III. International tourism decline and its impact on external balances in the euro area

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Abstract: Tourism was one of the activities most hard-hit by the pandemic. The containment measures to fight COVID-19 included restrictions on activities in the hospitality sector and on international travel. This section estimates the impact of the pandemic on cross-border tourism in the euro area during 2020, and evaluates the effect of the decline in international tourism on trade balances, using data on trade in value added and input-output tables to gauge direct and indirect effects. Using tentative projections of nights spent by foreign tourists in 2021 and 2022, the section also estimates the impact on the trade balances of euro area countries going forward. Results show that several tourism-intensive countries, some already with weak external positions, were hit strongly in 2020, and that the full recovery in these countries, which include Greece, Cyprus, Malta, Portugal, and Spain, may extend beyond 2022, even in an optimistic scenario. Conversely, for some euro area countries such as Belgium, Germany, Finland and the Netherlands the results point to positive partial effects from the decline in international tourism on trade balances, which in some cases helped to maintain their trade surpluses. Overall, the pandemic-induced decline in international tourism exacerbated, at least temporarily, the existing external sector imbalances within the euro area.

III.1. Introduction

International tourism is an important generator of value added and source of export revenues for the economies of several euro area Member States ([64]). Some of these countries have had external sector imbalances, in the form of either large negative net international investment positions or large current account deficits, or both. With the outbreak of the COVID-19 pandemic, far-reaching containment measures were introduced across the euro area, which included restrictions on contact-intensive services, and in particular on international travel. The restrictions were of varying intensity across countries and time, reflecting mostly differences in the spread of the virus and in health infrastructures, with policies in the EU coordinated to some extent ([65]). As a consequence of these restrictions, tourism, in particular across borders, has been among the most severely hit economic activities, with important implications for the trade balances and GDP of countries with relatively large tourism sectors ([66]).

Subsection III.2 describes developments in 2020 to identify key patterns in international tourism during the pandemic, with a focus on the euro area ([67]). As the relevant official data come only with a delay, which varies across countries, the description also draws on nowcasts, using real-time big data. Subsection III.3 describes the importance of international travel for the external sector of euro area countries before the pandemic as well as the changes that occurred in 2020. Subsection III.4 estimates the effects of the 2020 tourism slump on trade balances ([68]). Finally, subsection III.5

([64]) This section uses the terms 'tourism' and 'travel' interchangeably, although there may be differences in the usual understanding of the two. In the balance of payments statistics, exports of travel services (i.e. travel credit) include '… goods and services for own use or to give away acquired from an economy by non-residents during visits to that economy.' (see IMF (2009), 'Balance of Payments and International Investment Position Manual', 6th edition, p. 166). Imports of travel services (i.e. travel debit) are defined analogously. In both cases, visits to an economy include visits whose primary purpose is business as well as other visits, with the latter recorded under the category of personal travel. Personal travel includes e.g. vacations, or visits with friends and relatives, but also trips with education and health-related purposes. The analysis does not differentiate between trips for different purposes, because more detailed data by the purpose of visit (business vs. personal) come with an additional delay and currently are only available for 2019 and not for all euro area countries.

([65]) On 13 October, EU Member States adopted a Council Recommendation (Council Recommendation (EU) 2020/1475) on a coordinated approach to the restriction of free movement in response to the COVID-19 pandemic. In a Communication adopted on 17 March 2021, the Commission charted the way ahead for a balanced policy and common EU approach to easing travel and other restrictions – European Commission (2021), 'A common path to safe and sustained re-opening', Communication to the European Parliament, the European Council and the Council, March.

([66]) Furceri at al. (2021) show that the size of the tourism sector is a robust determinant of output losses across countries in the first phase of the Covid-19 recession. Furceri, Davide and Ganslmeier, Michael and Ostry, Jonathan D. and Yang, Naihan, Initial Output Losses from the COVID-19 Pandemic: Robust Determinants (March 1, 2021). CEPR Discussion Paper No. DP15892.

([67]) For a survey of studies that look at the impact of COVID-19 on tourism activity and also earlier literature on the impact of unexpected events in general, see Anguera-Torrell, O., Vives-Perez, J. and Aznar-Alarcón, J.P. (2021), 'Urban tourism performance index over the COVID-19 pandemic', International Journal of Tourism Cities, Vol. ahead-of-print.

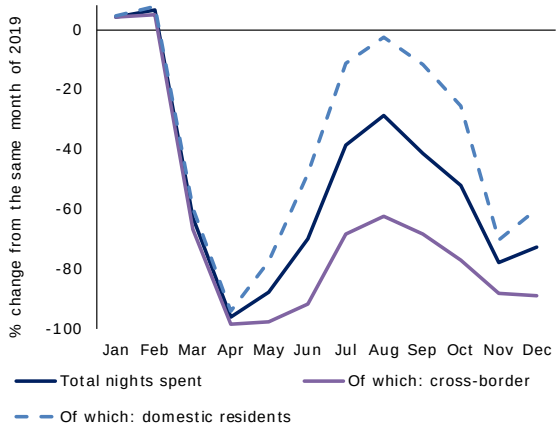
([68]) Mariolis et al. (2020) use a similar methodology of input-output tables to estimate the impact of the Covid-19 tourism decline on

develops projections of the nights spent by foreign tourists in 2021 and 2022, and estimates the related effects on the external balances of euro area countries. While the analysis relies on the partial-equilibrium approach, it does account for the imports related to exports of travel services by focusing on value added traded. The last subsection discusses the findings and concludes.

III.2. Decline in international tourism during the pandemic

Eurostat data on nights spent by visitors in 2020 are currently fully available for 16 of the 19 euro area countries. For the other Member States, France, Ireland and (partly) Greece, this analysis relies on complementary nowcasts of nights spent per country. The nowcasts are based on a real-time dataset of 46 million customer reviews for 2.3 million AirBnB holiday listings in the EU ([69]). As they are currently available for up to March 2021, the nowcasts play an important role in gauging tourism developments in the current year, as discussed further below.

Graph III.1: **Nights spent in tourist accommodations in the euro area in 2020**

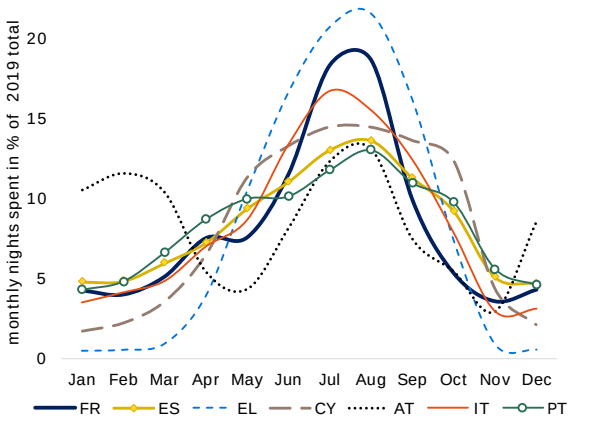


(1) Data are partially based on nowcasts. See the note to Table III.1.
Source: Eurostat and Commission estimates.

The patterns of nights spent in tourist accommodations closely reflect the first and second major wave of COVID-19 cases in 2020, with some differences (see Graph III.1). The decline in nights spent during the first wave was more pronounced and only slightly stronger for cross-border travel than for domestic tourism. In the period between June and August, tourism recovered considerably but with substantial differences between domestic and international travel. While the nights spent by domestic residents nearly reached pre-pandemic levels in August, the nights spent by cross-border travellers remained around 60% below their 2019 level. As the second wave began to intensify, tourism suffered another setback. In November and December of 2020, cross-border travel was nearly 90% below the 2019 level.

Given the varying extent of the changes in nights spent compared to the pre-pandemic situation throughout 2020-2021, especially of non-residents, it is of interest to observe the seasonal patterns of nights spent by foreign tourists in 2019. Graph III.2 shows, for selected countries, that most of the nights spent in 2019 were recorded in the summer, with visits to Greece being the most strongly concentrated in this part of the year (among all euro area countries). Still, some differences across Member States are apparent, also due to significant winter tourism, particularly in Austria, but also in Italy or France.

Graph III.2: **Monthly distributions of foreign tourists' nights spent in 2019**



Source: Eurostat.

For the euro area as a whole, total nights spent in 2020 declined by some 50% compared to 2019, while those by non-resident tourists dropped by 70%. This resulted from rather heterogeneous,

trade balances in Greece. Mariolis, T., Rodousakis, N., & Soklis, G. (2020). The COVID-19 multiplier effects of tourism on the Greek economy. Tourism Economics, August, pp.1-8.

([69]) For methodological explanations see European Commission (DG ECFIN). (2020). 'Tourism in pandemic times: an analysis using real-time big data'. European Economic Forecast – Autumn 2020. Special Topic 3.3. Institutional Paper 136. The nowcasts use the language of each review as a proxy to differentiate between nights spent by domestic tourists and by foreign residents.

although consistently negative, developments across countries (Table III.1).

Table III.1: **Total and foreign tourism activity overview - nights spent in tourism accommodations**

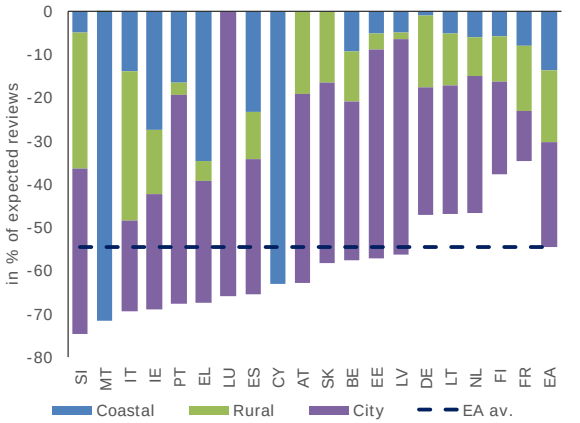
	Nights spent 2020, total		Nights spent, non-residents	
Country	Millions	change y-o-y	Millions	change y-o-y
Cyprus	4	-78%	3	-83%
Greece	40	-72%	27	-77%
Malta	3	-70%	2	-75%
Spain	144	-69%	61	-80%
Ireland	12	-68%	6	-70%
Portugal	30	-61%	14	-74%
Italy	204	-53%	66	-70%
Belgium	20	-52%	7	-69%
EA19	1207	-51%	345	-70%
Luxembourg	1	-47%	1	-52%
Estonia	4	-47%	1	-68%
Lithuania	5	-43%	1	-73%
Slovenia	9	-42%	3	-71%
Germany	261	-40%	32	-64%
Finland	14	-38%	2	-68%
Austria	79	-38%	51	-44%
France	278	-38%	42	-69%
Netherlands	86	-30%	21	-59%

(1) Number of nights spent reported via Eurostat, augmented by nowcasts based on AirBnB-reviews for Greece (Dec 2020), France and Ireland (for the whole of 2020 except Oct).
Source: Eurostat and Commission estimates.

In 2020 as a whole, the slump in total nights spent ranged from 30% in the Netherlands to 78% in Cyprus. Cross-border tourism turned out lower than in 2019 by between 44% in Austria and 83% in Cyprus. The relatively low decline in Austria may be due to a different seasonal pattern, i.e. a comparatively large share of visitors in January and February 2020 before the outbreak of the pandemic. Another factor likely affecting the magnitude of the decline is the mode of transport used by the foreign visitors: where cross-border tourists rely comparatively less on air transport (e.g. the Netherlands, Luxembourg or Austria), the decline turned out to be less strong on average, than where air travel predominates (e.g. Cyprus, Greece, Spain, Malta or Portugal) ([70]).

Another informative aspect in the analysis of tourism during the pandemic is the change in travel by type of the destination region, differentiating between city, coastal and rural regions ([71]). AirBnB customer reviews allow for such granular insights by statistical region (NUTS 3), namely, via a comparison of the actual number of reviews to an estimated counterfactual based on pre-pandemic trends in tourism and the growth in AirBnB's market share ([72]). Note that while existing Eurostat statistics can be used to translate AirBnB reviews into tourism nowcasts for large regions or the national level, such data is not available for detailed regional levels. Distinguishing between destination types thus has to rely on comparing raw review data to what could have been expected.

Graph III.3: **Decline in tourism activity in 2020 by the type of destination region**



(1) Decline is approximated by the number of AirBnB customer reviews, as compared to the number of reviews that could have been expected under normal circumstances. See Box III.2 for more details. Note that Cyprus is a single NUTS3 coastal-tourism region, while Malta consists of two NUTS3 coastal-tourism regions. Luxembourg is a single NUTS3 city-tourism region.
Source: Commission estimates.

In the euro area, around 35% of the expected reviews in 2020 relate to city tourism, slightly below the share for rural, which amounts to 36%, and above the share for coastal tourism with the remaining 29%. City tourism recorded the largest decline for the whole euro area, equal to around 70% relative to the expected level, widely exceeding the fall for the rural and coastal regions, which amounted to around 46%. As a result, out of the 55% decline in the number of reviews in the euro area, nearly 25 percentage points were due to the decline in city tourism (Graph III.3) ([73]). Conversely, judging by the decline in the number of reviews, coastal tourism performed better and contributed less to the overall tourism decline in the euro area. In particular, the coastal regions in Germany, France, and the Netherlands saw activity

([70]) For data on the transport mode of tourist arrivals, see Eurostat (2020) 'Tourism statistics – intra-EU tourism flows', Statistics Explained.

([71]) This part does not differentiate between domestic and cross-border tourism, but it still provides interesting insights into tourism patterns during the pandemic.

([72]) For details on calculating the expected number of AirBnB reviews, see Box III.2.

([73]) On city tourism, see also Anguera-Torrell et al. (2021) op. cit.

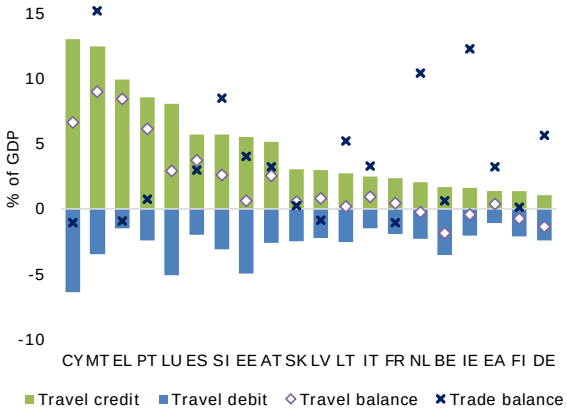
in the third quarter of 2020 close to, or even exceeding, expected levels. In contrast, most Mediterranean countries experienced a stronger coastal tourism decline than the aforementioned countries. This is linked with the fact that foreign tourists, which represent the largest share of tourism in the area, rely predominantly on air travel to access their destination and favour coastal areas. Finally, the contribution of rural tourism to the overall decline in tourism activity in Italy and France was larger than for other types of destination regions, reflecting the comparatively large share of rural regions in the expected reviews, of around 50%.

III.3. International tourism and external balances

The importance of travel services in international trade is very uneven across euro area countries, both in terms of exports (travel credit), as well as in terms of the contribution of travel to the overall trade balance. Graph III.4 depicts the travel balance from the balance of payments statistics and its main components (credit and debit – see the first footnote of this section for methodological explanations) for euro area countries in 2019. Four countries, Cyprus, Malta, Greece and Portugal, recorded a travel surplus in excess of 5% of GDP, with their exports of travel services exceeding or being very close to 10% of GDP. Except for Malta, these countries have a large negative net international investment position and recorded current account deficits (Cyprus and Greece) or very small surpluses (Portugal) in the years preceding the COVID-19 shock. Spain also has a large negative net international investment position but has been posting solid current account surpluses in recent years, though also on the back of tourism.

As for other euro area countries, considerable travel exports and surpluses could be observed in Slovenia, but also in Austria where it almost equalled the overall trade surplus ([74]). Cyprus recorded a substantial travel surplus, while at the same time being the largest importer of travel services, meaning that Cypriot travellers spend the highest share of GDP abroad. Luxembourg's substantial travel credit can largely be attributed to visitors whose primary purpose was business ([75]). In 2019, travel deficits were observed in Belgium, Germany, Finland and Ireland. As for the euro area on aggregate, it was recording a small travel surplus in recent years before the COVID-19 shock, ranging between 0.3% and 0.4% of GDP, with travel credit ranging from 1.2% to 1.4% of GDP.

Graph III.4: **International travel in 2019**



(1) Luxembourg's trade balance is out of scale with a surplus of 38.7% of GDP.
Source: Eurostat.

The outbreak of the pandemic strongly affected both exports and imports of travel services, but in varying proportions. The highest travel surpluses were at around 2-2.7% of GDP (Graph III.5). Particularly large declines were recorded in the travel surpluses of Cyprus (decline of 7.6 percentage points (pp) of GDP), Greece (6.3 pp), Portugal (3.7 pp) and Spain (3 pp). In the case of Cyprus, the decline turned the surplus into a deficit. In contrast, the fall in the surpluses of Luxembourg and Austria was more limited. With the decline in international travel, travel deficits shrunk by 0.5 pp of GDP in Belgium and 0.7 pp in Finland, mainly on account of declining imports. For the same reason, in Germany, the travel deficit narrowed by 0.8 pp of GDP, while the Netherlands moved from a small deficit in trade in travel services to a small surplus. In both countries, the change in travel balance thus helped to maintain their large external surpluses. For the euro area on

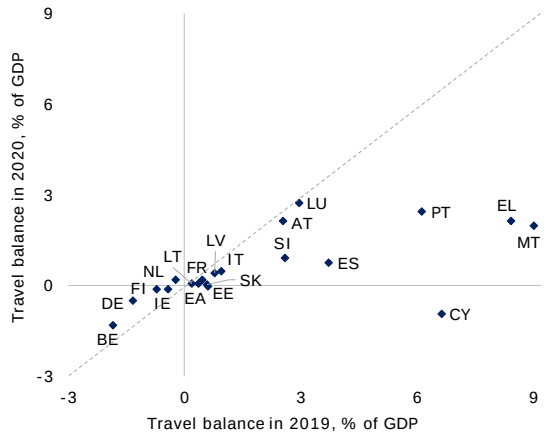
([74]) While Luxembourg also recorded a strong travel surplus, it is of minor importance for its overall trade balance, which can be strongly affected by the presence of multinational enterprises (MNEs), as is the case also in Ireland or the Netherlands.

([75]) The share of business travel credit in total travel credit for Luxembourg in 2019 amounted to around 47%, as compared to the euro area average of 18% (average of 17 countries where data is available). Shares higher than 30% have been recorded for Finland, the Netherlands and Germany, but these countries do not have a high overall travel credit.

aggregate, the travel balance shrank by nearly 0.3 pp of GDP, moving close to balance.

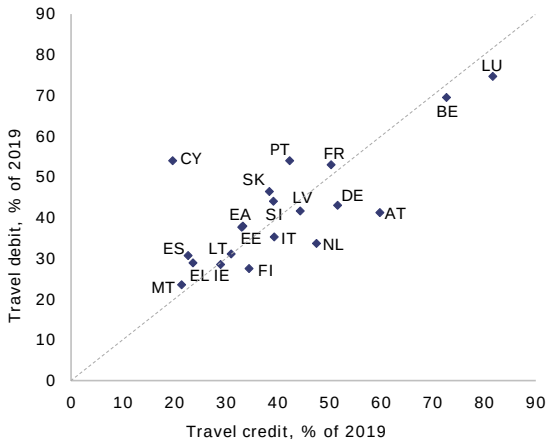
These developments in travel balances are the sum of the movements in exports and imports of travel services. In a number of euro area economies, the decline in travel credit was roughly proportional to the decline in travel debit (Graph III.6). The most notable exception is Cyprus, where, as already noted, the decline in travel exports largely exceeded the decline in imports. To a lesser extent, this also holds true for Portugal. Austria and the Netherlands represent cases in which the decline in exports of tourism services remained contained relative to the drop in imports.

Graph III.5: **Travel balance in 2019 and 2020**



Source: Eurostat.

Graph III.6: **Travel credit and debit in 2020**



Source: Eurostat.

III.4. Direct and indirect impact of international tourism on trade balances

The previous subsection presented the changes in the balance of payments items describing trade in travel services in 2020, which are largely and directly pandemic-related. The discussion did not consider the fact that producing goods and services for exports typically involves importing part of the inputs in production of these goods and services. To take account of this, the 'trade in value added', which considers the value each country uniquely adds in the production process, has to be analysed. For this, the values of inputs sourced from abroad have to be *subtracted* from the value of the gross exports. Additionally, in estimating the impact of a change in foreign demand on the value added traded, it is important to consider the backward linkages between different sectors of the economy, as demand by visitors indirectly generates demand for goods and services in sectors not directly related to tourists (e.g. construction), which in turn also involves imported components. Accounting for this last effect requires estimating the value added (as opposed to the total value of production) generated by foreign tourist demand in the sectors of the economy that are related to tourism via 'backward multipliers' ([76]).

This subsection presents the results of an exercise to estimate the net effect of the decline in international tourism on the trade balance, accounting for changes in imports related to demand by foreign tourists and for indirect effects, i.e. those in the sectors of the economy not directly related to tourism. The partial-equilibrium nature, as well as other simplifying assumptions of the exercise should be emphasised. In particular, the estimates do not account for i) second-round effects related to a decline in domestic income and demand with likely repercussions on imports, ii) other determinants of aggregate demand, or iii) changes in relative prices.

On the credit side, the total demand by foreign tourists in 2020 is taken from the balance of payments accounts and is split into demand for local goods and services other than international passenger transport (travel account credit) and demand for international passenger transport (transport account credit), which is treated

([76]) Backward multipliers measure the demand generated in other sectors, when the production of a sector increases.

Box III.1: Data and some methodological details

The analysis uses data from the Balance of Payments Statistics (BPM6), from the OECD TiVA database on trade in value added (available until 2015), and from the WIOD database with input-output tables (available until 2014). The breakdown of economies into sectors varies in the OECD TiVA and WIOD databases, with the latter source providing more detailed sectoral decomposition. Foreign tourist demand needs to be assigned to specific sectors of the economy to gauge the direct effects in terms of value-added trade and to estimate the indirect effects by using backward multipliers to other sectors.

The travel credit, i.e. the demand by foreign tourists for local goods and services (excluding international passenger transport), is recorded in the travel account in the balance of payments, where it can be decomposed into the following categories: (a) *goods*, (b) *local transport services*, (c) *accommodation services*, (d) *food-serving services*, and (e) *other* services (BPM6 Manual, 6th Edition). The analysis links these categories to sectors of the economy in the OECD TiVA and WIOD database, both of which have a separate sector of *Accommodation and food services*, which presumably encompasses categories (c) and (d) from the travel account. Category (a) *goods*, is assigned to *Retail trade, except of motor vehicles and motorcycles*, and category (b) *local transportation services*, to *Land transport and transport via pipelines* sectors.

There are, however, only four EU countries reporting these detailed travel credit data (and only two with complete data), with varying shares across categories, so that an alternative approach is needed in assigning parts of foreign tourist demand to single sectors of the economy. The analysis here uses data on exports of the *Accommodation and Food Services* sector from the OECD TiVA for 2015, which is assumed to be absorbed completely by foreign tourists, and calculates the share of these exports in total 2015 travel credit, i.e. in total demand by foreign tourists. Then, the same share of travel credit in 2019 is assigned to the same sector. Thereafter, the rest of the foreign tourists demand (total travel credit minus the part assigned to *Accommodation and Food Services*) is allocated to either *Retail* or to *Land transport* sectors, using the ratio of 6:1 from the detailed data available in the travel account of balance of payments for the Czech Republic. The sensitivity of results was tested using the ratio of 3:1, which is close to the data for Slovenia, and which did not affect the results substantially.

The impact of the change in foreign tourist demand on domestic value-added in these sectors constitutes a direct effect of international tourism. The indirect effect on value-added in the rest of the economy is calculated using backward multipliers. Given the more detailed sectoral breakdown of economies in the WIOD than in the OECD TiVA data, the analysis uses the former for a sectoral allocation of direct foreign tourist demand, for the information on the sectoral domestic value-added effects, as well as for the calculation of backward multipliers. Note that the *Retail* sector from WIOD (*Retail trade, except of motor vehicles and motorcycles*) is included in the broader activity in the OECD data (*Wholesale and retail trade; repair of motor vehicles*), while *Land transport and transport via pipelines* in WIOD is in OECD TiVA's more general *Transportation and storage*. Both sources have a separate *Accommodation and food services* sector.

In addition to international travel, the international transport of passengers is another type of tradable services from the balance of payments that needs to be taken into account when analysing the effects of changes in international tourism demand. It is normally presented separately for air transport, for sea transport, and for other modes of transport. Again, the WIOD database provides a more suitable sectoral breakdown to account for domestic value-added effects and backward linkages from the more narrowly defined sectors of *Air transport*, *Water transport*, and again *Land transport and transport via pipelines* for other modes of transport. However, it should be noted that the balance of payments data on the transport of passengers are not complete across all transport modes for all countries; and for Spain, these data are not available at all.

separately below. The demand for local goods and services by foreign tourists is allocated to three specific sectors of the economy: accommodation and food serving services, retail, and land transport. The demand by foreign tourists allocated to the food and accommodation sector is equal to the total exports of this sector, which should in principle all relate to foreign visitors. What remains of the foreign tourism demand is then allocated to the other two sectors (retail and land transport) using export shares from the balance of payments (see Box III.1).

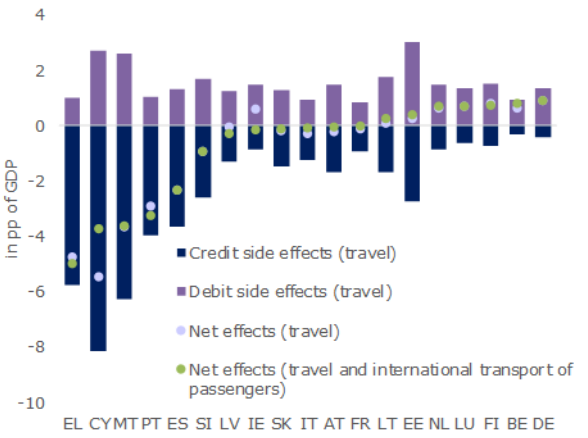
Domestic value-added created in these sectors constitutes a **direct** effect of international tourism. The **indirect** effect on the value-added in the rest of the economy is then calculated using backward multipliers. The data used and details on the methodology are presented in Box III.1.

Besides the effects of changes in demand for local goods and services, there are also effects on the change in demand for the international transport of passengers, which can be observed directly in the balance of payments and are estimated separately (see Box III.1). As for the debit side, the analysis simply assumes that the money not spent for travel abroad, including on the international transport of passengers, is saved. Data on the travel debit (and partly on the debit in the international transport of passengers) in 2020 is readily available in the balance of payments statistics. Thus, the overall effect of the decline in travel consists of the reduced value-added exports due to the decline in visits of non-residents (credit side), and savings emanating from residents travelling less abroad (debit side).

Graph III.7 depicts the effects of the 2020 cross-border tourism slump on the trade balances of the euro area countries. It shows both its credit and debit side effects, as well as the corresponding net effect. In addition, it presents net effects, which also account for the changes in the international transport of passengers (for which data is directly available in the balance of payments).

The net effect of the decline in international travel is estimated to have been the strongest in Cyprus, amounting to -5.5 pp of GDP (in line with the large drop in the travel balance observed for Cyprus in 2020), followed by Greece, Malta, Portugal and Spain, with declines equal to 4.7, 3.7, 2.9 and 2.3 pp of GDP, respectively. These are the countries in which the travel surplus was the highest in 2019, as presented in Graph III.4, and which recorded the steepest declines in the nights spent by non-residents in 2020, as shown in Table III.1. In all these countries, the decline in the travel debit was less pronounced than the decline in the travel credit, even if only slightly in Malta or Greece, in line with the pattern evident from Graph III.6. This observation is relevant for the analysis of the next subsection. The next largest negative net effect was estimated for Slovenia, close to 1 pp of GDP. A different seasonal pattern of visits to Austria helped to limit the partial negative impact on the trade balances to roughly -0.2 pp of GDP, despite its non-negligible travel surplus in 2019. Declines in Italy and France, which normally record modest travel surpluses, amounted to around 0.3 and 0.1 pp of GDP, respectively. At the other side of the spectrum, the travel decline is estimated to have led to higher trade balances in the Netherlands, Luxembourg, Finland, Belgium and Germany, in the range between 0.6 and 0.9 pp of GDP, due to the decline in their imports of tourism services.

Graph III.7: **Effects of the decline in international tourism in 2020 on the trade balance**



(1) Credit and debit side effects include only effects from the decline in travel that is recorded under the travel category in the balance of payments. The same holds true for 'Net effects (travel)'. The impact of the decline in the international transport of passengers is added here only in net terms in the 'Net effects (travel and international transport of passengers)', as the latter is of minor importance for the majority of countries.
Source: Authors' calculations.

The additional effects of the decline in tourism on the international transport of passengers change the results non-negligibly only for two countries, Cyprus and Ireland. Cyprus had a substantial debit in the air transport of passengers in 2019 of nearly 2.5% of GDP, which declined considerably in 2020 to 0.7% of GDP, partly offsetting the negative impact of the travel decline on its trade balances. Conversely, in 2019 Ireland had a substantial credit in the air transport of passengers, amounting to around 2.1% of GDP. For 2020 there is still no data for Ireland, so in the calculations, a decline in passengers' transport credit by 71% is assumed, in proportion to the decline in travel credit ([77]).

([77]) For 2019, for any missing observation in the international transport of passengers, a value of zero is imputed. Spain is the only country for which there is no data on the international

III.5. Projecting international tourism and its impact on trade balances in 2021 and 2022

Data on travel and transport credits and debits is only available until 2020. Beyond this, the analysis relies on the assumption that tourism-related demand is proportional to the level of international tourism activity, as captured by the number of nights spent by foreign tourists ([78]). Thus, tourism demand in 2021 and 2022, relative to 2019, is calculated proportionally to projections of the number of nights spent by foreign tourists (on the credit, i.e. exports, side). Data on nights spent by tourists in January 2021 is available for some countries and is supplemented by nowcasts, using data on AirBnB reviews for more recent months to obtain estimates until March 2021 for all countries. The remainder is projected as explained below.

To come up with projections for nights spent by international travellers, specific assumptions for 2021 (described below) are made for single quarters, with the projection for the whole year computed as the sum of quarterly projections, i.e. of data and nowcasts available for Q1 ([79]).

The projected nights spent in 2021 and 2022 are compared to 2019 levels to estimate tourism demand and subsequently gauge, as before, the direct and indirect effects in terms of exported value added. To obtain the total effect on trade balances, debits are estimated by assuming that they changed in the same proportion to credits, as was observed in 2020.

Given the importance of visitors travelling by air that can be induced from the descriptive analysis of the declines in nights spent presented above, the explanation here focuses on the assumptions regarding the treatment of air travel in building the projection scenarios. To that end, the analysis uses country-specific forecasts of flight traffic published by Eurocontrol in November 2020 ([80]). These affect the projected number of nights spent by air travellers ('airborne tourism') from the rest of the EU-27 and the UK, ([81]) as well as (separately) by tourists from third countries, which are all assumed to be travelling by air. Eurocontrol provides three scenarios for each country, which, for the ease of exposition, are labelled here as pessimistic, intermediate and optimistic. By combining with an assumption on how the passenger-per-flight ratio evolves going forward, it is possible to design three scenarios for 'airborne tourism' ([82]). For ground-based travel, a single assumption is made and kept constant across the three scenarios. The exact assumptions for projections of nights spent are provided in Box III.2, under 'Projections of nights spent in 2021 and 2022'.

Table III.2: **Projections of the nights spent by foreign tourists in 2021 and 2022**

Country	Projected nights spent, in % of 2019, intermediate scenario	
	2021	2022
Austria	46%	84%
Belgium	36%	75%
Cyprus	19%	61%
Germany	42%	74%
Estonia	34%	73%
Greece	30%	64%
Spain	17%	67%
Finland	24%	73%
France	30%	74%
Ireland	28%	54%
Italy	35%	73%
Lithuania	30%	71%
Luxembourg	56%	77%
Latvia	40%	76%
Malta	26%	66%
Netherlands	47%	78%
Portugal	31%	72%
Slovenia	26%	71%
Slovakia	40%	74%

Source: Authors' calculations.

Table III.2 presents the projected nights spent in 2021 and 2022 by foreign tourists, as a % of the nights spent in 2019, using the intermediate

transport of passengers for any mode of transport. If the data for 2020 are not available, the international transport of passengers is assumed to have changed proportionally to travel.

([78]) The projections here do not account for the fact that tourists from different countries of origin may have different spending habits and some tend to spend more than others (per night spent). This simplification may be of consequence given that the projections of foreign tourist nights spent use different assumptions for the EU and non-EU visitors, as will be explained below, leading to changes in the composition of visitors by origin.

([79]) In addition, projections distinguish between three types of tourists, namely EU+UK air travellers, EU+UK tourists travelling by other means, and non-EU tourists.

([80]) The Eurocontrol forecasts, for the period 2020-2024, are available here: https://www.eurocontrol.int/publication/eurocontrol-five-year-forecast-2020-2024. The Eurocontrol provides forecasts for three different scenarios. Still, given the unpredictable turns in the development of the pandemic, the forecast should be taken with caution.

([81]) The UK is an important source market of tourists in EU Member States. For simplicity, UK tourists are assumed to behave more like intra-EU tourists than travellers from other continents.

([82]) It should be noted that the share of air trips by EU residents varies considerably across EU destination countries, ranging from respectively 5% and 11% for Slovakia and Austria, to 95% for Cyprus and Malta. See Eurostat (2020) 'Tourism statistics – intra-EU tourism flows', Statistics Explained.

Box III.2: **Details on the expected number of reviews and projections**

Expected number of reviews

The expected number of AirBnB reviews is the number of reviews that could have been expected in 2020 (and beyond) under normal circumstances if the pandemic had not occurred. The calculation of the expected number of reviews takes into account the underlying trend growth of reviews, due to the strong, but decelerating expansion of AirBnB's market share in the overall tourist accommodation segment. Thus, the expected number of reviews on any day d in year y, denoted as $ER_{d,y}$, equals the average number of reviews around the same day d in year $y-1$ (the average over 14 daily leads and lags from d), denoted with $\bar{R}_{d,y-1}$, augmented by half of the (positive) growth rate of reviews during one year (365 days) before day d in $y-1$, denoted with R_{y-1}, as compared to 365 days before day d in year $y-2$, denoted with R_{y-2}. Thus:

$$ER_{d,y} = \bar{R}_{d,y-1} * \max[1, 1 + 0.5 * (R_{y-1}/R_{y-2} - 1)] \quad (1)$$

If the growth rate is negative, the number of expected reviews simplifies to the average number of reviews around the same day d in year $y-1$. Halving the growth rate of reviews in the preceding year broadly captures the deceleration in market share growth on aggregate, which would likely have materialised in 2020 in the absence of a pandemic.

Projections of nights spent in 2021 and 2022

Nights spent, denoted as NS are expressed in proportion to 2019 levels, for the corresponding period. Projections and estimates are denoted with an *. The formulas below detail the assumptions for different periods in 2021 and 2022. The assumptions differentiate between 'airborne tourism' and 'non-airborne tourism' (denoted with a and na, respectively), in which the former accounts for the country-specific Eurocontrol flight traffic forecasts (denoted with FF) and the assumed number of passengers per flight (denoted with P). Projections for airborne tourism are done separately for two groups: tourists from other EU Member States and the UK are denoted as 'eu', tourists from the rest of the world are denoted as 'row'. Nights spent in 2021Q1 (denoted as NS^*_{21Q1}) is estimated based on statistics of foreign tourist nights spent already available, or a nowcast of that where data is not yet available. Projections for different periods beyond 2021Q1 are computed as follows ([1]):

$$NS^*_{21Q2} = 0.7 * NS^*_{21Q1} + 0.3 * NS^*_{21Q3} \quad (2)$$

$$NS^*_{21Q3} = NS^{na*}_{21Q3} + NS^{a,eu*}_{21Q3} + NS^{a,row*}_{21Q3}, \text{ where}$$

$$NS^{na*}_{21Q3} = NS^{na}_{20Q3}, \text{ and} \quad (3a)$$

$$NS^{a,i*}_{21Q3} = NS^{a,i}_{20Q3} * (FF^*_{21}/FF_{20}), i \in \{eu, row\} \quad (3b)$$

$$NS^*_{21Q4} = 0.5 * NS^*_{21Q3} + 0.5 * NS^*_{22} \quad (4)$$

$$NS^*_{22} = NS^{na*}_{22} + NS^{a*}_{22}, \text{ where}$$

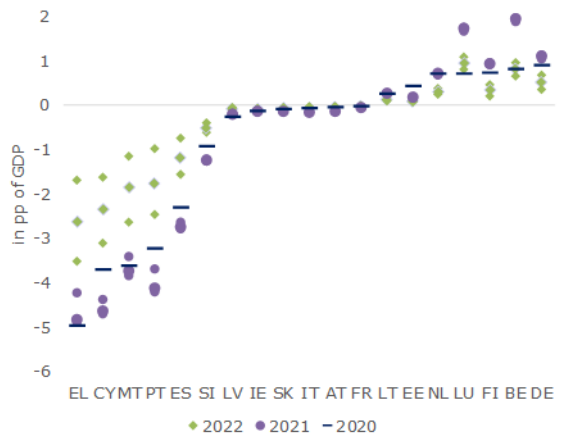
$$NS^{na*}_{22} = 0.7 * NS^{na}_{19} + 0.3 * NS^{na}_{20}, \text{ and} \quad (5a)$$

$$NS^{a,i*}_{22} = NS^{a,i}_{20} * (FF^*_{22}\, P^*_{22}/(FF_{20} P_{20})), i \in \{eu, row\}, \text{ with } P^*_{22} = 0.7\, P_{19} + 0.3\, P_{20} \quad (5b)$$

([1]) The assumptions have been calibrated in order to be broadly consistent with the Commission's 2021 Spring Forecast exercise.

forecast of flight traffic by Eurocontrol. For 2021, the percentages range from only 17% and 19% in Spain and Cyprus, to close to 50% in Austria and the Netherlands and 56% in Luxembourg. In 2022, a significant increase is projected for all countries, which in relative terms is expected to be the strongest for Spain and Cyprus, also due to the low base in 2021.

Graph III.8: **Projected impact of the decline in tourism on trade balances in 2021 and 2022, as compared to 2019**



(1) The projections include the impact on the international transport of passengers. There are three scenarios for each year of projection. The estimate for 2020 from Graph III.7 is reproduced here.
Source: Authors' calculations.

Finally, the projections of nights spent by foreign tourists in 2021 and 2022 are translated into the effects on the trade balances, using the approach described above for all three scenarios. The effects are depicted in Graph III.8. Note that if the impact is equal to zero, the contribution of international tourism to trade balances is the same as in 2019. Results show that estimates for 2021 are close to the effects calculated for 2020 (using balance of payments data) for most countries. Still, especially for Cyprus, Portugal and Spain, as well as for Luxembourg and Belgium, 2021 effects turn out stronger (larger in absolute value) than the effects in 2020. Furthermore, for many countries in 2022, the estimated effect of the pandemic-related tourism decline on trade balances is much smaller, meaning that the contribution of tourism is closer to the 2019 levels.

The recovery of flight traffic plays an important role, especially in our projections for 2022. This holds true for the countries most exposed to the decline in tourism due to high exports and surpluses in the trade of tourism services, but also due to the comparatively large shares of visitors travelling by air to these countries. This group of countries, which includes Greece, Cyprus, Malta, Portugal and Spain, is projected to still feel some negative consequences of the COVID-19 shock on its tourism sector and trade balances, even in 2022 for the optimistic scenario. As the development of the pandemic, which affects the projections, is difficult to predict, the forecast should be taken with caution.

III.6. Conclusions

This section explored the impact of the pandemic on international tourism in the euro area countries in 2020, and evaluated the effect of the decline in international tourism on trade balances. Despite being partial-equilibrium, the analysis takes into account both the direct and indirect effects of the change in foreign tourist demand, i.e. also the backward linkages to sectors of the economy not directly affected by the tourist demand. It does so by focusing on trade in value-added terms, thus accounting for imports related to exports of tourism services.

The section documented a slump in tourism activity in 2020, which was more strongly pronounced for cross-border travel. Declines in nights spent by foreign tourists also varied considerably across countries. Lower tourism activity was reflected in the balance of payments travel data for 2020, but also in the estimated impact on the overall trade balances. Using projections of the nights spent by foreign tourists in 2021 and 2022, the section also gauges the impact on the trade balances of the euro area countries in these years.

A group of countries with large tourism sectors, which recorded substantial contributions of international tourism to their trade balance in the past, was hit very strongly in 2020. These countries, some with already weak external positions, experienced trade balance deteriorations due to the decline in international travel ranging from 2.3 pp of GDP in Spain to 5.5 pp of GDP in Cyprus. Our projections show that the full recovery in this group of countries, which also includes Greece, Portugal and Malta, may extend beyond 2022, even in an optimistic scenario. Conversely, some euro area countries such as Belgium, Germany, Finland and the Netherlands experienced positive partial effects from the decline in international tourism on trade balances, which in some cases maintained their trade surpluses. Overall, the pandemic-induced tourism slump exacerbated, at least temporarily, the existing external sector imbalances within the euro area.