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THE SPANISH ECONOMY DURING THE COVID-19 PANDEMIC AND A COMPARATIVE ANALYSIS

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ABSTRACT

The aim of this paper is to look at the evolution of the main macroeconomic indicators during the Covid-19 pandemic in Spain and to compare the main policies implemented in different countries in order to discern whether one set of measures has been more effective than another. We find a catastrophic trend in indicators in the first half of the year due to the restrictive measures, in the second half we find a slight recovery of indicators that draws an "asymmetric V" with expectations of full recovery between a time frame of 2022 and more than 2025 depending on the scenario considered. No significant differences are found between the strategy of implementing restrictive measures and that of opting to rely on individual freedoms. The strategy that has delivered the best results in economic and health terms has been the strategy of anticipating the crisis.

KEYWORD

Macroeconomic indicators, SARS-CoV-2, Economic shock, Mitigation policies

JEL classification

E23, E24, E31, E65, H51, L16

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THE SPANISH ECONOMY DURING THE COVID-19 PANDEMIC AND A COMPARATIVE ANALYSIS

First of all, this paper gives a chronological review of the most important events of the Covid-19 crisis. This will be followed by data from the very first impact of the pandemic on the Spanish macro-indicators, followed by a more in-depth analysis of the effects throughout the pandemic. The main projections of the Bank of Spain and the IMF are mentioned, with short- and long-term views respectively, and then the policies implemented in different countries of the Euro zone are mentioned and compared, as well as their consequences and effectiveness. Finally, the conclusions and main ideas of the paper will be presented.

Chronology of the Pandemic

In order to best analyze the macroeconomic effects of SARS-CoV-2 in Spain and other European countries throughout the pandemic, we need to contextualize the situation and thus understand the origin, development and spread of the virus worldwide.

A pneumonia broke out in Wuhan, home of 11 million people, of which the Chinese authorities notified the World Health Organization (WHO) in December 2019. The suspected original outbreak of the virus was in a market in the city, from which 40 people were initially infected.

In early January they listed the newly discovered virus as "2019-nCoV" and later as "Sars-Cov-2". The new virus caused coughing, fever, respiratory distress and could lead to pneumonia, and the first coronavirus death was a 61-year-old Wuhan resident who frequented the city's market and died of severe pneumonia.

By mid-January 2020, new countries began reporting positive cases within their borders, including Thailand and Japan and concern gradually grew. A wise but mistimed policy was the decision to quarantine Wuhan, later more cities opted to follow the same policy, and by the end of January there were already 36 million people in quarantine and 800 people infected. On 24th January, 3 positive cases were detected in France. The West always maintained a reactive stance on the Covid-19 dilemma, but this event radically changed the paradigm of European healthcare and began to worry Western leaders. To make matters worse, four active cases were reported in Australia on the same day, the virus was no longer encircled in Asia. A few days later, the first infections appeared in Germany, a country that is actively collaborating in the research to obtain the vaccine. The number of deaths exceeded a hundred and the number of infections was running into the thousands, exactly 4,500.

By the end of February 2020, the coronavirus had spread significantly throughout the world and the number of deaths and infections had risen dramatically, to 2,700 and 80,000 people respectively. The virus reached around 40 countries including the Latin American area, where the first cases were beginning to appear. Meanwhile in North America, President Trump was making the same mistake as all the other world leaders: the unfounded self-confidence that the virus is harmless at their borders because their health system is so advanced. What leaders did not know at that time was that no national health system was prepared for the magnitude of this historic event. Corrective measures began to be taken with regard to mass events, the "ITB"¹ fair in Germany and the "Mobile World Congress" in Barcelona were cancelled.

By 1 March, the death toll had risen to 3,000 dead and 88,000 infected in a total of more than 60 different countries. Studies and estimates began to be made on the economic impact of the health (and economic) crisis that had developed. The Organization for Economic Co-operation and Development (OECD) estimated that world economic growth would be +1.5% in the worst-case scenario or +2.4% if the virus was brought under control, but still the lowest annual growth in a decade.

The growth was too high. On 6 March, the 100,000 mark was exceeded with 3,400 deaths in a total of 90 different countries. As a result of the excessive increase in the numbers, with a 13-fold increase in the number of people infected in China and even a three-fold increase in the number of people infected in each country, the WHO decided to publicly declare a global pandemic on 11 March 2020.

Restrictive measures soon followed, with Italy, the most affected country after China, closing classrooms and imposing quarantine on its entire territory (a total of 60 million inhabitants). The United States also cancelled travel by "non-Americans" to the country, and in dissonance with Trump's premature predictions, 36 deaths and 1,200 positives were counted at its borders, declaring a national emergency, as did the rest of the countries. Meanwhile in Spain, the state of emergency was implemented on 14 March, with a death toll of 180 and almost 6,000 infected and limiting free movement to 47 million people. In the days that followed, the affected countries began to reinforce their borders and limit movement within them.

On 21 March, the highest number of deaths in one day was recorded in Italy: 793 people died. The following day, all non-essential economic activity in the country was halted, a

¹ Important meeting of the international tourism sector.

measure that was again copied by other countries in the following days. A few days later, the Tokyo Olympics were officially cancelled.

Preventive measures have not worked and most countries have had to resort to partial (or even total) closure of their economies and borders. Against this backdrop, at the end of March a new phase was set in motion, with nations beginning to mobilize multi-million-euro aid packages to keep the national economic structure alive, as in the case of Germany, which made available a package of 756 thousand million euros, the largest since the Second World War. The United States, in turn, was preparing its own 2-billion-euro package, while Italy, the country most affected to date, had around 82,400 confirmed cases. Spain, on the other hand, surpassed China with 85,000 cases a few days later, doubling the number of deaths in the Asian country.

By the beginning of April, quarantines, lockdowns and restrictions on freedom of movement were introduced in more than 90 countries, confining 3.9 billion people, half the world's population. However, the situation in Asia appeared to be improving, with no deaths reported in China for the first time since the start of the pandemic, and all positive cases were imported². This situation contrasts with the United States, which surpassed Italy in deaths, and became the country with the highest number of Covid deaths with more than 19,000.

Although the health crisis in China was controlled relatively quickly, this was not the case for the economic crisis, because the nation's GDP declined during the January to March quarter of 2020 after decades of continuous and uninterrupted growth. It seems that the economic crisis that will come after the health crisis will also undermine the welfare of humanity, but in this case on an economic dimension. One of the most important economic consequences at the time was that the price of oil fell to historic lows.

The new phase of this historic event will be characterized by the relaxation of restrictions, by the European cohesion of the member countries in economic terms, and by the inter-company race of the pharmaceutical companies to produce an effective vaccine.

From the first half of April onwards, the darkest period of the Covid era came to an end, since, with regard to the health issue, infections stabilized and, leaving aside the individual differences in the situation in each country, most countries began to notice a

² Positive cases from outside the country's borders.

slowdown in the slope of the infection curve. European countries begin to relax their restrictions from May onwards, trade and borders are reopened again.

International cohesion will be represented by the political summit of the European area, which reaches an agreement between all member countries of the European Union on an economic recovery plan for workers, trade, industry and companies of all kinds in order to protect the European economic structure. France and Germany took the lead and proposed a package of half a billion euros in non-refundable subsidies.

The social situation had improved significantly, but although the incidence of those affected had declined, the numbers were still rising, reaching 10 million infected by mid-June.

The coming months were to be characterized by partial tightening of restrictions due to new outbreaks in countries, commonly known as "waves". Countries like Spain and Germany implemented such measures, and there were riots in the cities affected by them as a direct reaction.

In November 2020, the pharmaceutical companies "Pfizer", "Gamaleya", and "Moderna" release their vaccines with 90%, 92% and 94% effectiveness respectively. However, by the end of November and with 60 million infected, it was Pfizer's vaccine that gained the most popularity. Vaccination began in December. At the end of 2020 two new pieces of news shook the world, generating fear in the population again, the media reported the existence of two new variants of the virus, firstly the South African strain, and secondly the British strain, noted for its high contagiousness.

At the turn of the year, the figure of 2 million deaths due to SARS-CoV-2 was exceeded, half a million deaths occurred within the American borders, the nation that has been most affected by the pandemic, followed by Brazil and India, in terms of the number of people affected. As of April 2021, more than 130 million people have been infected and 2.8 million have died.

2021 looks set to be a year of challenges, a year of international cohesion in both economic and health terms. The WHO has estimated that this will not be the year in which the virus can be defeated, and the repercussions are already palpable in our society. Central banks, governments, business community and domestic economies have suffered notorious adaptations and changes in their activity and reality, and it is in this work where we will see all the consequences and changes that Covid-19 has left on the Spanish and international macroeconomic panorama.

Macroeconomic Impact

In the following data presentation, we will first analyze the first economic shock generated by Covid due to its appearance in the Spanish borders and then we will see in a more detailed way the evolution of the Spanish economy throughout the three waves that the country suffered.

The beginning of the first wave occurred in March, when cases increased exponentially, and the end of the wave in June, when a significant decrease in the number of infected cases was observed.

First macroeconomic demand

GDP

Since the economic recovery after the financial crisis of 2008, the Spanish economy has grown at a slow but steady pace, without exceeding 2% quarter-on-quarter growth in terms of GDP, but without showing negative figures in all these years.

Nevertheless, the restrictive measures implemented by the government were responsible for the decline in GDP in the first quarter of 2020, reaching a variation of -5.21 percentage points.

Figure 1: Quarter-on-quarter GDP growth rate



* Quarter-on-quarter variation

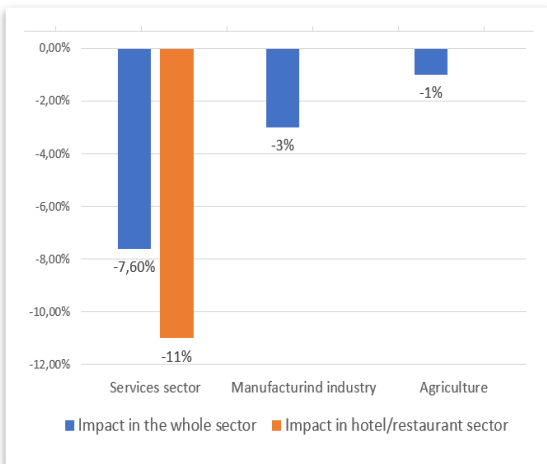
Source: Own elaboration. Data from BdE (2020)

However, this would not be the largest decline in the first wave, as in the second quarter, the rate of change of GDP would fall to 18.48 percentage points, as predicted by studies. This is mostly due to the fact that the quarantine in Spain took place mostly on days in the second quarter, so the decline in GDP is sharper in this time frame. It was the biggest decline in Spanish GDP in history (excluding war events). (Banco de España, 2020)

Sectoral Activity

The pandemic had an unequal impact on the Spanish productive fabric. The magnitude of the impact on the sectors would be due to three reasons: the importance of the physical factor in their activity, dependence on international trade and the confinement measures. With these three variables we can appreciate significant differences between sectors.

Figure 2: Sectoral activity variation in the first wave



* Quarter-on-quarter variation

Source: Own elaboration. Data from BdE (2020)

The service sector was the biggest casualty of the first wave, as leisure establishments were the most affected by the virus. Sectoral activity decreased by -7.6% while some subgroups such as restaurants saw their activity reduced by 11%.

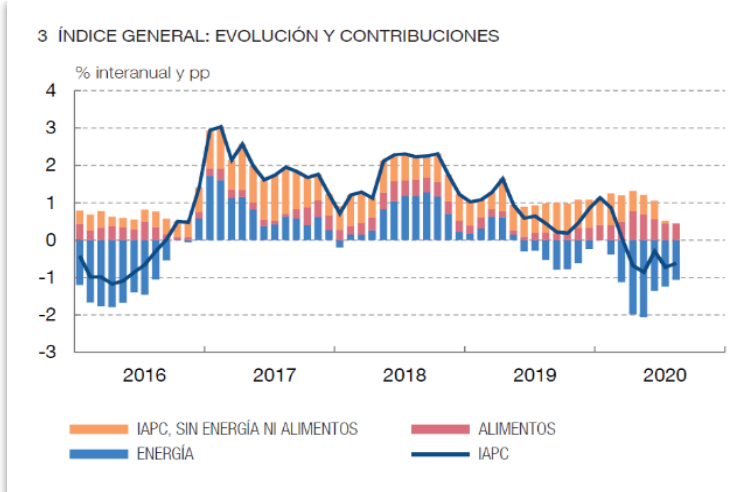
The secondary sector saw almost no decline in activity in the first quarter, the main reason for the 3% decline being that countless parts of its production processes did not arrive due to production stoppages in supplier economies.

Third, agriculture was barely affected by the restrictions issued by the government and workers in the sector were able to work under almost the same conditions as in the pre-pandemic period, with only a 1% decrease in activity. (Banco de España, 2020)

Inflation

Inflation, as measured by the HICP, declined significantly in the first months of 2020. We

Figure 3: Year-on-year change in CPI, energy and food prices



Source: Banco de España (2020) "Informe trimestral de la economía española 3/2020"

will analyze the most noteworthy components of this indicator, starting with energy, which suffered the largest year-on-year decline in its price, standing at -18% at the end of the first wave. Oil prices fell by as much as -66% from February to April, due to mobility restrictions and international trade restrictions. Meanwhile, food commodities increased in price due to increased demand, transport and production costs due to the pandemic.

They reached their peak in April, before stabilizing in June. Inflation, as measured by the HICP, declined significantly in the first months of 2020. (Banco de España, 2020)

Employment

The virulence of the Covid effect on Spanish employment and wages was almost unprecedented in the history of the Spanish economy.

Social security enrolment in the first month of the pandemic fell by 851,000 workers. In the first days of the same month, the growth of affiliates continued its constant rate of growth (65,000 workers in the first fortnight), but by the time the perimeteral closure and quarantine were established, the number of affiliates decreased by almost 900,000 workers, 70% of whom belonged to the temporary work sector.

The figures improved temporarily in April, when the application of ERTES started to take effect. This measure made the market more flexible and helped the productive sector to breathe, but it also had a significant impact on the number of redundancies, which could have been much higher. In numbers, at the end of March the number of workers covered by the ERTES was 3,386,000, workers who were not counted as redundancies in the social security system but who also ceased their work activity. (UGT, 2020)

Trade and balance of payments

The first wave generated a historic decline in international trade, which was reflected in domestic imports and exports. Between April and June, exports fell by 33.5% and imports by 28.8%. The importance of the travel restriction in Spanish tourism stands out, due to its weight in the Spanish economy. The export of services was largely affected by this factor, causing (among others) the net external balance to fall by 2.3% of national GDP.

Figure 4: Annual variation of exports and imports of good



Source: Own elaboration. Data from BdE (2020)

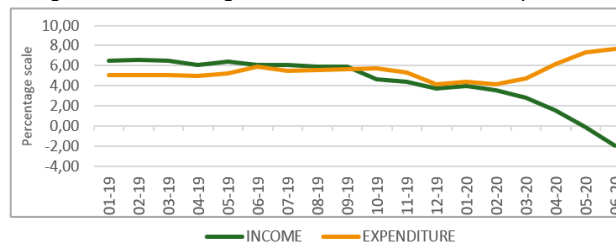
At the end of the second quarter, exports in particular seemed to show a recovery trend, with a year-on-year fall of 9.1%, when previously they had reached levels of 33.5%.³ (Banco de España, 2020)

³ The year-on-year rate of decline of imports was 18.6% in June, when months earlier it had reached 28.8%.

Public accounts

The general government balance has been strongly linked to the health situation at all times. The Council of the European Union allowed countries to conduct the necessary fiscal policies in proportion to the health impact of the pandemic on them. Spain in April delivered its budgets, which estimated a deficit of 10.3% by the end of the year, exceeding the proposed 2019 deficit of 2.8%. At the end of the first wave, the deficit was 7%. (Banco de España, 2021)

Figure 5: General government revenue and expenditure



*Twelve-month cumulative

Source: Own elaboration. Data from BdE (2020)

Overall Macroeconomic Impact

GDP

In the overall analysis of the pandemic, we can infer that there were two practically opposite time intervals, therefore, we will segment the pandemic into two stages, the first and the second half of 2020.

In the first half of the year, the quantitative effects were noticeable in the Spanish economy. In the first quarter there was a remarkable decline in GDP, which was relatively huge considering the preceding quarters, and relatively small considering the second quarter of 2020, where the fall was more dramatic. It can be said that the first quarter would serve as a premonitory precedent for what would happen in the second quarter of 2020 in terms of GDP. In the second quarter the measures were finally implemented and gross domestic product fell by 17.9% compared to the 5.3% decline of the first quarter. The first wave, therefore, left us with a cumulative decline in GDP of 23.2%.

This makes sense given that the restrictive measures to combat the virus were implemented in March. Restrictions on mobility, closures of non-essential businesses, general quarantine, limitation of international trade, and almost total decline in tourism were the most significant and explanatory reasons for the decline in Spanish GDP in the second quarter of the year. (Lockdown Accounting, 2021)

The second distinguishable stage in this pandemic was known as the "second wave", which spanned from June to December, and saw a drastic reversal of the very negative GDP trend of the previous 6 months.

Once the first wave was over, the "economy-public health" dilemma (Lin & Meissner, 2020) was no longer so notable, and the central government was given the go-ahead to relax the harshness of the health restrictions, which caused Spanish GDP to pick up again in month-on-month terms. It increased by 16.4 percentage points, causing the Spanish economy to partially recover and drawing the much mentioned "asymmetric V" that so many economists had previously predicted.

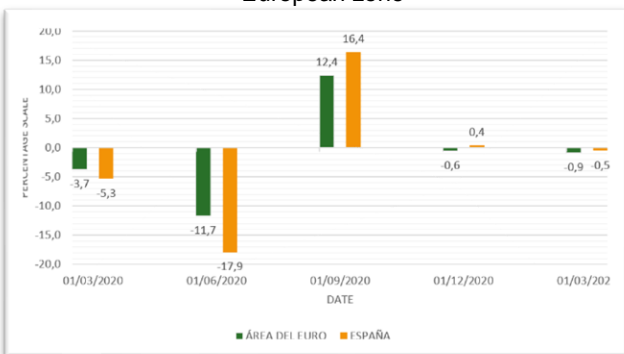
However, in the last quarter of 2020 growth was again severely reduced without becoming negative, the reversal of the situation in productive terms was already reversed in the third quarter, in the fourth quarter there was barely any growth compared to the third quarter. The decline in growth in the final months of the year can be partly explained by the increase in contagions and the consequent implementation of more severe restrictive measures after the summer. Nevertheless, the data recorded ended up being more favorable than the Bank of Spain's predictions.

The last quarter of 2020 and the first quarter of 2021 were very similar in terms of growth, there was a small inter-monthly variation due to occasional resurgences in the number of cases and the imposition of short-lived measures, which limited GDP growth.

In conclusion, the GDP variation was slightly negative in the first months of 2020, where activity had not come to a complete standstill, in the second quarter where it did, it

suffered the most abrupt fall of the pandemic, with its subsequent extremely positive reaction and a noticeable increase in GDP in the summer months, which came together with the resumption of all economic activity in the third quarter. From November 2020 to the present, the change in GDP has been almost negligible, due to the implementation of temporary restrictions because of small upturns in the number of infected people.

Figure 6: Quarterly GDP growth of Spain and the European zone



Source: Own elaboration. Data: BdE, BCE, INE (2021)

If we were to rely on a simple model such as the IS-LM (Hicks, 1937), we would find a significant decrease in the marginal propensity to consume and therefore an increase in the marginal propensity to save which decreased household consumption and therefore aggregate demand. The government's immediate response was to apply an expansionary fiscal policy by increasing public spending.

In this sense, it is worth mentioning that the decrease in consumption was not the justification for the decrease in GDP; what affected the most was the cessation of production, which originated due to an exogenous shock.

Economic recovery is still a long way off. With GDP declining by 11% in 2020, the asymmetric V has not been completed and the OECD estimates that the full recovery of GDP will take place in two years, where pre-pandemic levels of economic activity will be finally recovered.⁴

Sectoral analysis

The health crisis has affected the Spanish economy as a whole in a very unequal and heterogeneous way, so it is more practical to analyze the macroeconomic consequences in a more disaggregated way by looking at the real impact on the productive sectors.

As of March 2021, we can see the variation in the Gross Value Added of each sector with respect to the previous year.

Primary sector

In terms of gross value added, the agri-food sector was the sector that most benefited from the coronavirus crisis.

If we analyze the sector in terms of activity, since March 2020 it declined relatively slightly with the rest of the sectors, reaching its lowest point of activity in May with a -11.7%, with manufacturing reaching a figure of -38.1% only one month earlier. This is because the restrictions imposed by the central government affected this sector less and it was able to continue its activity relatively normally compared to the rest. The level of pre-pandemic activity is expected to recover in 2023.

In month-on-month terms, the gross value added of GDP grew at a constant rate of around 4%, which is curious considering the aforementioned decline in activity. In year-on-year terms the gross value added of agriculture is up to 8.73%. This fact should not surprise us since agriculture in Spain has always behaved counter-cyclically in terms of GVA.

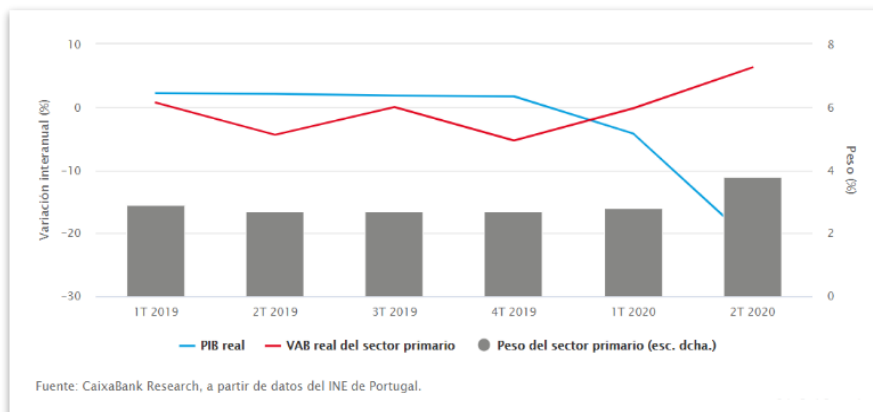
Likewise, the percentage contribution of agriculture has also increased, mainly due to two causes. The first is due to the quarantine period and the limitation of international trade, which caused the demand for national food products to soar, and the second reason is the strong negative impact on the rest of the sectors, which made the primary

⁴ According to BBVAResearch it will increase by 5.5% in 2021 and by 7.0% in 2022.

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If we analyze the sector in terms of activity, since March 2020 it declined relatively slightly with the rest of the sectors, reaching its lowest point of activity in May with a -11.7%, with manufacturing reaching a figure of -38.1% only one month earlier. This is

Figure 7: Spain's real GDP, GVA and contribution to GDP of the primary sector



Source: J. Montoriol (2020) La fortaleza del sector agroalimentario durante la crisis del coronavirus. [Figure] Retrieved from:

<https://www.caixabankresearch.com/es/analisis->

terms, the gross value added of GDP grew at a constant rate of around 4%, which is curious considering the aforementioned decline in activity. In year-on-year terms the gross value added of agriculture is up to 8.73%⁶. This fact should not surprise us since agriculture in Spain has always behaved counter-cyclically in terms of GVA.

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Secondary sector

It was the second sector most affected by the crisis.

In terms of activity, the manufacturing sector declined to a low of -38.1% in April, and closed the year with a 1.4% year-on-year change, although after the third wave in January 2021 it has fallen back to -4.1%.

⁵ According to a Caixabank study on the agri-food sector.

⁶ See figure 12.

because the restrictions imposed by the central government affected this sector less and it was able to continue its activity relatively normally compared to the rest. The level of pre-pandemic activity is expected to recover in 2023⁵.

In month-on-month

If we analyze in a more disaggregated way, the pharmaceutical sector was the only component of the 28 components of the secondary sector that grew (due to the demand for pharmaceutical drugs and medicines), the rest plummeted, with special mention to the textile sector, which reached a figure of -26%.

This significant slump can be explained by the high weight of the automotive sector in the secondary sector and in GDP in general. Spain is a country noted for its strong automotive sector and this crisis has particularly affected this sector at the international level. In addition, the paralysis of international trade has led to cuts in the production chain of Spanish companies that needed supplies and components for the production process, which had to be imported from China or any other foreign country, as Spain is a country that is highly dependent on foreign trade. The construction sector has also been severely affected, reaching figures of -18.18% in the level of activity with respect to the first four months of last year. (Martínez, 2021)

98% of the companies in the sector are SMEs and will have to restructure or change their production model in order to continue their activity in the Spanish productive fabric.

The Bank of Spain estimates a full recovery of the sector in 2023.

Tertiary sector

It is undoubtedly the sector most affected by the crisis, and at the same time, the sector that contributes most to the Spanish GDP. Specialization in the tourism and hospitality sectors of the Spanish economy has been a significant factor explaining why Spain has been one of the countries most affected by the health crisis worldwide.

The service sector contributes more than $\frac{3}{4}$ of the Spanish GDP, and in the worst months of the pandemic its activity decreased by 40%; in restaurant sector in particular, the level of activity was reduced by almost 100%, a figure never seen before in Spanish economic history.

The fact that the inflow of tourists in 2020 was reduced by 75% is one of the main factors for the average decrease in turnover to be 15.6% in 2020, with the worst month being April, with a decrease of 41.5%.

The tertiary sector items that were most affected were those related to tourism, with travel agencies being the hardest hit with a 75% drop in turnover, while in sectors such as hotels it was 68%. From February 2020 to the present day, the monthly turnover has been falling year-on-year. (Banco de España, 2021)

In terms of employment, the situation is not favorable either. From the beginning of the pandemic until the first months of 2021, employment has fallen by an average of 4%, making the economic crisis situation palpable, as these figures have not been seen since the financial crisis of 2008. No sector increased its number of affiliates in the Social Security, all had decreases, especially the hospitality sector with 13.3%. (UGT, 2020)

Although in the summer months mobility increased almost 100% again due to the relaxation of the containment measures, the world was still shocked by the news and international confidence was very low, to the point that only 25% of the tourists who visited Spain last year came to the country. Our economy, so specialized in the hospitality sector and so heavily dependent on tourism, was severely affected. All this, together with the fact that most companies in the sector are SMEs and many of them need income from the tourism that the country received in subsequent years, led many companies to reduce staff in order to have liquidity in their accounts and to be able to keep their businesses open.

However, referring to Milton Friedman's theory (1993), the countries that are most affected by an economic crisis are more likely to bounce back stronger in the recovery years, which is known as the rebound effect. In this way, although what has sunk the Spanish GDP the most has been the disastrous figures for the services sector, it will be the same sector that will lead the recovery in the coming years. Whether the economic recovery takes place in a closer or more distant context depends on the level of vaccination of the world population, but the OECD estimates that the level of activity before the pandemic will recover in 2022 or in 2023 in the least favorable scenario.

Figure 8: Year-on-year change in employment and turnover in the services sector



Source: Own elaboration. Data: INE

Inflation

During the whole year 2020 we have been able to appreciate an average inflation rate of -0.3%, but as we have done in the previous section, we cannot speak of a homogeneous impact of Covid-19 on this macroeconomic aggregate, the variation in prices has been heterogeneous and must be analyzed in a disaggregated way.

We should highlight the great importance of the prices of energy products in this rate, since the decrease in the price of these has been more than notorious. A clear example of this has been the price of oil barrels, which oscillated around 0\$ during the worst moments of April, when its price before the pandemic oscillated around 60\$. The crisis had deflationary repercussions on the inflation rate of energy products, as their price fell by 9.8%.

With respect to services, we can see that in year-on-year terms only 1 out of 5 subclasses of services have shown deflation. However, most of the subclasses have shown a lower growth rate during 2020, the rates being positive, therefore, we cannot speak of deflation in services but rather of a decrease in inflationary growth. The most remarkable case was that of hotel services prices, which were increasing at a level of 3.4%, and in the pandemic went to inflation rates of -18%. (Fernández, 2021)

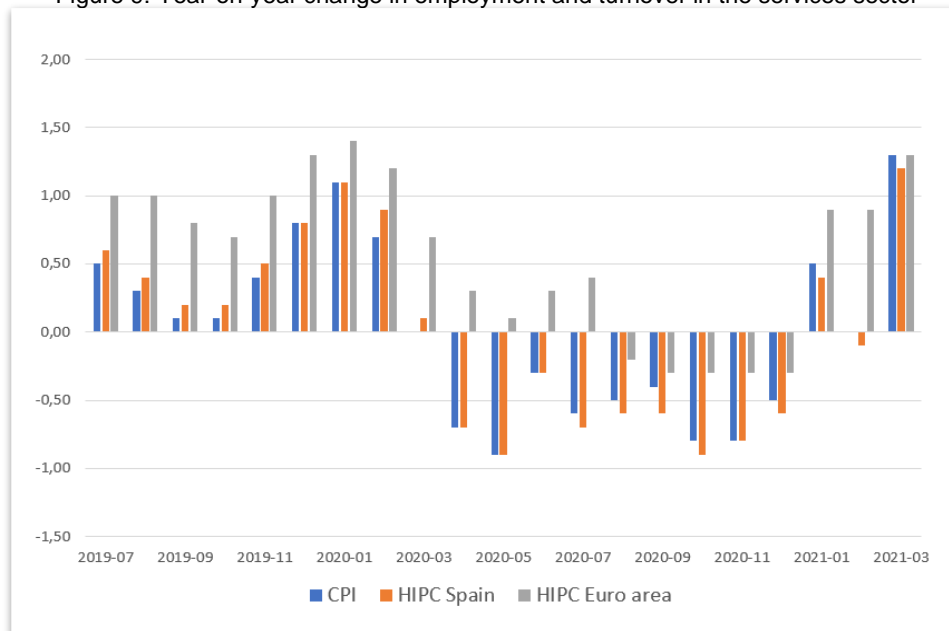
Another interesting subgroup to analyze in the basket of goods and services that the CPI traces is food, which in general terms increased its inflationary trend, due to the fact that the demand for these goods increased from April onwards and there were also problems in the production chains of the agricultural sector due to the preventive restrictions of the months of the second quarter of 2020, which meant that the supply did not match the demand at the time and the prices of food products became more expensive. (Hicks, 1937)

Finally, in the first months of 2021, more specifically in January, there has been a corrective effect and the CPI rose to 0.4%, an increase that was a consequence of the increase in the price of energy products. In February this increase was corrected and the CPI fell again by -0.1%. (Banco de España, 2021)

It is worth mentioning that the year-on-year variation of inflation in Spain has been more abrupt than in the Euro zone in times of pandemic, confirming once again the volatility of Spanish prices in times of crisis. In the following months, values above 1% are expected due to the base effect of energy products and subgroups such as the hotel and catering and hotel sector, as there will be a corrective effect on their prices due to the improvement of the tourist situation thanks to the vaccination processes.

On the other hand, an element to take into account is the Phillips curve, where, according to this theory, an increase in inflation leads to a decrease in unemployment (1958). If in the coming months, with the full reactivation of the economy, the demand for products, and therefore prices, increases, we could see a small recovery in employment in Spain.

Figure 9: Year-on-year change in employment and turnover in the services sector



Source: Own elaboration. Data: BdE

Employment

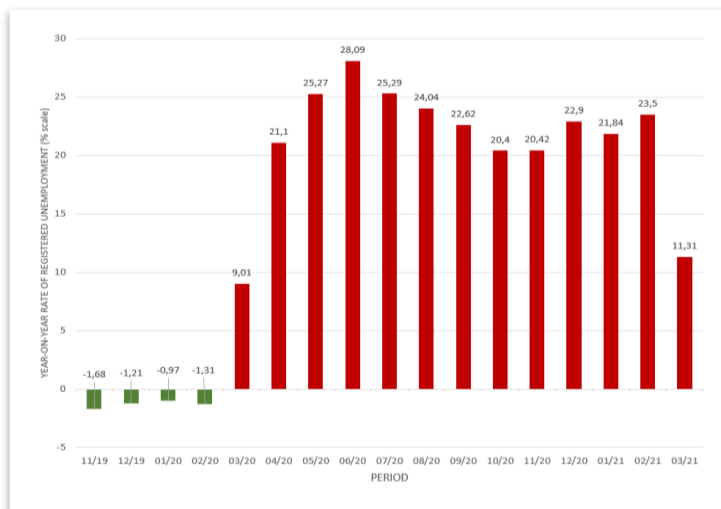
In terms of unemployment, the effect has been more unified and homogeneous by sectors, affecting all economic activity.

Similar figures have not been seen since 2009. At the end of 2020, 724,000 people were registered as unemployed and 360,000 jobs were destroyed. In the worst month of the pandemic, the year-on-year rate of registered unemployment reached 28.09%.

A considerable part of the business fabric of all types of activity has been destroyed, but the group most affected by the crisis was undoubtedly the hospitality sector. In the past year, 243,000 registrations were recorded in the Social Security due to the severe restrictions on mobility and leisure activities. Spanish hotels, bars, restaurants and hostels, which have seen their assets and economic capacity shrink as a result of the severe restrictions on both domestic and international travel, directly influencing the number of workers on their payrolls. In year-on-year terms, unemployment in the tourism sector has risen by 19%.

In the secondary sector the situation has not become as critical but the figures are still

Figure 10: Year-on-year change in registered employment



Source: Own elaboration. Data: BdE

not at all favorable. Industry, manufacturing, and construction have added 40,200, 41,000 and 44,100 people to unemployment in 12 months respectively.

ERTEs were introduced when the entire country was in quarantine, and at the time it was intended to be temporary and workers would eventually return to their jobs as normal. At the end of 2020, 755,000 people were under ERTE, a higher number than in previous months.

The counterpart is the public sector activities. Public administrations added 31,000 new registrations, but for obvious reasons, health was the sector with the highest number of social security registrations in 2020, and although its level has fallen again in the third wave because health workers are not needed as much, the pandemic months saw an unprecedented increase in terms of health employability. Education, on the other hand, created 18,400 new jobs. (UGT, 2020)

It is undoubtedly only the public sector that is trying to avoid the downturn in terms of employment, the private sector is the most affected by this crisis, not only in terms of employment, but also in terms of activity and turnover.⁷

The Spanish labor model was already characterized by its precariousness, high unemployment and temporality, and this crisis has increased these inequalities and features (Fana, Torrejón, & Fernandez-Macías, 2020), the clearest difference can be found between workers who could resort to teleworking and those who could not. Moreover, as affirmed in a 1999 study (Mocan), the increase in unemployment causes income inequality, and the level of inequality may increase in the following months, which can be measured by the Gini index.

Finally, it is necessary to mention that the unemployment generated by the pandemic was not "natural" as unemployment was catalogued in the 1930's. However, unemployment is involuntary (Keynes, 1936) in this case and generated due to a

⁷ See sectoral analysis section.

tremendous shock in the demand for labor that has produced an excess of supply in the labor market.

Trade and balance of payments

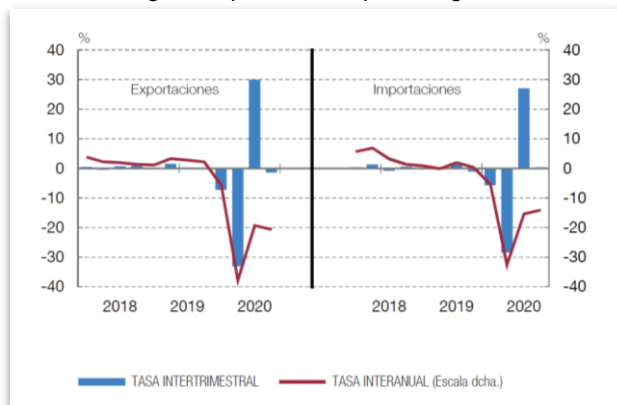
We could define the evolution of trade and balance of payments in 3 parts:

- The first wave was one of the biggest shocks to international trade in history, causing Spanish exports and imports to fall by 33.5% and 28.8% compared to the previous year.

- In the first half of the second wave the trend seemed to be more beneficial for our trade balance, contributing 2.2% of GDP, but at the end of the year the balance closed again with a negative balance, -0.5% of GDP. (See figure 15)

- Finally, we can infer from the last wave that its trend seems positive, due to the increase in international trade and above all to our export capacity in the manufacturing sector. On the other hand, negative effects are expected to be produced by Brexit and its limiting repercussions on the free movement of goods, in addition to the situation of the Eurozone countries, since due to their restrictions they have stopped generating tourism at our borders and a negative effect on the balance of trade is expected. However, it is expected that the levels of exports and imports of goods prior to the pandemic will be recovered, which is a clear indicator of economic recovery.

Figure 11: Year-on-year and quarter-on-quarter change in exports and imports of goods



Source: Banco de España: "Informe trimestral de la economía española 1/2021" (2021)

Public accounts

In overall terms, the biggest drain on the public coffers occurred at the beginning of the year due to the immense expenditure caused by the health crisis in terms of subsidies and benefits to Spanish companies and households.

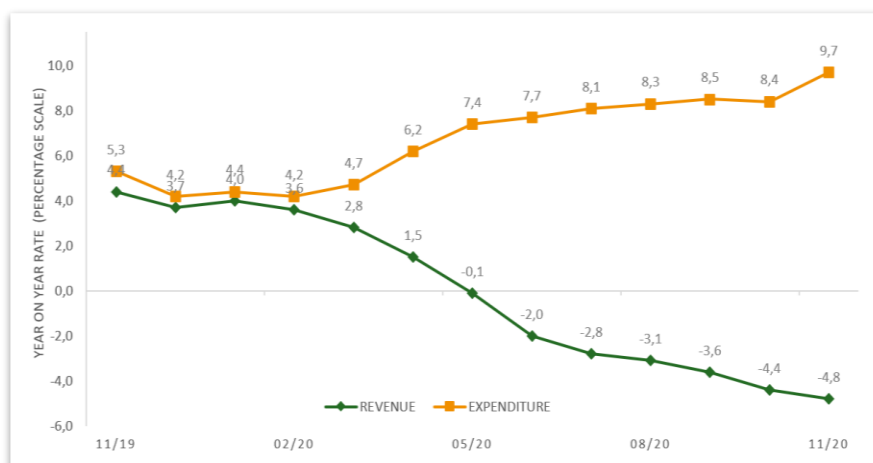
In the third quarter of last year, public spending was able to relax due in part to the reactivation and independence of support from public institutions. However, in the fourth

On the other hand, as Thirlwall stated (1979), a negative balance of payments cannot be maintained permanently, and Spain has been running a deficit trend in its balance of payments for years. As some studies have confirmed, it is likely that its long-term economic growth will be diminished by this fact (Lanzafame, 2014), but to confirm this assertion a quantitative analysis should be made (which is usually complex in this case) and confirm that Thirlwall's law is fulfilled in the Spanish nation.

quarter, due to the increase in cases caused by the second wave, the public coffers decreased at a higher rate than in the preceding months, reaching 6.4% higher in annual terms. At the same time, the level of debt increased by more than 20% compared to last year at the end of 2020, reaching 117%, a relatively small figure compared to neighboring countries such as Italy. With respect to the third wave, public spending has continued to increase, reaching 125% of GDP in the first quarter.

As Keynes mentioned in his general theory (1936), public spending will reactivate the economy in a period of recession such as the current one; however, Keynesian expansionary policy in this case has been more focused on supporting the neediest companies and families than on increasing the level of aggregate demand. Consumption fell by almost a third in the months of the pandemic, therefore, the accumulated savings of those months will cause the marginal propensity to consume to increase today and therefore aggregate demand will partially stabilize. (Baker, Farrokhnia, & Meyer, 2020)

Figure 12: Public revenue and expenditure



Source: Own elaboration. Data: BdE

Future projections

Collecting data to analyse the evolution of the pandemic has never been easy, and the volatility of the data means that we are presented with several scenarios, depending on two factors: the economic impact and the health impact of the crisis.

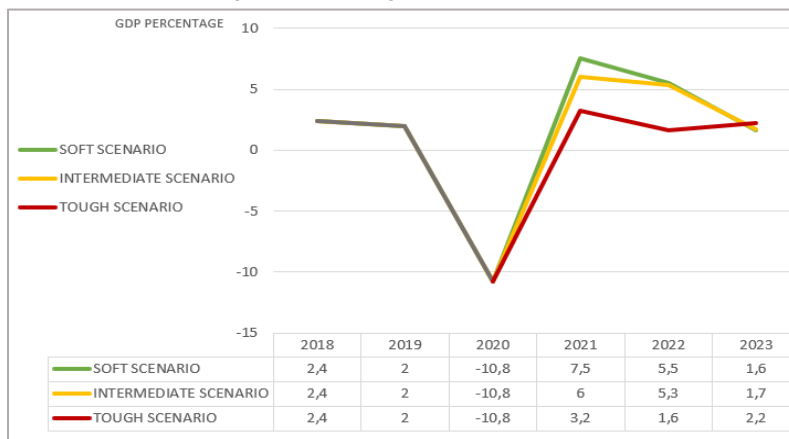
- Economic impact: persistence of pandemic behaviour in economic agents, destruction of the Spanish economic structure, national and international policies applied.
- Health impact: vaccination levels, percentage of society infected and therefore subsequently immunised, citizen obedience and mutation or non-mutation of the virus.⁸

Each scenario has a different combination of these components. First, the most favourable scenario estimates that by mid-2021, vaccination will be at advanced levels and the population will be highly immunised. Secondly, the stable intermediate scenario states that this controlled and advanced pandemic situation will be realised by the end of the year, taking into account that there will be rebounds throughout the year. Finally, the most severe scenario states that relapses and waves are reluctant, and both the number of infected and the number of vaccinated do not improve in such a short period of time.

GDP projections

In year-on-year terms, GDP would grow by 6%, 5.3%, and 1.6% in 2021, 2022, and 2023 respectively, with gains in the second half of 2021 due to improved progress in vaccine

Figure 13: GDP growth rate projections



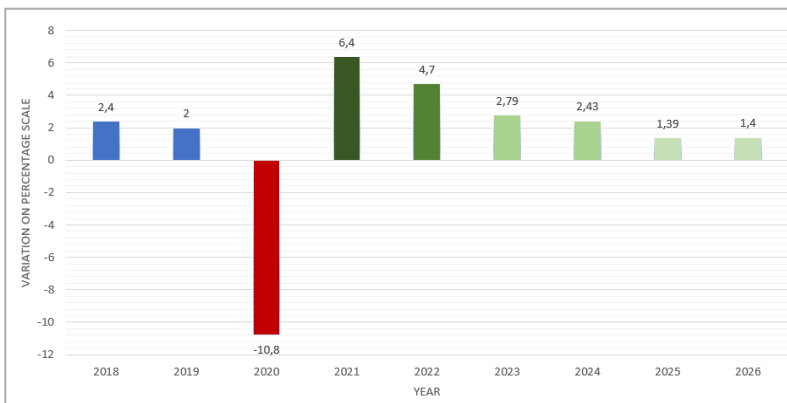
Source: Own elaboration. Data: BdE

implementation, GDP growth would be steeper and more optimistic in the best case, and the severe scenario would be as much as half that of the intermediate scenario. Full recovery to pre-pandemic GDP levels is estimated to occur in 2023, while in the best case it would be in the first four months of 2022, and in the worst case in the long term, in a year beyond 2023. (Banco de España, 2020)

⁸ The mutation of the virus would make the developed vaccines obsolete and would again greatly complicate the health and economic situation in the country, so it is a factor to be taken into account.

The IMF's longer-term projections estimate a scenario very similar to the intermediate scenario proposed by the Bank of Spain, with the largest growth occurring in the first year after the pandemic, with its subsequent progressive reduction in the following years. This refers to the asymmetric V-shaped recovery, also known as the "two-phase recovery", the first phase being the reactivation of the productive fabric and the second referring to the restructuring of the Spanish productive fabric. In the first phase, the companies that have been able to continue covering their fixed costs return to their activity, the activity prior to the pandemic is not recovered because the most inefficient

Figure 14: Long-term GDP growth rate projections



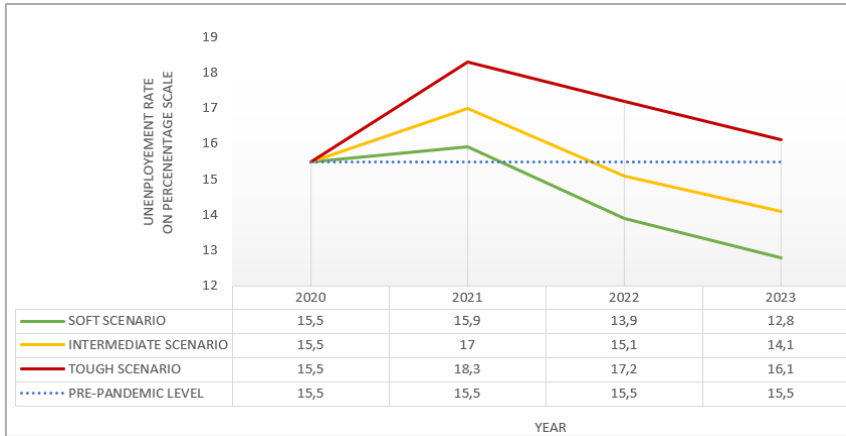
Source: Own elaboration. Data: FMI

companies have left the market, but the majority return to normality. In the second phase, companies undergo structuring and adaptation to the new market conditions, the companies that do not manage to adapt disappear and the companies with new adapted production models move on. (De Cos, 2020)

Projected unemployment rate

In its most favourable scenario, the Bank of Spain estimates a recovery to pre-pandemic levels at the beginning of 2021, a figure that has not been achieved in March due to registered unemployment being 11% higher than last year at this time. In an intermediate scenario, the unemployment figure of 15.5% would be equalised by the end of 2021, where ERTES would cease to be used with the frequency of the end of 2020, the forecasts for this are not very favourable, because ERTES are estimated to have a longer stay in our economy than expected by the government. The third scenario shows a decreasing trend in unemployment from 2021, but no recovery in employment is expected before 2023. The numbers show a trend closer to the third scenario, even though the health situation is much better than in the most severe scenario. (Banco de España, 2020)

Figure 15: Unemployment rate projections

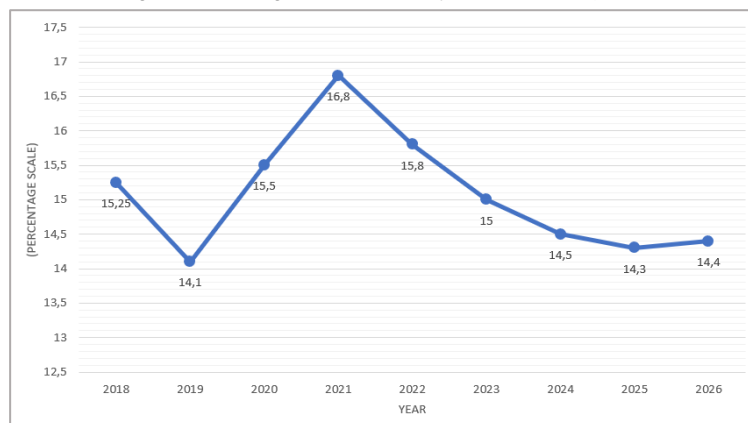


Source: Own elaboration. Data: BdE

On the other hand, the IMF estimates that the recovery in the level of unemployment will not take place over a period of 6 years, in fact, it does foresee an improvement in national statistics but estimates an irreversible effect on the Spanish employment panorama over this entire period. Structural unemployment is notorious in our

economy and the international authorities are not benevolent with their projections, and if the employment recovery does take place, it will be over a much longer horizon, but with such a time difference the projections tend to be predictions rather than empirical and verifiable horizons.

Figure 16: Long-term unemployment rate projections



Source: Own elaboration. Data: FMI

Public debt projections

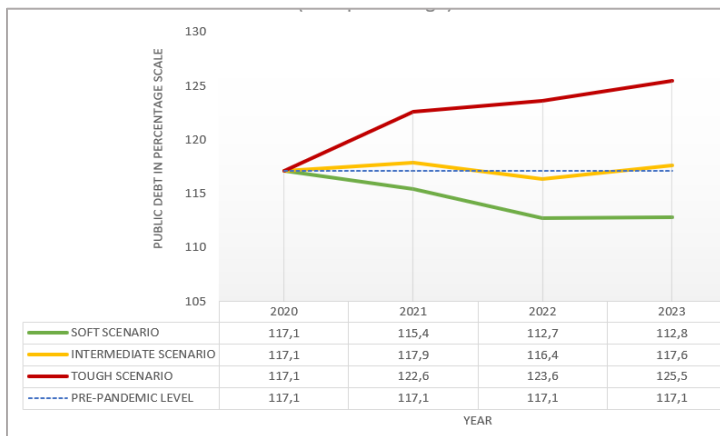
Spain has significantly increased its debt in order to face the economic and health crisis, to sustain the activity of the productive fabric and to help Spanish families, as we have already mentioned.

From this starting point there are three possible scenarios: the first is the most comforting for the public coffers because it estimates that government debt will fall by 2021, but the reality is that the estimated trend is totally counter-intuitive with respect to the data published, so the most feasible projections are the following two. In the intermediate scenario the level of debt would remain stable over the coming years, oscillating with

respect to the initial pre-pandemic level. This prediction is also the one most widely accepted by international economic authorities, who expect the level of debt to stabilize and oscillate at the level it was in 2020. The most severe scenario marks a clear upward trend in Spanish debt, as this is a hypothetical situation in which the administrations will have to continue to meet the costs of maintaining the country's economic and social landscape. (Banco de España, 2020)

Although the hypothesis most widely accepted by the administrations was that of a central scenario, recently published empirical data tend to verify that public debt will

Figure 17: Public debt projections



Source: Own elaboration. Data: BdE

continue to rise, making it more plausible that we could find ourselves in the most severe event horizon possible in terms of employment, since public debt at the beginning of 2021 reached levels of 125% of GDP, with even more upward projections. Some of the effects of such a high level of debt can be expected to be a lower GDP growth in long-term terms, due to lower investment and capital stock and thus lower labor productivity. (Kumar & Jaejoon, 2010)

Inflation projections

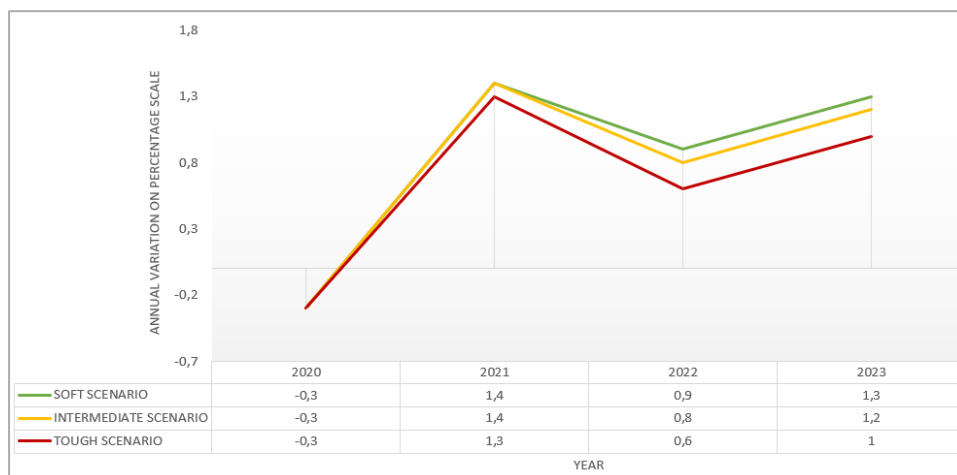
The upturn in economic activity and above all demand is expected to increase the CPI in the coming years. An important component of the consumption basket will be hotels and catering and tourism, which will lead the increase in prices in annual terms, as these sectors were strongly affected in terms of sales during the peak season last year. In addition to its annual percentage increase, its weight in the economy should be highlighted, which makes it one of the most important components of the CPI.

On the other hand, it is worth mentioning the price of energy, which, due to the expected increase in oil prices, will also play an important role in the future inflationary process.

The highest annual growth rate is expected to be seen in 2021, more specifically in the first half of the year, showing also a decrease in the second half, all this due to the previous trends in 2020, which greatly condition this indicator.

In the most favourable case in 2023 a price increase of 1.3% over the previous year would be reached, and in the most severe scenario 1% due to the assumed lower demand for goods and services.

Figure 18: CPI projections



Source: Own elaboration. Data: BdE

Comparative analysis

As mentioned in the introduction to this paper, while the virus was being fought in Asia, it was beginning to spread in Europe, and before the United States was the country most affected worldwide, the European area was undoubtedly the geographical area most affected by the pandemic.

Despite the fact that the European Union is a body that stands for the ideal of convergence and cooperation, due to the speed of the virus and the unpreparedness of its member countries, the pandemic was fought in a very heterogeneous and decentralised way in the first instance. Since the response to the crisis had to be immediate at the national level, no coordinated containment mechanism could be put in place at the first impact of the virus, and each country implemented its own policies, measures and restrictions as it saw fit without any supranational oversight. Later this was no longer the case, but in the first wave each country decided for itself, with its own mechanisms. Obviously most countries applied somewhat similar measures, such as border closures or expansionary fiscal policies, but these were not direct instructions from any supranational body.

At this point, three notable distinctions can be made by with respect to the different strategies that were applied to deal with the health crisis: advocating immunisation of the population through the herd effect (Sweden and the UK), applying strong restrictive

measures (Spain, France and Italy), and anticipating the crisis (Slovakia, Ireland and Germany). (Álvarez & Cabeza, 2020)

Application of strong restrictive measures

The first of the three strategies we are going to analyse usually refers to the first countries in which positive cases of coronavirus were reported. These policies were applied in countries where the reaction time to the pandemic was very limited and experience in dealing with this type of crisis was lacking. However, the speed with which they were implanted was decisive, since a 2020 study determined that a week's difference in quarantine implantation could mean the loss of half a million lives. (Balmford, Annan, Hargreaves, Altoè, & Bateman)

Italy, France and Spain are examples of the strategy of implementing restrictive measures.

In Italy, a state of emergency was declared on 31 January after the arrival of tourists with Covid in the country, and the pandemic broke out in full a month later, when local outbreaks were active in the Lombardy region, the most affected area in the whole region. Another month later, on 11 March, the country's economic activity was almost completely paralysed, the only activities that could continue to function were the essential ones, which also had restricted opening hours.

In the health repercussions of Italy's management, we find a notorious shortage of medical supplies, a fact that marked the fight against the virus, as a large number of health personnel became infected (8% of the infected population as of April).

In economic repercussions we find a similar trend to the countries that used this policy package, with the second half of the year being the most severely affected in quarter-on-quarter terms due to the restrictions imposed, in the second half of the year growth is exacerbated, in line with the "asymmetric V" recovery. In annual terms, GDP declined by -18.2% in the second quarter, a decline second only to the World War II era. The CPI remained stable in the first wave, oscillating between -1 and +1 percentage point. On the

Table 1: Quarter-on-quarter change in GDP of Italy

QUARTER	QUARTER-ON-QUARTER GDP GROWTH
FIRST	-5,70%
SECOND	-12,90%
THIRD	15,90%
FOURTH	-1,80%

Source: Own elaboration. Data: ISTAT

other hand, the unemployment rate at the end of June 2020 was 9.9%, while in February it was 9.08%, currently it is 10.7%. Workers saw a considerable reduction in their wages due to the reduction in hours worked and the least skilled jobs were the most affected due to the low ability to adapt

to teleworking, a fact that accentuates inequality in the nation. The growth of public debt is the most remarkable fact about the Italian economy, since in order to cope with the pandemic it needed a huge amount of money that had to be requested from the European authorities and generated a great debate between the countries of southern Europe, which do not have healthy accounts, and those of the north, which lend money and apply austere policies so that their public debt does not increase excessively. In mid-2020 its debt stood at 135% of GDP and at the end of the year it stood at 155%. It is the second highest after Greece.

On the other hand, France chose to impose measures and restrictions similar to those imposed in Italy and Spain. On 17 March 2020, they decreed the closure of all teaching sites and began their home confinement with 4,500 people affected by the virus. Despite detecting their first case in January, the authorities acted 6 weeks late, when there were several active local foci. This lack of speed, as in Spain, meant that the strong restrictive measures lost their effectiveness, and as a result there was a generalised hospital collapse that caused the mortality rate of the virus to be very high.⁹ At the end of the first wave, 25,000 deaths were recorded, of which 9,000 were elderly. It is worth noting that the main criticism of Macron's management was the lack of initiative to protect old people's homes and mass testing of the population, as was the case in the countries that opted for this strategy. On the economic front, in the first wave he announced that SMEs would be exempt from taxes and social security contributions for the duration of the pandemic, and for large companies he announced a deferral of these payments. The government provided 460 billion euros in aid to the French productive fabric and to the households that needed it most, and in July it announced another 100 billion euros that would finalise the famous "Reactivation Plan".

The consequences of the pandemic and the central government's policies have left us with indicators almost identical to those of Spain and Italy. Quarterly GDP growth traces the typical trend of a two-stage recovery, with much of the activity picking up in the third quarter.

⁹ Average virus mortality rate: 3.5-4%.
France mortality rate: 14.7%.
Spain and Italy mortality rates: 12%.
(May 2020 data)

Regarding the unemployment rate, as in all Euro zone countries, there is a noticeable decrease in the second quarter, due to the fact that the data for the statistics are skewed. This is due to the fact that those who were technically classified as unemployed were no longer classified as unemployed because they were unable to look for work during that period. The rate is now equivalent to pre-pandemic levels, showing that the pandemic had little effect on the French labour market. The inflation rate went from growing at a

Table 2: Quarter-on-quarter change in GDP of France

QUARTER	QUARTER-ON-QUARTER GDP GROWTH
FIRST	-5,90%
SECOND	-13,20%
THIRD	18,50%
FOURTH	-1,50%

Source: Own elaboration. Data: INSEE

rate of about 1.5% to settle at 0.7% year-on-year in March and even settled at 0.2% in the following months, due to the decrease in the demand for products and the decrease in the price of energy and oil. (Álvarez & Cabeza, 2020)

Respecting individual liberties

The second option consists of delegating responsibility to individual citizens, establishing few restrictions and limitations on the individual freedoms of individuals, and advocating for the immunization of the population through the herd effect. This strategy is the most liberal of those that we will analyze, but at the same time it has been the most criticized by politicians, the population and the media. It is with this methodology of action that the trade-off between the economy and public health is most clearly seen. The greatest exponents of this set of policies are Sweden and the United Kingdom, countries on which we will focus our attention in order to understand the essence of this strategy and the results offered by it.

Firstly, Sweden is a country that was more affected in numbers than its Nordic neighbours, reaching a figure of 8,000 cases per million inhabitants¹⁰. At the beginning of April 2021, more than 1,000,000 people were infected and more than 14,000 died.

It was a country that was not noted for its anticipation of events, ignoring the first cases in January and reaching 200 cases per day in March, when an estimated \$4,000,000 in government assistance was prepared to deal with the virus. The first restrictive measure came in the same month, which was a limitation of mass events to a maximum of 500 attendees (days later it was reduced to 50). They did not legislate on home isolation, so there was free movement during the first impact of the virus, but the restriction on foreign travel increased proportionally to the number of cases registered, even prohibiting non-

¹⁰ Data from 1st June 2020.

essential travel outside their borders. Its testing policy was very limited (and criticised) at first, and the increase in cases in the first few weeks led the government to correct this and begin to implement a policy of mass testing.

On the health front there was never any collapse of health services and on the economic front in the second quarter GDP fell by 8.2% year-on-year, despite the fact that there was no confinement and leisure establishments remained open. In 2020, thanks to the recovery in the second half of the year, GDP fell by 6 percentage points overall, and is expected to grow by 3.1% in 2021. Given that the growth rate in the first quarter of 2021 was +0.1%, Sweden's economy was not classified as being in a state of economic recession. However, compared to its neighbouring countries, it had almost five times as many deaths per million inhabitants and its GDP growth rates are no better than those of its neighbouring countries. (AFP, 2020) The only point in favor of this policy with respect to its neighboring countries was the very first impact of covid on GDP, which was minor, however, in the following months this advantage was reduced due to the increase in cases due to the limited restrictions. (Bricco, Misch, & Solovye, 2020)

The second case, similar to the Swedish one and even better known, is that of the United Kingdom. The British Isles country fits into this pandemic management strategy because, although it did impose compulsory home isolation, it did so a month later than its European neighbours. This was a less severe case than Sweden's but more controversial because of the focus that was established by the media.

The first case was detected on the same day as Brexit, 31 January 2020. A health information bombardment began in February and by March cases were detected in all parts of the British Isles.

The government underestimated the importance of the situation: while countries in southern Europe were being severely affected by the virus, the UK remained at an "intermediate" level of severity. However, at the end of March the country was quarantined. The delay in implementing this measure was widely criticised, as the government's initial idea was to obtain a naturally immunised society, either by means of a vaccine or by the "herd effect" (as in Sweden), but this option was rejected due to the recommendations of health professionals after a notable increase in the number of cases in the country. On the other hand, the government approved a package of economic measures based on the reactivation of the productive fabric, tax reductions for companies on the verge of bankruptcy, among others...

Health workers complained about the lack of sanitary supplies due to the delay in the reaction, a fact that was significant when it came to registering cases, which at the beginning of April exceeded 41,000 affected, making it one of the countries most affected by the virus worldwide. At the beginning of April 2021, 4,500,000 people were affected and 128,000 people had died.

At the economic level, unemployment stood at 5.0% at the end of the year (1.3% more than the previous year). GDP growth on a month-on-month basis was quite

Table 3: Quarter-on-quarter change in GDP of UK

QUARTER	QUARTER-ON-QUARTER GDP CHANGE
FIRST	-2,9%
SECOND	-19%
THIRD	+16,1%
FOURTH	+1%

Source: Own elaboration. Data: ONS

heterogeneous at the quarterly level (see table 3).

While in year-on-year terms the GDP decline was -9.9% in 2020, far exceeding the historical record of -4.1%, despite this a recovery in 2021 of 1.2% is expected.

Anticipation to the crisis

The third and final virus defence strategy was anticipation of the virus. This option was the most difficult to execute due to the fact that the information available at the beginning of the year was practically nil, not to mention the disinformation surrounding the virus environment. The countries that were ahead of the rest in terms of legislation are today considered visionaries because they dealt with the virus more efficiently and effectively. Countries following this strategy share common characteristics long before active pockets were identified within the country in question:

- Stockpiling of medical supplies
- Massive information campaigns for the population
- Mobilisation of health workers
- Protocols for action in the event that the virus enters the border
- Implementation of premature restrictive measures

Clear examples are Ireland and Germany.

Ireland at the end of the first wave, in July, had 26,000 infected and 1,700 dead. Their first infected person was registered relatively late, at the end of February, and in less than 2 weeks they legislated and approved their respective restrictions, such as capacity limitations, activity bans, etc. On 24 March, there was a complete restriction of movement and a cessation of economic activity.

In the health sector, Ireland was not prepared for the pandemic. It has a mixed health system with a heavy reliance on the private sector, so the government had to contract for the hospitalisation of those infected in private hospitals. Health workers were also required and a campaign was carried out which proved to be very successful, although due to a lack of equipment, many of the staff were infected. Testing was quickly implemented and a technology involving Bluetooth was developed to track possible infected people.

The main economic measure applied was an aid package worth 940 million euros, which was used to buy medical equipment and to provide subsidies to reactivate the economy, and subsidies for workers who were unable to work were also approved.

The management of the pandemic was very effective. With respect to the inter-monthly GDP growth rate, the trend of all the countries of the Eurozone is repeated, with a small exception, the first four-month period shows a more severe decrease than the rest of the countries analysed previously, due to the fact that in the last four-month period of 2019 there was a growth of +4.3%, the decrease in the first four-month period of 2020 is due to arithmetical reasons.

With regard to employment, perhaps the macroeconomic variable that has been most affected, the unemployment rate reached levels of 6.8%, a figure reached in 2017.

Table 4: Quarter-on-quarter change in GDP of Ireland

QUARTER	QUARTER-ON-QUARTER GDP GROWTH
FIRST	-3,50%
SECOND	-3,20%
THIRD	11,10%
FOURTH	-5,10%

Source: Own elaboration. Data: CSOI

Another noteworthy fact is the increase in public spending, which represented 28.8% of GDP in 2020, compared to 24.6% the previous year.

The German state is the greatest exponent of anticipation of the virus, and despite the fact that within its borders the virus manifested itself much earlier than in other European countries, it was a benchmark nation in the management of the pandemic.

On the government's part, it was very important to stockpile health material even before the virus was detected in its own country, and expert councils were convened to establish measures for action and to gain a better understanding of how the virus worked. Not only did the government act consistently with the situation, but the citizens were also civic-minded, as there was no mandatory quarantine as in other countries, and the inhabitants themselves took to the streets on their own initiative only for activities of primary necessity and importance. As early as March, restrictive measures in line with European

standards were already in evidence, with mass events being avoided and the wearing of masks being enforced, but gatherings of a few people were never banned.

In the field of health care, Germany is the European country with the most intensive care beds per inhabitant, with 33 beds per 100,000 inhabitants (Spain has 9 per 100,000). On the other hand, the stockpiling of medical supplies and the incidence of the virus in the youngest inhabitants meant that the mortality rate was the lowest in Europe, at 0.04%.

Nevertheless, one of the most criticized and improvable aspects of this strategy was the neglect of the situation in nursing homes (Horn, 2020). Due to the increase in cases, some governments banned visits to nursing homes, but the incidence of cases and deaths (due to the high mortality rates at those ages) were not reduced. To improve this aspect, more routine tests should have been carried out on workers and they should have been provided with preventive material to reduce contagion in nursing homes.

On the economic front, the Merkel government offered wage subsidies of up to 60% for workers who were forced to reduce their hours, postponed company payments, offered bonuses to health workers, and provided numerous loans and grants to companies to keep them in business.

The economic impact was noticeably smaller than in the other countries analysed, the month-on-month variation was much less volatile, reflecting the strength of the German

economy. The seasonally adjusted unemployment rate did not change much either, standing at 3.4% at the beginning of 2020 and 4.2% at the end of the first wave. At the same time, as in the other countries, public debt is considerably hypertrophied, standing at 59.7% in 2019 and reaching values close to 70% of GDP in 2021.

Table 5: Quarter-on-quarter change in GDP of Germany

QUARTER	QUARTER-ON-QUARTER GDP GROWTH
FIRST	-2,00%
SECOND	-9,70%
THIRD	8,70%
FOURTH	0,50%

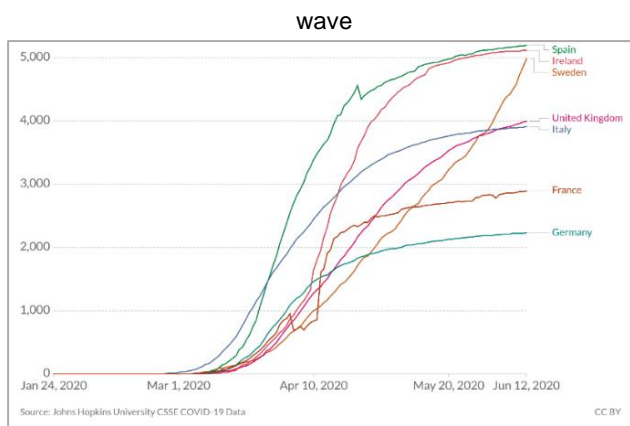
Source: Own elaboration. Data: Federal Statistical Office

In conclusion, it is important to mention that no country had a health system prepared for the magnitude of this crisis; no hospital infrastructure was able to cope with the number of infected people in their country. However, the government's political measures and the foresight of the events were decisive in controlling the curve of contagion and not saturating the hospitals, as well as keeping the situation under control so that the standstill of activity would be as short as possible, in this way the data significantly reflect the right performance (or not) of the central governments.

To discern whether one strategy is more effective than another, we can analyse the health and economic impact of the pandemic:

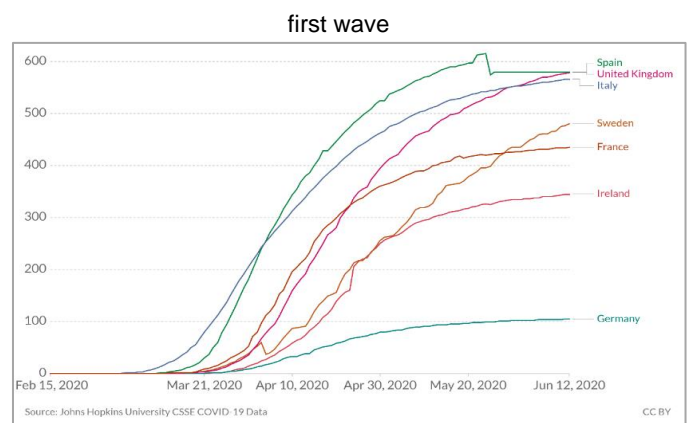
On the health level we find that the 3 countries with the highest incidence of cases in the first wave of the pandemic are Spain, Sweden and Ireland, and coincidentally each country represents each strategy mentioned above. However, the countries with the highest incidence of deaths were Spain, UK, and Italy by a wide margin. These countries imposed strong restrictions or in the case of Sweden advocated the herd effect. On the other hand, the countries that anticipated the pandemic had a relatively low number of deaths, above all Germany, the benchmark for all European countries in the management of the pandemic. From these data, we can infer that all countries, regardless of the strategy implemented, suffered from a high incidence of contagion, but perhaps the collection of material and awareness-raising among the population was decisive in avoiding health collapses and saving many more lives.

Figure 19: Cumulative COVID-19 cases per million people in first wave



Source: Own elaboration. Data: Our World in Data

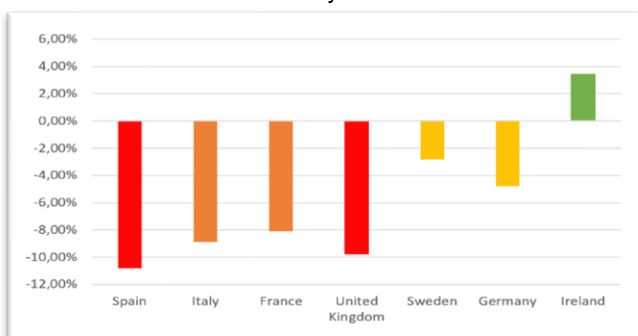
Figure 20: Cumulative COVID-19 deaths per million people in first wave



Source: Own elaboration. Data: Our World in Data

The economic impact of each strategy can be analysed by comparing the variation in the year-on-year rate of GDP, where clearly the countries that did not anticipate the pandemic were severely affected. The only country that did not anticipate the pandemic

Figure 21: Year-on-year change in GDP of the countries analyzed.



Source: Own elaboration. Data: World Bank

and did not suffer such severe effects was Sweden, which matches the numbers for Germany and Ireland. Here we can see two clearly differentiated groups, those countries whose economies were paralysed for less time and which had a strong and adaptable economy to this new challenge and

those that lacked these characteristics, with an economy dependent on health setbacks and with a more static productive fabric that was poorly prepared for the new restructuring of the market.

We could infer at a superficial and intuitive level that the best package of policies would be those of the pandemic anticipation strategy, due to their much more favourable figures than the rest of the countries analysed.

Our conclusion lacks consistency due to the fact that many variables are not found in the observation, to obtain more conclusive inferences on this issue we should take into account in each country its health statistics, economic capacity of the society, characteristics of the society, and demographic distribution. (Viktor, Zoran, Petar, Dragan, & Ljupco, 2020)

Conclusions and own contributions

The pandemic has been a turning point in the global economy and Spain has experienced it with particular virulence.

National production has suffered from unparalleled volatility, where the sharp decline in GDP in the first half of the year was offset by the recovery and resilience of the second half, thus showing an asymmetrical V, in which a partial recovery has already taken place and in which a restructuring of the productive fabric is currently underway. This pandemic was very asymmetrical with respect to the productive sectors, causing the primary sector to gain importance in the economy and the second and tertiary sectors to be severely affected in terms of production, especially the tertiary sector, which is of vital importance in the Spanish economy. There were also heterogeneous variations in prices: energy products suffered from deflation, while services and food products suffered from moderate and acute inflation respectively. On the other hand, employment was severely depleted in the private sector, especially in the tertiary sector, but public sector jobs grew, thus increasing the statehood of our productive model. International trade figures were similar to those of the belligerent era, with both exports and imports falling by approximately 30%. In year-on-year terms, public debt grew by 20% at the end of 2020 and in the first quarter of 2021 it has reached a level of 125% of GDP due to the immense public spending that was carried out in the pandemic to help families and companies.

The projections for these indicators are too variable and are structured in 3 different scenarios, which depend on the optimism or pessimism of certain economic and health variables. Depending on the scenario envisaged, GDP is expected to recover between

2022 and later in 2025, the unemployment rate is expected to recover between 2021 and later in 2023 and, on the other hand, both public debt and CPI are expected to continue to grow in the coming years (to a lesser or greater extent depending on the scenario).

With respect to the comparative analysis carried out, several superficial inferences can be made in which we can affirm, firstly, that the strategies of imposing severe restrictive measures and advocating individual freedom and the herd effect do not differ much in their results. In the strategy that opts for not imposing severe restrictions there is a smaller reduction in GDP in the first instance, but the number of people infected in the following months makes the pandemic last longer than in countries where restrictive measures are imposed from the beginning. Secondly, we can say that countries that anticipated the pandemic and prepared for it in advance did better in both health and economic terms than the other countries analyzed. We can infer that the stockpiling of sanitary material, premature restrictive measures, correct information to the population, among others, are significant actions when it comes to avoiding negative economic and sanitary consequences.

References

- AFP. (2020, 08 05). El PIB de Suecia se desploma 8.6% en 2T pese a su estrategia contra el Covid-19. *El economista*.
- Álvarez, M. V., & Cabeza, M. (2020, 10 06). *La Unión Europea y el COVID-19: pandemia global, respuestas nacionales, ¿soluciones europeas?* Rosario: Funes. Retrieved from <https://rehip.unr.edu.ar/xmlui/handle/2133/19075>
- Baker, S., Farrokhnia, R., & Meyer, S. (2020, December). How Does Household Spending Respond to an Epidemic? Consumption during the 2020 COVID-19 Pandemic. *The Review of Asset Pricing Studies*, 10, 834–862.
- Balmford, B., Annan, J., Hargreaves, J., Altoè, M., & Bateman, I. (2020). Cross-Country Comparisons of Covid-19: Policy, Politics and the Price of Life. *Environmental and Resource Economics*, 76, 525–551.
- Banco de España. (2020). *Informe trimestral de la economía Española 2/2020*. Boletín económico.
- Banco de España. (2020). *Informe trimestral de la economía Española 3/2020*. Boletín económico.
- Banco de España. (2020). *Informe trimestral de la economía Española 4/2020*. Boletín económico.
- Banco de España. (2021). *Informe trimestral de la economía Española 1/2021*. Boletín económico.
- Bricco, J., Misch, F., & Solovyev, A. (2020). What are the Economic Effects of Pandemic Containment Policies? Evidence from Sweden. *IMF Working Papers*, 191.
- De Cos, P. H. (2020). Los principales retos de la economía española tras el Covid-19. *Documentos ocasionales - Banco de España*, 1-87.
- Fana, M., Torrejón, S., & Fernandez-Macías, E. (2020). Impacto laboral de la crisis Covid-19: de efectos a corto plazo a perspectivas a largo plazo. *Revista de economía industrial y empresarial*, 47, 391–410.
doi:<https://doi.org/10.1007/s40812-020-00168-5>
- Fernández, M. J. (2021). *El impacto de la COVID-19 en la inflación*. Madrid: Funcas.
- Friedman, M. (1993). The “plucking model” of business fluctuations revisited. *Economic Enquiry* 31(2), 171-177.

- Gottlieb, C., Grobovšek, J., Poschke, M., & Fernando, S. (2021, 02). Lockdown Accounting. *The BE Journal of Macroeconomics*.
doi:<https://doi.org/10.1515/bejm-2020-0251>
- Hicks, J. R. (1937). Mr. Keynes and the "Classics"; A Suggested Interpretation. *Econometrica*, 5(2), 147-159.
- Horn, V. (2020). *Alemania ante COVID-19. Fases, factores y futuro*.
- Keynes, J. M. (1936). *The General Theory of Employment, Interest, and Money*. Macmillan.
- Kumar, M., & Jaejoon, W. (2010). Public debt and growth.
- Lanzafame, M. (2014). The balance of payments-constrained growth rate and the natural rate of growth: new empirical evidence. 38, 817–838.
- Lin , Z., & Meissner, C. (2020). Health vs. Wealth? Public Health Policies and the Economy During Covid-19. *National Bureau of Economic Research*.
doi:10.3386/w27099
- Martínez, V. (2021, 02 09). Sólo una de las 28 ramas industriales en España salvó el desplome de su actividad en 2020. *El país*.
- Mocan, H. (1999). Structural Unemployment, Cyclical Unemployment, and Income Inequality. *The Review of Economics and Statistics*, 81 (1), 122–134.
- Montoriol-Garriga, J. (2020). *La fortaleza del sector agroalimentario durante la crisis del coronavirus*. Caixa Bank Research.
- Phillips, W. (1958). The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861-1957. *Economica*, 25(100), 283-299.
- Thirlwall, A. P. (1979). The Balance of Payments Constraint as an Explanation of International Growth Rate Differences. *Banca Nazionale del Lavoro*, 32(128), 45-53.
- UGT. (2020). *Impacto del Coronarvirus sobre el empleo en España*. Madrid.
- Viktor, S., Zoran, U., Petar, J., Dragan, T., & Ljupco, K. (2020). The socio-economic determinants of the coronavirus disease (COVID-19) pandemic.