

The European Economic Transition before, during, and after the Pandemic through the War in Ukraine

Paolo Maranzano & Roberto Romano

To cite this article: Paolo Maranzano & Roberto Romano (2023): The European Economic Transition before, during, and after the Pandemic through the War in Ukraine, Forum for Social Economics, DOI: [10.1080/07360932.2023.2252611](https://doi.org/10.1080/07360932.2023.2252611)

To link to this article: <https://doi.org/10.1080/07360932.2023.2252611>



Published online: 28 Aug 2023.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)

RESEARCH ARTICLE



The European Economic Transition before, during, and after the Pandemic through the War in Ukraine

Paolo Maranzano^a  and Roberto Romano^b

^aDepartment of Economics, Management and Statistics (DEMS), University of Milano-Bicocca, Milano, Italy & Fondazione Eni Enrico Mattei (FEEM), Milano, Italy; ^bAssociazione Economia e Sostenibilità (Està), Milano, Italy

ABSTRACT

In this paper, we employ a qualitative and quantitative analysis of European Union (EU) economic policies that were implemented to navigate the shocks generated by the 2020 COVID-19 pandemic and the 2021–2022 inflationary crisis. We conduct a country-by-country analysis of Italy, France, Germany, Spain, and the Eurozone to investigate the macroeconomic and structural effects of the pandemic and inflation. Comparing the financial and economic crises of the 2007–2009 period and the two crises of 2020–2022, we demonstrate that EU institutions have altered approaches toward managing socioeconomic shocks and crises. Specifically, we observe rapid and collaborative fiscal policy responses that kept investment and labor markets resilient. In particular, sustaining investment investments through public spending has made it possible to contain the losses generated by the pandemic. Moreover, we show that the inflationary crisis began well before the Russia-Ukraine war and that its origins are related to the techno-economic transition induced by the commodities race and the excessively long international value chains. However, the absence of a common European public economic policy based on a common public budget may exacerbate the structural challenges that the EU must address; in particular, the green and digital transition and global geopolitical rearrangements. The sustainability of the EU is linked to the choice of whether to become a lead global player with a cohesive economic and fiscal structure or to privilege internal individualism and become increasingly less incisive.

KEYWORDS: Inflation 2021–2022, Ukraine war, COVID-19 pandemic, macroeconomic effects, European Union

1. Introduction

1.1. The Challenges of the Next Decade

The COVID-19 pandemic and the Russia–Ukraine conflict have clearly demonstrated that the European Union (EU) is experiencing a long-standing planning crisis; however, the other major players in the new economic geography (i.e. China, the United States (US), and emerging economies) seem geared up to solve the structural and financial problems exacerbated by the pandemic and the war.

CONTACT Paolo Maranzano  paolo.maranzano@unimib.it

© 2023 The Association for Social Economics

Referencing Acocella (2023), there are four emerging issues that governments, particularly those in the West, are being called upon to solve: (1) economic crises with high intensity at an ever-closer distance; (2) growing economic–social inequalities (even in developed countries); (3) the crisis of uncontrolled globalization; and (4) economic stagnation gripping Western economies. These are endemic phenomena that have become more pronounced in recent decades.

To the above macro themes, we add four other issues that are rewriting the order of economic, financial, and social powers on a global scale. The first is how to move away from the ultra-expansive fiscal and monetary policies adopted around the world in the face of the supply and demand shocks generated by the pandemic; the second is how to regulate the considerable liquidity generated by the pandemic, the third is how to restructure global production chains and international trade to control the dangers of supply-side-generated inflation, which correlates with the demand-side push from the first and second points; and the fourth is related to the techno–economic paradigm shift that is the foundation of the green transition and digitization (Kleimann et al., 2023). None of these issues can be addressed by individual geographic areas.

The rearrangement of international economic geography and economic governance will reshape the global economy (Petricevic & Teece, 2019; Zhan, 2021), overcoming the ‘geographical indifference’ linked to globalization¹ (Das & Bridi, 2016). Promoting a multipolar set-up could be better governed if the countries involved had symmetrical technological, economic, financial and demographic ‘power.’ However, the asymmetries of structure between the regions involved (in particular, those of the US and Europe), tend to exacerbate reciprocal interests, with an overarching definition of a common and multipolar horizon that requires coordination equal, or not inferior, to that of Bretton Woods, although starting from different perspectives. Although a new international institutional framework is urgently needed, nations adopt economic and industrial policies that are directly proportional to their economic strength and/or ambition without any international coordination. The US implements expansive fiscal policies associated with conflicting trade policies with the rest of the world and a reshoring industrial policy (Artecona & Velloso, 2022; Sahm, 2021). China consolidates international relations with an open and dialogical approach and strengthens its domestic demand (Tian, 2021). In contrast, in the absence of economic policies equal to the rewriting of the new international economic geography, Europe seems to have become the sacrificial lamb in the greatest international game.

1.2. Study Contributions and Rationale

The history of economic thought contains numerous interpretive frameworks for the socioeconomic phenomena that emerge. Each of these frameworks is a ‘child’

¹By the term “geographical indifference” we aim to represent a notion describing the interconnection of economies and production that has occurred during globalization. With advances in technology, communications, and transport, individuals, businesses, and states have become aware of (but also displaced by) products from around the world. In practice, individuals and businesses become indifferent or impartial to the acquisition and/or sale of goods and services in the international economic system. In addition, geographical indifference may contribute to the outsourcing of production activities and jobs to countries with lower labor costs, with possible negative impacts on local labor markets. In general, geographical indifference reflects the decreasing importance of geographical boundaries in shaping the attitudes and practices of people and companies in an increasingly globalized world.

of its own historical era. However, the current international circumstances cannot be accurately and precisely ascribed to one or more of these models. While our paper analyzes well defined economic policy issues, its origins and roots rely on an economic statistics background based on empirical observations of facts and data; thus, we provide interpretations of the observed phenomena relying on available existing frameworks that are meaningful and interpretable for this study's specific context.

Our study starts from a simple consideration: Although there is no common European public economic policy, implying a public budget financed by autonomous tax revenue, the European legal framework conditions the fiscal policies of the member states, in particular of those that have adopted the euro.² Indeed, each member state implements public policies with complete autonomy while respecting a common framework. In addition, the criteria of Maastricht (1992) and the Stability and Growth Pact, concerning net borrowing (3% of gross domestic product (GDP)) and public debt (60% of GDP), could have helped to build a common European economic environment; however, implementation without considering the structural differences among the member states has deepened the structural differences themselves. Most importantly the EU has not allowed the Economic and Monetary Union (EMU) to have a relevant role in the international arena. This circumstance is particularly true for countries that enjoy extensive advantages of scale due to demographic size and economic homogeneity.³ Perhaps some EU countries have become stronger within the EMU, but this strengthening is incongruent with the structural challenges Europe is facing in the new international economic environment.

In this study, we employ a qualitative and quantitative analysis of the EU public economic policies that were implemented to navigate the shocks generated by the 2020 COVID-19 pandemic and the 2021–2022 inflationary crisis. We conduct a country-by-country analysis of Italy, France, Germany, Spain, and the Eurozone, pursuing three objectives:

²The Stability and Growth Pact (SGP) is part of the context of the third stage of the EMU. This pact aims to ensure that EU countries' budgetary discipline continues following the introduction of the common currency. After the 2008 financial crisis, the EU's economic governance rules were strengthened through eight EU regulations and an international treaty, including "the six pack," which introduced a system to monitor economic policies more extensively to detect problems such as housing bubbles or loss of competitiveness at an early stage; "the two pack," a new monitoring cycle for the Eurozone, which requires Eurozone countries, except those implementing macroeconomic adjustment programs, to submit budgetary planning documents to the European Commission each autumn; and the 2012 Treaty on Stability, Coordination and Governance (Fiscal Compact), which introduced stricter fiscal provisions than the SGP.

³We refer to the notion of "demographic dividend" (see Bloom et al., 2003), referring to a period of economic growth that can arise when a country experiences a favorable demographic structure. It arises when the working-age population (typically between 15 and 64 years old) is greater than the dependent population (children and the elderly), leading to higher labor force participation and increased productivity. The demographic dividend may have a significant impact on economic growth for four reasons. (1) A larger working-age population means more people are available to participate in the labor force, which could lead to increased production and economic output; (2) increased investment and savings; (3) a growing labor force, which may lead to increased specialization, innovation, and technological advances, which can improve productivity and generate higher economic output per worker; and (4) a reduction in the dependency ratio. A lower the dependency ratio, referring to the ratio of dependent individuals (children and the aged) to the working-age population, reduces the financial burden on the productive labor force, which can free up resources for investment in education, infrastructure, and other development initiatives.

1. To investigate the macroeconomic and structural effects triggered by the pandemic and the inflation following Russia's invasion of Ukraine in 2022;
2. To investigate heterogeneity among the targeted countries, emphasizing differences in the impact of the crises and the expansive policies adopted in response;
3. To evaluate and discuss EU economic policy responses (fiscal and monetary), and their backward thinking that has been adopted by European institutions to tackle the crises.

Regarding the third point, to understand which economic/monetary policy instruments were adopted in the EU in detail, we propose a comparative analysis between the financial crisis of 2007–2009, which represents the initial part of the Great Recession (Antoniades, 2021) and the two crises of 2020–2022. While the former is clearly endogenous within the economic system, the pandemic–inflationary crisis has both endogenous and exogenous characteristics. Both events critically affected European economies, but institutions reacted in completely different ways; thus, a comparative study of the two events will reveal the paradigm shift, representing the change in perspective in European institutions when confronted with shocks to the socioeconomic system.

We analyze quarterly data concerning national accounts, with a focus on GDP, gross fixed capital formation (GFCF), government expenditure, public subsidies, labor market, and prices. All the indicators are obtained from the Eurostat⁴ database and cover the period between the first quarter of 2007 (Q1₂₀₀₇) and the fourth quarter of 2022 (Q4₂₀₂₂). To reduce the noise in the raw data, while not removing the effect of the three crises under consideration, the above macroeconomic indicators except prices are smoothed using the one-sided Hodrick–Prescott (HP) filter (Hodrick & Prescott, 1997). The HP filter is commonly applied to macroeconomic time series research to separate trend (long-run) and cyclical (short-run) components (Ravn & Uhlig, 2002). The smoothing parameter that was chosen is that suggested by the authors for quarterly data, i.e. $\lambda = 1600$.

In the following sections, we will refer to the financial and economic crisis of 2007–2009 as the *financial crisis*, the 2020 COVID-19 pandemic as the *pandemic crisis*, and the inflation crisis of 2021–2022 as the *inflation crisis*.

The remainder of the paper is structured as follows. In Section 2, we analyze the macroeconomic and social effects of the pandemic and inflation crises within the target European countries. In particular, we focus on the dynamics of the main national accounts comparing the recent crisis with the financial crisis. In Section 3, we discuss some major priorities the EU should consider in light of the emerging challenges of the global landscape. Finally, in Section 4 we recap the main results of the empirical analyses and outline a timeline that summarizes from a geopolitical and economic perspective the events that occurred during the pandemic and the inflationary crisis, summarizing the main features and economic policy implications for the countries of the European Union.

2. An Analysis of European Economic Policies during Pandemic and Inflation Crises

The financial crisis can be easily considered endogenous (Bertocco, 2017; Kumhof et al., 2015; Minsky, 2015; Minsky & Kaufman, 2008; Pistor, 2019). In contrast,

⁴Data were collected from the Eurostat dashboard on July 12, 2023 using the R package *Eurostat* (Lahti et al., 2017).

diagnosing and interpreting the pandemic crisis and its consequences is more complex. Although exogenous and endogenous crises have strict definitions (Danielsson & Shin, 2003),⁵ the pandemic includes elements of both. Globalization and climate change have economic, social, and environmental effects. For example, carbon dioxide (CO₂)-related climate-altering effects on the environment are not exogenous phenomena but are rather endogenous because of the impact that climate change may have on what, how, and for whom to produce. Similarly, stating that the origin of the pandemic is exogenous is also correct, but in its progress, it showed noticeable structural (hence, endogenous) features that should be considered. The economic, structural, and industrial changes experienced during and after the pandemic involve excessively long and overly complex global value chains (Kobrin, 2020). By disrupting global production and supply chains (Giese, 2022), the pandemic revealed the considerable weaknesses of the unsustainable growth of globalization experienced since the 1980s, which has led to its decline (if not its end) and pushed major economic areas toward a deglobalization processes (Antràs, 2020; Livesey, 2018). The primary signs of deglobalization include Western countries' attempts to reshore labor to domestic economies (Drelich-Skulska et al., 2021), relocation of value chain segments to nearshore locations (Zhan, 2021), reorganization of supply chains into regional or local models that are less fragmented and ensure efficiency and security (Shih, 2020). Moreover, the enforced acceleration toward digital and ecological transitions (Mansuy, 2020) raised the need to control resources (particularly strategic minerals) and rare lands to initiate the necessary industrial and economic reconversion of all economic systems⁶ (Giese, 2022). This reconversion includes knowledge and the ability to consolidate and strengthen the technological intensity of investments (Maranzano et al., 2021; Variato et al., 2020). Indeed, the pandemic reminded all international institutions, particularly public institutions, that basic research is crucial and should never be contracted out to the private sector.

The debate also remains open regarding the origins and consequences of the Russia–Ukraine war. A key perspective for understanding what is happening is the evolution of international relations between Ukraine, Russia, and Western countries (Neffke et al., 2022). In particular, trade relations between the Russian Federation and Ukraine collapsed following the 2014 annexation of Crimea, favoring a higher proportion of Ukrainian exports to the EU and initiating a process of integration within European value chains (Hartog et al., 2020). Ukraine's westward reorientation resulted in an influx of large amounts of capital in the form of foreign direct investments by major European manufacturing countries, particularly Germany, and a strong movement of both firms and people toward Western Ukraine. The first move by the US and EU at the start of Russia's invasion was to implement several political and

⁵Crises are said to be endogenous if they are explained by other variables belonging to the same model, while they are exogenous if they are not determined within the model and are predetermined from outside.

⁶For example, recall the Global Gateway project (European Commission, 2021), in which the European Commission established the Global Gateway as is a new European strategy to promote smart, clean, and secure connections in digital, energy, and transport sectors and to strengthen health, education, and research systems around the world. The EU expanded its promise to its partners with major investments in infrastructure development around the world. The document indicates that between 2021 and 2027, "Team Europe," referring to EU institutions and EU member states, will leverage up to €300 billion in investment in digital technologies, climate and energy, transport, health, education, and research.

economic sanctions, including restrictions on trade with the Russian Federation and severe financial and monetary exchange constraints (Guenette et al., 2022). However, the actual success of sanctions in arresting Russian aggression is unclear and bidirectional, as we are reminded by Allen (2022), *‘for sanctions to pack an economic punch, the policies must be costly on both sides and the target country must value the economic partnership. Without an economic relationship, the costs that a sender can impose are limited.’* However, what we can certainly assume is that the most serious risk (in addition to the well-known energy and inflationary pressure) for some European countries (Germany, France, and Italy among the most exposed) is the annihilation of the investments and supply chains that Western firms have made in Ukraine and Russia alike (Kammer et al., 2022).

2.1. Policy Asymmetry and Europe’s Role

The pandemic, the war in Ukraine, inflation, and the financial crisis that started with the default of the Silicon Valley Bank (10 March 2023) in the US have generated considerable economic instability that suggests accommodative public finance, and the support of all central banks worldwide. In addition, these macro events have initiated a new (potential) international geoeconomic structure, in which the US, unlike Europe (Eurozone), is committed to defending and consolidating its international hegemonic role, particularly as the share of dollars held by the world’s central banks has fallen by 12% since the turn of the century (from 71% in 1999 to 59% in 2021), while the euro remains stable at 20% of the reserves (Arslanalp & Simpson-Bel, 2022) and central banks’ demand for gold has increased (World Gold Council, 2023). In the absence of a (new) international economic and financial order, US economic policy is essentially proportional to the economic and financial strength of the countries involved but remains largely concerned with defending their own national and international interests.

Economic contraction during the pandemic between 2019 and 2020 was −7.5% in France, −3.8% in Germany, −9% in Italy, and −11.3% in Spain, with subsequent rapid growth between 2021 and 2022 of +6.4% in 2021 and +2.5% in 2022 in France, +3.2% in 2021 and +1.8% in Germany, +7% in 2021 and +3.7% in 2022 in Italy, and +5.5% in 2021 and +5.5% 2022 in Spain (Eurostat, 2023b), also favored by accommodative monetary and public policies. This contrasts with the rise in commodity prices linked to the war in Ukraine, which allowed solid and fast growth in demand, but has also aggravated the economic structure (supply), which was not capable of adjusting production at the same speed as the new demand. Moreover, inflation (in the months between 2021 and 2022) in US and Europe do not have the same origin. US inflation has a strong demand component, sustained and perhaps governed by the measures implemented by the federal government, whereas Europe is experiencing agflation⁷ (Soliman et al., 2023), which is caused by rising costs of commodities (mining, energy, semi-finished products, and foodstuffs) and the concomitant

⁷Agflation is a term used to describe a circumstance in which an increase in the price of agricultural commodities, such as food and crops, occurs, which leads to higher inflation across the overall economy. A number of factors can be attributed to agflation, such as poor weather conditions, increased demand from the growing global population, changes in government policies or regulations, or breakdowns in supply chains.

restructuring of value chains that have exposed fragility in the face of unforeseen events such as the pandemic and the Russia–Ukrainian conflict, and finally, inflation itself.

The EMU and all institutions that are responsible for the socioeconomic governance of the Eurozone have been struggling to establish an autonomous economic, social, and political role within the euro area and the international arena. Indeed, in the absence of a federal budget financed by member states' own and autonomous revenue, most of the measures adopted were prompted by emergencies,⁸ while the so-called economic recovery plans, in the spirit of the Green New Deal, appear to be insufficient to participate on equal footing with the other international interlocutors. There has been no shortage of European initiatives, such as the European Chips Act (Commission, 2022), which aims to support the microelectronics industry, at value of almost €43 billion, or the Green Deal Industrial Plan (European Commission, 2023a), which, starting from sectoral analyses, allows a significant level of autonomy in the green transition (European Commission, 2023a). However, the economic and political node linked to the new European Stability Pact (European Commission, 2023b, 2023c, 2023d), which will come into force in 2024, implementing the governance of the public policies of the states in the euro area, has improved in terms of the original Stability and Growth Pact, but remains insufficient to resolve the structural issues of the European economy. The reform represents a considerable jump forward for the EU compared with previous indicators of potential GDP and debt reduction. At the heart of the reform is the realization that debt reduction cannot take place at the price of growth and investment is urgently needed to meet the challenges of the future, particularly those of climate change, energy transition, and knowledge. The old Treaty benchmarks of 3% budget deficit and 60% debt-to-GDP ratio remain in place. Although these constraints seem less stringent, the economic and financial effects on public accounts are important. In fact, the Italian Parliamentary Base Board (UPB) estimated that 'The medium-term projections drawn up by the UPB show that, in Italy, in order to comply with the new framework of rules and to allow in the medium term the plausible descent of the debt-to-GDP ratio with a net debt below 3% of GDP, the primary balance should reach by 2027, following a budget adjustment in four years, a surplus between 2.8 and 3.2% of GDP depending on the more or less favorable assumptions of potential output growth' (see Bilancio, 2023, p.7).

2.2. Public Intervention Matters

The EU completely altered its economic strategy during the pandemic in comparison to its response to the 2008 financial crisis. First, the need emerged to preserve member states' economic structure to ensure economic recovery at the end of the pandemic (i.e. lockdowns). Second, the need arose to ensure sufficient income for all economic actors (households and businesses) to survive the crisis without limiting disposable income to ensure sustained demand at the restart. The activation of the

⁸Next Generation EU (€750 billion) project endorsed the idea of a joint, time-limited debt (until 2026). REPowerEU is a plan to save energy, produce clean energy, and diversify Europe's energy supply. Eventually, it only involved the joint purchases of gas, liquefied natural gas, and hydrogen through the EU Energy Platform for all member states that choose to participate, as well as Ukraine, Moldova, Georgia, and the Western Balkans.

general safeguard clause of the Stability and Growth Pact was intended to 'protect European citizens and businesses from the consequences of this crisis, and to support the economy after the pandemic requires the use of broader flexibility within the Stability and Growth Pact' (European Commission, 2020). However, the Russia–Ukraine war has exacerbated the intrinsic weaknesses of the EU's mature economic systems. Public demand and economic and industrial recovery stimulated the growth of commodity prices, resulting in supply-side inflation (agflation) from value chains that are still too long and complex, which could not be reconsidered in only 1.5 years. In addition, sanctions imposed on Russia exasperated the rising prices of commodities from Eastern Europe (oil and gas). Furthermore, the Russia–Ukraine conflict has become the *casus belli* for reshaping the international balance between the major economic players, generating great instability (uncertainty) in the international economy, with respect to the necessary digital–green transition and the new multipolar arrangement that seems to be emerging (Brancaccio et al., 2022).

The need to preserve the economic structure, provide a 'transitional' income during the pandemic, and effectively control price growth were particularly visible elements in the expanded general government spending and subsidies of European states during the pandemic years, which is in stark contrast to the financial crisis of 2008 in which government spending remained essentially unchanged. The aggregate growth of general government spending and subsidies has been providential in ensuring an economic and social foundation, without which it would be impossible to plan for the green transition that the European Commission identifies as the ultimate goal of its economic policy (European Council, 2019).

Figure 1 shows that general government expenditure in all the considered countries and the Eurozone experienced a significant turnaround from the 2008 financial crisis to the pandemic crisis that began in 2020. Although public spending increased during the financial crisis (2008–2010), it was much smaller than that during the pandemic. In fact, the upward slope of the curve of general public spending during the pandemic illustrates the extent to which and how European countries, following guidance from the European Commission, indicated concerns about losing important pieces of their economic structure. In 2009, which was the year of maximum economic impact from the financial crisis, public spending increased by €219 billion in the Eurozone, €53 billion in Germany, €44 billion in France, €34 billion in Spain, and almost €23 billion in Italy. During the pandemic crisis, general public spending increased by more than double to €499 billion in the Eurozone, €153 billion for Germany, €71 billion for France, €54 billion for Spain, and €72 billion for Italy. In addition, as soon as the financial crisis was over, European countries began to contain public spending, which held steady until 2019 (Padoan, 2019).

Public subsidies have a key role in keeping the economic structure intact, particularly resources provided by state collateral for private investment. Figure 2 shows that during the financial crisis, the subsidies of Italy, Germany, Spain, and the Eurozone had no major change and remained stable until 2019, while public subsidies rapidly increased as the pandemic crisis began. Notably, France initiated a program of gradual increase in public subsidies that began in 2013. In the following sections, we will show that investment, expenditure growth, and public subsidies enabled the resilience of the respective economic systems during and after the pandemic, in contrast to the financial crisis. During the financial crisis, public intervention was restrictive, and the austerity policies that were adopted contributed reduced

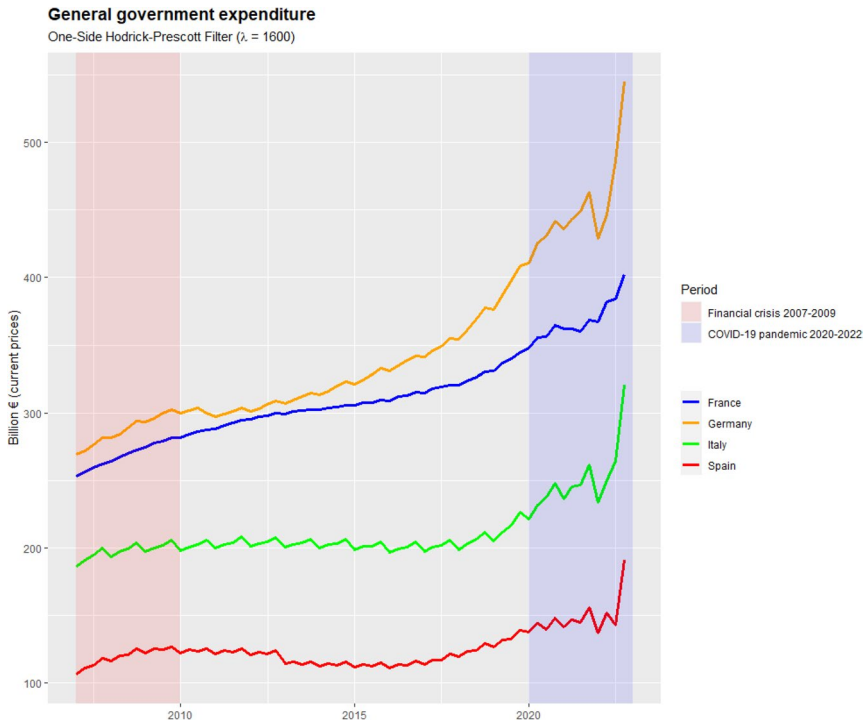


Figure 1. General government total expenditure in Italy, France, Spain and Germany (Hodrick-Prescott filter with smoothing parameter $\lambda = 1600$ of quarterly data from Q1-2007 to Q4-2022).

investments (net of Germany) in many European countries, including Italy and Spain, which strongly weakened nations' economic and industrial frameworks. In addition, contractions in aggregate demand and public expenditure have constrained European economic and industrial systems from reviewing investment policies, meaning that restrictive public policies have been pro-cyclical, amplifying insecurity and reducing the internal demand underlying companies' investments and overall economic systems.

2.3. Did the Financial Crisis and COVID-19 Pandemic Have the Same Depth?

The depth of the financial crisis and pandemic, referring to duration and severity, is relevant to understanding the EU's reaction. One of the main differences between the two crises is the time that elapsed before recovering pre-crisis GDP positions. We consider the highest GDP just before the start of the two crises and use it as a benchmark to determine the time that elapsed before recovering the same monetary value. During the financial crisis it took at least 24 months to recover the positions of the last quarter of 2008 (the first quarter of the recession), the pandemic crisis took 21 months to recover the same level of GDP as the last quarter of 2019 (the last positive quarter). Considering this evidence, the effects and depth of the first crisis are proportional to the financial exposure of individual states. We next compute the difference from the corresponding quarter of the previous year for

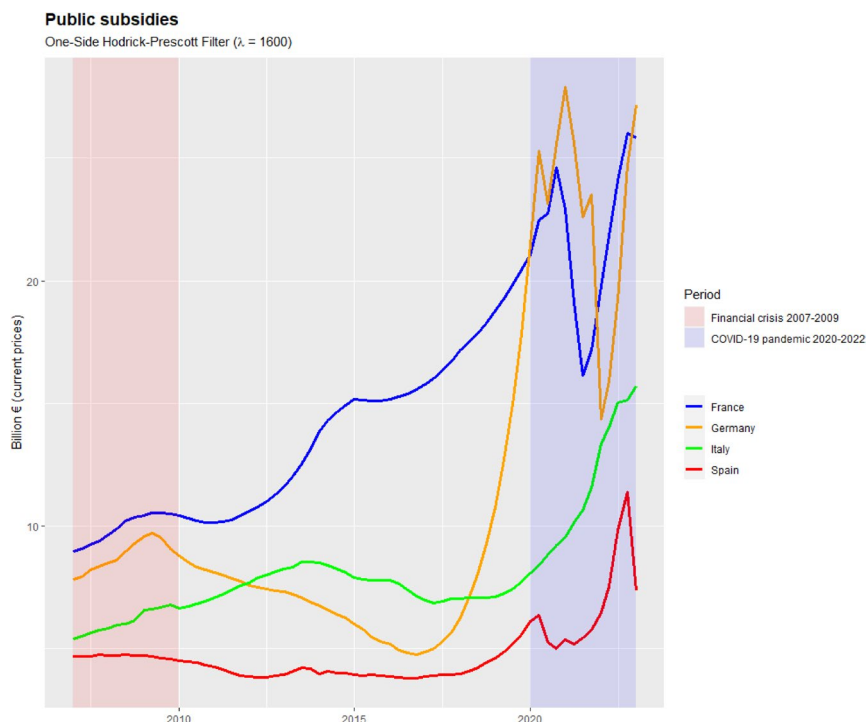


Figure 2. Public subsidies in Italy, France, Spain and Germany (Hodrick-Prescott filter with smoothing parameter $\lambda = 1600$ of quarterly data from Q1-2007 to Q4-2022).

each quarter (i.e. the variations of the quarters); for example, calculating $Q1_{2009} - Q1_{2008}$ or $Q3_{2009} - Q3_{2008}$. These variations are computed using the observed (actual) values and not on filtered values. In Figure 3, we present the quarterly variations (in billions €) for Italy, Spain, France, Germany, and the Eurozone.

The findings are straightforward. (1) Overall, the losses suffered by the Eurozone are primarily attributable to the four countries surveyed. In fact, the sum of the quarterly losses of France, Spain, Italy, and Germany, is about 86% of the Eurozone total. (2) The losses suffered during the COVID-19 pandemic were well above those observed during the financial crisis. (3) Notably, the rebound in 2021 and 2022 is far higher than the smooth recovery observed from 2010 onward. The latter can be easily interpreted as the main effect of the expansive government policies adopted across Europe in 2020 and 2021. In summary, the two crises did not have the same depth and the recoveries differed considerably.

We next compute the length of each crisis. The first quarter of each crisis (the beginning) is identified as the earliest quarter showing a negative sign for at least one country. For the financial crisis, this occurred in $Q4_{2008}$, while for the pandemic, it occurred in $Q1_{2020}$. The final quarter of each crisis (the end of the crisis) is the last period showing a negative sign followed by a positive value for all countries. For the financial crisis, the first positive sign is registered on $Q1_{2010}$, indicating five quarters of crisis. For the pandemic, the first positive sign is observed

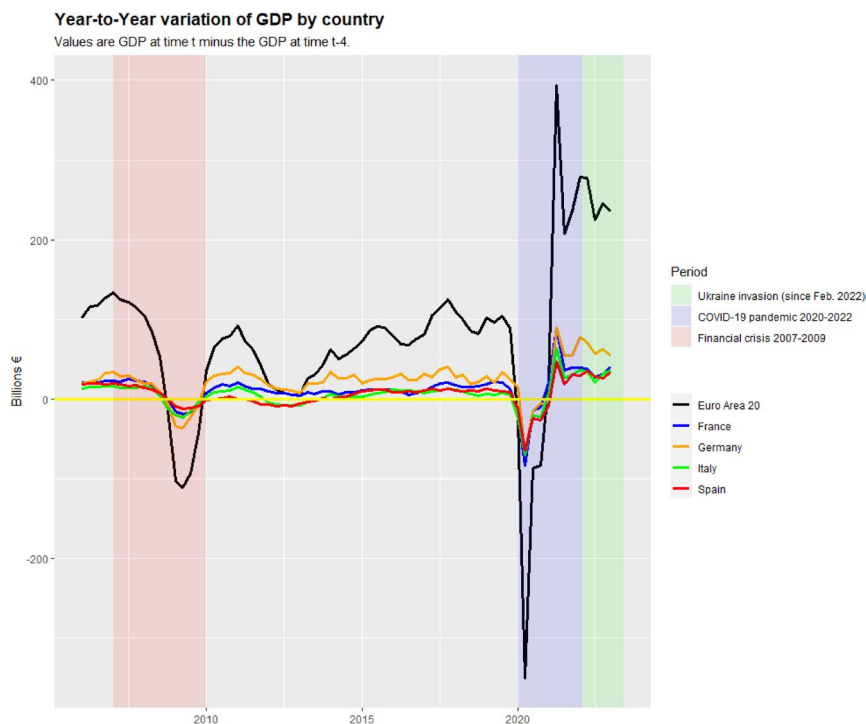


Figure 3. Quarterly Year-to-Year variations of GDP from January 2007 to June 2023 for France, Italy, Spain, Germany and Eurozone.

Table 1. Cumulated variations (losses) of GDP (billion €current prices) during financial crisis (left panel) and pandemic crisis (right panel).

GDP losses suffered during financial crisis (Q4 ₂₀₀₈ to Q4 ₂₀₀₉)		GDP losses during COVID-19 pandemic (Q1 ₂₀₂₀ to Q1 ₂₀₂₁)	
Euro zone	−363.001	Euro zone	−525.233
Germany	−106.004	Germany	−78.932
Spain	−39.852	Spain	−135.662
France	−55.424	France	−105.227
Italy	−72.865	Italy	−130.613

in Q2₂₀₂₁ also indicating a five-quarter crisis. However, despite the two crises having the same length, their intensity was extremely different. For each country, the losses shown in Table 1 represent the cumulative sum of the year-to-year variations associated with the periods with a negative sign of GDP. Therefore, for the financial crisis we sum the differences in the four quarters of 2009, and for the pandemic, we sum the differences in the four quarters of 2020. The fall in Germany's GDP during the financial crisis was particularly significant (minus 106 billion euros), compared with more subdued dynamics during the pandemic (minus 79 billion euros). Regarding the other economies, the impact of the pandemic on GDP was stronger than the financial crisis. The Eurozone overall lost more than 525 billion euros, of which Italy lost 131 billion euros, France 105 billion, Spain 136 billion, and Germany 79 billion.

Although the fall in GDP associated with the pandemic is impressive compared with the 2008 financial crisis, the fall in GFCF is inversely proportional to the dynamics of GDP. Unlike during the financial crisis, the resilience and subsequent growth of investment in the 2020s is substantially attributable to (1) the financial commitment of states and the EU in navigating the pandemic crisis, which was extremely strong and immediate during the pandemic and neutral during the financial crisis, and (2) the push toward additional investments by individual states and European institutions.

Figure 4 and Table 2⁹ clearly demonstrate that the financial crisis structurally reduced GFCF for a longer period compared to the GDP fall. Indeed, with the sole exception of Germany, the other countries considered (France, Spain, and Italy) struggled to recover initial 2008 positions. Following the financial crisis, Germany recovered its initial positions sooner than others, but without much deviation from the values at the beginning of the crisis. The turnaround occurred in 2015, when major investment growth began in Germany, rising from €134 billion in 2008 (Q4) to €194 billion in 2019 (Q4). France performed better than Italy and Spain, but overall, its recovery did not align with that of Germany. French investment rose from €119 billion in 2008 (Q4) to €151 billion in 2019 (Q4), representing a 26.9% increase, compared with Germany's 42.5%. In contrast, the financial crisis in Italy and Spain resulted in a structural fall in investment, which is partially attributable to the weaknesses of the nation's respective economies and the austerity policies imposed by the European Commission. Investments in Italy and Spain remain below 2008 (Q4) levels. Italy went from €85 billion in 2008 to €82 billion in 2019 (Q4), representing a €3 billion reduction, while Spain sent from €76 billion in 2008 (Q4) to €64 billion in 2019 (Q4), representing a contraction of €12 billion.¹⁰

Unlike the 2008 financial crisis and the 2011 sovereign debt crisis, with the pandemic, states became protagonists in their own economic systems. Indeed, the rise of investments (see the largely positive values from the end of 2020 in Figure 4) is the result of the expansive public policies adopted between 2020 and 2022. The State played the macroeconomic role of a guarantor of private investment, reducing the intrinsic uncertainty of the capitalist economic system. This stabilized and decreased uncertainty on the economic horizon, allowing entrepreneurs to sustain the level of investment. In this sense, Figure 4 and Table 2 demonstrate the capacity of public intervention in mitigating the uncertainty of economic agents (primarily firms), outlining a horizon that was still grounded in the economic and social capacities of the respective countries, which is discernible in the increasing dynamics of investment from Q3 of 2020 to Q3 of 2022 in particular. However, in terms of structural dynamics, the effect is heterogeneous among the considered countries. For Italy, for instance, after two decades of stagnation and slowdown, investments have been growing at a higher rate than other countries (observing Figure A2 in the Appendix, one should notice that the green curve, i.e. Italy, starts growing faster since 2020). For Germany and France, on the other hand, capital investment slightly

⁹The values in Table 2 are calculated using the same procedure depicted for computing the GDP losses reported in Table 1. In the case of investments losses during the financial crisis, we considered the five quarter between Q1₂₀₀₉ and Q1₂₀₁₀, whereas we summed the five quarters between Q1₂₀₂₀ and Q1₂₀₂₁ for the COVID-19 pandemic.

¹⁰Minus 3 billion euros for Italy and minus 12 billion euros for Spain seem like moderate values, but these figures are enormous considering that more than 14 years have passed.

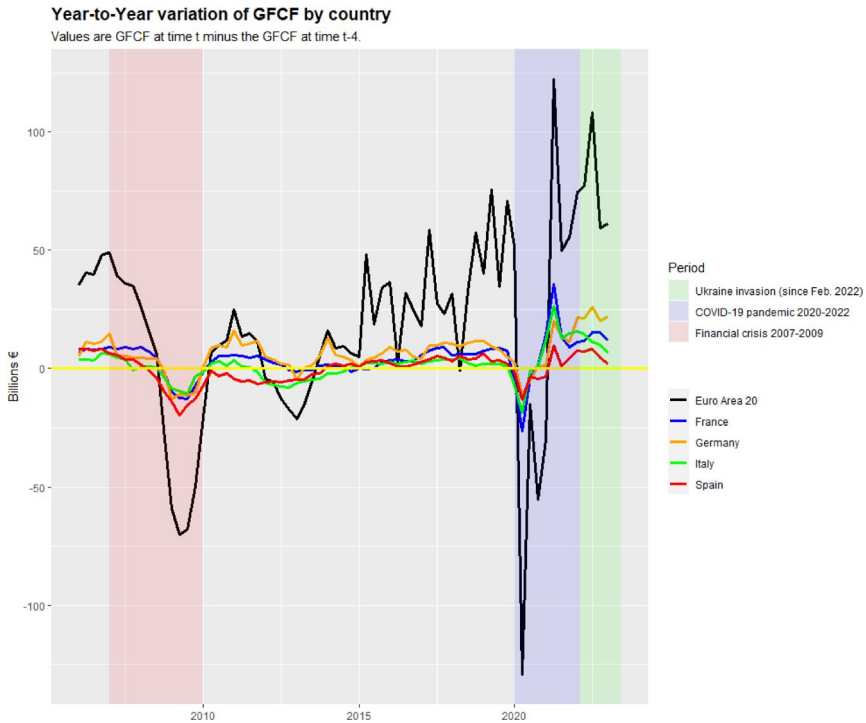


Figure 4. Quarterly Year-to-Year variations of GFCF from January 2007 to June 2023 for France, Italy, Spain, Germany and Eurozone.

Table 2. Cumulated variation (losses) in Gross Fixed Capital Formation Investments (billion €current prices) during the financial crisis (left panel) and pandemic crisis (right panel).

Losses in Gross Fixed Capital Formation suffered during the financial crisis (Q1 ₂₀₀₉ to Q1 ₂₀₁₀)		Losses in Gross Fixed Capital Formation suffered during the COVID-19 pandemic (Q1 ₂₀₂₀ to Q1 ₂₀₂₁)	
Eurozone	-272.184	Eurozone	-178.18
Germany	-45.874	Germany	-10.803
Spain	-71.111	Spain	-25.603
France	-43.359	France	-20.457
Italy	-34.796	Italy	-13.439

dropped during the pandemic, and immediately resumed the historical trend as early as 2021. Returning to the Italian case, it is necessary to ask whether these additional investments (compared to the 2000–2019 average) are supplementary to past underinvestment or whether they are the beginning of a period of technological repositioning of the national industry tissue due to the socio-economic perspectives outlined by the EU. However, due to the current lack of information and data on this issue, this question can only be investigated in the near future.

The labor market (Figure 5) is susceptible to public policies and the evolution of the welfare state. Labor seems to exhibit the smallest changes among other macro-economic indicators; however, the contractual profiles of employment (self-employment, salaried employment, and temporary workers) react heterogeneously to changes in labor demand. In particular, a growth in temporary workers,

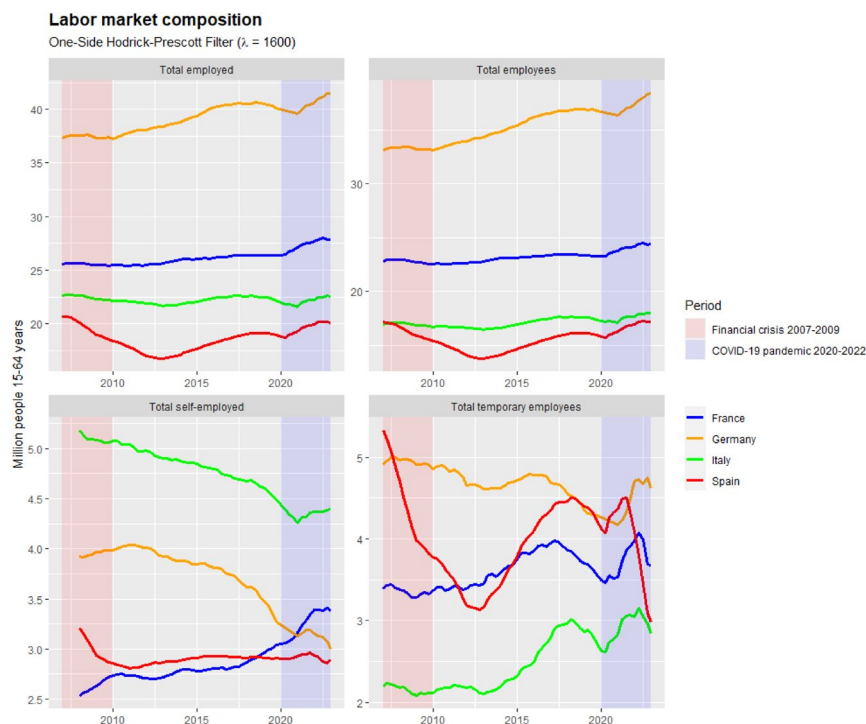


Figure 5. Labor market in Italy, France, Spain and Germany (Hodrick-Prescott filter with smoothing parameter $\lambda = 1600$ of quarterly data from Q1-2007 to Q4-2022). Total employed people (top-left), total employees (top-right), total self-employed (bottom-left), and total temporary employees (bottom-right).

a medium reaction for self-employed, and a low reaction for salaried and unionized labor are evident.

Public intervention has been fundamental and effective in advancing the economic resilience of all countries; however, some sectors and workers have been excluded from the historical pattern of the welfare state and industrial relations for too long. This is particularly evident when considering the structural discrimination between unionized and precarious labor highlighted during the pandemic period. Permanent workers have been able to access the traditional social safety nets, guaranteeing firms and labor (unions) a solid economic recovery. In contrast, the nature of flexible contracts (fixed-term, temporary, and self-employed) have accommodated the current trajectory of the economic system in a just-in-time manner. As depicted in Figure 5, the number of total employed people, during the financial crisis and the pandemic, remains approximately stable in all countries. Conversely, self-employment and temporary work exhibit marked changes that are particularly evident during the pandemic crisis. In particular, the number of temporary workers for Spain collapsed at the end of 2020, reaching historic minimum levels, while temporary jobs registered positive rebounds for the other countries.

Overall, the resilience in the number of employed people during the past two decades represents the robustness of the welfare state in European countries. In contrast, upward or downward variations in temporary employment confirm how sensitive this type of labor contracting is to market fluctuations. Inherent to its flexibility

is the uncertainty and precariousness of such work, which can become insecurity and an inability to ensure the livelihoods of contracted temporary employees.

2.4. *Pandemic, War, and Agflation*

At the beginning of the war in Ukraine (24 February 2022), the main economic indicators (GDP, investment, and consumption) exhibited a sharp slowdown compared with 2021. The fall in income, output, consumption, employment, and investment during the first three quarters of 2020 were the most obvious economic effects of the pandemic and the fragility of international value chains. The war may have generated an additional boost in prices, but was not the cause. Indeed, the growth in commodity prices (gas, oil, and other commodities), which began well before the war, must be added to the previous effects.

Figure 6 shows that the onset of price growth (for all commodity types) coincided with the first two months of 2021, which corresponds with the start of recovery. Increases were primarily in the energy sector (orange curves), while general inflation (red curve) was more moderate. Compared with 2022 levels, the first quarter of 2023 exhibits a strong downward trend in prices, which are again most evident for energy prices. In addition, price growth is relatively homogeneous for EU countries, demonstrating overlapping dynamics and different intensities.

Differences in price dynamics can be explained by several economic and social phenomenon: (1) inflation is significantly lower for industrial goods than for other goods (food and energy). Furthermore, international competition, investments, technological innovation, and low labor costs have contributed to containing the rise in raw material needed for the production of industrial goods; and (2) the price growth of food and energy, which are substantially subject to rigid and incompressible demand, exhibits considerable increases, at 10 and 30 points, respectively. Indeed, households have postponed consumption of industrial goods, while energy and food represent incompressible goods and services. Financial speculation and the possibility of building coalitions in the latter sectors favored price dynamics, trusting in the certainty that demand would never fail, along with conveying unwarranted profit inflation (see Lane, 2023, p. 9).

Price growth has been latent in the global system for several years. In addition to affecting grain (wheat, rice, soybeans, etc.) commodities, as the recurrent food crises in the poorest countries remind us, price growth closely affects raw materials associated with energy, in addition to copper, lithium, cobalt, and nickel, among others. The demand for raw materials, which has been expanding due to the requirements of the energy transition as world production increases, tends to exceed the insufficient supply due to bottlenecks in the global supply chain and sanctions and related restrictions imposed on Russia. This reflects the need to navigate an uncertain economic phase that should be measured by the effects of the techno-economic transition and the EU's economic and political difficulties in the international arena. Trends in commodity and consumer goods prices necessitate greater caution in analyzing this phenomenon. Aside from the problematic statistical assessment of inflation,¹¹ we must also consider how and to what extent rising prices may prompt the

¹¹Inflation is based on the assumption of regularity in the composition of a referenced basket. In reality, this assumption is basically a convention that nothing pertains to the referenced goods. For

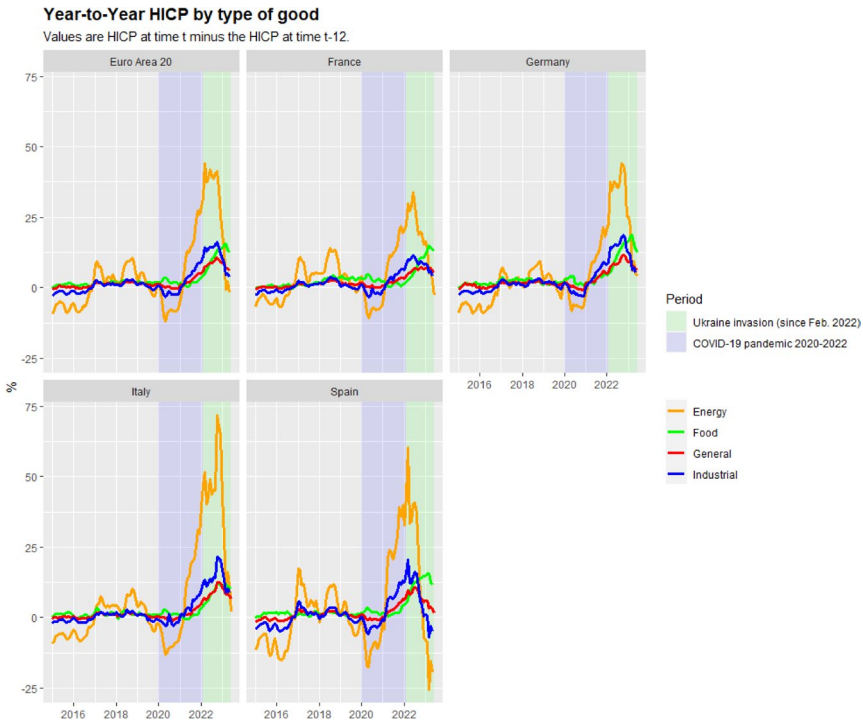


Figure 6. Monthly Year-to-year variations in prices (HICP) for several class of goods (energy, food, industrial and general goods) from 2015 to June 2023 for the countries of interest and for Eurozone.

reallocation of supply and demand. Indeed, (1) firms respond to rising prices by redefining production techniques, production activity levels, and working conditions, wages, and norms-contracts in particular, and (2) consumers adjust demand to changing prices, which prompts new production structures and relative price systems (including wages in real terms) that are compatible with the relative scarcity of primary resources.

Deceleration is a desirable phenomenon concerning prices that could have been guided more deliberately. In other words, inflation could also be leveraged as an economic policy tool if regulated, especially since the ECB estimates for core inflation are 4.4% for 2023 Q1, 2.8% for 2024 Q1, and 2.3% for 2025, while in the long run (five years) it is estimated at 2% (Eurostat, 2023a). Growth rates above 5% are only acceptable if the economic structure and technical endowment of private and public investment are also changed. In the absence of substantial technical and technological improvement in the economic structure, which can increase production capacity and improve production quality, the growth in aggregate demand is reflected in an increase in consumer and producer prices that is consistent with the

example, consider a computer that exhibits stable prices over time but with performance that changes over time, or cars and even energy production that are no longer powered by fossil fuel sources. Moreover, by definition, investments undertaken by firms reduce production costs (i.e. energy, raw materials, and intermediate goods) and enable the production of continuously evolving goods and services.

difference between supply and demand, with relevant socioeconomic effects. Notably, while the industrial world was capable of ‘transferring’ increased prices of intermediate goods and raw materials onto final prices, households were burdened by this increase (particularly in food and energy prices), and wages did not adjust sufficiently to protect purchasing power (Bodnár & Schuler, 2022). Moreover, the combined effect of sanctions and the Russia–Ukraine conflict have generated the risk of potential rec-flation (i.e. recession and inflation together), exacerbating some of the issues already revealed by the pandemic (Yellen, 2022a, 2022b, 2022c).

Although public intervention to control prices, along with implementation of policies to remove bottlenecks in the economic system would be far more helpful, such initiatives are difficult to implement because they require careful analysis of the mechanisms that determine economic sectors in (particular) markets, i.e. targeted and sectoral intervention capacity. Within the EU institutions, although the pandemic has necessitated an unprecedented examination of the European Stability and Growth Pact (European Commission, 2020, 2022b), the political and economic discussions remain rooted in several pillars from which it is not easy to detach. For instance, consider the European Central Bank’s (ECB) decision (16 March 2023) to raise its benchmark interest rates to contain inflation that was not generated by demand but by commodity increases. Perhaps the deficiencies of EU public policies, at least compared with those of China and the US, affect the monetary and anti-inflation policies adopted by the ECB, which, in the absence of adequate industrial policies to counter agflation, repropose a familiar *modus operandi* without considering the possible drawbacks. Not unlike other social and economic phenomena, inflation is manageable, but it presupposes the ability to direct economic transitions, shorten value chains, and to ultimately restructure production toward strategic lines that are consistent with international challenges.

3. Fundamentals for a New Economic Horizon in the EU

Following the pandemic, the rise in inflation, the war in Ukraine, and the challenge of CO₂ reduction and sustainable growth has the EU become aware of its structural challenges in the current geopolitical framework? More precisely, has the Eurozone understood the ‘functional’ role of the public budget and the urgent need to restructure?

Since the 2000s, society has been facing new challenges on a global scale, including close-range economic crises with increasing intensity, deglobalization movements, and persistent stagnation (Goldberg & Reed, 2023). These circumstances have been compounded by issues raised by recent shocks to geopolitical balances, including ultra-expansive fiscal and monetary policies and generating enormous liquidity, the need to revitalize global value chains in a new international economic geography, and green and digital transitions. International economic development is increasingly multipolar and must be guided at regional (referencing homogenous areas such as China, the US, and the EU) and global scales. While the US and China reflect their respective international roles with massive federal domestic investments,¹² the EU has not initiated coordinating public policies to address the

¹²For descriptive purposes, we cite the US Chips & Science Act, with \$280 billion; the Inflation Reduction Act, with \$369 billion; the modernization of transportation infrastructure, including urban

multipolar challenge. The real risk is that the EU will be squeezed between China and the US, which currently dominate the international economic and political arena. However, from our perspective, this domination can include a third entity (the EU) to introduce a cooperative and liberal model that takes rights seriously. The EU is a fundamental example of a multipolar economic system that could otherwise reproduce the same mistakes of the 1970s.

The growth of investments, particularly research and development (R&D) expenditure, is essential to competing with international players and for establishing the structural conditions to increase employment in sectors with higher technological intensity. Appropriately programmed investments, particularly long-term public investments, can make it possible to stabilize economic activity levels during economic slowdowns, also making it possible to anticipate potential demand linked to consumption trends (Engel's Law). In addition, 'capital expenditure is capable of paying for itself' (i.e. debt linked to investment expenditure will not lead to medium-term adjustment problems in the public budget) (Volume XXVII of Keynes and Moggridge (1980)). In this context, the public budget must be established by considering the overall macroeconomic framework. 'The central idea is that government fiscal policy in spending and taxing, its borrowing and repayment of loans, its issue of new money, shall be undertaken with an eye only to the results of these actions on the economy and not on any established traditional doctrine of what is sound or unsound' (Lerner, 1943).

However, the debate occurring among EU countries and within European institutions does not seem to follow the above, apart from a recent statement of former ECB President Mario Draghi, that '*Europe lacks an equivalent strategy [to the US] to integrate EU-level spending, state aid rules and national fiscal plans,*' advocating the need to revise European Treaties through a '*genuine political process ... approved by the voters*' (Draghi, 2023).

The Next Generation EU (NGEU) approach has been distorted, not in its aims (green, resilience, digitalization, innovation, and social), but in its historical perspective. The discussions regarding European Stability Pact reform, which began in November 2022 (European Commission, 2022a) and continued with the European Commission's legislative proposal in April 2023 (European Commission, 2023d), did not include any reference to the need to overcome certain constraints that the pandemic had made explicit.

The budgetary and economic policy designed by the new European Fiscal Pact is a country-by-country structure, which would not be a problem per se if all countries had the same capacity for planning and financial resources; however, EU economic policy is disempowered and reduced to small, specific interventions. EU economic and fiscal policies are too minimal compared with the enormous challenges they should address.

The regulation texts from April 2023 indicate that the EU budget must not be involved with member states' reforms. The medium-term structural budget plans of individual countries, which usually represent four-year, must indicate the reforms and investments to ensure a downward trajectory of the debt-to-GDP ratio and a

areas, with \$1 trillion; and American Rescue, American Jobs, and American Families Plans, which together are worth no less than \$4.2 trillion. These financial resources are immeasurable compared with NGEU's €750 billion, which is also time-bound.

nominal net debt of less than 3%. Furthermore, fiscal adjustment can be extended up to seven years against a member state's commitment to more ambitious investments and reforms that support potential growth, improve debt sustainability, and address EU policy priorities. Notably, the objective of debt sustainability or debt reduction is pursued through country-specific fiscal adjustment paths, to which differing degrees of risk are attributed according to debt level. Consistent with previous approaches, fiscal adjustment involves the imposition of a limit on primary fiscal growth. The lack of involvement of the EU public budget and the reduction of the debt-to-GDP ratio relegated the EU public budget from what could be a powerful economic policy instrument to a mere accounting document.

Planning a deficit at (or close to) 3% of GDP and improving public debt over four plus three years is possible; however, the primary surplus required to achieve these results are remarkable. For example, Italy should achieve a primary surplus on the order of 3%–4% of its GDP.¹³

The EU's excessive focus on debt and deficits, although including the great novelty of involving social actors (e.g. representatives of workers and entrepreneurs) during the so-called European Semester, suggests an accountability concern that is poorly matched by the weaknesses of the member states. No individual EU country has adequate tools, financial, and technological resources compared with international competitors. If the new Pact remains as outlined in the European Commission's draft regulation, all that is left for the states is to prepare structural reforms that alter the rules of engagement between the factors of production.

Eventually, the ECB's role must be reconsidered. The quantitative theory of money continues to dominate money governance, particularly in the EU. Beyond the harsh confrontation with reality, the ECB's strategy of raising interest rates has significant risks, which can be summarized as a sort of risk trilemma. On one side of the triangle is price stability, on the other side is the ECB's independence, and financial stability based on economic and financial conditions in different EU countries is the third side. Although central banks have not always been independent, the independence of the Central Bank is considered to be crucial for counteracting price growth, particularly since policymakers struggle to govern economic phenomena. However, in the European Treaty (Maastricht), the independence of the ECB is based on the impossibility of governments and other EU institutions exerting any influence on the decision-making bodies of the ECB. Furthermore, the objective of price stability (i.e. safeguarding the value of the euro) is nothing but a target, and the 2% objective should represent a moderate level of inflation for the economy and citizens. Furthermore, EU inflation is attributable to the rise in commodity prices (agflation) and intermediate goods prices (Bodnár & Schuler, 2022), which, combined with value chain restructuring, weakens the effectiveness of monetary policy. Indeed, suppose inflation was not generated by demand. In such circumstances, an increase in interest rates will diminish investments, which are essential for addressing the new techno-economic paradigm, hinder economic growth, and influence public spending, which can manage the economic transition better than other approaches. Perhaps the EU should deeply reconsider all treaties, including

¹³Those who criticize this apparent rigidity should recall that the old Stability Pact provided for a structural balanced budget, which was to be estimated using econometric models, among other things, which were disproved every two to three months.

that regarding the ECB. Independence could be redefined as autonomy, defining a role for the ECB that can autonomously contribute to the governance of the economic system.

4. Discussion and Concluding Remarks

The dynamics of the COVID-19 pandemic economic crisis, substantial immobilization of international trade to avoid disease spread, consequent international economic slowdown and increased government spending by all states to address the social effects of plummeting GDP, strong GDP growth as soon as the strength of the pandemic diminished, and the Russia–Ukraine war have challenged economic policies, reinforced the idea (or need) to revise the rules of international economics. The following timeline summarizes the sequence of events:

1. Crisis: The GDP declined dramatically during the 2020–2021 pandemic, and international trade, which can be interpreted as a flow, was almost completely interrupted.
2. Public response: Governments endeavor to maintain demand and support income generation, which was diminished due to the pandemic, by adopting expansionary fiscal policies.
3. Recovery: As the pandemic waned, thanks to public interventions, the GDP experienced a technical rebound, which was unpredictable in its intensity and well above expectations.
4. Lack of balance between supply and demand: At this time, supply is inadequate to meet the growth in consumer and private sector demand (particularly in relation to commodities, intermediate goods, and capital goods), establishing a classic circumstance of excess demand. This excess has been further compounded by the fact that while international trade has restarted, it has grown less than the demand (Recall that international trade is a flow that has been interrupted and needs time to restart).
5. Inflation: The consequent price increases, which are driven by demand and speculation justified by the long time required for international trade to recover, are considerable, generating double-digit inflation in Western countries.
6. New economic geography: Contemporary discussions have opened at the global level about shortening the (excessively long) value chains due to the need to ensure matched supply and demand (at least for enterprises). These discussions suggest the need for reorganization of the spheres of influence of the integrated and homogeneous economic structure (first and foremost China and the US), both economically (e.g. who should be the energy supplier for Europe?) and geopolitically.
7. Russia–Ukraine war: The outbreak of war in Ukraine has accelerated the process of reorganization of international economic areas.

This new economic environment is expected to outline a change in structure regarding the environment, digitization, technology, and international trade (Kleimann et al., 2023). The primary challenges include:

1. Green transition policies that focus on reducing CO₂ emissions and promoting renewable energy sources affect global energy dynamics. Countries that are leaders in green technologies and renewable energy sources can gain geopolitical leverage as they become energy exporters that can shape international climate agreements, which can influence alliances and partnerships among nations and impact global energy markets.
2. The digital transition, which involves advancements in technology and digitalization, significantly impacts economic competitiveness. Countries investing in digital infrastructure, R&D, and fostering innovative tech industries can gain advantages in the global economy, establishing a new dimension of geopolitical rivalry based on technological leadership and cyber capabilities.
3. Both green and digital transitions require access to critical resources, particularly rare earth minerals that are vital for renewable energy technologies and digital devices. Securing access to these resources is a geopolitical concern that leads to competition and necessitates strategic partnerships among countries with resource-rich reserves and those with high technological demands.
4. Both green and digital transitions emphasize the need for resilient and diversified supply chains. Geopolitical tensions and disruptions can significantly impact supply chains, prompting countries to reassess dependencies and cooperation with other nations, particularly in essential sectors like clean energy and technology.

In summary, green and digital transition policies are transforming economies and societies as well as reshaping global geopolitical arrangements. The integration of these two areas influences power dynamics between nations, shapes alliances, and impacts international cooperation in addressing pressing global challenges. Understanding and navigating these interconnected relationships is crucial for policymakers and global leaders as these transitions continue.

What is moving in the EU? The qualitative and quantitative analysis of the European economic policies adopted to address the events described in the previous timeline allows us to understand the proactive economic policies implemented by the countries during the 2020 pandemic and the massive inflation of 2021–2022.

The lack of EU public economic policy based on a shared public budget privileges specific territorial interests that can exacerbate the structural challenges confronted that are reshaping the international economic scenario. Current EU economic policies act through providing individual country solutions involving state aid. This strategy has exacerbated heterogeneity in the financial capacities of individual states and widened internal divergences within the Eurozone, also putting the common EU market at risk.

We provided a country-by-country analysis of Italy, France, Germany, Spain, and the 20-country Eurozone to investigate the effects of the COVID-19 pandemic and inflation on selected macroeconomic indicators. The selected indicators represent the structural characteristics (output, investment, labor market, and prices) of the EU economy. This approach was justified by the coordinated European policies (i.e. suspension of the Stability and Growth Pact, which unleashed previously unavailable financial resources) that were implemented autonomously by

individual countries (fragmentation). This allows us to consider the heterogeneity of the impacts of the crises and the expansionary policies adopted by individual countries.

We demonstrated that EU institutions have altered approaches toward managing socioeconomic shocks and emergencies through a comparative analysis with the financial and economic crises of 2007–2009 and two crises between 2020 and 2022. In particular, increased speed and cohesion in the response through common fiscal policies is revealed.

Nevertheless, the issue regarding the EU's future remains. The challenges of the green and digital transition and changing global geopolitical arrangements cannot be addressed by single homogeneous geographic areas, and even less so by single countries.

The effects of the pandemic and the war remind us that global transitions and crises cannot be addressed through monetary policy alone. Furthermore, the ECB cannot ensure financial stability when accommodating an EU fiscal policy and that of member countries that is continuously delayed, and above all, insufficient. Instead, industrial policies to eliminate bottlenecks and increase supply to meet demand must be integrated.

The EU must now choose how it will face the future, determining whether to be a lead actor with a coherent economic and fiscal structure or to privilege internal individualism and become increasingly less incisive. It is urgent to implement long-term development plans capable of triggering a counter-shock of aggregate supply, without which future inflation will be impossible to control, and could become severe enough to impede the green and digital transition (Buti, 2022). In this regard, a centralized EU budget that provides European public goods (at least so-called merit goods) and the transport infrastructure necessary for the green transition would be particularly useful. In addition, the EU needs suitable fiscal rules for a budget that is financed through autonomous revenue (e.g. EU taxes) and free from individual state transfers. However, such initiatives are only plausible if the debt of EU states was partially shared (Amato & Saraceno, 2022). Hopefully, the EU project does not end with the new Stability Pact. Major international challenges cannot be solved by balancing public budgets but are dependent on great ideas and the advocacy of great leaders.

ORCID

Paolo Maranzano  <http://orcid.org/0000-0002-9228-2759>

Data Availability and Code

Data and codes used in this paper are freely available at the following GitHub webpage: https://github.com/PaoloMaranzano/PM_RR_LSE2023.

References

- Acocella, N. (2023). *Le terribili quattro – La politica economica alla prova di crisi, stagnazione, povertà, globalizzazione*. <https://luissuniversitypress.it/publicazioni/le-terribili-quattro/>.
- Allen, S. H. (2022). The uncertain impact of sanctions on Russia. *Nature Human Behaviour*, 6(6), 761–762. <https://doi.org/10.1038/s41562-022-01378-8>

- Amato, M., & Saraceno, F. (2022). *Squaring the circle: How to guarantee fiscal space and debt sustainability with a European Debt Agency*. BAFFI CAREFIN Centre Research Paper. (2022-172).
- Antoniades, A. (2021). Commercial bank failures during the Great Recession: The real (estate) story. Available at SSRN 2325261.
- Artràs, P. (2020). *De-globalisation? Global value chains in the post-COVID-19 age*. NBER.
- Arslanalp, S. E. B., Simpson-Bel, C. (2022). *The Stealth Erosion of Dollar Dominance: Active Diversifiers and the Rise of Nontraditional Reserve Currencies* (IMF Working Papers, Issue. https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwj48Pnzrpf-AhUkSvEDHb7NAXQQFnoECBAQAQ&url=https%3A//www.imf.org/-/media/Files/Publications/WP/2022/English/wpia2022058-print.pdf.ashx&usg=AOvVaw0zDsgXSnaCDX_r7yfsq60h).
- Artecona, R., & Velloso, H. (2022). *Towards a new industrial policy: The United States economic policy agenda post-COVID-19*. Studies and Perspectives Series (Washington, DC), 22, United Nations, ECLAC Office.
- Bertocco, G. (2017). The endogenous nature of the subprime crisis: The Responsibility of Economists for the Great Recession. In *Crisis and the failure of economic theory* (pp. 139–168). Edward Elgar Publishing.
- Bilancio, U. P. D. (2023). *Rapporto sulla politica di bilancio – Giugno 2023*. <https://www.upbilancio.it/rapporto-sulla-politica-di-bilancio-giugno-2023/>.
- Bloom, D., Canning, D., & Sevilla, J. (2003). *The demographic dividend: A new perspective on the economic consequences of population change*. Rand Corporation.
- Bodnár, K., & Schuler, T. (2022). *The surge in euro area food inflation and the impact of the Russia-Ukraine war*. European Central Bank ECB. Retrieved from https://www.ecb.europa.eu/pub/economic-bulletin/focus/2022/html/ecb.ebbox202204_06~4e32074619.en.html.
- Brancaccio, E., Giammetti, R., & Lucarelli, S. (2022). *La guerra capitalista: Competizione, centralizzazione, nuovo conflitto imperialista*. Mimesis.
- Buti, M. M. M. (2022). *Beni pubblici europei per generare fiducia e alleggerire i bilanci. Il Sole 24 ore*. Retrieved July 12, 2022, from <https://www.ilsole24ore.com/art/beni-pubblici-europei-generare-fiducia-e-alleggerire-bilanci-AEFoArnB>.
- Commission, E. (2022). *European Chips Survey Report*. <https://ec.europa.eu/newsroom/dae/redirection/document/89124>.
- Danielsson, J., & Shin, H. S. (2003). Endogenous risk. *Modern Risk Management*, 297–316.
- Das, R. J., & Bridi, R. (2016). Globalization. In *Oxford Bibliographies*. Retrieved August 10, 2023, from <https://www.oxfordbibliographies.com/display/document/obo-9780199874002/obo-9780199874002-0018.xml>.
- Draghi, M. (2023). *Martin Feldstein Lecture 2023*. Retrieved July 11, 2023, from https://www.corriere.it/economia/finanza/23_luglio_12/testo-integrale-discorso-draghi-futuro-dell-unione-europea-45a7113a-209e-11ee-a8dc-d9488408334d.shtml.
- Drelich-Skulska, B., Bobowski, S., & Gola, J. (2021). Global value chains in the era of the COVID-19 pandemic: Symptoms of deglobalization. *European Research Studies Journal*, XXIV(Special Issue 3), 905–913. <https://doi.org/10.35808/ersj/2532>
- European Commission. (2020). *Comunicazione della Commissione al Consiglio sull'attivazione della clausola di salvaguardia generale del patto di stabilità e crescita*. <https://eur-lex.europa.eu/legal-content/IT/TXT/PDF/?uri=CELEX:52020DC0123&from=IT>.
- European Commission. (2021). *The Global Gateway*. https://commission.europa.eu/system/files/2021-12/joint_communication_global_gateway.pdf.
- European Commission. (2022a). *Communication on orientations for a reform of the EU economic governance framework*. https://economy-finance.ec.europa.eu/system/files/2022-11/com_2022_583_1_en.pdf.
- European Commission. (2022b). *Fiscal policy guidance for 2023*. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022DC0085>.
- European Commission. (2023a). *A Green Deal Industrial Plan for the Net-Zero Age*. https://commission.europa.eu/system/files/2023-02/COM_2023_62_2_EN_ACT_A%20Green%20Deal%20Industrial%20Plan%20for%20the%20Net-Zero%20Age.pdf.
- European Commission. (2023b). *Proposal for a COUNCIL DIRECTIVE amending Directive 2011/85/EU on requirements for budgetary frameworks of the Member States*. https://economy-finance.ec.europa.eu/system/files/2023-04/COM_2023_242_1_EN.pdf.
- European Commission. (2023c). *Proposal for a COUNCIL REGULATION amending Regulation (EC) No 1467/97 on speeding up and clarifying the implementation of the excessive deficit procedure*. https://economy-finance.ec.europa.eu/system/files/2023-04/COM_2023_241_1_EN.pdf.

- European Commission. (2023d). *Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the effective coordination of economic policies and multilateral budgetary surveillance and repealing Council Regulation (EC) No 1466/97*. https://economy-finance.ec.europa.eu/system/files/2023-04/COM_2023_240_1_EN.pdf.
- European Council. (2019). *EUCO XT 2027/19 – Conclusions from the European Council (Article 50)*. <https://www.consilium.europa.eu/media/41810/13-euco-art50-conclusions-it.pdf>.
- Eurostat. (2023a). *Core HICP inflation forecasts*. https://www.ecb.europa.eu/stats/ecb_surveys/survey_of_professional_forecasters/html/table_hist_core.it.html.
- Eurostat. (2023b). *Real GDP growth rate – volume (chain-linked series)*. <https://ec.europa.eu/eurostat/databrowser/view/TEC00115/default/table?lang=en>.
- Giese, E. C. (2022). Strategic minerals: Global challenges post-COVID-19. *The Extractive Industries and Society*, 12, 101113. <https://doi.org/10.1016/j.exis.2022.101113>
- Goldberg, P. K., Reed, T. (2023). *Is the global economy deglobalizing? And if so, why? And what is next?* [Working Paper] (Working Paper Series, Issue. <http://www.nber.org/papers/w31115>.
- Guenette, J. D., Kenworthy, P. G., & Wheeler, C. M. (2022). Implications of the War in Ukraine for the Global Economy. *Equitable Growth, Finance, and Institutions (EFI) Policy Note 3*, World Bank.
- Hartog, M., López-Córdova, J. E., & Neffke, F. (2020). *Assessing Ukraine's Role in European Value Chains: A gravity equation-cum-economic complexity analysis approach*. *CID Research Fellow and Graduate Student Working Paper Series*.
- Hodrick, R. J., & Prescott, E. C. (1997). Postwar U.S. Business Cycles: An empirical investigation. *Journal of Money, Credit and Banking*, 29(1), 1–16. <https://doi.org/10.2307/2953682>
- Kammer, A., Azour, J., Selassie, A. A., Goldfajn, I., & Rhee, C. (2022). *How war in Ukraine is reverberating across world's regions*. *IMF, March, 15, 2022*.
- Keynes, J. M., & Moggridge, D. E. (1980). *The collected writings of John Maynard Keynes. Volume XXVII, Activities 1940–1946: Shaping the post-war world*. Macmillan Cambridge University Press for the Royal Economic Society.
- Kleimann, D., Poitiers, N., Sapir, A., Tagliapietra, S., Véron, N., Veugelers, R., Zettelmeyer, J. (2023). *How Europe should answer the US Inflation Reduction Act*. <http://www.jstor.org/stable/resrep48672>.
- Kobrin, S. J. (2020). How globalization became a thing that goes bump in the night. *Journal of International Business Policy*, 3(3), 280–286. <https://doi.org/10.1057/s42214-020-00060-y>
- Kumhof, M., Rancière, R., & Winant, P. (2015). Inequality, leverage, and crises. *American Economic Review*, 105(3), 1217–1245. <https://doi.org/10.1257/aer.20110683>
- Lahti, L., Huovari, J., Kainu, M., & Biecek, P. (2017). Retrieval and analysis of Eurostat Open Data with the eurostat Package. *The R Journal*, 9(1), 385. <https://doi.org/10.32614/RJ-2017-019>
- Lane, P. R. (2023). *Monetary policy and inflation*. European Central Bank. Retrieved from <https://www.ecb.europa.eu/press/key/date/2023/html/ecb.sp23405~3fdbcd33c5.en.pdf?35e34db09c4>.
- Lerner, A. P. (1943). Functional finance and the federal debt. *Social Research: An International Quarterly*, 10(1), 38–51. <http://www.jstor.org/stable/40981939>
- Livesey, F. (2018). Unpacking the possibilities of deglobalisation. *Cambridge Journal of Regions, Economy and Society*, 11(1), 177–187. <https://doi.org/10.1093/cjres/rsx030>
- Mansuy, N. (2020). Stimulating post-COVID-19 green recovery by investing in ecological restoration. *Restoration Ecology*, 28(6), 1343–1347. <https://doi.org/10.1111/rec.13296>
- Maranzano, P., Noera, M., & Romano, R. (2021). The European industrial challenge and the Italian NRRP. *PSL Quarterly Review*, 74(298), 17576. <https://doi.org/10.13133/2037-3643/17576>
- Minsky, H. P. (2015). *Can “it” happen again?: Essays on instability and finance*. Routledge.
- Minsky, H. P., & Kaufman, H. (2008). *Stabilizing an unstable economy* (Vol. 1). McGraw-Hill New York.
- Neffke, F., Hartog, M., & Li, Y. (2022). The Economic Geography of the war in Ukraine – Twelve Facts about the Relation Between the Economies of Ukraine, Russia, and the EU. *The Economic Geography of the war in Ukraine – Twelve Facts about the Relation Between the Economies of Ukraine, Russia, and the EU*. Retrieved March 23, 2022, from <https://vis.csh.ac.at/12-facts-ukraine-rus-eu/#conclusion>.
- Padoan, P. C. (2019). *Il sentiero stretto... e oltre*. Il Mulino. <https://www.mulino.it/isbn/9788815280053>.
- Petricevic, O., & Teece, D. J. (2019). The structural reshaping of globalization: Implications for strategic sectors, profiting from innovation, and the multinational enterprise. *Journal of International Business Studies*, 50(9), 1487–1512. <https://doi.org/10.1057/s41267-019-00269-x>

- Pistor, K. (2019). *The code of capital: How the law creates wealth and inequality*. Princeton University Press. <https://doi.org/10.1515/9780691189437>
- Ravn, M. O., & Uhlig, H. (2002). On adjusting the Hodrick-Prescott Filter for the frequency of observations. *Review of Economics and Statistics*, 84(2), 371–376. <https://doi.org/10.1162/003465302317411604>
- Sahm, C. (2021). COVID-19 is transforming economic policy in the United States. *Inter Economics*, 56(4), 185–190. <https://doi.org/10.1007/s10272-021-0979-4>
- Shih, W. C. (2020). Global supply chains in a post-pandemic world. *Harvard Business Review*, 98(5), 82–89.
- Soliman, A. M., Lau, C. K., Cai, Y., Sarker, P. K., & Dastgir, S. (2023). The asymmetric effects of energy inflation, agri-inflation and CPI on agricultural output: Evidence from the NARDL and SVAR models in the UK. *Energy Economics*, 126, 106920. <https://doi.org/10.1016/j.eneco.2023.106920>
- Tian, W. (2021). How China Managed the COVID-19 Pandemic. *Asian Economic Papers*, 20(1), 75–101. https://doi.org/10.1162/asep_a_00800
- Variato, A. M., Maranzano, P., & Romano, R. (2020). Rotta Next Generation: Tra narrazioni ed evidenza empirica, le sfide del possibile orizzonte della politica economica italiana (Next Generation EU: Challenges for the possible horizon of Italian economic policy between narratives and empirical evidence) [NGEU, economic policy, structural change, sectors]. *Moneta e Credito*, 73(291), 30. https://doi.org/10.13133/2037-3651_73.291_2
- World Gold Council. (2023). *Gold Demand Trends Full Year 2022*. <https://www.gold.org/goldhub/research/gold-demand-trends/gold-demand-trends-full-year-2022>.
- Yellen, J. (2022a). *Le nuove rotte del commercio globale: Meno rischi geopolitici e più scambi con i Paesi amici*. *Il Sole 24 ore*. Retrieved December 23, 2022, from <https://24plus.ilsole24ore.com/art/le-nuove-rotte-commercio-globale-meno-rischi-geopolitici-e-piu-scambi-i-paesi-amici-AESgCIRC>.
- Yellen, J. (2022b). *Resilient Trade*. Retrieved December 12, 2022, from <https://www.project-syndicate.org/magazine/biden-trade-agenda-emphasizes-resilience-by-janet-l-yellen-2022-12>.
- Yellen, J. (2022c). *US Treasury Secretary Janet Yellen on the next steps for Russia sanctions and 'friend-shoring' supply chains*. Retrieved April 13, 2022, from <https://www.atlanticcouncil.org/news/transcripts/transcript-us-treasury-secretary-janet-yellen-on-the-next-steps-for-russia-sanctions-and-friend-shoring-supply-chains/>.
- Zhan, J. X. (2021). GVC transformation and a new investment landscape in the 2020s: Driving forces, directions, and a forward-looking research and policy agenda. *Journal of International Business Policy*, 4(2), 206–220. <https://doi.org/10.1057/s42214-020-00088-0>

Appendix

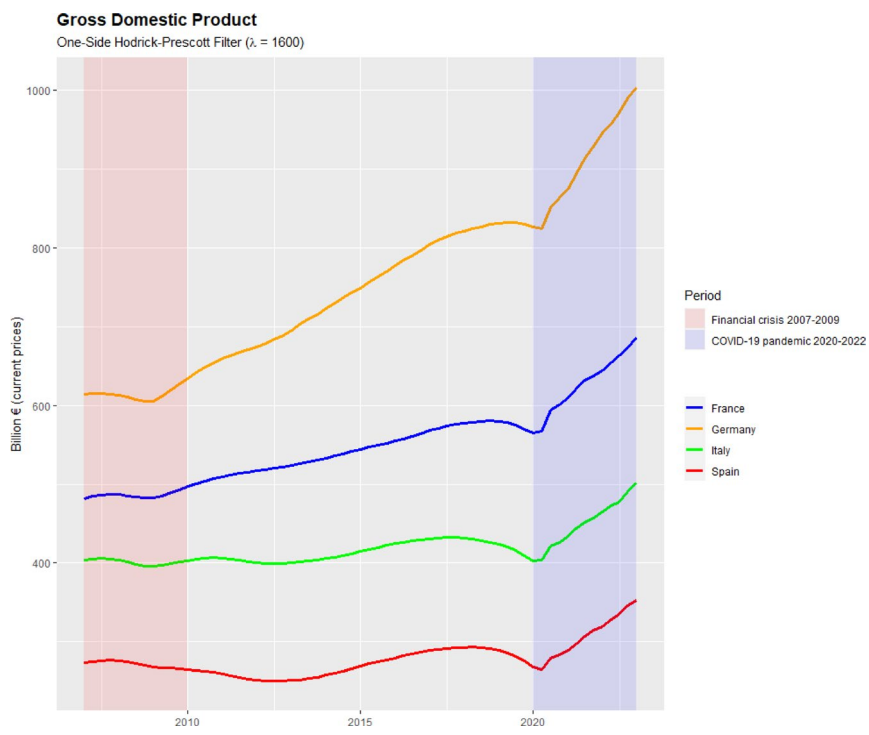


Figure A1. Gross Domestic Product in Italy, France, Spain and Germany (Hodrick-Prescott filter with smoothing parameter $\lambda=1600$ of quarterly data from Q1-2007 to Q4-2022).

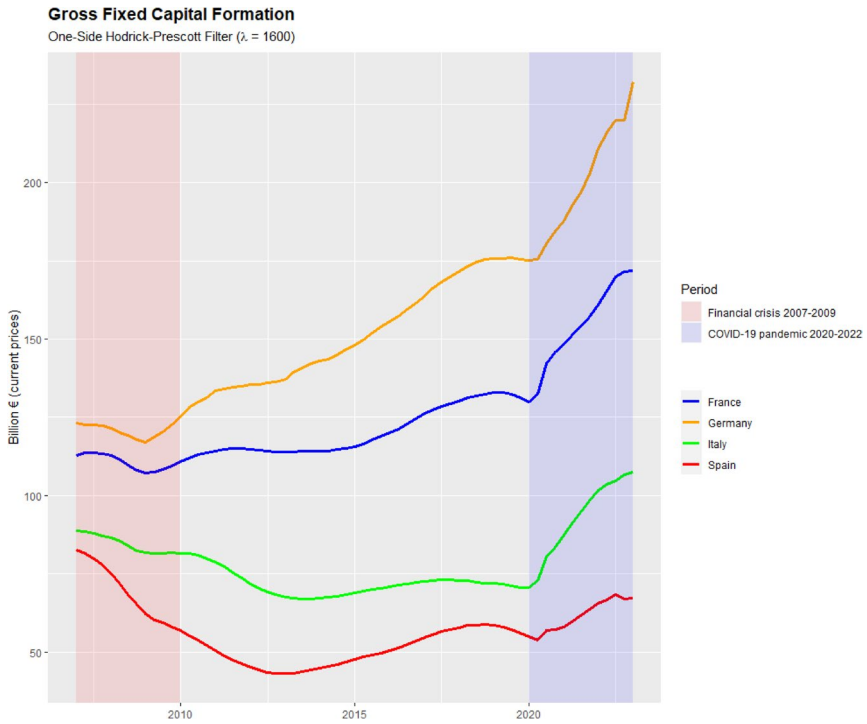


Figure A2. Gross Fixed Capital Formation (Investments) in Italy, France, Spain and Germany (Hodrick-Prescott filter with smoothing parameter $\lambda=1600$ of quarterly data from Q1-2007 to Q4-2022).