faces surging food prices for its residents, is temporarily banning wheat exports to other countries in the region to keep domestic food prices low.

The case of potash

To get a sense of just how far-reaching the impact of those limits on agricultural exports can be, consider the unglamorous commodity called potash, an important fertilizer. Russia and Belarus, a Russian ally, are major exporters of the commodity. Without an adequate supply, agricultural production can take a major hit with lower yields, especially in Europe, which produces no potash and is fully reliant on external sources.

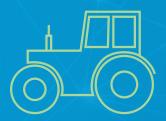
When supplies of potash fall short, it shows up in prices consumers pay at the grocery store.

Agricultural commodity prices*



Source: Bloomberg; RSM Canada

*Left axis: wheat, corn, oat, rapeseed, soybean Right axis; sunflower



NORTH AMERICAN AGRICULTURAL COMMODITY PRODUCERS STAND TO BENEFIT FROM HIGHER PRICES GIVEN HIGH DEMAND AND STRAINED SUPPLY ABROAD.

Looking to alternatives

But there are alternatives. The United States and Canada produce and export many of the same agricultural commodities or close substitutes for products that Russia, Ukraine and Belarus produce.

Canada, for example, is also home to the largest potash mine in the world. The United States makes up 30% of global corn exports, while Canada makes up over half the global oat exports.

Similarly, Canada is the largest exporter of canola oil, and the United States and Canada are large exporters of soybean oil, a substitute for sunflower oil.

North American agricultural commodity producers stand to benefit from higher prices given high demand and strained supply abroad. Already, European companies are looking to secure potash contracts in Canada.

But even if North American producers can bridge some of the gaps, livestock farmers and food manufacturers will face higher prices.

Consumers, in turn, will pay more. Food inflation will soar above last year's levels, with middle- to lowincome households hurt the most as their tight budgets are squeezed.

North America's role

Even as many countries around the world will face food shortages, North American consumers do not have this risk. The United States and Canada, which produce more food than their populations consume, are net food exporters.

That's not the case in the Middle East. North Africa and South Asia, which must import food to meet their domestic needs and rely heavily on supplies from Russia and Ukraine.

Without adequate grains and cooking oils, millions who are already at risk will go hungry as the crisis persists.

That's where the U.S. and Canadian agricultural commodity producers can step in. If they can increase production and exports, especially grains, cooking oils and potash, they will help alleviate global food insecurity.

Achieving this increase in production will require a significant commitment. North American commodities could be more expensive for foreign markets because of higher labor costs, and production costs are still rising along with energy prices. There are also logistical challenges associated with altering the flows of trade, further complicating the already-strained global supply chain.

In addition, climate change presents another challenge; grain production in the United States and Canada hit record lows last year because of extreme weather events, and that trend is expected to continue. The Intergovernmental Panel on Climate Change has-warned that climate change is harming global food supplies faster than nations and producers can adapt, threatening the era of consistently high crop yields.

The takeaway

Russia's invasion of Ukraine risks destabilizing global food markets by disrupting production and trade flows. For consumers and businesses in food production and manufacturing, high food inflation adds to the plethora of challenges, including energy prices.

But agricultural commodity producers in North America could play a key role in alleviating global food insecurity by increasing exports while at the same time netting economic gains.

Businesses need to look ahead and prepare accordingly, whether by increasing production or securing future contracts as global food supplies are disrupted into next year.

MIDDLE MARKET TREND WATCH



CAPITAL EXPENDITURES AND HIRING IN THE MIDDLE MARKET

RISING INFLATION and the omicron variant took a toll on both overall economic activity and consumer and business confidence in the first quarter, according to the proprietary RSM US Middle Market Business Index.

The reduced view of the economy was reflected in the climate for making capital expenditures, and in hiring workers to meet surging demand from consumers and businesses.

The survey was based on the responses of 402 senior executives from middle market businesses and was taken from Jan. 10 to Jan. 31. Among the findings of the survey:

Capital spending was held in check ...

27%

of the executives indicated an increase in outlays on capital expenditures, down from 33% in the previous quarter on a seasonally adjusted basis. ... but there was optimism looking to the future.

51%

expected to increase those expenditures over the next six months as they seek to improve their productivity.

Hiring also remained a challenge ...

38%

reported increased hiring in the first quarter, down from 46% in the previous quarter on a seasonally adjusted basis.

48%

reported raising pay to attract those workers, down from 53% in the fourth quarter.

... and firms said they expect to be more aggressive in hiring.

56%

of executives said they expect to increase hiring over the next six months.

62%

expect to increase pay over the next six months to raise output.

Read the latest RSM US MMBI Middle Market Business Index.

REAL BUSINESS INSIGHTS FOR MIDDLE MARKET COMPANIES

Check out *The Real Economy: Industry Outlook* and get data-driven, sector-specific insights from RSM's senior industry analysts, a select group of professionals dedicated to studying economic and industry data, market trends and the emerging issues faced by middle market businesses like yours.

Each outlook provides unique perspectives and planning opportunities affecting businesses in the following industries:

- Business and professional services
- Consumer products
- Financial services
- Health care
- Life sciences
- Manufacturing and energy
- Real estate and construction
- Technology, media and telecom

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