

WORKING PAPER

STRENGTHENING ENFORCEMENT OF THE RUSSIAN OIL PRICE CAP

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Strengthening enforcement of the Russian oil price cap

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I. Introduction and Background

The price cap on Russian oil—implemented several months after Russia’s invasion of Ukraine—was designed to drive down Russian oil export revenue while preserving the volume of oil traded on world markets. The efficacy of the price cap has been the subject of rigorous debate among experts, as have potential policy changes. In this essay, we review the design and effectiveness of the price cap, and suggest four reforms that will help the cap better achieve its objectives.

The design and implementation of the price cap on Russian oil

In the calendar year preceding the COVID pandemic (2019), Russian crude oil exports were worth \$122 billion and petroleum products generated another \$67 billion. Oil-related exports were worth more than three times the value of gas exports (\$51 billion), while all other exports combined were worth less than \$50 billion. Russia is a large country in terms of geographic area and was not too long ago regarded as a technological superpower. But today it has a relatively small economy, with around [\\$2 trillion in Gross Domestic Product](#), disproportionately dependent on oil revenues.

Revenues from all fossil fuel exports, including crude oil, petroleum products, natural gas, and coal, funded more than 40% of the Kremlin’s budget before the full-scale invasion of Ukraine in February 2022. Given the post-invasion decline in other domestic and export sectors, fossil fuel exports—oil in particular—remain important to Russian federal revenues. This high dependence of Russian public finance on oil exports creates a powerful potential economic lever for the governments opposed to the invasion. At the same time, however, Russia is one of the world’s largest oil producers, exporting about [7.5 million barrels of oil \(crude and refined\) per day](#), to a world that consumes [just over 100 million barrels per day](#).² In the short-term, the global demand for oil is highly inelastic. If Russian oil exports fell sharply, world oil prices would presumably rise substantially.

¹ Both Johnson and Wolfram were involved in the design and implementation of the price cap policy, Johnson as an informal advisor in various policy forums and Wolfram as the Deputy Assistant Secretary for Climate and Energy at the U.S. Treasury during 2021-22. The authors thank Isabella Bennett, Karl Dunkle Werner and Ben Harris for extremely helpful suggestions and comments and Lawrence Tang for data assistance.

² For more background on Russian oil exports, including what happened immediately after the full-scale invasion, see Annette E. Hosoi and Simon Johnson, “How to Implement an EU Embargo on Russian Oil”, CEPR, Policy Insights series, April 2022.

Announced in June 2022 and implemented in December 2022, the price cap on Russian oil had two main goals. First, it was an integral part of a broader sanctions package designed to reduce Russia's foreign exchange revenues and deplete its capacity to wage war in Ukraine. Several potential effects were in play: Lowering foreign exchange revenue made it harder for Russia to defend its exchange rate, particularly given that most of its accumulated pre-invasion foreign currency reserves were frozen; less foreign cash per day reduced Russia's ability to buy weapons, ammunition, and military spare parts from other countries; and lower expected future Russian federal government revenues made it harder to fund the local currency component of the war, e.g., paying soldiers and domestic armaments suppliers.

The second goal of the price cap was to make it possible for Russian oil to stay on the world market in the face of an impending complete European Union (EU) embargo and services ban. [In May 2022](#), the European Union announced that it would ban imports of both Russian seaborne oil and refined products while also banning the provision of EU-based services for shipments of Russian seaborne oil to non-EU countries. Many analysts predicted that the EU embargo and services ban—if implemented without exceptions – would prevent Russia from exporting 1-2 million barrels per day (mbpd) of oil, potentially increasing global oil prices significantly.³

The price cap for Russian oil is implemented by G7 and EU countries, along with close allies, a group we will refer to as “the coalition.” The coalition is best understood as a group of service providers—rather than as a group of current Russian oil importers—because prior to the price cap some coalition countries, like the US implemented embargoes on purchases of Russian oil. Crude oil tankers can deliver their cargo to any suitable port, so Russia has steadily redirected its exports of crude by sea to China and India—by mid-2022 Russian oil exports were over 1 mbpd to India, which was not previously a significant buyer of Russian crude.

The cap is set at a specific price level measured in dollars per barrel of oil, meaning that it has not mechanistically varied with the price of world oil (e.g., the Brent benchmark price for crude oil). In principle, the coalition has the ability to periodically reset the price cap, for example if world oil prices rise or fall dramatically—or based on Russian military actions. Thus far, however, the price cap has remained at the initial level of \$60 per barrel for crude oil, and \$45 and \$100 for low- and high-value refined petroleum products, respectively.

The cap applies to any purchase of crude oil exported by sea from Russia after December 5, 2022, providing the purchase involves maritime, financial, or other

³ Consistent with this concern, global oil prices [rose](#) over \$20 per barrel in the month between the EU's [announcement](#) of the potential import and services ban on May 4, 2022 and the final news on June 3, 2022 that all 27 member countries supported a ban.

services from any entity based in a coalition member’s jurisdiction. After February 5, 2023, refined petroleum products were subject to equivalent caps. Purchases that do not involve coalition services—e.g., a purchase by a Chinese trader carried on a Chinese ship to a Chinese refinery, paid in rubles through a Chinese bank, and insured by a Russian company—are not subject to the price cap. The cap applies only until the point of the “first landed sale,” meaning that sales while the oil is still on the water must adhere to the price cap, so long as the shipment use coalition services.⁴ Petroleum products that use Russian crude oil but are refined in other countries are not subject to a price cap. Crude oil exported by pipeline is also exempt from the cap.

These design elements reflect two important features of Russian oil exports. First, much of Russian oil is exported by sea. Second, pre-invasion, coalition services played a major role in facilitating these exports (and all seaborne oil exports globally). Thus, the coalition is using the potential power its members have in the market for oil trade services to exert pressure on the exporter.

The price cap is implemented via regulations on service providers in coalition countries. A company based in one of the coalition countries that knowingly provides services to a transaction involving seaborne Russian oil priced above the cap is engaging in conduct prohibited by their country’s sanctions and would therefore face the appropriate national penalties. A system of attestations is used to enforce compliance. For instance, if the transaction described above involving the Chinese refinery was insured by a U.K.-based entity, the insurer would be required to obtain an attestation that the price for the shipment was below the cap. If the insurer knew the price paid was above the cap (or should have known if the company had followed appropriate due diligence processes), then the U.K. insurer would be violating the U.K.’s prohibition on providing services for oil purchases above the cap. Coalition countries have established a “safe harbor” for service providers who unknowingly provide services for oil purchased above the cap due to fraudulent or falsified information provided by their customers. Ultimately, since the price cap is a new tool, implementation and enforcement is a challenge.

This note describes the impacts of the price cap and associated enforcement actions thus far and then outlines the ways in which the price cap can drive down Russia’s oil revenues. Using that framework, we propose several approaches to enhance enforcement.

II. The Impact of the Price Cap on Oil Markets and Russian Revenue

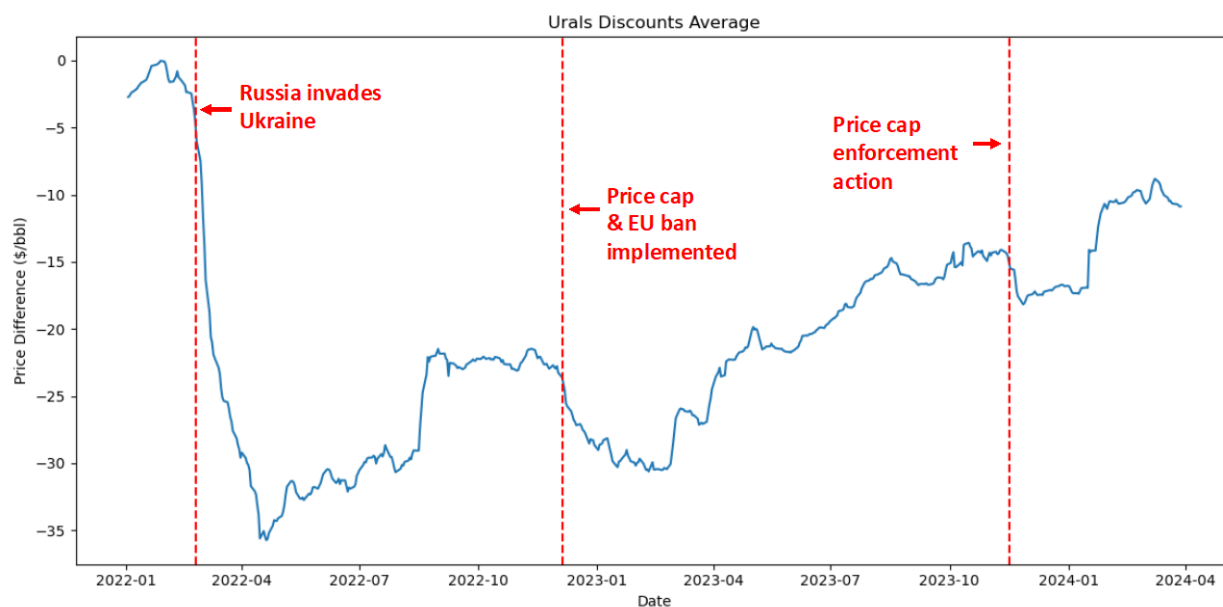
⁴ The cap still applies if the oil goes out on the water again and has not been substantially transformed. See <https://ofac.treasury.gov/media/930191/download?inline>.

To date, [Russia's "need for cash"](#) has kept it pumping (and exporting) as much oil as possible, even if it cannot receive the current world price. According to the International Energy Agency, Russian oil production in early 2024 remains around [9.5 million barrels per day](#), and exports have held remarkably steady around [7.5 million barrels per day](#).

[Critics have repeatedly argued](#) that there are enough bad actors, of various kinds, in global oil markets, making it is easy to circumvent the cap. And the sale of oil tankers out of coalition fleets to undisclosed buyers has allowed Russia to expand its "shadow fleet," [likely to facilitate cap-avoidance](#). Has the price cap on Russian oil depressed Russian government revenue below what it would be without the cap?

Relevant evidence on this question is available from prices for Urals crude oil. Before the invasion of February 24, 2022, the Urals price closely tracked global oil prices, as summarized by the Brent benchmark price. But the war has changed that. Figure 1 below plots the difference between Urals and Brent prices (the "Urals discount") over time since January 2022.

Figure 1



Notes: 5-day rolling average

Sources: [Neste](#) (Brent price is "Brent crude oil" and Urals price is "Urals crude oil"), [Investing.com](#) (Brent price is "[Brent Oil Futures](#)", Urals price is "[Crude Oil Urals Europe CFR Spot](#)"), [Bloomberg](#) (subscription required, Brent price is "CO1 Brent Index" and Urals price is "FURAM1 Urals Index"), and [Datastream](#) (subscription required, Brent price is "Crude Oil Brent", Urals price "Urals FOB Primrsk").

The Urals discount was usually small and negative before the war, reflecting the fact that buyers saw Russian oil as basically interchangeable with other oil products, if discounted by a couple dollars. (At the pre-invasion benchmark prices of around \$90 per barrel, a couple dollars amounted to about a 5% discount.) This is analogous to the market price for beef with a little extra fat: It tracks the price of lean beef very closely, but usually with a slight discount.

Immediately after the invasion, a “stigma effect” lowered the reported price paid for Russian oil, represented by the more negative (increased in absolute value) Urals discount after the left-most red dashed vertical line in the figure above. Russian oil sold for a discount of as much as \$35 per barrel from the world benchmark price, or about a third off. This discount shrank as global interest drifted away from Ukraine.

In Figure 1, December 5, 2022, is the second dashed vertical red line. The time path of the Urals discount just after the price cap is consistent with service providers assessing a reasonable high probability of being caught if they violated the cap but then several months in, assigning a lower risk. The low-risk environment arguably persisted until the fall announcements by coalition member countries. Of course, other factors likely influenced Urals prices over this point, including the increased shipping costs over this period. Also, the share of shipments outside the coalition grew, putting upward pressure on the Urals average.⁵

In the fall of 2023, the price cap coalition took steps to increase enforcement. On October 12, 2023, the coalition countries issued an [advisory](#) outlining recommended actions to comply with the cap and the United States sanctioned two shippers.⁶ This meant that any of those entities’ assets already in US banks were frozen and the entities lost the ability to use the U.S. financial system, as any further transactions would also be frozen. This seems to have had little impact on the prices, perhaps because the announcement was lost amidst concerns about the impact of Hamas’ terrorist attack in Israel on October 7. In addition, the price cap enforcement action was criticized as too limited.

On November 16, 2023, however, the U.S. Treasury [announced](#) sanctions against three more entities that had allegedly transacted in Russian oil above the cap. This announcement was followed soon by sharp reductions on the price paid for Urals. Relative to the four weeks before November 16, 2023, the Urals discount widened by more than 20%. (To be clear, in a period of turbulent events, no one can be entirely

⁵ The Urals discount reported in the press reflects an average of prices for transactions involving coalition services and prices for transactions outside the coalition, although how much weight is given to each, and even whether they include any in-coalition or any out-of-coalition price reports, is unknown and likely varies between surveys.

⁶ See, e.g., [reporting by Reuters](#) in October 2023.

confident about what is driving specific price movements, but this evidence is at least circumstantial.) Paired with the October actions, market observers may have understood the second set of sanctions as indication that there would be a steady drumbeat of action going forward.

Notably, the Urals prices are not posted, and there is little transparency into the prices that Russia actually receives. Figure 1 averages across data from four different sources, none of which directly agree with one another.⁷ These data, backed by other reporting on Russia's finances, suggest that consistent and continuous enforcement can put downward pressure on the price Russia receives for its oil, which continues to be a crucial source of revenue for the Kremlin.

III. Proposals to Strengthen Price Cap Enforcement

To understand the value of further increasing enforcement of the price cap, it is useful to understand that the price cap can reduce Russian oil revenues through three channels.⁸ The first and most straightforward way the price cap works is if it is **strictly enforced and there is perfect or near perfect compliance** with the cap. In this case, the price paid to Russia for shipments using coalition member services should not go above the cap.

Second, even without perfect enforcement, the price cap can suppress Russia's revenue since it is a sanction policy, which means that violators may be punished. This makes Russian oil transactions more expensive as coalition service providers subject to the price cap add a **risk premium** for dealing in Russian oil. The size of the risk premium will be a function of the service provider's assessment of the probability they are caught in violation of the sanction and the monetary loss in the event they are caught. For example, a U.K. insurance provider offering protection and indemnity insurance for a ship carrying Russian oil after December 5, 2022, understands that it must acquire an attestation that the price paid was less than \$60 per barrel. The insurance provider will account for some probability that it is either unable to acquire the attestation or that the regulators find another sanctions violation, leaving the provider at possible risk of a financial penalty.

In practice, the risk premium will be an increasing function of the Urals price (i.e., Russia's primary oil grade) relative to the cap, with higher risk premia for higher Urals prices and lower risk premia for prices below \$60. The risk premium will not necessarily

⁷ We elaborate on this point in a related [blog post](#) ("How to make the price cap on Russian oil most effective," CEPR.org/VoxEU, February 23, 2024).

⁸ The online appendix provides a simple equation to describe the three channels of potential impact for the price cap. See [here](#).

drop to zero when prices fall below the cap as service providers may still fear that sanctions will be levied because Urals prices are opaque and they are unsure of the true price or due to paperwork errors. Also, the risk premium will be higher the stronger the perceived enforcement as this will increase the probability that the service provider assigns to being caught for a violation.⁹ Evidence suggests that this risk premium is substantial in practice. For example, [Bloomberg reported](#) in April 2024 that, “When it comes to moving Urals cargoes from the Baltic to India or China, the price reporting agency estimates that sanctions add \$7.12 a barrel and \$8.79 a barrel respectively to the cost of delivery. Both figures, while high, are below where they were a month ago.”

The third way the price cap can work to lower Russia’s revenues is by giving buyers of Russian crude oil or petroleum products **negotiating power**. Crucially, this works for both transactions using coalition services as well as on transactions that are wholly outside the reach of the coalition. Since the price cap was implemented at the same time as the EU ban on imports of Russian crude oil and petroleum products, Russia was left with fewer customers. In the case of crude oil, only countries with large-scale refining capacity were eligible buyers, and India and China picked up the bulk of the crude oil that Russia had previously sent to the EU and other coalition buyers. Russian petroleum products were distributed more piecemeal to countries such as Pakistan and Brazil.

Particularly in the case of crude oil, India and China could negotiate for a lower price, even for shipments that did not use coalition services, knowing that Russia’s outside option was to make a sale subject to the price cap. In practice, India and China may have been reluctant to take full advantage of this bargaining power given other geopolitical considerations and their multi-faceted relationship with Russia.¹⁰

Importantly, the negotiating power effect can interact with the other two effects. With a large risk premium or a strictly enforced cap, buyers who do not use coalition services will know that there is a large difference between the world price and the price Russia receives and could use that to negotiate a lower price for themselves.

⁹ Note that even if service providers move to non-coalition locations, such as Dubai, they should still factor in a premium if they could be targeted by western sanctions. For example, in November 2023 the [Financial Times reported](#) that “[t]he U.K. government has imposed sanctions on Dubai-based oil trader Paramount Energy & Commodities DMCC as part of a swath of actions against companies and individuals accused of supporting Russia’s gold, oil and finance industries.”

¹⁰ On the other hand, India and China can exert leverage beyond the price they pay for oil. For example, there are [reports](#) that payments from Indian oil refineries in rupees cannot be converted into dollars due to Reserve Bank of India regulations. If confirmed and applicable going forward, this would significantly reduce the real dollar value of Russian sales to India, i.e., the dollar value equivalent to Russia of these transactions.

Finally, note that the second effect we define helps explain why the price cap does not work as described in a simple economics model, which would imply that the prices are always exactly at the cap. In a simple model, assuming the cap was enforced, buyers would never agree to pay more than the cap and Russia would never voluntarily agree to be paid less than the cap. But, if service providers assess a high risk premium, the price paid to Russia could drop below the cap, especially if global oil prices are close to the cap. The price may go above the cap if enforcement is poor and service providers assess low risk premiums.

We next consider various steps that enforcement agencies can take or have taken and explain their expected impacts on Russian revenues using the framework provided above.

Increased transparency. Enforcement measures announced at the end of 2023 increased the transparency of oil shipments using coalition services. For example, in December, 2023, the [Office of Foreign Asset Control \(OFAC\) announced](#) that service providers were required to obtain attestations for every shipment (as opposed to blanket attestations covering several shipments), obtain these within a specified period, and obtain information that breaks out the costs of individual services (e.g., see this explanation from [Thompson Hine](#)). These requirements may both increase transportation costs for shipments using coalition services as service providers pass on the transaction costs associated with fulfilling these obligations and raise the risk premium if service providers assess a higher probability to being caught for a violation with increased transparency. Both of these changes should result in lower Urals prices for Russian oil. Buyers' willingness to pay for Russian oil has not changed, so Russia should bear the higher costs in the form of lower Urals prices.

Increasing transparency is most effective if service providers perceive that regulators are paying attention to the data, so it would make sense to support this approach with increased funding for sanctions review teams in coalition countries. The EU faces a particular challenge since member state are [in charge of](#) sanctions enforcement. Increased transparency could help increase [pressure](#) on member state governments. On the other hand, the EU is also [reportedly](#) considering a proposal to centralize enforcement with an EU body, "effectively wresting that job away from governments." As with any action that targets transactions using coalition services, regulators must trade off the value of increasing compliance with the cap and raising the risk premium versus the increased incentive this creates for Russia to ship oil outside the coalition entirely.

Expand sanction actions. As described above, in early October 2023, the U.S. Treasury imposed sanctions on two entities, identified two vessels as "[blocked](#)

[property](#),” and subsequently announced a second round of actions, sanctioning three more entities in November 2023. The second set of actions appears to have had the largest impact on Urals prices. The Urals discount remained significant into the beginning of 2024, but then shrank in absolute value, perhaps as market participants lowered their risk perception.

In February 2024, the [U.S. Treasury designated](#) Sovcomflot ships, the primary vessels used for non-coalition transactions, as blocked property. These moves made service providers (including [flagging registries](#)¹¹) nervous about being sanctioned themselves for dealing with the Sovcomflot, essentially adding a risk premium to shipments that are otherwise fully outside the coalition and increasing the discount that buyers demand to deal with the shadow fleet.¹² Applying the same logic, the authorities could reasonably expand the set of sanctioned Russian entities through additional designation by OFAC. At the same time, sales of tankers from coalition country owners to undisclosed buyers should be outright prohibited.¹³ Actions such as these, particularly if paired with similar actions in other coalition countries, would communicate to the market that even shadow fleet shipments are risky. This would in turn undercut the revenues Russia receives on those shipments as service providers demanded higher risk premia.

Establish a list of “allowed” traders. Regulators have [expressed concern](#) that Russia has provided false attestations, leading to some shipments of oil sold above the cap using coalition services. In response, Craig [Kennedy](#) has proposed limiting the set of traders that can provide attestations. Traditionally, the U.S. Treasury has not supported “white lists” in sanctions programs. Doing so puts regulators in the position of picking winners and losers in a global industry, and preventing new entrants from offering these services. Further, maintaining a white list of companies that are known not to violate the law implies a huge investigative burden in order to ensure day to day that these companies continue to be in compliance. Enforcement agencies presumably are also reluctant to forfeit their future ability to impose a penalty if new evidence comes to light. A related alternative would require service providers to apply for some sort of renewable license in order to remain in this (lucrative) business. Since the precise nature of

¹¹ Ships operate under the laws of the country that confers their flag. For example, flag states are required to ensure ships operate safely at sea.

¹² In March 2024 all Indian refiners refused to work with Sovcomflot “to avoid running afoul of the stricter enforcement of the U.S. sanctions on Russia.” See “All Indian Refiners Now Reject Russian Crude Shipped by Sovcomflot Tankers,” [oilprice.com](#), March 22, 2024.

¹³ Unfortunately, implementation of the oil price cap was undercut by a small number of coalition operators, especially Greek shipping magnates, that sold their oil tankers to “undisclosed” buyers—allowing Russia to export oil outside the cap.” Robin Brooks (with Simon Johnson), “EU’s Russia Sanctions Trade-Off Has Stored Up Problems,” Financial Times, Opinion: Market Insight, February 22, 2024.

sanctions differs by coalition country, service providers may say it is cost prohibitive to apply for licenses in every country, but in reality they are already reviewing and trying to stay in compliance with these different sanction regimes.

Using the framework described above, approaches that rely on lists highlight a potential tension between ensuring straightforward and clear enforcement of the price cap and keeping the risk premium high. If compliance is entirely straightforward, the risk premium may fall. That could still depress Russian revenues if it increases the share of price-cap compliant trades, per the first mechanism we identify. Proposals along these lines would be most effective if regulators communicate to service providers that since authorities are making it easy to comply, the penalty for non-compliance would be much higher (including potential criminal penalties).

Secondary sanctions for any transaction above the cap. The most extreme, but likely the most effective, action would be for the U.S. [to impose](#) secondary sanctions on any market participant involved in a transaction above the cap. For example, in a May 2022 [article in Foreign Affairs](#), Edward Fishman and Chris Miller outline such a proposal. They call for the U.S. and other coalition countries to impose full-blocking sanctions on Russian oil companies, including Rosneft, the state-owned oil company, Gazprombank, the private bank that handles most energy trade, and Sovcomflot. Oil shipments that comply with the price cap would be exempt from those sanctions. At the same time, the U.S., and potentially other coalition countries, could impose secondary sanctions on non-Russian companies involved in oil trade. As they write, “For instance, if a Chinese or an Indian firm were to buy a shipload of Russian oil for a price above the cap, Western states could threaten sanctions against the shipping company that transports the oil, the insurance company that underwrites the cargo, any port operator that provides services to the tanker, and the banks that process associated payments.” Historically, other jurisdictions in the price cap coalition have been reluctant to use secondary sanctions, but the U.K. and the EU have been moving in that direction since Russia’s invasion of Ukraine.

Secondary sanctions would reinforce all three of the channels detailed above. The threat of secondary sanctions would most likely increase the share of price-cap compliant transactions, and the risk of secondary sanctions would significantly increase the risk premium for all transactions with Russia, whether or not these transactions involved coalition services. Also, since buyers would also be at risk of sanctions for paying too much, they would demand lower prices. In addition, with a well-enforced price cap, the coalition could contemplate lowering the cap level, to further increase pressure on Russian revenues.

Conclusion

Figure 1 clearly shows that when the price cap was first implemented it succeeded in suppressing Russia's oil revenues. Subsequent price movements suggest that the cap has been imperfect and not fully enforced. Nonetheless, it is remarkable that Urals prices continue to be depressed below pre-war levels, given that the two biggest purchasers, India and China, have not officially embraced the cap. This is an indication that with increased enforcement action, the cap could continue to increase pressure on Russian oil revenues. Hopefully, coalition governments will soon find the political will to embrace stepped-up enforcement.