

Potential spatial impacts of the war in Ukraine (Abridged version): A case study from Italy

22 July 2022

Key messages

- Italy is highly dependent on gas supplies from Russia, which account for 43% of natural gas imports.
- Energy-intensive industries are concentrated in northern regions and account for between 6% and 11% of employment in the five provinces with the highest employment shares.
- Southern regions and islands have a greater exposure to disruptions and price increases in fertilisers: 14% and 16% respectively of all firms in these regions are crop producers (compared to 10% nationally).
- Jobs and firms in wheat-based food production (wheat being another commodity severely affected by export restrictions and supply chains disruptions) are concentrated in island and southern regions as well. Employment rates range from 2% to 3% of employment in the five most exposed provinces that are located on the two major islands.
- Russian tourists represented a small share (i.e. 1.3%) of all foreigners visiting Italy in 2019, but play a disproportionately greater role in terms of per-capita expenditure compared to their size among all foreign tourists, particularly in some concentrated regions. Their limited ability to travel will likely impact these regions.
- Russia accounted for a limited share (i.e. 1.65%) of Italian goods exports in 2019, but as high as 3% in Marche, against less than 0.50% in the islands.
- Responses adopted by Italian policy makers should account for the potential impacts across regions and, within them, provinces, as well as differences in their underlying resilience.
- As the state exercises power concurrently with regions and municipalities in a number of areas, it should be ensured that co-ordination among different levels of government occurs in such a way that asymmetries inherent in shocks, and potentially arising from related policy responses, can be addressed effectively.

Analysing a global crisis through a spatial lens

The economic shocks of Russia's war against Ukraine will be felt globally. Global GDP growth is now projected to slow sharply this year, to around 3%, well below the pace of recovery projected before the war. Inflation is now expected to be twice as high, at nearly 9% in OECD countries in 2022.¹

The impacts of the war will also be spatially differentiated within OECD economies. Three factors are likely to play a key role in determining the scale of the impact on regions:

1. Reliance on imports of fossil fuels and other commodities for industrial production that have been hit by the price shock.
2. Spatial proximity to Ukraine and its refugee flows.
3. Underlying resilience, including diversified sources of imports and export markets.

Identifying the regions that are most vulnerable to these shocks will help policy makers design effective and tailored responses to support people and places.

Italy: a case study

Italy's highly diversified economy is exposed to the shocks in several ways. Trade forms a critical channel for shocks, given the reliance on imports from Russia and Ukraine as well as on exports to Russia, including through tourism. In addition, the pace of recovery from the economic repercussions of the COVID-19 pandemic showed signs of spatial imbalances even prior to Russia's aggression of Ukraine, emphasising differences in regions' underlying resilience.

Three sectors illustrate the potential impacts of rising commodity prices on the Italian economy. These include manufacturing – where natural gas plays a crucial role, wheat-based food production and crop farming. Generally, price shocks can be passed on to consumers (including through broader inflation). However, these industries will feel the impact immediately and may struggle to pass on the full inflationary impact.

Commodity-based sectors: energy-intensive industries, farming and wheat-based food production

Natural gas-intensive industries are most directly affected by the price shock, and are likely to be the most vulnerable sector in Italy, not least because of barriers to diversification of energy supply in the short term. Italy produces only limited quantities of natural gas and Russia accounts for 43% of Italy's imports of natural gas.^{2 3} Several industrial clusters in Italy are highly sensitive to price variations in gas,⁴ with an increasing number of reported production suspensions and shutdowns due to rising energy bills.⁵ An upward trend in the price of natural gas, which had been under way since 2021, has been accelerated by the crisis in Ukraine. This has added pressure in energy markets and produced spill-over effects on prices of other fossil fuels.⁶

The northern regions have the highest employment shares in sectors with the greatest gas use. Particularly in Lombardy, Veneto, Friuli-Venezia Giulia and Emilia-Romagna, this reflects the spatial concentration of manufacturing in Italy (Figure 1). Shares range from 6 to 11% in the top five provinces (Italy's TL3 subdivisions), including Taranto (Apulia) and Terni (Umbria), which host major steel production plants.

Firms in farming and wheat-based food production also have to cope with soaring commodity prices. Prices of fertilisers have been growing since 2021 because of the rising costs of fossil fuels used in their production and the disruptions of international trade due to the COVID-19 pandemic. The outbreak of the war in Ukraine has exacerbated this trend as Russia is a top global exporter of fertilisers⁷ and Italy

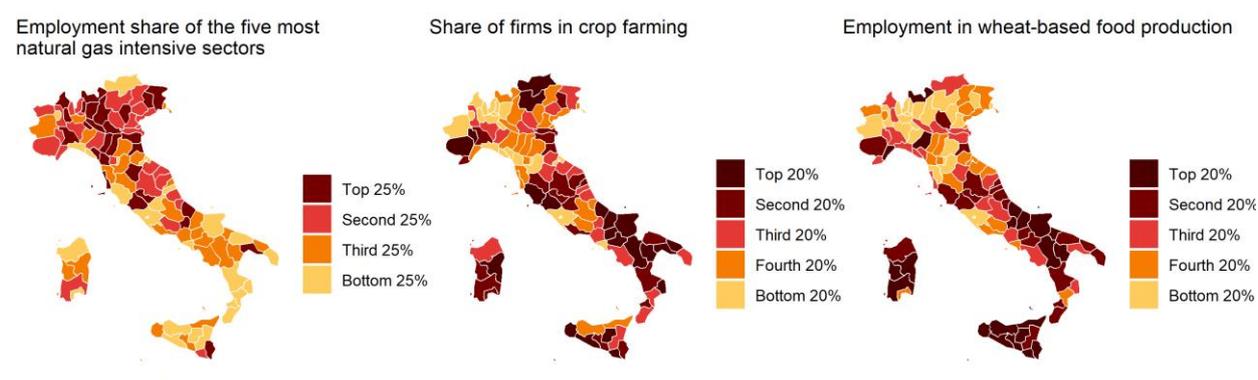
is the fourth largest market.^{8,9} Relatedly, soaring prices of wheat¹⁰ may hit pasta manufacturers not least due to shrinking domestic production of wheat in recent years.¹¹

Firms in farming and wheat-based food production tend to be more prevalent in southern regions and islands, with firms in crop farming accounting for 14% and 16% of all firms respectively, against a national average of 10% (Figure 1). Eight out of the ten provinces reporting the highest rate of firms in farming are located in southern or island regions.

Similarly, the related jobs in wheat-based food production are strongly concentrated in Italy's southern regions and islands (Figure 1). Employment shares in wheat-based food production range from 2% to 3% in Italy's top five provinces, which are all located in Sardinia and Sicily.

Intermediate regions close to a city have the highest concentration of jobs and firms in the sectors thus far examined, while remote rural regions have the least.

Figure 1. Employment shares of highest gas use sectors are largest in northern and central regions, whereas firms in farming and employment in wheat-based food production prevail in the south and islands



Note: The first map illustrates the combined regional employment share of the five sectors with the largest use of natural gas in Italy, i.e. coke and refined petroleum products, basic metals, paper and paper products, chemicals and chemical products, and non-metallic minerals. The second map illustrates the spatial distribution of firms in crop farming, drawing from national Business Register 2019 data and from a 2010 census survey. Data for Cagliari, Oristano and South Sardinia are based on estimations. The third map illustrates the share of employment in wheat-based food production, which includes manufacturing of all bakery and farinaceous products.

Source: First map: OECD calculations based on Eurostat tables env_ac_pefasu, sbs_r_TL06_r2, and nama_10r_3empers, all 2019. IEA, Electricity generation by source, 2019 and OECD Statistics, Regional economy, Regional Employment by Industry. Second and third map: <https://www.infocamere.it/en/movimprese> and <http://dati.istat.it/>

Exports

Russia accounted for only 1.7% of Italian goods exports in 2019, but some sectors and regions are more exposed than others to a fall in bilateral trade following sanctions. Russia accounted for almost 3% of all goods exports from Marche, and just over 2% of goods exports from Umbria, Emilia-Romagna, Lazio and Veneto. Exports to Russia from Sardinia, Basilicata and Sicily are very limited, accounting for less than 0.5% of all exports from these southern regions.

Tourism

Russian tourists accounted for a limited share (i.e. 1.3%) of all foreigners visiting Italy in 2019, but variation across regions is notable, ranging from about 0.5% or less in the bottom five regions to 1.5% or more in top five regions. Five out of 21 of Italy's TL 2 regions (i.e. Veneto, Emilia-Romagna, Lombardy, Lazio and Tuscany) accounted for almost two-thirds of all nights spent by Russian visitors in 2019. Moreover, Russian tourists tend to concentrate in a few top destinations within regions. For instance, Rome and Rimini accounted for 95% and 74% of the nights spent by Russian visitors in Emilia-Romagna and Lazio, respectively. Although overall numbers of visitors from Russia were relatively small, in terms of expenditures, they ranked second among non-EU tourists in terms of aggregate tourist expenditure in 2019.

The way forward

In 2021, Ukrainian nationals made up the fifth-largest foreign community (i.e. around 236 000 people) in Italy.¹² Since the outbreak of the war, tens of thousands of people have fled to Italy, and many more could seek refuge in the coming months.¹³ Ukrainians make up the second-largest foreign community among domestic workers (e.g. cleaners, caregivers) officially employed in Italy. Four out of Italy's 20 regions (i.e. Lombardy, Campania, Emilia-Romagna and Lazio) host two thirds of all Ukrainians residing in Italy.¹⁴ Further analysis on the important issue of refugees and migration is needed to fully understand the economic and social impacts of the war in Ukraine for Italian regions

What are the key considerations for policy makers?

- Responses to the economic repercussions of the war in Ukraine to be adopted by Italian policy makers should account for the potential impacts across regions and, within them, provinces, as well as differences in their underlying resilience. As the state exercises concurrent legislative and fiscal power with the regions in areas such as trade, energy and labour, the issue of multi-level governance is of particular importance. Municipalities (individually or collectively) can also play a role in economic development matters (e.g. tourism, SME support), according to the national constitution. Hence, it is crucial that co-ordination among different levels of government happens smoothly to address asymmetries inherent in shocks and potentially arising from related policy responses.
- Spatial analysis should inform planning and budgeting in policy areas where both national and subnational administrations hold a stake. Active labour market policies, for instance, involve all levels of government: namely, a central agency is in charge of setting standards, regions take care of tailoring actions to local needs, and job centres in cities offer front-office services. Under the current circumstances, this may mean devoting larger human and financial resources to job centres in places at greater risk of growing unemployment rates. These are the places where industries most severely affected by the economic repercussions of the war, account for a larger share of employment. Training and re-employment for displaced workers are likely to gain new momentum there.
- On a similar note, subsidies for firms in industries hit by rising commodity prices and disruptions in trade – one of various policy options available to EU member states under the new Temporary Crisis Framework¹⁵ – should be allocated in proportion to their relative contribution to regional and local economies, in order to ensure efficiency in policy intervention.
- Diversifying source and destination markets can reduce dependencies on Russian supply or demand. This can be achieved by investment in renewable energy sources, which has longer term benefits too and thus should continue to be a priority objective. Spatial analysis can help prioritise interventions and channel efforts by different levels of governments towards industries that are likely to suffer the most from the likely erosion of the Russian market. Similarly for the tourism sector, the focus of intervention should be on regions where Russian visitors are proportionally more numerous.
- Spatial analysis of the potential impacts of the war in Ukraine could be repeated in other OECD member countries and regions, if data on industrial composition, i.e. the distribution of firms and jobs across different economic sectors, is granular enough from a spatial point of view (ideally, ensuring statistical representativeness both at NUTS 2 and NUTS 3 level).

Further reading

This note is an abridged version of: OECD (forthcoming), "Potential spatial impacts of the war in Ukraine: A case study from Italy", OECD Local Economic and Employment Development (LEED) Papers.

Notes

¹ OECD Economic Outlook, June 2022 <https://www.oecd.org/economic-outlook/>

² For more information, visit: <https://dgsaie.mise.gov.it/importazioni-gas-naturale>

³ For more information, visit: <https://www.statista.com/statistics/800396/natural-gas-production-by-region-in-italy/#:~:text=Italy%27s%20domestic%20natural%20gas%20production,This%20is%20true%20for%20both>

⁴ For more information, visit: <http://www.cgiamestre.com/caro-energia-nei-primi-6-mesi-del-2022-a-rischio-almeno-500-mila-posti-di-lavoro/>

⁵ For more information, visit: https://www.corriere.it/economia/aziende/22_gennaio_17/caro-energia-piastrelle-vetrai-murano-se-continua-cosi-spegneremo-forni-storie-crisi-1920139c-7540-11ec-9e58-ba8db45e0e20.shtml

⁶ In December 2021, the Ministry of Ecological Transition issued a decree providing financial support to companies with high natural gas consumption. For more information, visit: https://www.gazzettaufficiale.it/atto/serie_generale/caricaDettaglioAtto/originario?atto.dataPubblicazioneGazzetta=2022-01-08&atto.codiceRedazionale=21A07795&elenco30giorni=false

⁷ For more information, visit: https://ycharts.com/indicators/fertilizers_index_world_bank#:~:text=Fertilizers%20Price%20Index%20is%20at,128.1%25%20from%20one%20year%20ago

⁸ For more information, visit: https://fscluster.org/sites/default/files/documents/fao_information_note.pdf

⁹ For more information, visit: <https://tradingeconomics.com/russia/exports-of-fertilizer-potassium-cmlv#:~:text=Exports%20of%20Fertilizer%2C%20Potassium%20CMLV%20in%20Russia%20averaged%2011.87%20USD,Million%20in%20January%20of%202018>

¹⁰ FAO (2022), *The importance of Ukraine and the Russian Federation for global agricultural markets and the risks associated with the current conflict*, https://www.fao.org/fileadmin/user_upload/faoweb/2022/Info-Note-Ukraine-Russian-Federation.pdf?utm_source=twitter&utm_medium=social+media&utm_campaign=fao

¹¹ For more information, visit: <https://www.informatoreagrario.it/>

¹² For more information, visit: <http://dati.istat.it/> (resident foreigners on 1 January 2021 by citizenship)

¹³ For more information, visit: <https://www.interno.gov.it/it/notizie/sono-65350-i-profughi-giunti-finora-italia-dallucraina>

¹⁴ Osservatorio Laboratorio Domestico (2022), *Rapporto annuale 2021*, https://www.osservatoriolavorodomestico.it/documenti/rapporto_annuale_2021.pdf

¹⁵ In March 2022, the European Commission announced a new State Aid Temporary Crisis Framework to enable member states to grant aid to companies affected by the crisis: https://ec.europa.eu/commission/presscorner/detail/en/statement_22_1949

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of the Member countries of the OECD.

This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

The use of this work, whether digital or print, is governed by the Terms and Conditions to be found at <http://www.oecd.org/termsandconditions>.