



## The perfect storm facing Europe

By Angelo Katsoras

### Introduction

Europe is in the midst of an economic, energy and geopolitical crisis. It is struggling with the aftereffects of the pandemic, war, inflation, debt, high energy costs, and a looming recession.

This report analyzes the challenges facing several countries, with a particular focus on Italy, the United Kingdom, Germany, and France. It also takes a look at mounting tensions both within and between countries.

### Italy elects far-right-wing coalition to lead country

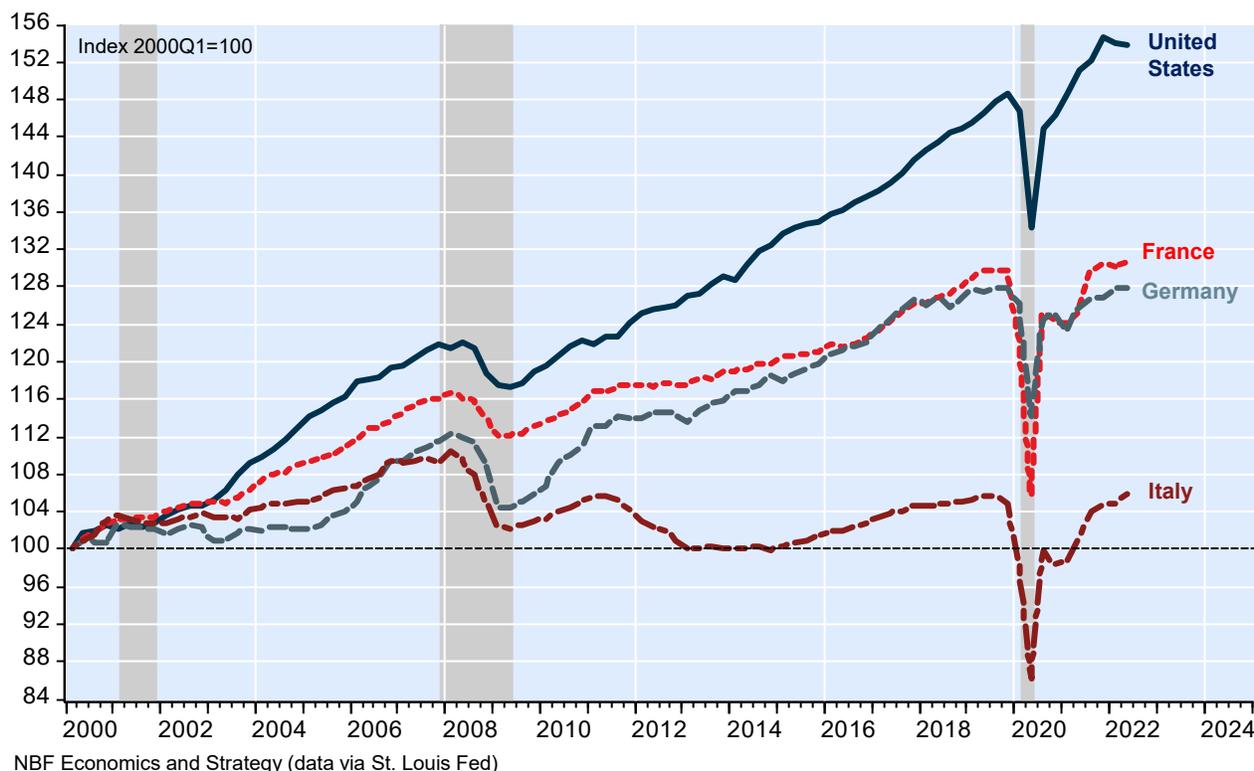
The new coalition government is led by the Brothers of Italy along with two junior partners: the League and Forza Italia. In addition to tighter restrictions on immigration, their program calls for tax cuts combined with higher spending on pensions and family benefits.

However, this government will soon run up against the reality that Italy has very little financial room to manoeuvre. It has a debt-to-GDP ratio of 151% and is running a large budget deficit (6%).<sup>1</sup> This predicament is made all the worse by the fact that Italy's 10-year bond yield spiked to about 4.3% from 1.2% at the beginning of the year.

What complicates matters even further is that, since the formation of the Eurozone in 1999, the Italian economy has barely grown at all. Its total cumulative (not annual) increase in reported GDP since 2000 has been a measly 5% (see chart below).

### Italy's economy has barely grown since it joined the Eurozone

Real GDP



<sup>1</sup> IMF data

Prior to joining the Eurozone, Italy resorted to periodic currency devaluations to compete with economic powerhouses like Germany. Now that it no longer has its own currency, Italy can regain competitiveness only through reforms and wage cuts.

One of the major factors preventing an even greater spike in bond yields is the European Central Bank's ongoing purchase of Italian bonds. This affords the ECB leverage over Italy. Another source of leverage is the EU's ability to cut financial support. European Commission President Ursula von der Leyen recently asserted that Europe had the "tools" to deal with Italy if a new government went in a "difficult direction."<sup>2</sup> This could include restricting access to the EU's COVID recovery fund, which has earmarked 200 billion euros for Italy over the next six years.

This also signifies that Italy would likely be prevented by both the EU and bond markets from implementing an energy subsidy package similar in size to those put in place by richer EU members.

All these challenges mean that the new government will likely enjoy a very brief political honeymoon. The short shelf life of past governments underlines this risk. Since World War II, 30 prime ministers have presided over 67 governments.

Given that Italy is Europe's fourth-largest economy, what happens in the country will, for better or worse, play a key role in shaping the destiny of the EU and the Eurozone.

## UK government shaken by reawakened bond vigilantes

In the UK, Prime Minister Liz Truss was not even afforded the courtesy of a brief honeymoon. After less than two months in office, she was forced to resign amid the market turmoil that followed her now aborted fiscal plans plus a growing revolt from Tory MPs.

The UK is an example of how low interest rates and inflation combined with quantitative easing have conditioned politicians over the past decade or so to assume that they can spend without consequence. Transitioning to an economic landscape where bond markets punish spendthrift governments will be a very difficult psychological adjustment for politicians to make. The opposition Labour Party's pledge to significantly increase spending in the face of this market turmoil shows just how hard it is for politicians to adapt to this new reality.

This turbulence comes at a time when the UK is not only dealing with electricity bills that are among the highest in Europe, but the fact its gas storage facilities are only able to stockpile 2% of its annual demand. This is in comparison to over 20% for countries like France and Germany.

Britain's political turmoil starkly illustrates the challenges that the current economic landscape poses to the re-election prospects of European governments trapped between the budget cuts that markets want and the social spending levels that the public demands. According to recent polling by YouGov, the Labour Party has close to a 30-point lead over the Conservatives.

While opposition calls for an early election will no doubt intensify, barring a spectacular rebound in the polls, it is unlikely the Conservatives will dissolve the parliament until just before the January 2025 election deadline date in order to avoid a massive electoral defeat.

## Germany is facing several major economic challenges

Germany's economy, particularly since the fall of the Berlin Wall, was built on access to cheap Russian natural gas, which met 55% of its gas needs just before the war in Ukraine. The loss of this supply has been made worse by past decisions to reduce access to other energy sources. This includes a 2011 decision to shut down all of Germany's nuclear reactors, which at the time covered about a quarter of its electricity needs. Authorities have decided to delay closure of two of their last three reactors to April 2023.

Germany's ability to produce natural gas has also been severely curtailed. In 2017, the government passed a law that essentially banned fracking, even though German firms had been using the technique since the 1950s. In 2000, Germany was pumping out some 20 billion cubic metres (bcm) of natural gas annually, enough to meet almost 25% of demand. Today, production has dropped to only 5-6 bcm.<sup>3</sup>

Nearly one in six industrial firms in Germany are reducing or abandoning production owing to high energy prices, according to a July survey by the Association of German Chambers of Industry and Commerce.<sup>4</sup>

<sup>2</sup> "Italy swings to the hard right after clear election victory by Giorgia Meloni, who is set to emerge as the country's first female prime minister," The Globe and Mail, September 25, 2022

<sup>3</sup> "Germans have been living in a dream," The Economist, July 21, 2022

<sup>4</sup> "How the German Economic Machine Broke Down," Wall Street Journal, July 28, 2022

## Automobile sector

Another challenge facing German industry is the evolution of the automobile sector. The ability of German companies to produce quality combustion engines has long set it apart from other countries. However, when it comes to electric vehicle (EV) batteries, the lion's share of production is controlled by Chinese, Korean and Japanese companies. This raises doubts whether German companies will be able to carry the competitive advantage they enjoy in the production of gasoline-fuelled cars over to the EV sector.

## Germany faces China-related challenges

China is Germany's largest trading partner. However, growth in China has slowed significantly as the country deals with an aging workforce, geopolitical tensions, a struggling real estate sector and repeated COVID lockdowns. China is also shifting from being mostly a market for German high-quality machinery to becoming a serious competitor in this area. Economic ties with China could also be impacted by recently passed German legislation requiring firms with over 3,000 employees to verify that their supply chains are free of human-rights violations starting in 2023.

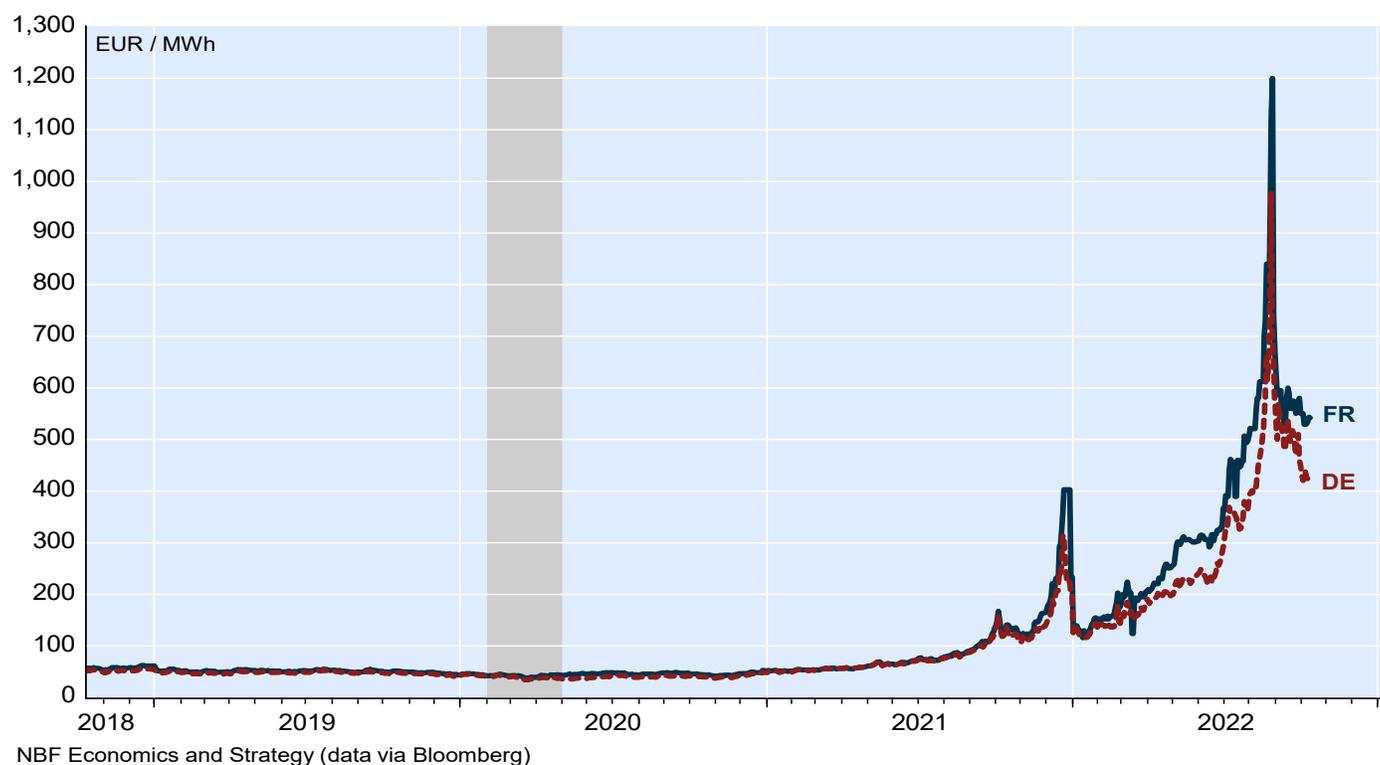
A Germany preoccupied by these economic challenges has less political capital to dedicate to solving Europe's challenges.

## Europe's bumpy energy transition

Even before the war in Ukraine and the subsequent cut-off of Russian energy, the challenge of transitioning to a green economy combined with a heavy reliance on energy imports had resulted in higher energy prices than in many parts of the world.

### Eurozone: A spike in electric-power futures

Base price for delivery on high-voltage lines one year ahead

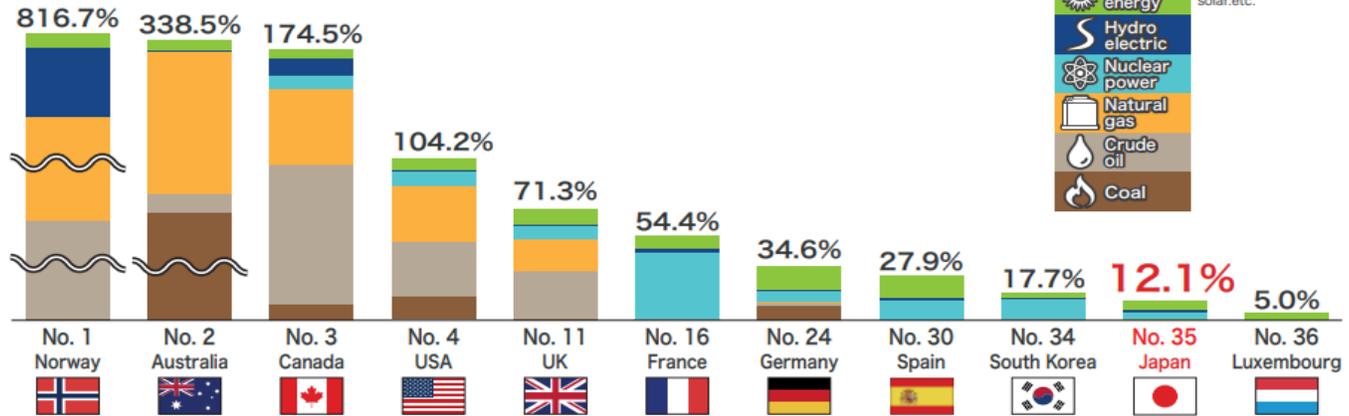


In 2020, the EU relied on imports to meet 58% of its energy requirements, up from 56% in 2000. In comparison, the United States is almost 100% self-sufficient in energy.<sup>5</sup> Before the war, the EU bought roughly 25% of its oil, 50% of its coal, and about 40% of its gas from Moscow.<sup>6</sup>

<sup>5</sup> "From where we import energy," Eurostat, 2021

<sup>6</sup> "Europe Needs to Cut Energy Demand. Now." Bloomberg, March 8, 2022

Comparisons of primary energy self-sufficiency ratios among major nations (2019)



Source: Estimates for 2019 from IEA "World Energy Balances 2020", except for data for Japan, which are confirmed values of FY 2019, derived from "Comprehensive energy statistics of Japan", Agency for Natural Resources and Energy. \* The ranks in the table are those of the 36 OECD member countries.

Source: "Japan's Energy," Ministry of Economy, Trade, and Industry (Japan), February 2022

## The crucial role of natural gas

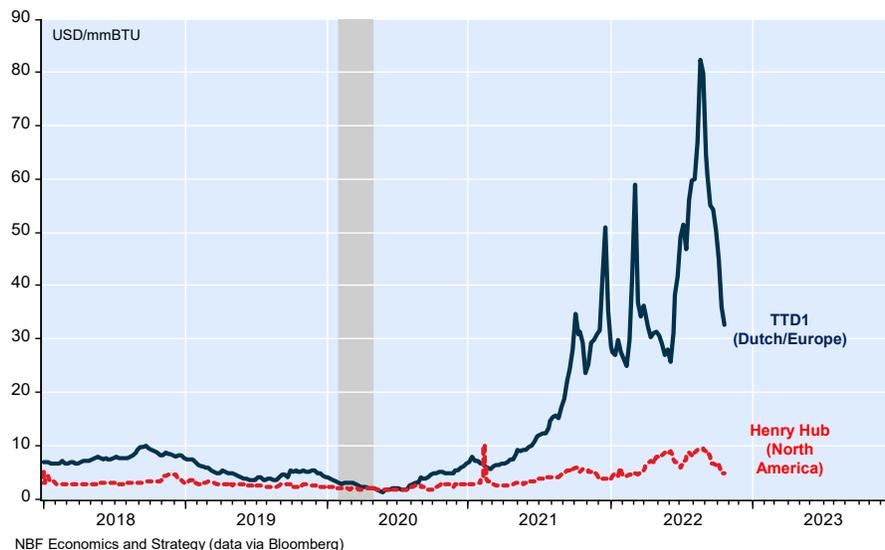
The fossil fuel being called upon to ensure a stable electricity supply is overwhelmingly natural gas. The reasons for this are twofold. First, it pollutes less than either coal or oil does. Second, unlike with coal and nuclear power, natural-gas-fired plants can vary their output with precision. This makes it the perfect complement to irregular wind and solar power. It is also important to note that in addition to being used for heating and generating electricity, natural gas is a crucial input in the production of such products as chemicals, aluminum, plastics, and fertilizers.

Natural gas represents 21% of the EU's energy consumption. Imports account for 83% of its gas consumption, a 50% increase in 10 years.<sup>7</sup>

While the EU had been able to reduce Russia's share of gas imports from 40% to 9% and gas storage facilities are over 90% full, longer-term challenges remain.<sup>8</sup> First, building up gas storage levels next year could prove even more difficult than in 2022 because current reserves were built with the help of Russian imports, which will likely not be available next time. Second, as the following chart illustrates, the price of liquefied natural gas skyrocketed. Finally, there is the risk gas supplies could be strained by a cold winter, malfunctioning infrastructure and/or Russia cutting off the remaining gas coming into Europe.

### Europe must pay sky-high LNG prices to meet demand

Weekly averages, as of October 21



NBF Economics and Strategy (data via Bloomberg)

<sup>7</sup> "Gas factsheet," The European Union Agency for the Cooperation of Energy Regulators, 2022

<sup>8</sup> "91.2% of EU gas storage is filled," Reuters, October 5, 2022

## Balancing the need for more natural gas with climate goals

Governments are trying to persuade the natural gas industry to build more infrastructure while actively pursuing environmental goals that could make such infrastructure obsolete in a decade or so, well before most projects have had a chance to become profitable.

The policy solution to the dilemma may lie in some kind of promise of future compensation to the industry for building infrastructure today in the face of its possible obsolescence tomorrow. While any such promise would be expensive, the price would pale in comparison to the cost of a multi-year energy shortage if traditional energy industries are not equipped to meet demand before the transition to alternative energy is completed.

## France could further complicate Europe's energy challenges

France, which generates 70% of its electricity from nuclear power, has traditionally been one of Europe's biggest power exporters. Today, however, about half of France's nuclear power generating capacity is offline due to repairs and maintenance work.<sup>9</sup> As a result, power output is down to a near 30-year low just as Europe faces its worst energy crisis in decades.<sup>10</sup> This situation has forced France to become a net importer of electricity. The average age of France's reactors is 37 years.<sup>11</sup> A reactor's lifespan can be extended for many years past its official 40-year limit, but only with significant refurbishment.

While France has promised to reopen most reactors over the next few months, it is important to note that the nuclear sector in the West is notorious for taking much longer than projected to do repairs and to build new reactors. Striking workers have further delayed the reopening of 18 reactors by at least several weeks.

Should France be required to continue importing electricity during the winter months, it would place a further strain on Europe's electricity sector. To make matters worse, there have been reports that other countries, including Germany and Norway, could be forced during winter to reduce electricity exports on account of tight supplies.

## Europe struggles to forge a common strategy to deal with energy challenges

Tensions flared after the German government announced a 200 billion euros aid plan (equivalent to 5% in GDP) to help households and businesses cope with surging energy bills. In terms of GDP, the figure is at least three times the size of support provided by most other eurozone members.<sup>12</sup> Germany is accused of using its financial strength to subsidize German businesses and thus give them a huge competitive edge over their counterparts based in less affluent countries.

The following quote by Polish Prime Minister Mateusz Morawiecki best summarizes this anger: "The richest country, the most powerful EU country is trying to use this crisis to gain a competitive advantage for their businesses on the single market. This is not fair, this is not how the single market should work."<sup>13</sup>

German Chancellor Olaf Scholz responded by pointing out that other countries had resorted to similar measures. France, for instance, has frozen gas prices for this year and capped the rise in electricity prices at 4%.

## The energy crisis has increased the leverage of some countries

During past financial crises, Germany and other fiscally strong EU members negotiated with the more indebted Mediterranean countries from a position of strength.

Today, however, the power dynamic is reversed because Russia's gas squeeze is putting Germany and other northern European countries in a worse energy position than the likes of Spain and Portugal, which are much less reliant on Russian gas thanks to their LNG terminals. In this regard, Spanish Ecological Transition Minister Teresa Ribera Rodríguez directed this barb at Germany: "Unlike other countries, we Spaniards have not lived beyond our means from an energy point of view."

Illustrative of the new dynamic is the fact that a German-led proposal for a mandatory 15% cut in gas consumption during the winter months has been rejected. EU members agreed, instead, to a voluntary overall 10% reduction target for electricity

<sup>9</sup> "Spot prices ease with renewable, nuclear output set to rise," Reuters, October 21, 2022

<sup>10</sup> "France's nuclear energy strategy – once its pride and joy – faces big problems this winter," CNBC, October 4, 2022

<sup>11</sup> "Nuclear Power in France," World Nuclear Association, September 2022

<sup>12</sup> "Why Germany's energy pack is undermining unity," Financial Times, October 5, 2022

<sup>13</sup> "EU leaders reaffirm support for Ukraine, squabble over gas price cap," Reuters, October 7, 2022

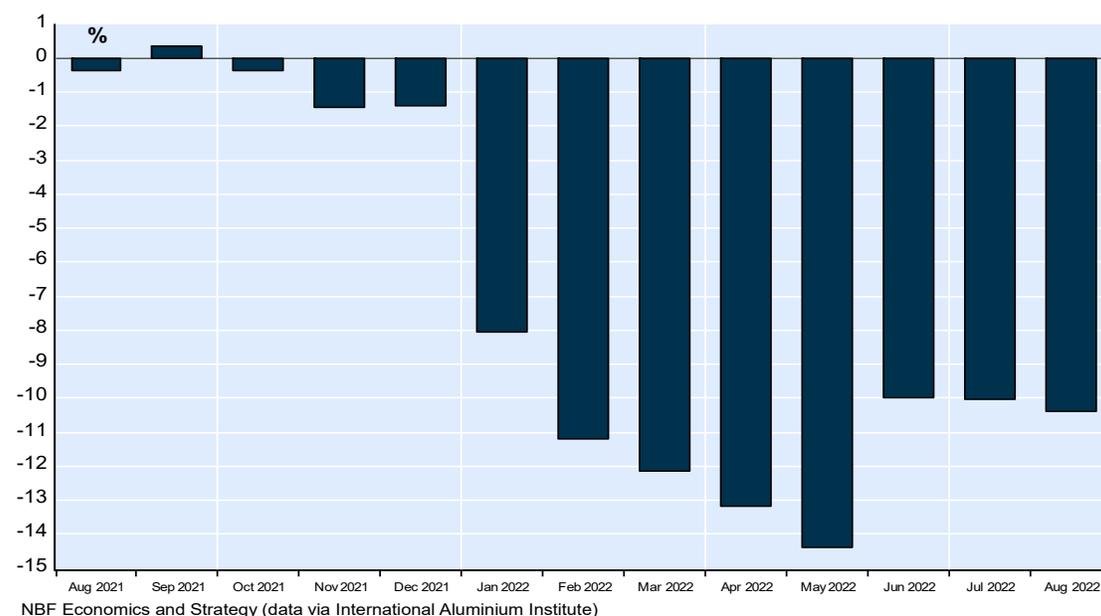
consumption and a mandatory 5% reduction during peak hours.<sup>14</sup> Spain and Portugal argue that uniform constraints without exemptions would have been unjust because they have sufficient supplies.

## Is Europe at risk of partial de-industrialization?

Hit by surging energy prices, companies across a wide array of energy-intensive sectors such as steel, aluminum, zinc and chemicals are being forced to cut back operations and, in some cases, to transfer production abroad. Indeed, half of Europe's aluminum and zinc production have already been taken offline, according to Eurometaux, Europe's metals trade association.<sup>15</sup>

### Europe: Aluminum production falters

Annual change in aluminum production in western and central Europe in percentage terms



More than two-thirds of Europe's fertilizer production, too, has been halted owing to rising natural gas prices.<sup>16</sup> Natural gas is both a major input in the production of ammonia and a source of the electricity required to manufacture nitrogen fertilizers. In all, it accounts for about 70% of the cost of producing these fertilizers.<sup>17</sup>

### Carbon border taxes to the rescue?

The longer that energy prices remain high relative to other regions, the more that energy-intensive industries will be tempted to relocate abroad. This risk plus the many years required to build up new energy infrastructure raises the odds that Europe will resort to tariffs in an effort to prevent the widespread flight of industries.

Among the most likely tariffs is the carbon border tax, which places a levy on imports from countries with laxer environmental standards. The European Parliament approved carbon tax legislation last June and it must now be reconciled with an earlier version passed by Europe's governments. However, implementing this tax entails various risks:

- It would increase trade tensions between developing countries, some of which would respond by imposing counter-tariffs
- There would likely be disputes over how various countries measure pollution
- While a carbon border levy would level the playing for industries vis-à-vis imports from regions with weaker climate regulations, it would also add to operating costs

For a more in-depth analysis of the carbon border tax refer to our recent report: "Update: Is a carbon border tax inevitable?" (Dec. 2021)

<sup>14</sup> "E.U. agrees to watered-down gas-rationing plan after early resistance," Washington Post, July 26, 2022

<sup>15</sup> "Crippling Energy Bills Force Europe's Factories to Go Dark," New York Times, September 19, 2022

<sup>16</sup> "Higher gas prices deepen Europe's fertilizer crunch, threaten food crisis," Bloomberg, August 27, 2022

<sup>17</sup> "You Can't Eat Without Natural Gas," Wall Street Journal, September 28, 2022

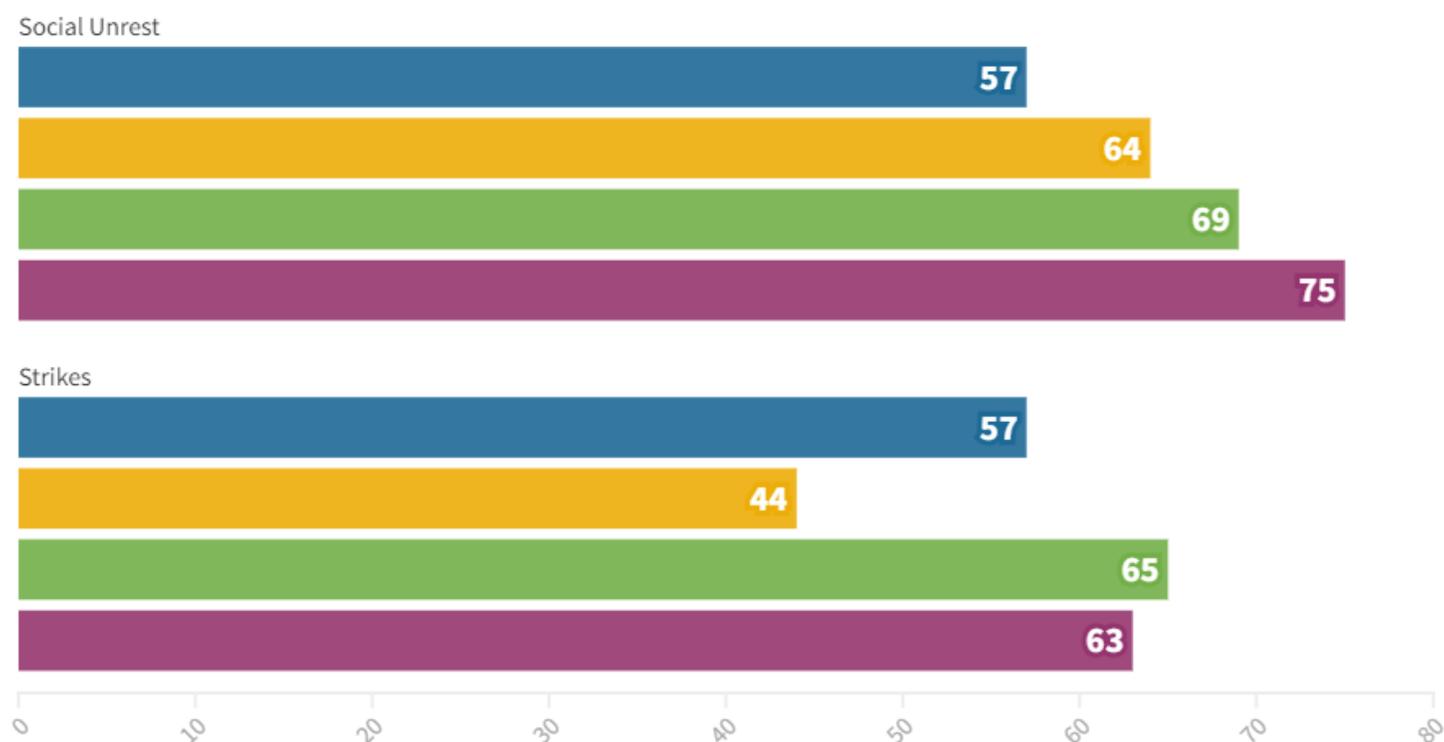
## Will concerns over inflation and economy hurt support for Ukraine?

As reflected in the following poll, Europeans are increasingly worried that the dire economic situation could fuel social unrest.

### Thinking about the next few months, how worried, if at all, are you about each of the following?

% worried in each country

United Kingdom Germany France Poland



Source: Conducted by YouGov for the non-profit organization More in Common, September 2, 2022

Putin is hoping that countries under increasing economic and energy-related duress will pressure Ukraine to accept a truce more favourable to Russia. Two countries to watch closely in this regard are Italy and Germany.

While the new Italian Prime Minister Giorgia Meloni has come out publicly in support of Ukraine, her coalition partners have been more ambivalent in the recent past. For example, the leader of the League Party, Matteo Salvini, stated not so long ago: "Do we have to defend Ukraine? Yes. But I would not want the sanctions to harm those who impose them more than those who are hit by them." Even more important is public opinion. A survey carried out in September by Quorum/YouTrend showed that 43% of Italians supported the sanctions, while 37% opposed them, and 20% said they don't know. This is down from over 50% support earlier in the year.<sup>18</sup>

As for Germany, a survey by the Infratest Dimap Institute found that support for tough sanctions against Russia slid from 66% in March to 53% in September.<sup>19</sup>

<sup>18</sup> "Italy's Election Is the First Test of the West's Anti-Putin Resolve," Wall Street Journal, September 23, 2022

<sup>19</sup> "I've given up on all my dreams': Dread in Germany deepens over war in Ukraine," Los Angeles Times, October 3, 2022

## Energy-related tensions could increase between the United States and Europe

On top of all these challenges, yet another tension point is emerging. This time it is between the United States and Europe over the high price of liquefied natural gas.

- German Economy Minister Robert Habeck: "Some countries, including friendly ones, sometimes achieve astronomical prices [for their gas]. Of course, that brings with it problems that we have to talk about."<sup>20</sup>
- French President Emmanuel Macron: "The North American economy is making choices for the sake of attractiveness, which I respect, but they create a double standard." Macron was referring to the fact United State is selling natural gas to Europe at much higher prices than it is sold domestically.<sup>21</sup>

Russia is no doubt hoping that these emerging tensions will eventually make it harder for Europe and the United States to maintain a common front against Russia.

## Conclusion

Europe is facing major challenges on several fronts:

- The greater the economic headwinds, the harder it will be for any government to get re-elected. Further, political parties unlucky enough to be in power when governments are finally forced to make significant cuts will be punished by voters for several electoral cycles. This creates an opportunity for formerly marginal parties to make further political gains.
- Tensions between countries will grow as governments prioritize the needs of their citizens over people in other countries. The ability of richer countries to provide greater financial support compared with their poorer counterparts will be a source of tension.
- The risk of major political backlash against high energy prices will grow. We need only recall the Yellow Vest protests in France. A proposed fuel surtax in November 2018 to fund renewables triggered such widespread civil unrest that the government was forced to rescind it. While most countries have resorted to massive energy subsidies to maintain social peace, many of them will increasingly struggle to pay for these expenditures in a higher interest rate environment. The UK has already announced price caps on energy will only last until April, and thereafter be more targeted to those in greatest need.
- The EU is trying to reduce its dependence on energy imports by speeding up the development of renewable energy and natural-gas-related infrastructure. However, there are two major challenges associated with this strategy. First, this infrastructure will take many years to complete. Second, Europe faces the risk of going from being reliant on oil and gas imports to becoming dependent on imports of minerals and other inputs required to build and maintain its green energy infrastructure.
- The return of high borrowing costs has revived concerns that certain countries could face a renewed debt crisis. This worry is amplified by the fact that the public finances of most European countries are worse off today than at the time of the previous sovereign debt crisis in 2009/10.
- High gas and electricity prices are placing European companies at a major competitive disadvantage against their international competitors. This raises the odds of seeing more companies transfer operations abroad. The recent announcement by BASF, the world's largest chemical producer, of its plan to permanently downsize operations in Europe highlights this risk. Reason cited for this move include a weak economy, high energy costs and overly stringent regulatory landscape.<sup>22</sup>

<sup>20</sup> "German minister criticizes U.S. over 'astronomical' natural gas prices," CNBC, October 5, 2022

<sup>21</sup> "Macron Accuses US of Trade 'Double Standard' Amid Energy Crunch," Bloomberg, October 21, 2022

<sup>22</sup> "BASF seeks 'permanent' cost cuts at European operations," Reuters, October 26, 2022

### The war in Ukraine

Finally, 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 reorient supply chains across various sectors, particularly energy, away from Russia, while Moscow would continue to divert its trade flows away from Europe. This includes building energy infrastructure geared to selling oil and gas to China and other Asian countries. The sabotage of the Nord Stream pipelines only reinforces this trend.

The expanded NATO–Russia border will be a stark reminder of these tensions. Not only is NATO’s eastern flank already 1,100 kilometres closer to the Kremlin than the West German border was in 1989, but the addition of Finland to NATO will add more than 1,300 kilometres to the NATO–Russia border.<sup>23</sup>

#### Europe in 1990



#### Europe in 2022



Source: CNBC, June 2022

<sup>23</sup> "NATO's eastern front: will the military build-up make Europe safer?" Financial Times, May 4, 2022



## Economics and Strategy

### Montreal Office

514-879-2529

#### Stéfane Marion

*Chief Economist and Strategist*  
stefane.marion@nbc.ca

#### Kyle Dahms

*Economist*  
kyle.dahms@nbc.ca

#### Alexandra Ducharme

*Economist*  
alexandra.ducharme@nbc.ca

#### Matthieu Arseneau

*Deputy Chief Economist*  
matthieu.arseneau@nbc.ca

#### Daren King

*Economist*  
daren.king@nbc.ca

#### Angelo Katsoras

*Geopolitical Analyst*  
angelo.katsoras@nbc.ca

#### Jocelyn Paquet

*Economist*  
jocelyn.paquet@nbc.ca

### Toronto Office

416-869-8598

#### Warren Lovely

*Chief Rates and Public Sector Strategist*  
warren.lovely@nbc.ca

#### Taylor Schleich

*Rates Strategist*  
taylor.schleich@nbc.ca

### General

This Report was prepared by National Bank Financial, Inc. (NBF), (a Canadian investment dealer, member of IIROC), an indirect wholly owned subsidiary of National Bank of Canada. National Bank of Canada is a public company listed on the Toronto Stock Exchange.

The particulars contained herein were obtained from sources which we believe to be reliable but are not guaranteed by us and may be incomplete and may be subject to change without notice. The information is current as of the date of this document. Neither the author nor NBF assumes any obligation to update the information or advise on further developments relating to the topics or securities discussed. The opinions expressed are based upon the author(s) analysis and interpretation of these particulars and are not to be construed as a solicitation or offer to buy or sell the securities mentioned herein, and nothing in this Report constitutes a representation that any investment strategy or recommendation contained herein is suitable or appropriate to a recipient's individual circumstances. In all cases, investors should conduct their own investigation and analysis of such information before taking or omitting to take any action in relation to securities or markets that are analyzed in this Report. The Report alone is not intended to form the basis for an investment decision, or to replace any due diligence or analytical work required by you in making an investment decision.

This Report is for distribution only under such circumstances as may be permitted by applicable law. This Report is not directed at you if NBF or any affiliate distributing this Report is prohibited or restricted by any legislation or regulation in any jurisdiction from making it available to you. You should satisfy yourself before reading it that NBF is permitted to provide this Report to you under relevant legislation and regulations.

National Bank of Canada Financial Markets is a trade name used by National Bank Financial and National Bank of Canada Financial Inc.

### Canadian Residents

NBF or its affiliates may engage in any trading strategies described herein for their own account or on a discretionary basis on behalf of certain clients and as market conditions change, may amend or change investment strategy including full and complete divestment. The trading interests of NBF and its affiliates may also be contrary to any opinions expressed in this Report.

NBF or its affiliates often act as financial advisor, agent or underwriter for certain issuers mentioned herein and may receive remuneration for its services. As well NBF and its affiliates and/or their officers, directors, representatives, associates, may have a position in the securities mentioned herein and may make purchases and/or sales of these securities from time to time in the open market or otherwise. NBF and its affiliates may make a market in securities mentioned in this Report. This Report may not be independent of the proprietary interests of NBF and its affiliates.

This Report is not considered a research product under Canadian law and regulation, and consequently is not governed by Canadian rules applicable to the publication and distribution of research Reports, including relevant restrictions or disclosures required to be included in research Reports.



### UK Residents

This Report is a marketing document. This Report has not been prepared in accordance with EU legal requirements designed to promote the independence of investment research and it is not subject to any prohibition on dealing ahead of the dissemination of investment research. In respect of the distribution of this Report to UK residents, NBF has approved the contents (including, where necessary, for the purposes of Section 21(1) of the Financial Services and Markets Act 2000). This Report is for information purposes only and does not constitute a personal recommendation, or investment, legal or tax advice. NBF and/or its parent and/or any companies within or affiliates of the National Bank of Canada group and/or any of their directors, officers and employees may have or may have had interests or long or short positions in, and may at any time make purchases and/or sales as principal or agent, or may act or may have acted as market maker in the relevant investments or related investments discussed in this Report, or may act or have acted as investment and/or commercial banker with respect hereto. The value of investments, and the income derived from them, can go down as well as up and you may not get back the amount invested. Past performance is not a guide to future performance. If an investment is denominated in a foreign currency, rates of exchange may have an adverse effect on the value of the investment. Investments which are illiquid may be difficult to sell or realise; it may also be difficult to obtain reliable information about their value or the extent of the risks to which they are exposed. Certain transactions, including those involving futures, swaps, and other derivatives, give rise to substantial risk and are not suitable for all investors. The investments contained in this Report are not available to retail customers and this Report is not for distribution to retail clients (within the meaning of the rules of the Financial Conduct Authority). Persons who are retail clients should not act or rely upon the information in this Report. This Report does not constitute or form part of any offer for sale or subscription of or solicitation of any offer to buy or subscribe for the securities described herein nor shall it or any part of it form the basis of or be relied on in connection with any contract or commitment whatsoever.

This information is only for distribution to Eligible Counterparties and Professional Clients in the United Kingdom within the meaning of the rules of the Financial Conduct Authority. NBF is authorised and regulated by the Financial Conduct Authority and has its registered office at 70 St. Mary Axe, London, EC3A 8BE.

NBF is not authorised by the Prudential Regulation Authority and the Financial Conduct Authority to accept deposits in the United Kingdom.

### U.S. Residents

With respect to the distribution of this report in the United States of America, National Bank of Canada Financial Inc. ("NBCFI") which is regulated by the Financial Industry Regulatory Authority (FINRA) and a member of the Securities Investor Protection Corporation (SIPC), an affiliate of NBF, accepts responsibility for its contents, subject to any terms set out above. To make further inquiry related to this report, or to effect any transaction, United States residents should contact their NBCFI registered representative.

This report is not a research report and is intended for Major U.S. Institutional Investors only.

This report is not subject to U.S. independence and disclosure standards applicable to research reports.

### HK Residents

With respect to the distribution of this report in Hong Kong by NBC Financial Markets Asia Limited ("NBCFMA") which is licensed by the Securities and Futures Commission ("SFC") to conduct Type 1 (dealing in securities) and Type 3 (leveraged foreign exchange trading) regulated activities, the contents of this report are solely for informational purposes. It has not been approved by, reviewed by, verified by or filed with any regulator in Hong Kong. Nothing herein is a recommendation, advice, offer or solicitation to buy or sell a product or service, nor an official confirmation of any transaction. None of the products issuers, NBCFMA or its affiliates or other persons or entities named herein are obliged to notify you of changes to any information and none of the foregoing assume any loss suffered by you in reliance of such information.

The content of this report may contain information about investment products which are not authorized by SFC for offering to the public in Hong Kong and such information will only be available to, those persons who are Professional Investors (as defined in the Securities and Futures Ordinance of Hong Kong ("SFO")). If you are in any doubt as to your status you should consult a financial adviser or contact us. This material is not meant to be marketing materials and is not intended for public distribution. Please note that neither this material nor the product referred to is authorized for sale by SFC. Please refer to product prospectus for full details.

There may be conflicts of interest relating to NBCFMA or its affiliates' businesses. These activities and interests include potential multiple advisory, transactional and financial and other interests in securities and instruments that may be purchased or sold by NBCFMA or its affiliates, or in other investment vehicles which are managed by NBCFMA or its affiliates that may purchase or sell such securities and instruments.

No other entity within the National Bank of Canada group, including National Bank of Canada and National Bank Financial Inc, is licensed or registered with the SFC. Accordingly, such entities and their employees are not permitted and do not intend to: (i) carry on a business in any regulated activity in Hong Kong; (ii) hold themselves out as carrying on a business in any regulated activity in Hong Kong; or (iii) actively market their services to the Hong Kong public.

### Copyright

This Report may not be reproduced in whole or in part, or further distributed or published or referred to in any manner whatsoever, nor may the information, opinions or conclusions contained in it be referred to without in each case the prior express written consent of NBF.