

An update on the war in Ukraine

By Angelo Katsoras

This report will provide a general overview of the war's direction by assessing some of the key factors that a number of analysts feel may be particularly decisive in determining how and when the two sides might be brought to the bargaining table. Specifically, we will look at:

- The recent pattern of gains and losses on the battlefield
- The extent to which Russia is succeeding in its aim of destroying Ukraine's economy and infrastructure
- Public opinion in the West and in the developing world
- The level of support provided to Russia by China
- The current state of Russia's economy
- The challenge of meeting Ukraine's demand for armaments

Through our analysis of these key factors, we will provide our best estimate of Ukraine's prospects for a negotiated solution to this conflict.

The current state of the battlefield

At the start of the war, the conventional wisdom was that Russia would make short work of Ukraine and install a puppet regime in Kyiv in no time. To say things haven't gone exactly according to plan would be an understatement. The Russians made early inroads, but the Ukrainians have since reclaimed over 50% of the land lost. The Kremlin has sought to justify these reversals by insisting that it is waging war not only against Ukraine but all of NATO.



Source: "The Ukraine War, One Year In," Geopolitical Futures, February 23, 2023

However, Ukraine's momentum has stalled as Russian positions have become more entrenched. Russian forces have built a network of trenches, traps and obstacles across the frontline (see below). The Russians have also called up a large reserve army.



Source: "Defenses Carved Into the Earth," New York Times, December 14, 2022

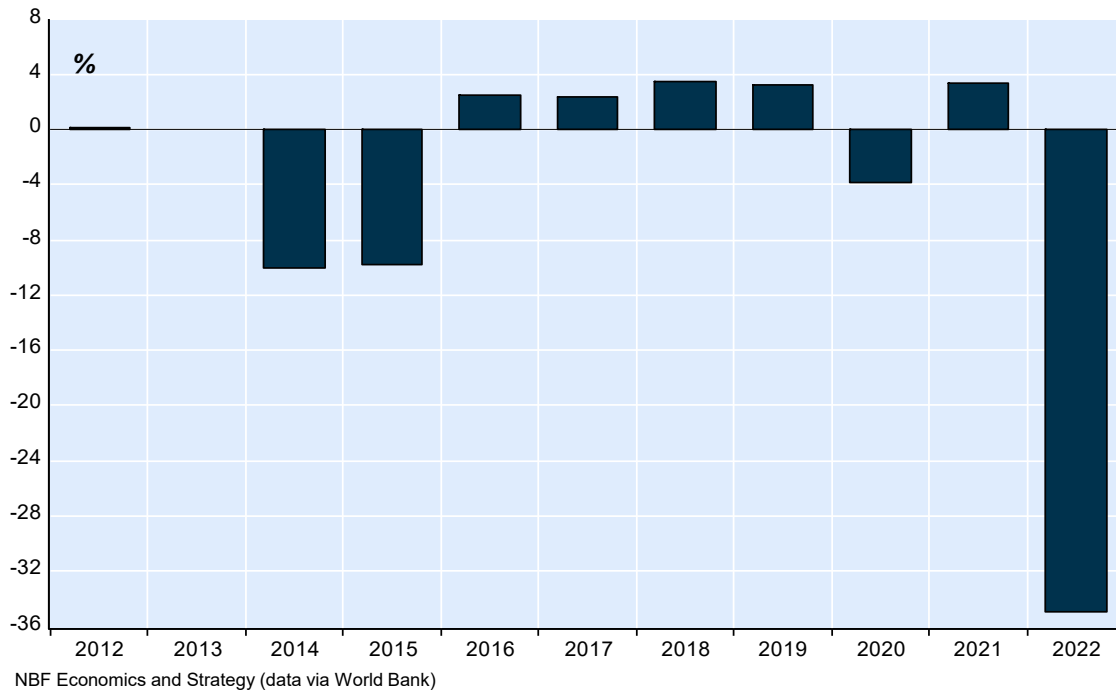
The Ukrainians, too, are very well fortified in their defensive positions. Since November, the Russians have made very minor advances at the cost of tens of thousands killed or wounded. For the time being, it appears that neither country has the overwhelming advantage in terms of soldiers and equipment to deliver the knockout blow on the battlefield.

Ukraine's economy and society are under siege

Unable to defeat Ukraine's military, Russia has intensified its bombing campaign. About 40% of Ukraine's energy infrastructure has been destroyed,¹ road and rail links have been shattered, factories have been razed, and cities bombarded. So far, about 14 million Ukrainians have been displaced—eight million in Europe and six million internally.² The longer the war continues, the greater the odds many of them will not return. Ukraine's economy shrunk by 35% in 2022.

Ukraine's war-torn economy is in a freefall

Annual real GDP growth, including estimates for 2022



¹ "A Report Card on the War in Ukraine," Foreign Policy, February 23, 2023

² United Nations High Commissioner for Refugees

Putin hopes that these strikes will erode Ukraine's morale and capacity to fight and that the growing cost of supporting Ukraine will weaken the West's will to continue providing financial support.

Indeed, many analysts feel that the outcome of this war will not be decided on the battlefield. Rather, it will depend on whether the West has the willpower to continue providing ever larger amounts of financial aid to keep Ukraine's economy afloat. The IMF has estimated that Ukraine needs \$40 to \$48 billion in external financial support this year alone to keep its government functioning.³ This is without counting the hundreds of billions of dollars that will be required to rebuild Ukraine's economy and infrastructure once the war is finally over.

Ukraine's contaminated farmland

Before the war, Ukraine was one of the world's most important exporters of agricultural commodities. This included being the fourth-largest exporter of corn and fifth-largest exporter of wheat.

Although the full extent of the damage is not yet known, there are growing fears that the chemicals and fuels released by exploded rockets and artillery shells are contaminating the soil and groundwater. Scientists at Ukraine's Institute for Soil Science and Agrochemistry Research estimated that the war has damaged at least a quarter of Ukraine's agricultural land.⁴ Decontaminating this soil and removing unexploded ordnance and other debris could take many years. This could have a long-term impact on supplies of certain agricultural commodities.

Satellite images show farmland marked by burned land and craters



Source: "The toxic legacy of the Ukraine war," BBC, February 21, 2023

Ukraine is going through armaments faster than NATO can replace them

Yet another challenge facing Ukraine is procuring enough weapons from its allies. NATO's 155mm artillery shells, which have played a key role in Ukraine's defence, are a case in point. Currently, America can manufacture about 180,000 of these a year and Europe, some 300,000. However, this combined production represents only about three months' worth of what Ukraine has currently been going through. Plans to increase America's production sixfold will be realized only sometime between 2024 and 2028.⁵

³ "Ukraine, IMF Begin Loan Talks as Country's Economic Woes Deepen," Wall Street Journal, February 14, 2023

⁴ "Soils of war: The toxic legacy for Ukraine's breadbasket," Reuters, March 1, 2023

⁵ "The West is struggling to forge a new arsenal of democracy," The Economist, February 19, 2023

The Javelin anti-tank missile, which is used by Ukrainian soldiers to destroy Russia's armoured vehicles, is also in short supply. So far, 8,500 Javelins—about one-third of the U.S. stockpile—have been sent to Ukraine. Even at newly accelerated rates of production, replacing these javelins will take nearly seven years.⁶

In Europe, meanwhile, the challenge of supplying Ukraine has been complicated by years of under-investment in the defence sector. For example, in 1990, Germany had over 5,000 tanks. Today, it has only 321, of which only about half are road worthy. Moreover, its ammunition reserves would last an estimated two days in a real war.⁷ Another example is that UK's entire stock of 155mm artillery shells would have lasted Ukrainian forces for only a week in the Donbass region last summer.⁸

How just-in-time manufacturing has made meeting demand even more challenging

Like in many other sectors, defence companies have adopted a just-in-time delivery system to avoid having capital tied up in large inventories. While this might make more sense for, say, the retail sector, this war has shown that weapons must be ready well before they are actually needed.

Over the past several decades, efficiencies have been gained also by narrowing the production of key components to a small group of the most efficient suppliers. The U.S. defence sector, which has provided the lion's share of weapons to Ukraine, has gone from 51 main defence contractors in the 1990s to just five today. Not only has this made it more difficult to ramp up production, it has also left the government with very limited options should any company run into difficulties.⁹

Ukraine war: China is caught between Russia and the West

Reports that China is considering providing Russia with weaponry are fanning tensions further. China is already providing such goods as navigation equipment, jamming technology, computer chips, and drones. Josep Borrell, the EU's foreign policy chief, recently warned China that sending weapons would be a "red line" for the European Union.

While China is benefiting to some degree from the fact that the United States and the West are diverting resources away from Asia, it finds itself in a quandary. On the one hand, if China stands back and allows Russia to lose, it could lead to the weakening of a key strategic ally. On the other, if China tries to rescue Russia from defeat by providing weaponry, it would trigger a crisis in China's relationship with the West. This includes Europe, which China is counting on for continued access to technology that is increasingly not available from America. Another factor that China must also consider is that its trade with Russia amounted to \$147 billion in 2021, compared with \$828 billion and \$756 billion with the EU and the United States, respectively.¹⁰

In addition to growing efforts to be less reliant on one another in key IT sectors, the freezing of Russia's foreign currency reserves will hasten China's push to create a financial market infrastructure less exposed to potential Western financial sanctions. This includes reducing its greenback holdings, buying more gold, and perhaps one day trading more via digital currencies. Unlike electronic transactions today, those involving digital currencies could theoretically be made between two parties without no intermediary, such as a U.S.-dollar central clearing platform.

How the Ukraine war is impacting the defence of Taiwan

The decline in U.S. weapon inventories means that, should a conflict break out over Taiwan, America would have trouble supplying its ally with sufficient armaments. Indeed, Taiwan already faces a \$19-billion U.S. arms backlog that could take years to work off.¹¹

In contrast, China has for some time been building up the world's largest stockpile of precision-guided land-based missiles designed to prevent American sea and air forces from coming to Taiwan's rescue. The Center for Strategic and International Studies, a U.S. think tank, has modelled a conflict with China in the Taiwan Strait where America would see its inventory of long-range air-to-sea missiles needed to counteract China depleted in less than a week.¹²

⁶ "Rebuilding U.S. Inventories: Six Critical Systems," Center for Strategic and International Studies, January 9, 2023

⁷ "A year on, Olaf Scholz's promise of transformation is only partly kept," The Economist, February 23, 2023

⁸ "The post-Cold War era is gone. A new arms race has arrived," Japan Times, February 18, 2023

⁹ "How arming Ukraine is stretching the US defence industry," FT, January 31, 2023

¹⁰ "The rising cost of China's friendship with Russia," Financial Times, March 9, 2022

¹¹ "Taiwan has nearly US\$19 billion in arms sales backlogged in US," Taiwan News, November 28, 2022

¹² "The West is struggling to forge a new arsenal of democracy," The Economist, February 19, 2023

Cracks in Western public support for Ukraine

There have been indications recently in the United States that the strong support initially expressed for providing weapons and economic assistance to Ukraine has begun to soften. A recent poll by the Associated Press-NORC Center for Public Affairs Research showed that only 48% of Americans were in favour of providing weapons to Ukraine, down from 60% in May 2022.

Q: In response to Russia's invasion of Ukraine, do you favor, oppose, or neither favor nor oppose the United States doing each of the following?

■ Favor ■ Oppose ■ Neither

Imposing economic sanctions on Russia



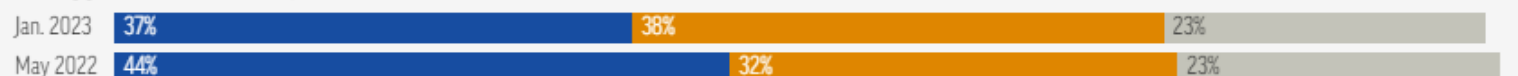
Accepting refugees from Ukraine into the U.S.



Providing weapons to Ukraine



Sending government funds directly to Ukraine



Results are based on a survey of 1,068 U.S. adults conducted Jan. 26-30, 2023. The margin of error is 4.2 percentage points.

Source: AP-NORC Center for Public Affairs Research



Source: "Ukraine aid support softens in the US: AP-NORC Poll," Associated Press, February 15, 2023

Another poll, this one from Pew Research, showed that the share of Americans who deemed that the United States was providing too much support to Ukraine grew from 7% in March 2022 to 26% in January 2023. The share of those who deemed that the United States was not providing enough support dropped from 42% to 20% over this period.¹³ Keeping the American public on side is particularly important because, had Ukraine depended on Europe alone for help, Russia would likely be in control of most of Ukraine today.

European support may be slipping as well

At first glance, European support for Ukraine appears to be holding strong. The latest Eurobarometer poll released in December 2022 found that 74% of EU citizens were in favour of helping Ukraine.

However, more precise questions indicate a growing unease about providing further financial assistance. For example, one recent Ipsos survey showed that the share of respondents who said that their country "cannot afford" financial support for Ukraine "given the current economic crisis" rose in all but one of the European countries surveyed.¹⁴

¹³ "As Russian invasion nears one-year mark, partisans grow further apart on U.S. support for Ukraine," Pew Research, January 31, 2023

¹⁴ "The World's Response to the war in Ukraine," Ipsos, January 2023

Ipsos survey: Opposition to providing further financial support

Country	March-April 2022	November-December 2022	% change
Belgium	57%	65%	14.0%
France	45%	53%	17.8%
Germany	48%	56%	16.7%
Hungary	68%	67%	-1.5%
Italy	59%	63%	6.8%
Netherlands	37%	41%	10.8%
Poland	63%	70%	11.1%
Spain	56%	57%	1.8%
Sweden	33%	43%	30.3%
U.K.	50%	52%	4.0%

Source: "Polls Show Western Public Favors General Support for Ukraine, But Is Increasingly Skeptical About Supplying Arms," Belfar Center, February 9, 2023

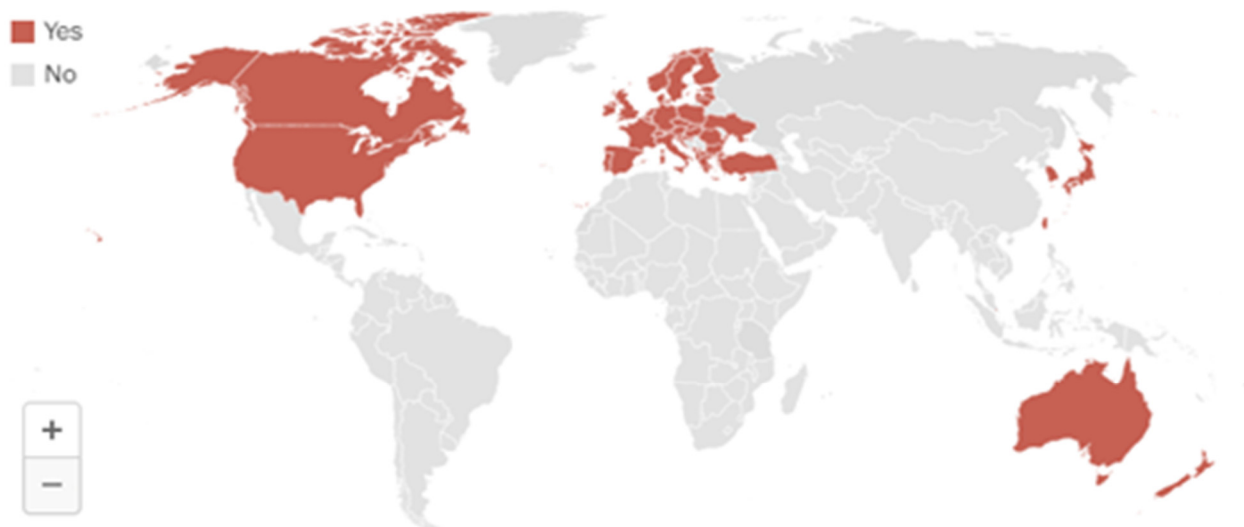
Russian economy has resisted but is facing longer-term challenges

While Russia's military has floundered, its economic performance has exceeded expectations. When Western sanctions were imposed, it was widely predicted that Russia's economy would contract by well over 10%. According to the International Monetary Fund, it ended up shrinking by only 2.2% in 2022 and is actually projected to grow by 0.3% this year.

Getting around sanctions

One of the main factors behind Russia's economic resilience is that most countries outside the West have refused to impose sanctions. They have done so primarily for two reasons. First, they oppose disrupting ties with a major supplier of food, energy, commodities, and weapons. Second, in some countries, there is a difference of opinion over who is at fault. In India, for instance, a recent poll found that more people blamed NATO or the United States for the war than Russia.¹⁵

Nations that have armed Ukraine or placed sanctions on Russia



Source: [Castellum AI](#)

LIZ SLY, CATE BROWN / THE WASHINGTON POST

¹⁵ "The West Is Getting In Too Deep in Ukraine," Bloomberg, January 30, 2023

This means that while Russia lost access to Western products and markets, other countries stepped in to fill the void. For example, as purchases of semiconductors from the U.S.-led bloc dried up, Russia's imports of chips from China soared. China-Russia trade is expected to exceed \$200 billion this year, up from some \$140 billion in 2021. This increase is attributable in part also to Chinese purchases of deeply discounted Russian oil.

India recently announced that its trade with Russia had grown by 400% since the invasion.¹⁶ Kpler, an energy consulting firm, estimated that India bought 4.5 million barrels of oil from Russia in January, about three times the monthly average in 2021.¹⁷ Buying discounted Russian oil is one way for India, which is heavily reliant on energy imports and has a per-capita GDP of only \$2,250, to help keep inflation under control. **India's growing importance as a geopolitical counterweight to China in Asia will render the West reluctant to impose heavy penalties for breaking sanctions against Russia.**

Other goods produced by multinational firms that can no longer be exported directly to Russia are making their way also there through post-Soviet states. For example, the European Bank for Reconstruction and Development reported that exports to Russia from the EU, the United States and the UK slumped by more than half in the May–July period in 2022 compared with the same period in 2017 through 2019. However, this drop has coincided with a jump of more than 80% in sales from Europe and the United States to Armenia and Kyrgyzstan. These two countries, in turn, have more than doubled their exports to Russia.¹⁸

Russia's economy does, however, face longer-term challenges

The oil and gas sector, which accounted for 45% of Russia's federal budget in January 2022,¹⁹ is having to deal more and more with higher operational costs and lower revenues as sanctions have finally started to bite.

For starters, Russia has recently been forced to sell its oil at a discount of about \$35 a barrel.²⁰ The most recent round of sanctions on refined products could force Russia to offer even larger discounts given that China and India have less need for refined products.

This comes at a time when shipping costs have risen substantially. Whereas crude takes less than a week to travel from the Black Sea to Europe, it takes 45 days to reach China.²¹ What's more, there are also extra costs related to financing insurance coverage no longer provided by Western firms.

Where natural gas is concerned, the pipelines that Russia spent hundreds of billions of dollars to build over several decades to connect its gas fields to Europe are now almost completely shuttered. This means infrastructure connecting Russia's gas reserves to Asia and other markets must be significantly expanded. This will take time and money. Natural gas is not as easily transportable as oil. For gas to be shipped overseas, it needs to be liquefied for tanker transport and then sent to a specialized import terminal.

Finally, on the demographic front, in addition to casualties on the battlefield, the war has set off a historic exodus in a country that is already struggling with an aging population. Initial data show that at least 500,000 Russians, and perhaps close to one million, have left the country since the invasion began. This includes 10% of the country's IT workforce.²²

Guns vs. butter

Until recently, most Western countries, especially those in Europe, had capitalized on the peace dividend after the fall of the Soviet Union by cutting defence budgets and scrapping or selling vast quantities of hardware.

They are now being forced to embark upon a massive spending spree to rebuild their military capacity. The consulting firm of McKinsey & Company estimated that defence spending in Europe was set to increase by between 53% (\$481 billion) and 65% (\$519 billion) from 2021 to 2026.²³

However, this comes at a time when budgets in Europe are already being squeezed by the massive costs associated with cushioning the impact of the COVID crisis, financing the green energy transition, and shielding households and companies

¹⁶ "A global divide on the Ukraine war is deepening," Washington Post, February 23, 2023

¹⁷ "The economic and business winners and losers in Putin's year-old war against Ukraine," The Globe and Mail, February 27, 2023

¹⁸ "West probes potential sanction dodging as exports to Russia's neighbours surge," Financial Times, March 23, 2023

¹⁹ "Frequently Asked Questions on Energy Security," International Energy Agency, November 16, 2022

²⁰ "Russia Can't Replace the Energy Market Putin Broke," Bloomberg, January 29, 2023

²¹ "How Russia dodges oil sanctions on an industrial scale," The Economist, January 10, 2023

²² "Russians abandon wartime Russia in historic exodus," Washington Post, February 13, 2023

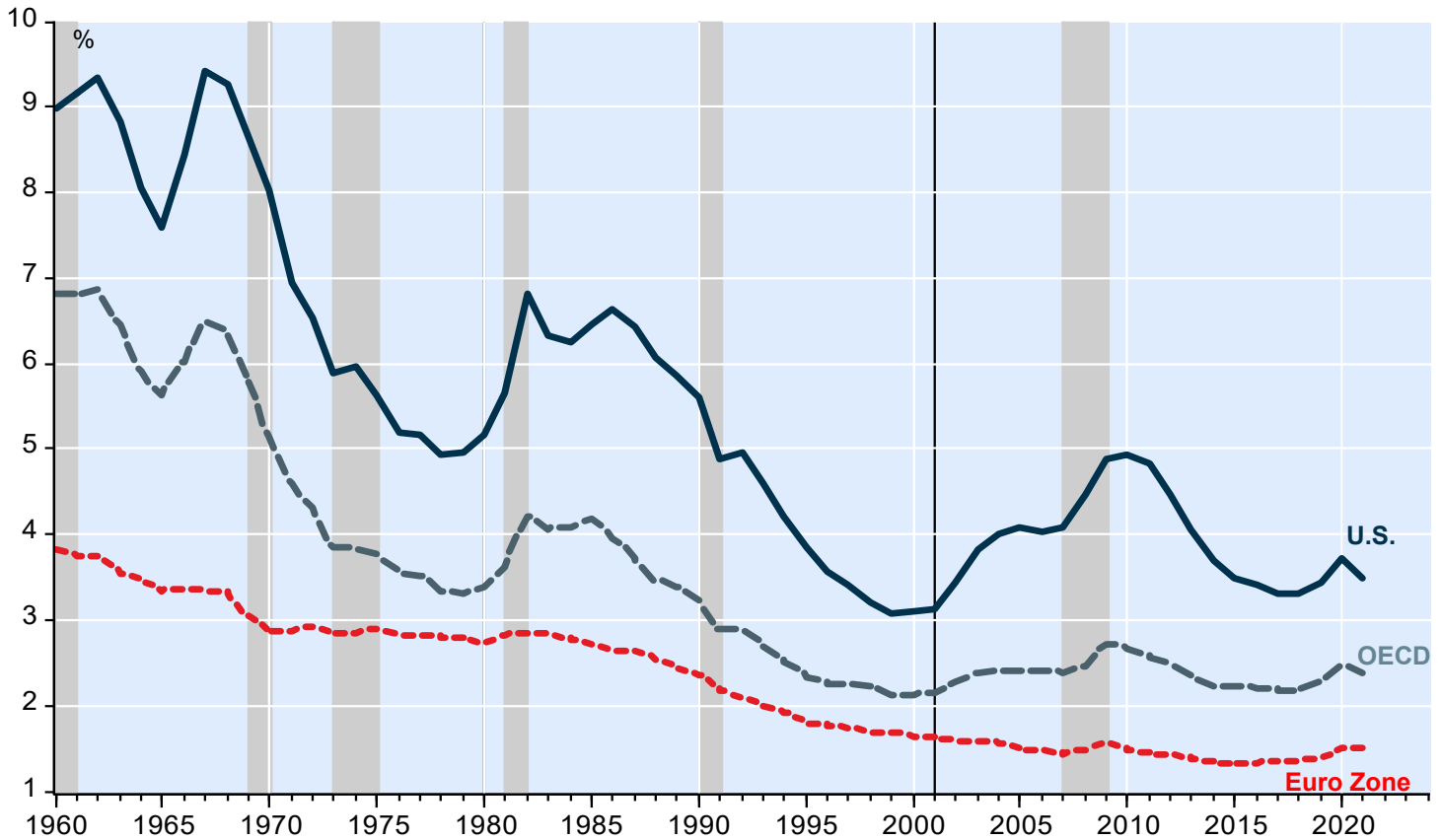
²³ "Invasion of Ukraine: Implications for European defense spending," McKinsey & Company, December 19, 2022

against high energy costs. The situation is exacerbated by rising interest rates and the fact that the public debt levels of most European countries are worse off today than at the time of the sovereign debt crisis of 2009–2010.

In short, European governments will find it more and more difficult to balance the need for increased military spending with the social spending levels that their populations demand.

World: Expect an increase in military spending

Military expenditures as a share of GDP



NBF Economics and Strategy (data via [World Bank](#))

How might this war end?

We feel that there is little chance of seeing any peace negotiations over the next several months. Ukraine believes that Russia would use any pause in fighting to re-arm, while Russia believes that NATO would take advantage of a hiatus to expand Ukraine's arsenal and further train its soldiers.

However, there is a growing view among politicians in many countries that Ukraine will not be able to fully expel Russia from eastern Ukraine and Crimea, and that Russia is very unlikely to capture large swathes of additional territory in Ukraine. The result being that the war is likely to end at the negotiating table.

The more of the following events occur, the greater the odds of serious negotiations being held:

- The stalemate on the ground continues along with heavy military losses on both sides
- Support for the war in the West declines
- Energy prices rise again and/or the global economy slows down further
- Worries grow over declining stockpiles of weapons
- Signs appear of economic distress and/or political instability in Russia
- China errs on the side of caution and does not provide arms to Russia

According to a report in the Washington Post, the Ukrainian government has been warned that this year could be its last chance to change the situation on the ground with full Western support before inevitable peace talks.²⁴ One reason is the approaching 2024 U.S. presidential election.

This could initially lead to a truce, but with occasional skirmishes breaking out. It is a situation that Ukraine had been living with since 2014 in its eastern region, but it would now be on a far larger scale. Eventually this could lead to a frozen border akin to what occurred at the end of the Korean War. In 1953, an armistice agreement created a demilitarized zone between the two sides, across which thousands of soldiers continue to face off to this day.²⁵ In the absence of a formal peace treaty, each side will maintain its claims on territory under the other side's control.

Furthermore, even if the war between Ukraine and Russia were to end tomorrow, suspicions between Russia and much of Europe would remain. Europe would continue to re-orient supply chains across various sectors, particularly energy, away from Russia, while Moscow would continue to divert its trade flows away from Europe. Europe must also get used to the idea of having a hostile power on its eastern flank for the foreseeable future. The expanded NATO-Russia border is a stark symbol of this tension.

Europe in 1990



Europe in 2022



Source: CNBC, 2022

²⁴ "U.S. warns Ukraine it faces a pivotal moment in war," Washington Post, February 13, 2023

²⁵ "How Might the Violence in Ukraine Come to an End?" Spiegel, February 10, 2023



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