

Covid-19 State Aid in the European Tourism Sector

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Abstract

The tourism sector has been deeply affected by covid-19 due to traveling restrictions to prevent virus diffusion and the consequent prudence of people. The impact on the sector has been pervasive and mined the going concern of a lot of activities, such as hotels, tour operators, museums, spas, beaches, and many others. States, stimulated by the European Union, has introduced economic subsidies and liquidity supports with the aim to face the economic crisis of the sector, mitigating the risk of insolvency and bankruptcy. National governments had the power to choose the tools to face the pandemic: accounts receivable, government guarantees on loans, capital grants, tax relief, etc. The mix of these policies, together with the ability of the different Countries to optimize the efficiency and the effectiveness of such instruments, has enabled the crisis to be tackled from Country to Country.

With the aim to evaluate the performance of the policy mix stimulated by the European Union and adopted by the States, an economic and financial analysis has been carried out, using the methodology of ratios. The investigation concerns the touristic sector and investigates the balance sheet of all the European hotels and accommodation structures, for the years 2019 and 2020.

Already in 2019, data show a varied scenario among European Countries, while, as expected, a generalized worsening occurs, in 2020. The ratio analysis highlighted the ability of State aid actions to alleviate the impact of the economic crisis on the sector.

Keywords: Covid-19, Ratios, European Union, Tourism, Risk Mitigation, Going Concern.

1. INTRODUCTION

The relevance and the impact of the tourism sector on the worldwide economy has steadily and unceasingly increased, in recent years, due to the reduction of the customs barriers and to the decrease of the prices of the transport on long draft (Bianchi, 2018; Okumus, 2020; Richards, 2018). The tourism industry globally and in aggregate form is one of the largest and most widespread service sectors, arrived to touch more than the 10% of the world GDP and to employ more than 330 million persons, that is 10,5% of the world's active population (Cárdenas-García et al., 2015; Du Cros & McKercher, 2020; Persson-Fischer & Liu, 2021; Vita & Sandy, 2022). This growing trend brought on the one hand a meaningful economic well-being, but on the other a negative impact on the planet, which drew attention on the need to reduce the environmental risks linked to tourism (Buhalis, 2019; Kongbuamai et al., 2020; Niewiadomski, 2020). The sector is a driving force for many Countries, since it produces the injections of foreign capital into the national economy and stimulates the development of connected sectors, such as agri-food, constructions, trade, and local crafts (Roman et al., 2022). The tax impact is also significant, in fact, several regions, not to mention entire states, rely almost exclusively on the revenues of the tourism sector (Blake, 2000; Ponjan & Thirawat, 2016; Santos & Cincera, 2018).

The sharp slowdown in the economy due to the covid-19 pandemic, has heavily plagued the tourism sector, which, in 2020, has roughly halved its contribution to world GDP (Polyzos et al., 2021; Uğur & Akbıyık, 2020; WTTC, 2021). While the world has experienced many serious

epidemics and pandemics in recent years, none of these have impacted the global economy such as the covid-19 (Tran et al., 2020).

The significant restrictions in tourist mobility, imposed by a lot of governments to fight the pandemic has redirected the flow of travellers to domestic destinations, negatively affecting long-distance movement. Barriers to mobility, such as quarantine, mandatory tests, general recommendations to limit travel, poor coordination between the public and private sectors, and subsequent waves of infections, have led to significant economic risk in the sector (Chang et al., 2020; Correa-Martínez et al., 2020; Prideaux et al., 2020; Škare et al., 2021; Yu et al., 2021). Scholars remark how there is a great deal of evidence that the impact and recovery from covid-19 will be unprecedented and all estimates of potential consequences for tourism should now be interpreted with extreme caution (Gössling et al., 2020). Successive estimates of recovery times have proved to be unreliable, in the light of the evolution of the pandemic and the difficulties of its containment, stressing the need to wait for the development of events, before making reliable forecasts. The only sad certainty is that in 2020, tourist flows and related economic revenues, have returned to those of 15 years ago (Fotiadis et al., 2021).

The pandemic will change the tourism industry and the context in which it operates. The crisis created an opportunity to learn about some of the perspectives of this historic moment of transformation (Higgins-Desbiolles, 2020), although, at present, it is not clear if this challenge will be transformed into an opportunity (Brouder, 2020).

In the European Union, where national borders are abolished for citizens (Wachowiak, 2016), there has been a significant decrease in travel between one state and another (Bera et al., 2020; Sanabria-Díaz et al., 2021), which has been added to the almost total absence of tourist from other continents (Figini & Patuelli, 2021; Niestadt, 2020). European Union has always been one of the favourite destinations for tourists from all over the world, due to the abundance of historical sites, cities of art, mountain landscapes, lakes, and seas. Till 2019, international arrivals exceeded 700 million, which accounts for about 50% of the market (Juul, 2015). The management of these tourist flows involves directly about 2.5 million PMI, which employ more than 12 million people and contribute to EU GDP for about 4%, whereas the labour force is over 5% or 12 million jobs. Considering also the induced, figures are in line with international data: 10% of GDP and 12% of total employment, equal to 27 million workers (European Parliament, 2021). Also in the European Union, the outbreak of covid-19 has impacted on the tourism sector in 2020, reaching to provoke to minor revenues for beyond the 50%, job losses and bleak forecast for the future (Mróz, 2021; Sapir, 2020; Şengel & Erkan, 2021).

The long-term impact of this unpredictable scenario is hard to be estimated, but the immediate consequence will cause negative effects on the balance sheet of the companies (Busch, 2020; Claeys et al., 2021; Tesche, 2022). In the best cases the companies will suffer both in economic and financial terms, in the worst they will come to bankruptcy (Demary, 2021).

Public support for enterprises is one of the pillars of the welfare state (Harberger, 1971) and its use is legitimate when the situation would be worse without these measures (Groenewegen et al., 2021). Any action aimed at mitigating the risk of insolvency and bankruptcy of companies is useful for the survival of the tourism sector and for stimulating its resilience (Ferri, 2021).

European Union has implemented a series of measures aimed at containing the effects of the crisis and tackle insolvency, such as debt moratoria, safeguards for employees, short-term liquidity guarantee, tax incentive and reduction (Barbier-Gauchard et al., 2021; Cifuentes-Faura, 2021; Sanchez et al., 2020). Due to the necessary speed of intervention, the European Institutions set the framework of the support for enterprises, leaving to national government the choice of the most appropriate instruments (Bera et al., 2020).

Having regard to the strategic importance of the tourism sector on the European scene, the paper investigates how the economic effects of the pandemic have been reflected in the European

States and the effectiveness of national public aid to cope with it. Using the ratio methodology (Carini & Teodori, 2019; Horrigan, 1968; Nissim & Penman, 2001), the research tries to analyse the effectiveness of the instruments adopted by the European Union and the States. The analysis, comparing data from European hospitality companies, referred to years 2019 and 2020, tries to identify which states have adopted the most adequate support instruments to help the tourism sector.

The research offers different theoretical and practical contributions, useful to scholars, practitioners, and policy makers. First, it provides an analysis of the effectiveness of the different public crisis response tools. Secondly, it contributes to the definition of best practices in the field of state aid, through an empirical analysis of the results produced by the instruments adopted in the different Countries: actions must be timely and targeted in order to optimise the use of public resources and have a positive effect on the economic system. Thirdly, it provides useful information for the simulation and the following study of crisis scenarios.

The paper consists of 5 more parts, as indicated later. The first one is a literature review concerning the role of public supports in time of crisis. The second is a comparison of the different tools adopted by the European states to mitigate the economic risk related to companies' operation, during the covid-19. The third part introduces the methodology, based on the ratios analysis, highlighting its strength and weakness. The fourth part present the output of the research, and the last contains discussion, lesson learned, limitations and emerging issues.

2. LITERATURE REVUIW

The spread of covid-19 is putting States in the face of an enormous health crisis which, if observed from the point of view of economic and social repercussions, has no precedent in the history of humanity (Echarte Fernández et al., 2021; Sukharev, 2020). The global pandemic and the globalisation are the conditions for the outbreak of a possible generalized and lasting crisis (Ecker et al., 2020). To prevent this, it is necessary that the reaction proposed by the national governments is carried out with instruments with high and immediate impact (Jang, 2003; Moulton & Wise, 2010). From a macroeconomic point of view, government support is considered legitimate, even in market-oriented systems (Taylor-Gooby et al., 2004). These interventions are justified by the awareness that the economy would be worse off without these public interventions (Harberger, 1971). Government subsidies to the economy are the basis of the welfare state and are more necessary in a crisis situation such as that caused by covid-19 (Hacker, 2002). Even Countries strongly inspired by the principles of economic liberalism, as those of the Anglo-Saxon matrix, immediately took action to deploy large public resources, necessary to cope with the economic crisis caused by the pandemic (Keogh-Brown et al., 2020).

The intervention of the State in the economy is justified by the need to guarantee to the nations the performance of their essential functions (Musgrave & Peacock, 1958). Among the essential tasks of public finance interventions: it is possible to identify (Brumby & Verhoeven, 2010):

- an allocation function, aimed at correcting market mechanisms when they do not guarantee a socially optimal allocation of resources,
- a redistributive function, necessitated by the distortive effects of the market on the distribution of income and assets,
- a stabilizing function to ensure a level of employment close to that of full employment.

All three of these functions, considered necessary in times of day-to-day administration of the State, are even more important in crisis situations.

However, government intervention to provide benefits to the economy through contributions and direct assistance to businesses has some limitations. In the medium term, business support can lead to losses in the efficiency of the system: taxpayers' money could be spent on companies that would have survived the crisis without state aid (Santarelli & Vivarelli, 2007). In the long term,

there is a risk of substitution effects due to the lack of selection of worthy companies in the granting of State aid. This phenomenon leads to the fictitious survival of unprofitable enterprises which embed contributions to the detriment of those fundamentally viable. These phenomena hinder the correct allocation of factors of production (Barrero et al., 2020) and lead to a loss of efficiency of the economy (Brynjolfsson et al., 2020).

Another important issue debated in literature is the impact of a fiscal policy in support of the economy on public debt (Collignon, 2012; Rathnayake, 2020). The scale of the fiscal interventions required by the current crisis could have negative effects on public debt: uncontrolled and excessive indebtedness can lead to stability problems for Countries (Debrun et al., 2019).

Previous crises, even minor ones, have led Countries to adopt massive economic support measures. These policies were probably necessary to contain the recessionary risks, but they bequeathed nation government debts (Teles & Mussolini, 2014). Those heavily indebted States, already before the adoption of extraordinary measures to cope with the crisis, risk the explosion of their debt.

On the other hand, the austerity measures implemented by the European Union to cope with the recent crises have not fully achieved the objectives set (McKee et al., 2012; Norman et al., 2015; Stuckler et al., 2017). Similarly, the laissez faire policies of the United States have amplified the recessionary effects of crises (De Bondt, 2010; Wisman, 2013). It therefore appears necessary that state aid effectively reaches the companies in need and also contributes to the productivity of the longer-term economy, without jeopardising the stability of the public debt (Black & Lynch, 2005; Bloom et al., 2007). The need for action combining effectiveness and speed is a necessity for companies facing crises caused by external and temporary factors, such as a pandemic.

As exposed, a fluent literature about the need of public intervention to cope with economic crisis is available, but studies about individual public support tools are still scarce (Cristofaro et al., 2021).

This work aims to help fill the gap in the literature on the identification of specific tools that can effectively alleviate the impact of economic crises. Specifically, the paper aims to compare the different instruments put in place by the European Union and its members, assessing the impact on the budgets of individual companies.

3. ECONOMIC RISK MITIGATION FOR TOURISM COMPANIES DURING COVID-19

The impact of the covid-19 affected the European tourism sector, which is expected to remain below 2019 levels until 2023 (European Parliament, 2021). In 2020, Europe saw a dramatic decline in international tourist arrivals compared to the previous year. Uncertainty still dominates with the understanding that the companies in the sector are exposed to several risks, which undermine their survival (Kot & Dragon, 2015). The risks caused by the decrease in tourist flow involve all stakeholders in the industry (Scholtens & Zhou, 2008; Xia et al., 2018), such as staff, suppliers, clients, collaborators, and investors with a direct reflection on companies' accounts. The most immediate consequence is the lack of liquidity to make short-term commitments necessary to ensure business continuity (Simamora & Hendarjatno, 2019). If the crisis will continue for a long time, the risks to business stability will increase, leading to the need to renegotiate even long-term debts. The EU's bodies have tried to give a quick answer to ensure liquidity to enterprises (Brunnermeier et al., 2020; Mirza et al., 2020), focusing, in particular to SME, which, due to a great difficulty in accessing credit, jeopardize bankruptcy and reduction of employment (Brunnermeier & Krishnamurthy, 2020; Cepel et al., 2020; Kalemlı-Ozcan et al., 2020; Melnyk et al., 2021).

At the end of March 2020, so at the very beginning of the pandemic, the European Commission adopted the Communication 2020/91 (European Commission, 2020b), titled "*Temporary*

Framework for State aid measures to support the economy in the current covid-19 outbreak", in which the first measures to deal with liquidity crunch were taken. To further mitigate economic risk and provide support to businesses, the Commission triggered "the most flexible state aid rules yet", allowing governments to provide direct support for companies. The measure constitutes the framework of reference for extraordinary state aid in support of the economy and contains indications to member states on how to act. The enterprise support scheme provides for cash assistance on the one hand and non-repayable grants on the other. Banks have a key role to play in responding to the effects of the covid-19 outbreak by keeping credit flowing to the economy (Aizenman et al., 2022; Mosser, 2020). In this exceptional context, the Commission stimulates member states to take measures to incentivise credit institutions to continue to play their role in supporting economic activity. The response of the member states was rapid and developed on the four strands identified by the Commission: spending measures, fiscal measures, sectoral and regional or measures other than fiscal, all other measures (Demertzis et al., 2020; Nicola et al., 2020; Williams, Colin C. & Kayaoglu, 2020a). The purpose of these interventions is to assist and mitigate financial effects to companies affected with the pandemic. The instruments applied are different from each other, since they are specific to individual EU member states (Williams, Colin C. & Kayaoglu, 2020b; Williams, Colin C. & Oz-Yalaman, 2021; Williams, Colin Charles, 2021), however, some common actions can be identified:

- moratoria on mortgages, public guarantee on loans granted to overcome the crisis, suspension of the principal amount on leasing and financing instalments, to guarantee the necessary liquidity for companies,
- direct financial support to enterprises, through grants and compensations,
- stimulus to consumption in the sectors most affected by vouchers and coupon for citizens,
- suspension of social security contributions on salaries linked to the special redundancy fund, to preserve employment,
- extraordinary financing of unemployment funds to mitigate social cohesion risks,
- deferral or suspension of payment of corporate tax, not to further afflict companies in crisis,
- reduction of excise duties to ensure a stimulus to consumption.

The aim of these interventions is to guarantee that companies have the necessary resources to maintain their operations, or to temporarily freeze their activity without compromising their survival, in the medium-long term.

Within the perimeter drawn up and vaulted by the Commission, the member states have implemented different breakdowns to ensure support for their businesses. Below are the main actions implemented in each Country. The list contains only those aids which, due to their characteristics, guarantee comparability with other Countries and has been constructed in compliance with the following parameters:

- the effects of the instrument have an impact on the 2020 financial statements,
- the aid is aimed at the whole national territory and not to a specific area/region,
- the beneficiaries are companies from all sectors and not those of a specific one, except for the tourism industry,
- the support is aimed at limited companies, whose balance sheet data are available for analysis.

The list refers to 2020 so it includes 28 states, indeed, according to the United Kingdom Withdrawal Agreement (European Commission, 2020a), during the transition period which ended on 31 December 2020, the entire body of EU law continued to apply to and in the UK, as if it had been a member state. This included all EU rules relating to state aid.

Austria: liquidity scheme, in the form of direct grants, repayable advances and guarantees, state guarantees for loans, subsidised public loans with favourable interest rates; guarantee scheme to support small and medium-sized enterprises, providing guarantees on working capital loans;

scheme to entitle undertakings to compensate their damages, in the form of direct grants to cover fixed costs.

Belgium: loan scheme provides state guarantees on new short-term loans and was subsequently implemented to better responds to the needs of SMEs; HORECA support scheme takes the form of an exemption from the annual contribution to the Federal Agency for the security of the food chain; wage subsidy scheme, in the form of direct grants, assist employers pay the social security contributions. The federal structure of this Country has meant that many initiatives have been taken at the regional level, therefore they do not fall on this list.

Bulgaria: wage subsidies support scheme for preserving employment allow the authorities to finance 60% of the wage costs of undertakings that would otherwise lay off personnel; public guarantee scheme to support SMEs with a public guarantee on existing or new loans; scheme to support SMEs liquidity consists of equity and quasi-equity investments; scheme in the form of grants to address the liquidity needs; scheme in the form of direct grant of €25,565 per beneficiary, to cover part of their operating costs.

Croatia: scheme to support companies' liquidity, in the form of zero-interest loans and loans with subsidised interest rates.

Cyprus: aid scheme to defer VAT payments, to ease the liquidity constraints of companies; scheme to provide direct grants and subsidised interest rates.

Czechia: scheme for guarantees on loans; scheme to support companies in form of direct grants; wage subsidy scheme providing contributing to wage costs, supporting undertakings that would otherwise lay off personnel; aid scheme to support operators offering accommodation services, through direct subsidies in the form of a fixed amount per room and per day.

Denmark: scheme that entitles companies to compensation for the fixed costs; scheme granting tax deferrals and comparable measures to ease liquidity constraints, in the form of tax deferrals and similar measures in relation to VAT and payroll tax liabilities; scheme to compensate travel sector companies that will be entitled to compensation for the losses suffered; scheme to support companies that are subject to an operation ban in the form of direct grants; scheme to help businesses cover employee salary costs.

Estonia: state aid scheme consists in the provision of public guarantees on existing or new loans and in the granting of loans at favourable terms; state aid schemes in the form of direct grants and payment advantages to provide liquidity; scheme to support tourism sector in the form of direct grants.

Finland: aid scheme takes the form of state guarantees on new investment and working capital loans or Subsidised investment and working capital loans with favourable interest rates; scheme to support the economy take the form of direct grants, equity injections, selective tax advantages and advance payments, as well as repayable advances, state guarantees and loans.

France: state aid scheme to provide state guarantees on commercial loans and credit lines; umbrella scheme in the form of direct grants, equity injections, repayable advances and subsidised loans, state guarantees for loans and public loans with favourable interest rates; subordinated loan scheme to support access to funding; scheme in the form of salary support to ensure that workers in these sectors will keep their jobs and receive a monthly income.

Germany: scheme to enable the granting of loan guarantees at favourable terms; aid scheme to provide liquidity in the form of subsidised loans in close cooperation with commercial banks; guarantee scheme to support the trade credit insurance market; plan to provide guarantees and investment through debt and equity instruments; scheme to allow German federal and regional authorities to invest through debt and equity instruments in enterprises.

Greece: aid scheme in the form of grants; aid scheme in the form of repayable advances; aid scheme in the form of guarantees on loans.

Hungary: aid scheme in the form of direct grants, loans, and equity measures; scheme to ensure sufficient liquidity to cover immediate working capital and investment needs by facilitating access to loans; scheme in the form of equity injections and convertible loans; umbrella scheme to preserve jobs or creating new job opportunities.

Ireland: scheme in the form of repayable advances; scheme in the form of direct grants equivalent; loan guarantee scheme in the form of State guarantees on new loans provided by financial intermediaries; scheme to support companies in the tourism and hospitality sectors in the form of direct grants to cover the costs of adapting businesses to the requirements for re-opening.

Italy: umbrella scheme in the form of direct grants, guarantees on loans and subsidised interest rates for loans and for coronavirus-related expense; aid scheme aims at easing the liquidity constraints and encouraging the adaption of production processes and workplaces to the new sanitary requirements; scheme to support the trade credit insurance market; scheme for regional tax exemption; scheme to support companies operating in the tourism and thermal bath sectors in take the form of an exemption from the obligation to pay certain social contributions; scheme for social security contributions exemption, to reduce the labour costs.

Latvia: schemes aim at enhancing the access to external financing in the form of loan guarantee and subsidised loan; scheme to support tourism operators in the form of direct grants to cover 30% of the mandatory state social security contributions paid by the beneficiary.

Lithuania: aid scheme in the form of a guarantee for working capital and investment loans granted by commercial banks; support measures in the form of subsidised loans for enterprises facing cash shortages and loans for outstanding invoices; rent compensation scheme in the form of direct grants to cover part of the rents due by those companies; scheme in the form of subsidised debt instruments and recapitalisation instruments; scheme that defers payment of social security contributions.

Luxembourg: scheme to support companies in the form of a repayable advance to allow beneficiaries to cover their operating costs; aid scheme to enable companies experiencing a decrease in liquidity due to the coronavirus outbreak to undertake investments that they would not otherwise undertake due to the current crisis; aid schemes in the form of direct grants; reinsurance scheme to support the trade credit insurance market.

Malta: aid scheme in the form of a guarantee for working capital loans granted by commercial banks; wage subsidies scheme to finance the wage costs of employers that would otherwise have laid off employees; interest rate subsidy scheme in the form of covering the interest costs on the initial two years of a loan; scheme in the form of direct grants; scheme in the form of state guarantee on loans.

The Netherlands: loan guarantee scheme to support companies meet their liquidity needs in the context of the coronavirus outbreak; aid scheme in the form of subsidised interest rates on loans; guarantee scheme to support the trade credit insurance market.

Poland: an aid scheme to support companies by providing liquidity in the form of guarantees on loans and subsidised interest rates for loans; aid scheme based on public guarantees on investment loans and working capital loans; scheme to partially cover interests on loans in the form of direct grants; aid scheme to provide liquidity support in the form of guarantees on loans and subsidised interest rates for loans; scheme to support the economy through grants and repayable advances; aid rules scheme to provide direct liquidity through loans; recapitalisation

scheme in the form of recapitalisation instruments, in particular equity and hybrid capital instruments; scheme in the form of a reduction of the annual fee due for the perpetual usufruct and an exemption of the rent, lease or usufruct fees; scheme in the form of state guarantee on factoring products; scheme to grant public support in the form of tax deferrals and tax-related liquidity measures.

Portugal: aid scheme in the form of a direct grant and a state guarantee for investment and working capital loans granted by commercial banks.

Romania: scheme in the form of direct grants and state guarantees for investment and working capital loans; scheme in the form of subsidised loans and state guarantees on loans; scheme in the form of direct grants for working capital and productive investments; scheme in the form of direct grants to help businesses cover liquidity and to ensure diversified financing channels.

Slovakia: aid scheme aims at providing liquidity to continue their activities, start investments and maintain employment levels pre-dating the coronavirus outbreak; scheme to support companies renting premises, in the form of direct grants; aid scheme for preserving employment and in the form of wage subsidy to finance a part of the wage costs.

Slovenia: aid scheme umbrella in the form of direct grants, wage subsidies, exemption from paying social security contributions, reduction of certain taxes and water fees, bank guarantees, deferred payment of certain credits and compensatory payments; scheme in the form of rent rebates and rent exemptions for tenants of commercial real estate managed by public bodies and public guarantees on investment and working capital loans; scheme in the form of direct grants, payment advantages and wage subsidies; scheme in the form of subsidised interest rates or loans.

Spain: umbrella scheme to provide liquidity support in the form of direct grants, repayable advances, tax, and payment advantages, guarantees on loans and subsidised interest rates for loans; scheme for new loans and refinancing operations; reinsurance scheme to support the trade credit insurance market.

Sweden: aid scheme for new loans granted by commercial banks to support.

United Kingdom: umbrella scheme allows for the provision of aid in the form of direct grants, equity injections, selective tax advantages and advance payments, state guarantees for loans subject to safeguards for banks, subsidised public loans to companies with favourable interest rates; guarantee scheme to support the trade credit insurance market.

The following table (Table 1) summarises all the information, explained above, on state aids implemented by the different European Countries.

Country	Direct Grant	Guarantee on bank loans	Subsidy interest on loans	Credit insurance	Repayable advance	Tax deferral/reduction	Wage and job support	Ad hoc aid for tourism	Other
Austria	x	x	x		x				
Belgium		x				x	x	x	
Bulgaria	x	x					x		
Croatia			x						
Cyprus	x					x			
Czechia	x	x					x	x	
Denmark						x	x	x	
Estonia	x	x						x	
Finland	x	x	x		x	x			
France	x	x	x		x		x		
Germany		x	x	x	x				x
Greece	x	x							

Hungary	x	x					x		
Ireland	x	x			x			x	
Italy	x	x	x	x		x	x	x	x
Latvia		x	x					x	
Lithuania		x	x			x	x		x
Luxembourg	x			x	x				
Malta		x	x				x		x
Netherlands		x	x	x					
Poland	x	x	x		x	x			x
Portugal	x	x							
Romania	x	x	x						
Slovakia	x						x		
Slovenia	x		x		x	x	x		x
Spain	x	x	x		x	x			
Sweden		x							
UK	x		x	x	x	x			

TABLE 1:States aid schemes implemented by EU Countries (Author Processing).

Among the different measures adopted, direct grants and public guarantees on bank loans are the most popular, while credit insurance or reinsurance are the less adopted.

Defined the different measures adopted by the European Countries to face the crisis caused by covid-19, in the next section, it will be evaluated the effectiveness of these measure.

4. RATIOS AS A TOOL TO EVALUATE THE EFFECTIVENESS OF NATIONAL PUBLIC AID

Due to covid-19, the European tourism companies faced an extraordinary crisis situation, attributable exclusively to factors external to the economic system and to their business model (Kieweg et al., 2021). The business continuity assessment tools adopted to evaluate this specific crisis situation are those known in the economic literature and practice (Baskan, 2020; Savova, 2021), as the budget analysis (Allen et al., 2002; Bedford, 2008), also through the use of ratios (Giacosa et al., 2016). The point of reference for all ratios-based insolvency forecasting is the Altman model (Altman, E. I. et al., 1995; Altman, Edward I., 1993; Chen, Y. et al., 1995), from which numerous contributions have been developed (Beaver et al., 2005; Boritz et al., 2007; Chen, M., 2014; Hosaka, 2019; Lukason & Andresson, 2019; Nam & Jinn, 2000; Tian & Yu, 2017), which, through continuous updates and enhancements, have amply demonstrated its validity and effectiveness. The ratios-based analysis, applied to the 2019 and 2020 financial statements, will identify, on the one hand, the state of health of companies in the tourism sector in the various European Countries and, on the other, the effectiveness of the aid deployed by the different States. The choice of the two exercises is not accidental, in fact, since the pandemic broke out in March 2020, to continue with different intensity throughout the rest of the year, the effects, mitigated by the state aids, are represented in the annual financial statement of that year (Banerjee et al., 2020; Efimova & Rozhnova, 2020; Tibiletti et al., 2021). The measuring of the negative impact of the pandemic, with particular regard to their economic and financial ratios, takes as a benchmark their ante-pandemic situation in 2019.

The budgetary values used for the calculation of the ratios required for the analysis have been extracted from Refinitiv Datastream, using the following criteria:

- registered office in a EU's Country,
- companies belonging to the hospitality sector according to the NACE Rev. 2 classification (Schnabl & Zenker, 2013),
- in case of groups, only subsidiaries have been considered (holding have been excluded to avoid duplications or cross-Country interferences),
- Excluded companies with no financial data available for 2019 and 2020,
- Excluded public authorities/states/governments.

The selection returned a sample of 73.501 companies, from which are excluded the so-called micro-enterprises as they are not required to file the annual balance sheet. After deleting the data concerning a limited number of cases where the lack of reliable and/or complete values in the financial statements would distort the analysis (Welman & Kruger, 2001), a sample of 72.368 companies was identified.

The methodology followed for the analysis includes three steps:

1. ratios calculation for each company (Horrigan, 1968; Husna & Satria, 2019; Reid & Myddelton, 2017),
2. scoring of calculated ratios (Montrone & Poledrini, 2021),
3. calculation of national rating for the two reference years, 2019 and 2020 (Nissim & Penman, 2001).

Following the methodological scheme four especially meaningful ratios were calculated (Abraham et al., 2017; Burton et al., 2002; Husna & Satria, 2019), to evaluate financial and economic continuity of tourism companies. The choice to use more than one ratio comes from the fact that each of them returns a rather precise and detailed information, not sufficient to make a complete assessment of an undertaking, therefore their combination allows a deeper level of investigation (Mechlin & Berg, 1980). The ratios calculated are:

- current ratio,
- equity multiplier,
- return on assets – ROA,
- return on investment – ROI.

The choice was made on the basis of their ability to highlight the effects of the crisis and those of the corrective measures offered by the support plans implemented by individual states. Ratios that provide information about the strategic choices of the directors have been omitted, favouring, instead, those that provide information on the ability to ensure the going concern in an extraordinary context, such as the pandemic one. After all, the aim of the research, which has been mentioned several times, is only to assess the effectiveness of the instruments adopted by European governments to deal with the economic crisis caused by covid-19. Classic tourism performance indicators were not considered (number of overnight stays, arrivals, or expenditure) as the crisis is supposed to have affected the tourism sector of all European Countries, with similar intensity. Some considerations will be made, however, in relation to the importance of the tourism sector for the economy of individual states.

Since scholars and practitioners sometimes offer slightly discordant information (Barnes, 1987; Chen, K. H. & Shimerda, 1981; Lewellen, 2004; Phillips & Phillips, 2005; Rostami et al., 2016), below are the details about meanings, interpretations, and formulas adopted to calculate each ratio:

- **Current Ratio**, to measure a company's ability to pay its short-term or year-end obligations; It is calculated by dividing the current assets by the short-term liabilities. It should be considered in comparison to a peer group: a low current ratio may indicate a risk of distress or default, while a high one means that assets are not used efficiently.
- **Equity Multiplier**, also known as the leverage ratio or financial leverage ratio, to measure the equity contribution against debt. It is calculated by dividing the value of total assets by the total equity of shareholders. A high value indicates that a company is using a high amount of debt to finance assets, while a low one means that the company has less reliance on debt.
- **Return on assets - ROA**, to measure the profitability of a company in relation to its assets. It is calculated by dividing the net income by the total assets. It's a percentage and the higher the number, the more efficient a company is at managing its balance sheet to generate profits.

- *Return on investment* - ROI, to measure the probability of the core business of a company. It is calculated by dividing operating income by net invested capital. It's a percentage and the higher the number, the more efficient a company is at managing its core business.

The second point of the methodology is the scoring of calculated ratios, with the aim of making an evaluation of the effectiveness of the national aid schemes. This technique has already been tested by other authors (Reid & Myddelton, 2017), through a scale of five judgments (Montrone & Poledrini, 2021). The choice to use the scores to estimate the economic performances of the companies, concurs to overcome, at least partially, the problems of weighting of the subjects involved in the investigation (Mazziotta et al., 2010).

Scores from one to five have been assigned, to the values obtained for each ratio, as indicated in the following table (Table 2). The ranges have been constructed considering industry reference values from Orbis database.

Ratio	Score				
	1	2	3	4	5
Current Ratio	0/1	1/2	2/4	4/5	>5
Equity multiplier	>4,5	4,5/3	3/1,5	1,5/0,5	<0,5
ROA	<0	0/3	3/5	5/8	>8
ROI	<0	>8	9/12	12/20	>20

TABLE 2: Score assigned to the ratios results.

The attribution of the correct scores is a rather delicate operation, since it represents the heart of the subsequent investigation, for this reason, in order to ensure the correctness of the data, the work has been verified by an independent auditor.

By completing the application of the methodology, scores have been aggregated by Country and the national average has been calculated per each ratio. Data thus obtained has been summed, in order to obtain national rating for the two reference years, 2019 and 2020 and proceed with the subsequent analysis.

The use of the average values, in addition to being necessary to compare so many data, allows to sterilize any effects, both positive and negative, linked to individual business and management strategy, unrelated to the pandemic.

5. RESULTS

This section contains the output of the research on enterprises in the tourism sector.

The following table (Table 3) shows:

- the number of companies involved in the investigation, per each Country and for EU,
- the national rating calculated for the two reference years, 2019 and 2020,
- the deviation between national ratings for the two reference years, 2019 and 2020.

Country	Companies	2019	2020	Deviation
EU	72.368	10,05	6,91	3,14
AT	3.440	9,68	7,24	2,43
BE	1.812	9,52	7,36	2,16
BG	3.619	10,82	7,63	3,19
CY	8	9,60	5,60	4,00
CZ	413	10,71	7,57	3,14
DE	5.103	10,62	7,26	3,36

DK	616	9,47	7,27	2,20
EE	355	10,35	7,12	3,24
ES	7.448	10,30	6,32	3,98
FI	614	10,08	7,62	2,46
FR	6.041	9,96	7,07	2,89
GB	9.482	9,23	6,63	2,59
GR	1.297	10,30	6,07	4,23
HR	1.164	9,56	6,54	3,02
HU	1.799	10,45	7,54	2,90
IE	880	10,21	6,84	3,37
IT	14.701	9,22	6,94	2,28
LU	140	11,79	6,64	5,14
LV	376	9,98	7,57	2,40
MT	7	10,00	5,00	5,00
NL	1.635	8,87	6,35	2,52
PL	2.062	10,14	7,04	3,10
PT	3.028	10,32	6,36	3,96
RO	2.704	11,81	8,27	3,54
SE	2.394	9,87	7,06	2,81
SI	690	9,54	7,00	2,54
SK	540	9,02	6,77	2,24

TABLE 3:Ratio Scoring per Year and Deviation.

The number of companies involved varies depending on the size of the Country and the importance of the tourism sector on the national economy (Rita, 2000). By the way, for Cyprus and Malta the number of companies involved in the analysis is really low, making the result, although very negative in both cases, unreliable (Welman & Kruger, 2001).

The following graph (Figure 1) shows the total scoring of 2019 and 2020, per each Country.

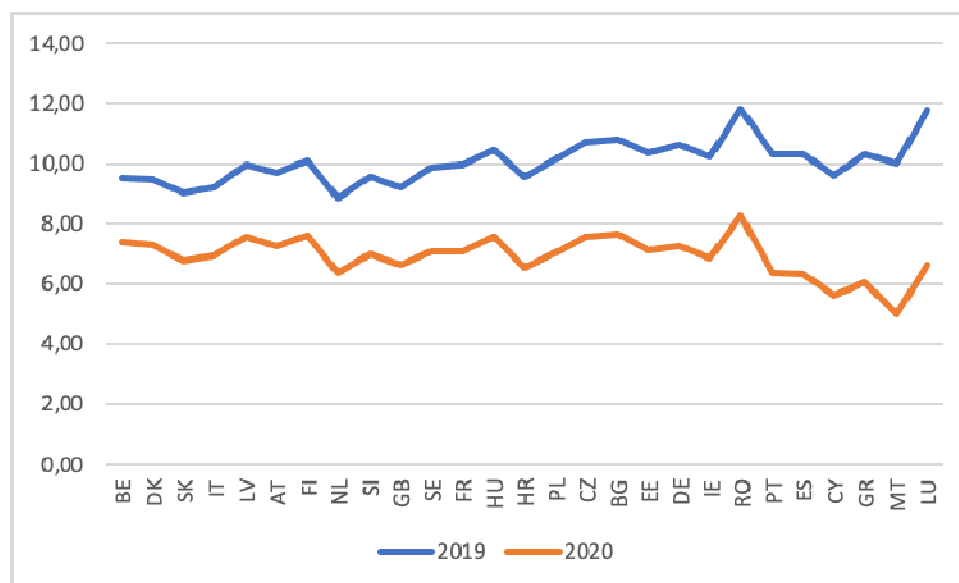


FIGURE 1: Ratio scoring per Year.

The following map (Figure 2) displays the total scoring deviation between 2019 and 2020: the states in which the colour is less intense are those in which the difference between the 2019 and 2020 scoring is lower, vice versa, the colour is more intense for those states where the deviation is higher.

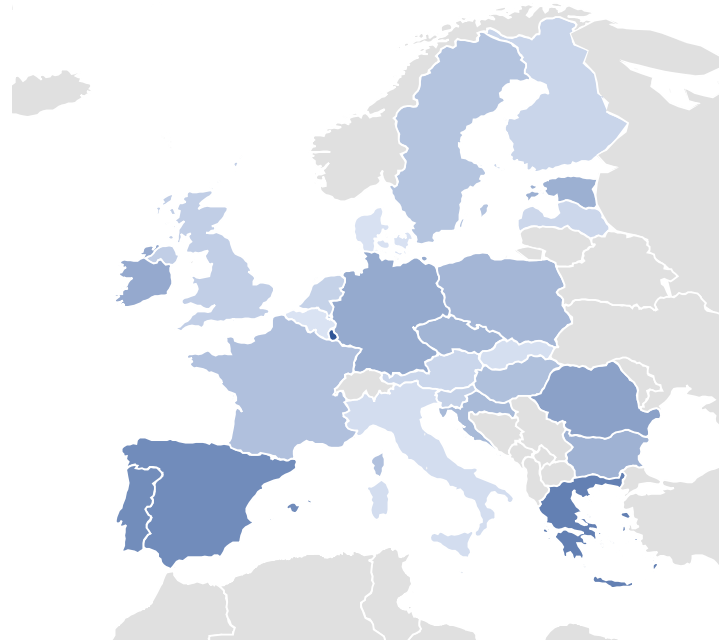


FIGURE 2: Ratio scoring Deviation Map.

As expected, in 2019, companies had a better performance than 2020, to mean the impossibility of the instruments put in place by governments to completely absorb the effects of the crisis in the tourism sector.

At European Union level, among 72.368 companies analysed, there is a general worsening of economic results, which is however mitigated by the interventions put in place within the *Temporary Framework for State aid measures to support the economy in the current covid-19 outbreak*.

Data shows that Countries which have better coped with the economic crisis caused by the pandemic from covid-19 are Belgium, Denmark, Slovakia, and Italy, with a very limited difference between the 2019 and 2020 scores. By contrast, Luxembourg and Malta show the highest score difference, preceded by Cyprus, Greece, Portugal, and Spain. These last positions point to the lack of effectiveness of some of the measures adopted in relation to the economic crisis caused by the covid-19 pandemic, in the tourism sector. Observe how Cyprus, Greece, Portugal, and Spain have suffered a significant worsening with likely substantial consequences for the national economy, since tourism is one of the most developed sectors for these countries (Juul, 2015).

Looking at the aid schemes adopted by the Countries to deal with the economic effects of the pandemic by covid-19, Belgium, Denmark, Italy, and Slovakia have all provided for wage and job support, while Belgium, Denmark and Italy have all provided tax deferral or reduction and *ad hoc* measures for tourism. An aspect that unites, instead, Cyprus, Greece, Luxembourg and Malta is not having foreseen any specific intervention for the sector.

Looking at the data, it is possible to observe how Romania and Bulgaria achieved the best scores both in 2019 and 2020, showing an excellent performance of the companies analysed.

These results do not show an unequivocal trend, but it is nevertheless possible to work out some considerations that will be set out in the next paragraph.

6. CONCLUSIONS

The economic crisis due to the outbreak of the pandemic by covid-19 has generated an unpredictable situation (Meyer et al., 2022; Ntounis et al., 2022; Okafor et al., 2022), which has also revealed some structural problems of tourist companies (Santaolalla Lorenzo, 2016). This situation has forced states to resort to special measures to support the economy (Bighelli et al., 2022; Fabbrini, 2022) and made the public support for all categories of business normal and widespread.

Within the special aid framework provided by the European Commission, each member state has been able to take the actions deemed most effective for their businesses. However, since the public resources available are limited, it is extremely important for their optimal use to maximise their positive impact on the economic and social fabric (Thomas, 2004).

With financial statement available for 2020, the year in which the crisis erupted, it was possible to compare with the previous year's data (Kend & Nguyen, 2022; NGUYEN, 2022), to highlight the economic effects of the pandemic. The ratios analysis, applied to the tourism sector, has made it possible to identify how the companies of the different States reacted to covid-19, from a strict economic point of view.

Data reveals that Belgium, Denmark, Italy, and Slovakia show fairly similar budgetary results in the two financial years under review, highlighting the effectiveness of the measures taken by their governments. On the other hand, Spain, Portugal, Cyprus, Greece, Luxembourg, and Malta show the most significant worsening of the accounts, highlighting the partial ineffectiveness of the measures adopted by their governments.

This data should also be read in relation to the impact of the tourism sector on the national economy. A negative result for a Country like Luxembourg, does not have the same impact for Greece and Cyprus, where tourism is a strategic sector (Rita, 2000). Moreover, the strictly financial data, which can be arranged, do not allow to measure the impact on workers turnover and on the actual survival of the enterprise after the crisis caused by covid-19 (Banerjee et al., 2020; Demary, 2021; Kalemli-Ozcan et al., 2020).

The research shows that, although within a European framework, the initiative of individual Countries seems very relevant, in fact, similar aid measures, adopted by different nations, produce very different results (Doni et al., 2021; Harberger, 1971). For this reason, Countries should provide targeted aid for strategic sectors, in order to contain the effects of the crisis, even in the medium to long term (Bighelli et al., 2022; Groenewegen et al., 2021).

In conclusion, countries adopting *ad hoc* measures for the sector, as well as targeted measures to support employment by easing the finances of businesses, have been able to better cope with economic crisis triggered by covid-19. Another crucial aspect, which, not having regular budgets, does not emerge directly from the survey, but from the literature, is the timeliness of state aid, an aspect in which the European Union has played a fundamental role, in addition to coordinating and supporting initiatives. In the light of covid-19 experience, it could be very useful to provide extraordinary tools for managing future crises, in order to be prepared and avoid wasting public resources (Allen et al., 2002; Busch, 2020; Persson-Fischer & Liu, 2021).

The research has also several limitations (Connelly, 2013; Ochieng, 2009). For example, enterprises in the tourism sector have been analysed as a whole, without distinguishing between recipients of aid or not, although it will be difficult for firms to give up public support, given the situation. The ratios analysis considers only economic data, without including, for example, employment. For greater effectiveness, it may be appropriate to include such information, where available. The choice of a specific sector of analysis, that is tourism, cannot fully represent the

effectiveness or failure of the measures taken by the individual Countries, but is limited to providing a key reading. The data available for processing concern only strictly financial information and do not consider the social and environmental spheres (Barnes, 1987; Lewellen, 2004).

A possible development of the research could involve the extension of the ratios considered (Carini & Teodori, 2019) and/or to repeat the collection by entering data 2021, 2022 and 2023, in order to assess the medium-term effectiveness of the public policies adopted (Contractor, 2022). Another development could be the inclusion of sustainability kpi (European Parliament, 2014; Giacosa et al., 2017).

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