

## **AN OVERVIEW OF ITALY'S EXTERNAL TRADE IN COVID-19-RELATED GOODS**

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*This note investigates the dynamics and composition of Italy's external trade flows in COVID goods, i.e. goods that are employed, among their other uses, for the diagnosis, prevention and treatment of COVID-19, based on a novel 8-digit product-level dataset published by Eurostat. In 2020 imports of COVID-19 goods grew strongly, mostly owing to the purchases of protective face masks from China, while exports declined, shaving off 0.3 percentage points from Italy's current account balance as a ratio to GDP, in line with the other main euro-area countries. In the first semester of 2021, Italy's COVID-19 exports moderately rebounded. Imports continued to increase, stimulated by vaccine transactions, albeit at a significantly lower rate than in 2020 thanks to the drop in purchases of face masks from abroad.*

Eurostat recently compiled a new classification and a monthly dataset for EU countries of external trade in “COVID-19-related (from hereon COVID) goods”,<sup>2</sup> namely 8-digit-level products that are employed, amongst their other uses, for the diagnosis, prevention and treatment of COVID-19. This merchandise includes test kits, protective garments, disinfectants, oxygen therapy equipment, more general medical equipment, medical consumables (e.g. medicines, soap, bandages, sterile tubes), medical vehicles and furniture. As discussed in the Annex, we employ seasonally unadjusted Eurostat international merchandise trade statistics (IMTS) at current prices to further refine this new dataset and to conduct the analysis presented herein.

Given their multiple purposes, the vast majority of products defined as “COVID goods” were already traded, at significant levels, also prior to the outbreak of the pandemic, such as hand sanitizers, thermometers or immunological medicines, just to name a few; a notable exception is COVID vaccines. It is hence possible to assess the variation in COVID trade flows in 2020 and for the available months in 2021 relative to a pre-pandemic year (2019), as well as their impact on Italy's current account (CA) balance in the most recent period. COVID vaccines, whose international recordings are available only since January 2021, are the object of a specific focus in this note.

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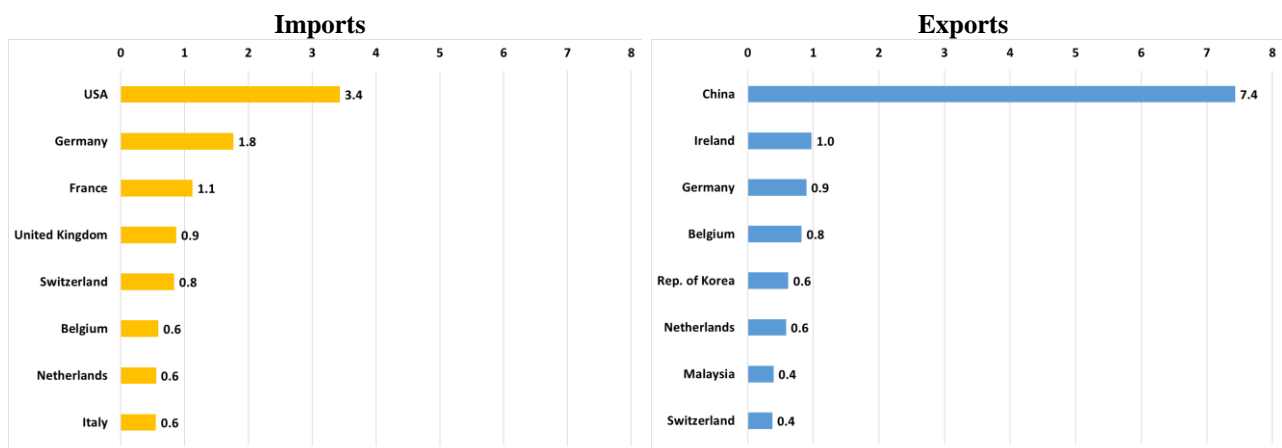
<sup>2</sup> This list, which has no legal status, is based on Commission Decision C(2020)2146, the EU's COVID-19 indicative list of products to be imported duty-VAT free and the Joint WCO/WHO classification reference for Covid-19 medical supplies, edition 3.01.

**1. A general overview of COVID-19-related trade**

In 2020 world trade in COVID goods at current prices (measured as an average of imports and exports) amounted to 970 EUR billion, up from 843 in 2019 and hence marking an approximate 15 per cent increase, in the context of declining total merchandise world trade.<sup>3</sup> The countries with the highest contribution to this increase were, on the import side, the United States, followed by Germany and France (Fig. 1, left hand-side panel). On the export side, China was the largest global player by far, followed by Ireland, Germany and Belgium (Fig. 1, right hand-side panel).

**Figure 1 – The contribution of top global players to world COVID-19-related external trade in 2020**

*(contribution to the growth in world imports/exports of COVID-19 goods, respectively, between 2019 and 2020; percentage points)*



Source: authors’ calculations on UN Comtrade international merchandise trade statistics based on the World Trade Organization classification of COVID-19-related goods.

Notes: World COVID-19 goods imports (exports) increased by 15.5 (14.6) per cent in 2020 relative to 2019. The discrepancy between import and export growth rates is due to bilateral asymmetries in international trade statistics.

The four largest euro-area economies recorded a significant rise in imports of COVID merchandise in 2020 relative to the previous year (Table 1), suggesting dependence from abroad in satisfying heightened demand for these goods; this development contributed to the general deterioration of the trade balance in COVID products.<sup>4</sup> Corresponding exports also increased, albeit at a lower rate, with the exception of Italy, where COVID foreign sales instead declined. In 2020 COVID goods reached around 9 per cent of total merchandise imports in the four countries; the share in total goods exports was generally smaller with the exception of Germany, where it stood at nearly 11 per cent.

<sup>3</sup> To measure world COVID goods trade, we have to employ a less refined (i.e. 6-digit) classification of COVID products, put forward by the World Trade Organization (WTO), and applied to UN Comtrade IMTS. As well as being less disaggregated this list is, on the whole, quite different from Eurostat’s and hence not strictly comparable. For example, WTO’s classification includes many more pharmaceutical products, whereas Eurostat’s list encompasses many more protective garment items. The WTO classification’s lower level of disaggregation, however, makes it feasible for an appraisal of non-EU countries’ trade flows, as that in Figure 1.

<sup>4</sup> Italy, and more markedly, Germany are net exporters of COVID goods. Relative to 2019, in 2020 both countries’ COVID trade surplus narrowed down, whereas France and Spain’s corresponding deficits widened.

**Table 1 – The change in COVID-19-related external trade of the four main euro-area countries between 2019 and 2020**

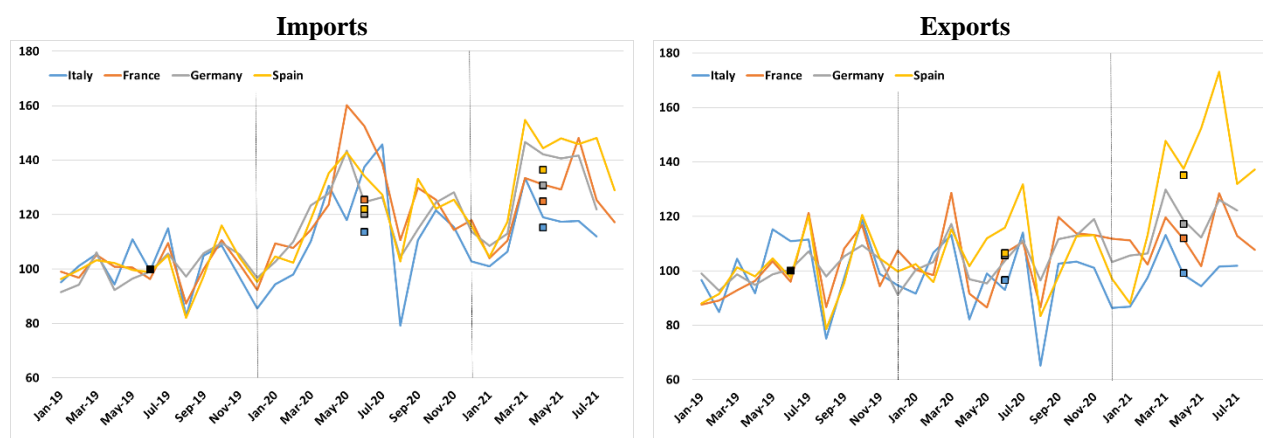
	Imports			Exports			Net exports	
	EUR billions	Pctge. change	Pctge. points of GDP	EUR billions	Pctge. change	Pctge. points of GDP	EUR billions	Pctge. points of GDP
Italy	4.2	13.6	0.2	-1.3	-3.5	-0.1	-5.5	-0.3
France	8.7	25.4	0.4	1.8	5.6	0.1	-7.0	-0.3
Germany	16.1	20.3	0.5	7.2	5.9	0.2	-8.9	-0.3
Spain	4.4	20.9	0.4	0.9	6.0	0.1	-3.5	-0.3

Source: authors’ calculations on Eurostat international merchandise trade statistics.

In 2020 Italy recorded an approximate 0.2 percentage-point rise in imports and 0.1 point decline in exports of COVID goods, as a share of GDP, amounting to an overall approximate drag of 0.3 percentage points of GDP on the country’s trade and current account (CA) balances.<sup>5</sup> The negative effect of COVID trade flows on the other euro-area countries’ CA balance was of the same magnitude, despite boosts stemming from their COVID exports.

On average in the first semester of 2021 (the latest period currently available), COVID imports in Italy continued to rise relative to the previous year’s average, yet only moderately, whereas they grew more significantly in Germany and Spain in particular, albeit at lower rates than in 2020 (Fig. 2). Over January-June 2021 Italy’s COVID exports increased after the previous year’s decline, yet at a slower pace than the other main euro-area countries. Germany and, especially, Spain’s COVID foreign sales accelerated significantly in 2021, also thanks to their vaccine exports.<sup>6</sup>

**Figure 2 – COVID-19-related external trade of the four main euro-area countries**  
(indices 2019=100)



Source: authors’ calculations on Eurostat international merchandise trade statistics.

Notes: The squares represent the average figure for each country-year; in the base year (2019) the average is 100 for all countries.

<sup>5</sup> By applying the WTO classification to UN Comtrade data, the resulting drag on Italy’s CA balance in 2020 is found to be very similar. In general, however, recall that IMTS and balance of payments goods statistics are not fully comparable, so these estimates are only indicative of the impact on Italy’s trade and CA balances.

<sup>6</sup> The substantial increase in German and, in particular, Spanish COVID goods exports in the first semester of 2021 was driven by around one third by sales of COVID vaccines.

Based on the data thus far available for the current year and assuming that COVID trade flows in July through December 2021 remain at the average level recorded in the first semester of the year, the overall effect of COVID trade on Italy’s CA balance, relative to the 2019 pre-pandemic scenario, would be again of -0.3 percentage points of GDP, yet this time entirely due to import dynamics; the drag relative to 2020 would hence be nil. The actual 2021 outcome will, however, naturally depend on the evolution of the public health emergency in the second part of the year, both in Italy and in its trading partners.

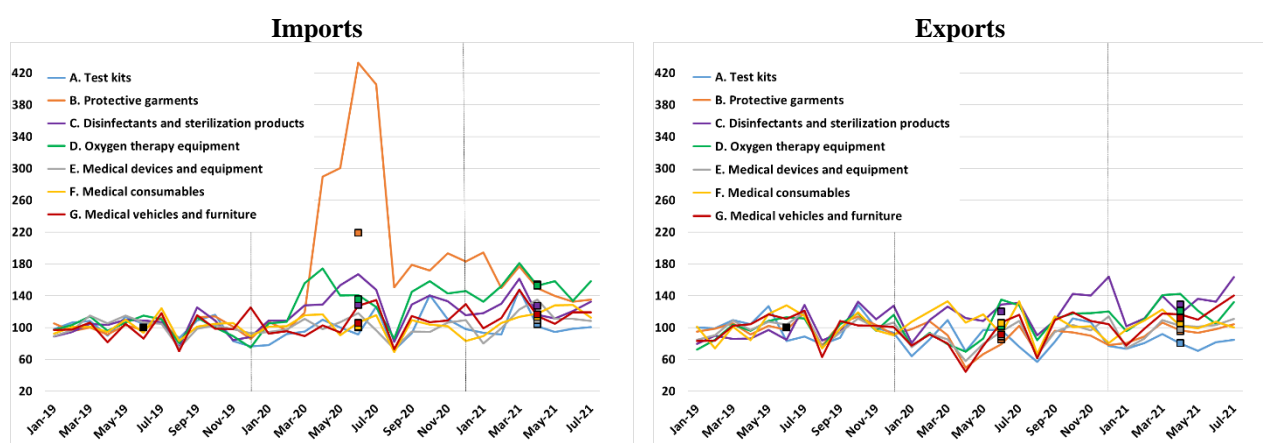
## 2. COVID-19-related trade in Italy by product category

Examining Italy’s trade flows more in detail, purchases of protective garments from abroad, which include face masks, soared in 2020 (by 119 per cent relative to 2019; Fig. 3, left hand-side panel), explaining most of the surge in Italy’s COVID imports that year (Fig. 4, left hand-side panel) and contributing the most to the afore-mentioned drag on the CA balance (Table 2). Imports of oxygen therapy equipment and of disinfectants (whose weight, however, is much smaller; Table 3) also rose significantly, by 36 and 29 per cent, respectively, followed at a large distance by all the other items.

On average in the first semester of 2021 imports of protective garments and of disinfectants decreased, albeit remaining above their 2019 average levels. All other product categories recorded broadly stable or increased imports, with medical consumables and, to a lower extent, medical devices and test kits exerting the largest boost to overall COVID goods import growth (1.9 per cent y-o-y).

On the export side, the main stimulus in 2020 stemmed from medical consumables (Fig. 4, right hand-side panel), which represent about half of overall COVID exports (Table 2); foreign sales of this item, of which around 85 per cent is accounted for by medicines, rose by 6.0 per cent (Fig. 3, right hand-side panel). Disinfectants and oxygen therapy equipment’s positive contribution was negligible (Table 3), given that they weigh very little in the country’s COVID export mix. Exports of test kits, protective garments and medical devices contributed most to the overall decline, plausibly due to some degree to a re-direction of sales to the domestic market.<sup>7</sup>

**Figure 3 – Italy’s COVID-19-related external trade dynamics by product category**  
(indices 2019=100)

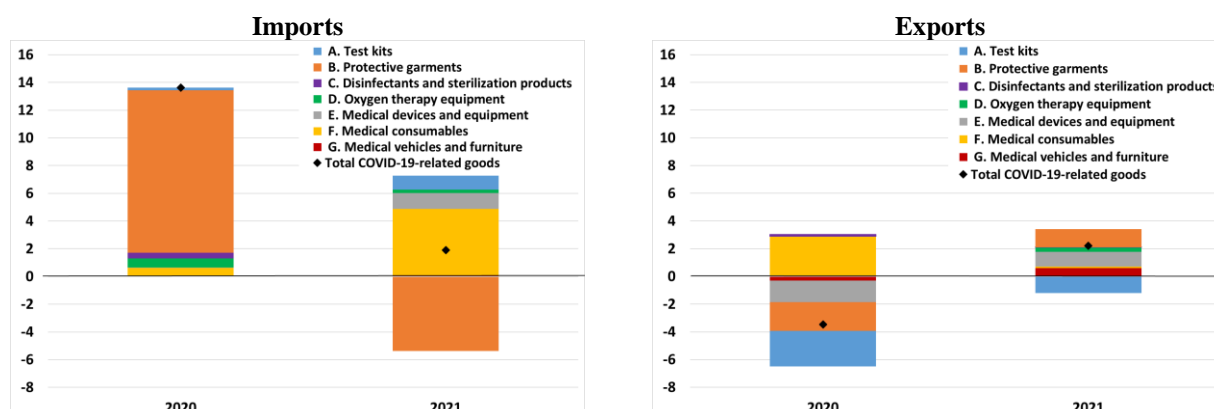


Source: authors’ calculations on Eurostat international merchandise trade statistics.

Notes: The squares represent the average figure for each product-year; in 2019, the base year, the average necessarily is 100 for all countries.

<sup>7</sup> In particular, exports of protective garments and of medical devices reached their minimum value in April 2020, to then gradually pick up again. Data on sold industrial production, sourced from Istat, are available at a highly disaggregate sectoral level that does not coincide with the CN 8-digit product-level classification employed in this note; hence, these two sets of statistics are not strictly comparable.

**Figure 4 – Contributions to Italy’s COVID-19-related external trade y-on-y growth rates by product category**  
(percentage points)



Source: authors’ calculations on Eurostat international merchandise trade statistics.

Notes: The 2021 contributions refer to the first semester and are computed with respect to the average of the entire 2020.

**Table 2 – The change in Italy’s COVID-19-related external trade by product grouping between 2019 and 2020**  
(percentage points of GDP)

	Imports	Exports	Net exports
A. Test kits	0.00	-0.05	-0.06
B. Protective garments	0.20	-0.04	-0.24
C. Disinfectants and sterilization products	0.01	0.00	0.00
D. Oxygen therapy equipment	0.01	0.00	-0.01
E. Medical devices and equipment	0.00	-0.03	-0.03
F. Medical consumables	0.01	0.06	0.05
G. Medical vehicles and furniture	0.00	-0.01	-0.01
<b>TOTAL</b>	<b>0.23</b>	<b>-0.07</b>	<b>-0.31</b>

Source: authors’ calculations on Eurostat international merchandise trade statistics.

**Table 3 – Italy’s COVID-19-related external trade composition by product grouping**  
(percentage shares)

	Imports		Exports	
	2019	2020	2019	2020
A. Test kits	29.2	25.8	18.5	16.5
B. Protective garments	9.8	19.0	13.8	12.2
C. Disinfectants and sterilization products	1.5	1.7	0.7	0.9
D. Oxygen therapy equipment	1.8	2.1	1.8	1.9
E. Medical devices and equipment	13.2	11.7	14.2	13.1
F. Medical consumables	43.6	38.9	47.5	52.2
G. Medical vehicles and furniture	0.9	0.8	3.5	3.3
<b>TOTAL</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<i>Memo: share of total goods imports/exports</i>	<i>7.2</i>	<i>9.4</i>	<i>7.9</i>	<i>8.4</i>

Source: authors’ calculations on Eurostat international merchandise trade statistics.

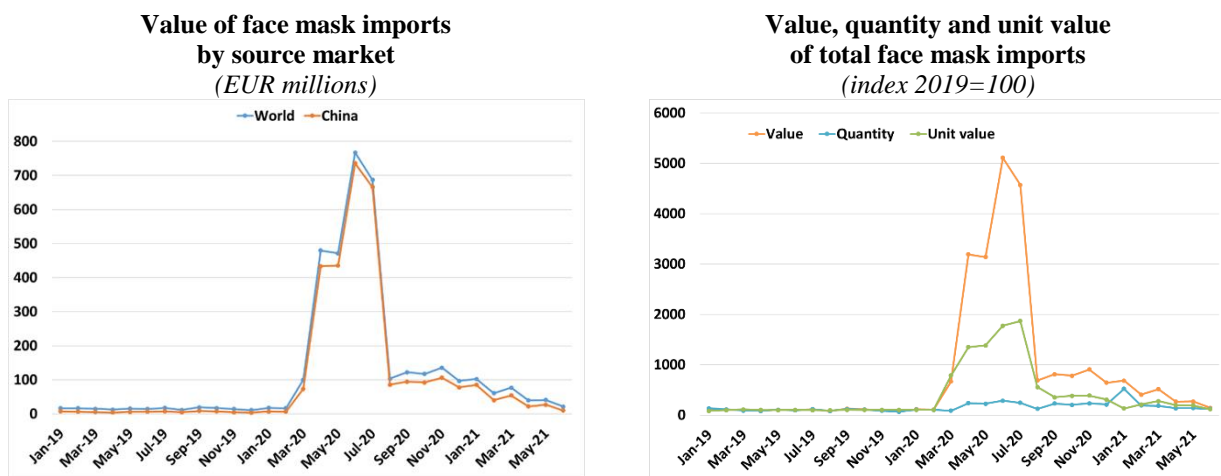
In the first semester of 2021 the exports of all product categories rose relative to the average of the previous year, with the exception of test kits, explaining the overall increase in COVID goods foreign sales (2.2 per cent y-o-y). The main boosts stemmed from protective garments and medical devices.

### 3. A focus on Italy’s trade in face masks and in COVID-19 vaccines

As seen in Figure 4, the main driver of the 2020 rise in Italy’s COVID imports was protective garments; digging deeper within this product category, face masks accounted for 9.6 percentage points of the 11.7-point contribution to import growth by the overall category. Indeed, face mask imports increased from a monthly average of 15 EUR million in 2019 to a first local peak of 480 million in April 2020 and then to a maximum of 767 million in June 2020 (Fig. 5; left-hand side panel); overall, in 2020 purchases from abroad of these products amounted to around 3.1 EUR billion. This outcome was due both to an increase in the volumes imported and, to a larger extent, to the rise in the unit value of these products (Fig. 5; right-hand side panel).<sup>8</sup> Most of the face masks were sourced from China.

In the first semester of 2021 purchases from abroad of this item fell dramatically, linked to a decline in unit values; indeed, face mask imports cumulatively amounted to 342 EUR million (57 million on average per month, below one tenth of the maximum in 2020), and continue to show a decreasing trend.

**Figure 5 – Italy’s imports of face masks during the pandemic**



Source: authors’ calculations on Eurostat international merchandise trade statistics.

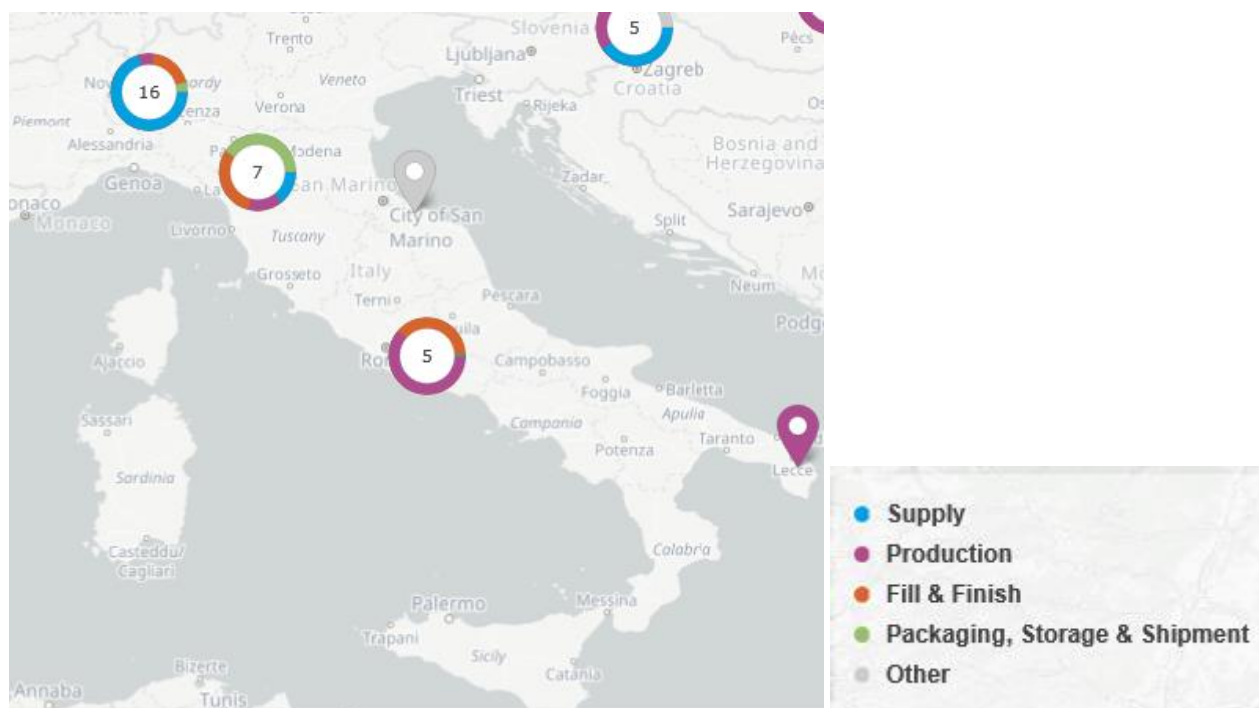
Whereas face masks were a predominant item of Italy’s COVID trade in 2020, it is also interesting to analyze trade flows of COVID vaccines, detectable as of January 2021, whose imports accounted for half of the total positive contribution of medical consumables to COVID import growth in the first half of the current year, seen in Figure 4.

The vaccine manufacturing process is made up of manifold stages, which are often carried out in several countries. According to a mapping by the European Commission,<sup>9</sup> in Italy there are 29 COVID vaccine sites, operating at various stages of the supply chain (Fig. 6).

<sup>8</sup> Unit values, computed as the ratio of current-price values and quantities, may however conceal an underlying composition effect within the face mask category (e.g. an increase in the share of FFP2 masks, which are more expensive than surgical masks).

<sup>9</sup> Available at: [https://ec.europa.eu/info/live-work-travel-eu/coronavirus-response/public-health/eu-vaccines-strategy\\_en](https://ec.europa.eu/info/live-work-travel-eu/coronavirus-response/public-health/eu-vaccines-strategy_en).

Figure 6 – Italy’s COVID-19 vaccine supply chain sites



Source: European Commission.

Notes: “Supply” includes the production or supply of raw materials, consumables, disposables and equipment; “Production” refers to manufacturing and formulation, Contract Development and Manufacturing Organizations, and Contract Manufacturing Organizations, where the latter are firms that serve other firms in the pharmaceutical industry on a contract basis to provide comprehensive services from medicine development through medicine manufacturing or only medicine manufacturing, respectively; “Other” includes the development process of vaccines, Contract Research Organizations (i.e. firms that offer their research to other pharmaceutical firms on a contract basis), research and development, and clinical trial management services.

Since the start of this year, Italy has cumulatively imported 836 EUR millions-worth of COVID vaccines, of which 487 million, i.e. more than half, concentrated in the sole months of May and June, which are the last ones for which data are currently available (Fig. 7). 70 per cent of the first semester purchases came from Germany, 27 from Belgium and 3 from the Netherlands.

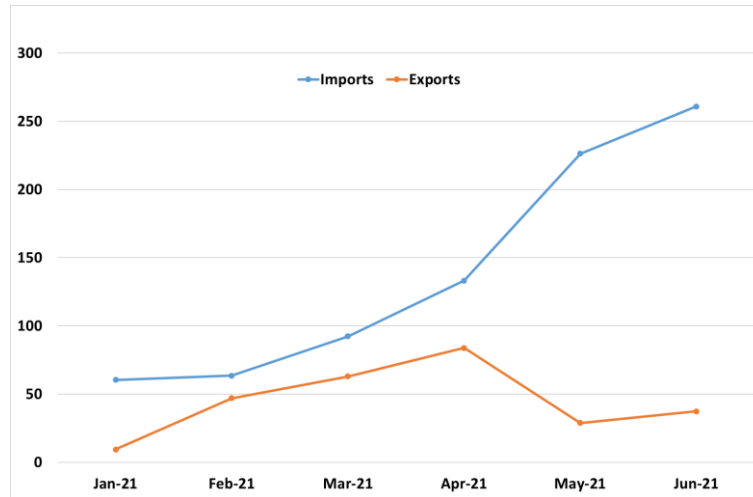
Over the same period, Italy also exported COVID vaccines, for a total amount of 269 EUR million. This figure compares with 1,588 million for Spain and 3,555 for Germany, while flows from France were negligible. The main destination of Italy’s exports by far was Belgium (76 per cent) and the remainder of exported vaccines was directed to the Netherlands (24 per cent).<sup>10</sup>

It is useful to recall that IMTS data employed in this note capture all goods that physically cross the border to enter or leave a given country at their gross value. Therefore, Italy’s COVID vaccine exports based on such data also refer to goods that were previously imported for subsequent transformation (“processing”). The value of re-exported vaccines is not quantifiable but it is likely to be sizeable, as suggested by Figure 6 and by the high percentage of foreign-owned subsidiaries and of stand-alone

<sup>10</sup> These two countries are clearly logistic hubs for these pharmaceutical goods, such that plausibly a substantial share of their imports from Italy is then re-exported elsewhere. Italy’s exports of overall pharmaceutical goods to Belgium account for around 15 per cent of the country’s total sales of these items (see G. Allione, R. Bronzini and C. Giordano, ‘[Recent export developments in the pharmaceutical sector in Italy and in the Lazio region](#)’, Banca d’Italia, Questioni di Economia e Finanza (Occasional Papers), 566, 2020), i.e. a much lower share than that for COVID vaccines.

third-party contractors in the Italian pharmaceutical industry (e.g. Allione, Bronzini and Giordano, 2020).<sup>11</sup>

**Figure 7 – Italy’s trade in COVID-19 vaccines**  
(EUR millions)



Source: authors’ calculations on Eurostat international merchandise trade statistics.

<sup>11</sup> A significant example is that of Catalent, a firm in Italy’s Lazio region that imports Astra Zeneca and Johnson & Johnson vaccine components in solid form from China, South Korea and Belgium and re-exports vaccine doses in liquid form ([https://www.corriere.it/cronache/21\\_luglio\\_20/impianto-un-miliardo-dosi-vaccini-moderna-ora-vuole-produrre-italia-8a1a4568-e990-11eb-94c9-3e2e13e36d00.shtml](https://www.corriere.it/cronache/21_luglio_20/impianto-un-miliardo-dosi-vaccini-moderna-ora-vuole-produrre-italia-8a1a4568-e990-11eb-94c9-3e2e13e36d00.shtml)).



### Annex – Our COVID-19-related goods external trade database

Our data are sourced from the Eurostat DS-1180622 database “EU trade since 2015 of COVID-19 medical supplies”, integrated when necessary with the Eurostat DS-645593 CN 8-digit product-level international merchandise trade statistics.

The series of the first dataset are monthly and available since January 2015, appraised at current prices and seasonally unadjusted, for all EU economies, based on a classification of COVID-19-related (from hereon COVID) goods compiled by Eurostat, reported in the first three columns of Table A1.<sup>12</sup>

As of data referring to January 2021, Eurostat introduced some changes to its classification relative to a previous version, in order to measure trade flows of new COVID products, such as COVID vaccines, or to tease out from more general or residual product categories specific items that, although traded also prior to the pandemic, gained significant relevance as a result of COVID (e.g. FFP2 face masks or face shields). These changes, however, led to the appearance of discontinuities in some series and of some cases of double-counting.

For these reasons, we employed the second Eurostat 8-digit product level dataset in order to tackle the changes in product aggregate definitions, construct consistent “long” (i.e. since 2015) time series and correct any double-counting. This amounted to substituting the broad product aggregates (labelled A1, A2 ...) built by Eurostat from CN 8-digit products with *ad hoc* lists of CN 8-digit products, as detailed in the fourth and fifth columns of Table A1, as well as in Table A2.

Figure A1 shows the overall impact of such adjustments on the value of total imports and exports of COVID products for Italy. Eurostat’s original database generally overestimates COVID trade flows due to various episodes of double-counting, with one exception, namely imports in the second quarter of 2020. Our higher values for this quarter are due to the fact that Eurostat’s original dataset only includes face mask trade flows as of January 2021. We instead constructed this series back until 2015.

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<sup>12</sup> Eurostat’s list (V 2.0 - February 2021) is also available at:

<https://ec.europa.eu/eurostat/documents/6842948/11003521/Corona+related+products+by+categories.pdf>.

Table A1 – Eurostat and our classification of COVID-19-related goods

Product macro-aggregate	Product aggregate	Products included by Eurostat (8-digit CN product codes and names**)	Products included by us (8-digit CN product codes)	Reasons for our correction
A - Test kits/ Instruments and apparatus used in diagnostic testing	A1 - Test kits and diagnostic reagents	3002 10 98 (Blood fractions and immunological products); 3002 13 00 + 3002 14 00 + 3002 15 00 (Immunological products, unmixed, not put up in measured doses or in forms or packings for retail sale); 3002 90 90 (Other immunological products); 3822 00 00 (Diagnostic reagents based on PCR nucleic acid test)	3002 10 98; 3002 13 00 + 3002 14 00 + 3002 15 00; 3002 90 90; 3822 00 00; 3002 11 00; 3002 12 00; 3002 19 00	Historical reconstruction
	A2 - Diagnostic test instruments and apparatus	3821 00 00 (Swab and viral transport medium set); 9027 80 (Colorimetric end tidal CO2 detector, RNA extractors, instruments used in clinical laboratories for In Vitro Diagnosis)	-	
B - Protective garments and the like	B1 - Face masks (excl. paper surgical masks - under B6)	*6307 90 93 (FFP and other masks conforming to a similar standard as respiratory protective devices to protect against particles); *6307 90 95 (Other protective face masks of textile materials)	6307 90 98; 6307 90 93; 6307 90 95	Historical reconstruction
	B2 - Protective head caps	6505 00 30 (Peaked caps); 6505 00 90 (Disposable hair nets); 6506 10 10 (Safety headgear of plastics); 6506 10 80 (Safety headgear of materials other than of plastics); 6506 91 00 (Other headgear of rubber or of plastics)	-	
	B3 - Gloves (excl. plastic gloves under B4)	4015 11 00 (Surgical rubber gloves); 4015 19 00 (Other rubber gloves); 6116 10 20 (Knitted or crocheted gloves which have been impregnated or covered with rubber); 6216 00 00 (Textile gloves that are not knitted or crocheted)	-	
	B4 - Protective unisex garments made of plastic sheeting, textile reinforced plastics or textile backed plastics	3926 20 00 + 3926 90 97 (Protective unisex garments made of plastic sheeting; textile reinforced plastics or textile backed plastics; incl. gloves; boot covers/overshoes; surgical aprons); *3926 90 60 (Protective face shields/visors of plastics)	-	
	B5 - Hygienic or pharmaceutical articles, articles of apparel, clothing accessories and protective unisex garments made of rubber or vulcanized rubber	4014 90 00 (Hygienic or pharmaceutical articles made of rubber or vulcanized rubber); 4015 90 00 (Protective unisex garments/coveralls made of rubber sheeting, textile reinforced rubber or textile backed rubber)	-	
	B6 - Paper or cellulose garments and clothing accessories for surgical/medical use	4818 50 00 (Apparel and clothing accessories, including disposable paper hospital gowns, paper shoe covers); 4818 90 10 (Paper articles of a kind used for surgical, medical or hygienic purposes, incl. cellulose paper masks, paper bed sheets, paper surgical masks); 4818 90 90 (Cellulose/paper masks)	-	
	B7 - Industrial and occupational clothing	6211 32 10 + 6211 32 90 (Industrial and occupational clothing, of cotton); 6211 33 10 (Protective Clothing – Boiler suits, coated PVC aprons); 6211 33 90 (Other Industrial and occupational clothing, of man-made fibres); 6211 39 00 (Other Industrial and occupational clothing, of other textile materials); 6211 42 + 6211 49 + 6211 43 (Other protective garments for the protection of the wearer against potentially infectious material)	-	
	B8 - Other protective garments for surgical/medical use	6113 00 (Other protective garments, knitted or crocheted, rubberised); 6210 10 10 (Protective garments for surgical/medical use, incl. spun-bonded garments); 6210 10 92 (Single-use gowns of a kind used by patients or surgeons during surgical procedures); 6210 10 98 + 6210 20 00 + 6210 30 00 + 6210 40 00 + 6210 50 00 (Other protective garments of textiles of rubberized textile fabrics or woven fabrics that are impregnated, coated, covered or laminated)	-	
	B9 - Other protective accessories	5603 11 10 + 5603 94 90 (Fabric for single-use drapes, of a kind used during surgical procedures); 6307 90 92 (Single-use drapes used during surgical procedures made up of nonwovens); 9004 90 (Protective spectacles and visors for eye protection); *9020 00 10 (Gas masks with mechanical parts or replaceable filters for protection against biological agents)	5603 11 10; 5603 94 90; 6307 90 92; 9004 90; 9020 00	Historical reconstruction

Product macro-aggregate	Product aggregate	Products included by Eurostat (8-digit CN product codes and names**)	Products included by us (8-digit CN product codes)	Reasons for our correction
C - Disinfectants and sterilization products	C1 - Hydroalcoholic and other solutions  C2 - Hand sanitizers and other disinfectant preparations  C3 - Sterilizers  C4 - Other equipment for disinfection purposes	2207 10 00 (Undenatured, ethyl alcohol of an alcoholic strength by volume of 80% vol or higher); 2207 20 00 (Ethyl alcohol and other spirits, denatured, of any strength); 2208 90 91 (Undenatured, ethyl alcohol of an alcoholic strength by volume of less than 80% vol; in containers holding 2 litres or less); 2208 90 99 (Undenatured, ethyl alcohol of an alcoholic strength by volume of less than 80% vol; In containers holding more than 2 litres); 2847 00 00 (Hydrogen peroxide put up in disinfectant preparations for cleaning surfaces, whether or not solidified with urea); 2905 12 00 (Propan-1-ol and propan-2-ol); 2915 11 00 (Formic acid); 2915 12 00 (Salts of formic acid); 2918 21 00 (Salicylic acid and its salts)  3808 94 10 (Disinfectants based on quaternary ammonium salts); 3808 94 20 (Disinfectants based on halogenated compounds); 3808 94 90 (Other disinfectants)  8419 20 00 (Medical, surgical or laboratory sterilizers)  8539 49 00 (Ultra-violet or infra-red lamps); 8539 50 00 (Ultra-violet light-emitting diode lamps)	-  -  -	
D - Oxygen therapy equipment		8421 39 (Pressure Swing Adsorption oxygen plant for a central oxygen supply system of medical grade oxygen); 9019 20 + *9019 20 10 + *9019 20 20 + *9019 20 90 (Respirators for intensive and sub-intensive care, medical ventilators, flow splitters, other oxygen therapy apparatus including oxygen tents, extracorporeal membrane oxygenation)	8421 39; 9019 20	Double counting
E - Medical devices and equipment	E1 - Humidifiers  E2 - Monitors  E3 - Pumps  E4 - Thermometers  E5 - Other medical devices and equipment	8415 10 + 8509 80 00 + 8479 89 97 + *9019 20 90 (Humidifiers)  85285291 + 85285299 + 85285900 (Multi-parameter monitors, including their portable versions); 85285920 (Monochrome flat panel displays); 85285931 (Colour LCD monitors, not incorporating television reception apparatus); 85285939 (Colour flat panel displays); 85285970 (Monitors); 90181910 (Multi-parameter patient monitoring devices, monitoring stations used for the continuous monitoring of multiple vital signs); 90181990 (Other electro-diagnostic apparatus, including single-parameter monitors)  8413 81 00 (Suction pumps); 9018 90 84 (Vascular access kits); 9018 90 50 (Transfusion and infusion apparatus)  9025 11 (Clinical thermometers, liquid-filled); 9025 19 (Digital thermometers, infrared thermometers for placing on the forehead)  7017 (Laboratory, hygienic or pharmaceutical glassware); 7311 00 (Empty medical gas cylinders, portable, for oxygen, fitted with a valve and a pressure and flow regulator – steel or steel alloy); 7324 90 00 (Shallow kidney-shaped basins made of stainless steel and used for the collection of bodily discharges and other sanitary purposes); 7613 00 00 (Aluminium containers for compressed or liquefied gas); 3701 10 00 (X-Ray film or plates, flat, sensitised and unexposed); 3702 10 00 (X-Ray film or plates, in rolls, sensitised and unexposed); 8543 70 90 + *9019 20 90 (Suction systems/ electric suction machines); 9018 11 00 (Electro-cardiographs); 9018 12 00 (Portable ultrasound scanners); 9018 90 20 (Endoscopes: Laryngoscopes); 9018 90 60 (Endotracheal tubes); 9022 12 00 (Computed tomography apparatus); 9022 14 00 (Other computed tomography apparatus for medical or surgical uses); 9026 80 20 + 9026 80 80 (Instruments and apparatus for measuring the flow, level, pressure or other variables of liquids or gases); 9028 20 00 (Electronic drop counter, IV fluids)	8415 10; 8509 80 00; 8479 89 97  -  -  7017; 7311 00; 7324 90 00; 7613 00 00; 3701 10 00; 3702 10 00; 8543 70 90; 9018 11 00; 9018 12 00; 9018 90 20; 9018 90 60; 9022 12 00; 9022 14 00; 9026 80 20; 9026 80 80; 9028 20 00	Double counting      Double counting

Product macro-aggregate	Product aggregate	Products included by Eurostat (8-digit CN product codes and names**)	Products included by us (8-digit CN product codes)	Reasons for our correction
F - Medical consumables	<p>F1 - Medicines / Vaccines</p> <p>F2 - Wadding, gauze, bandages, tape and similar, impregnated or coated with pharmaceutical substances, for medical use.</p> <p>F3 - Soap and organic surface-active products and preparations</p> <p>F4 - Sterile tubes (excl. endotracheal tubes under E5)</p> <p>F5 - Syringes, with or without needles</p> <p>F6 - Other medical consumables</p>	<p>3002 20 (Human vaccines); *3002 20 10 (COVID-19 vaccines); 3003 90 00 + 3004 90 00 (Paracetamol, Hydrochloroquine, Lopinavir/Ritonavir, Remdesivir, Hydrogen peroxide presented as a medicament); 3002 13 00 + 3002 14 00 + 3002 15 00 (Tocilizumab)</p> <p>3005 10 00 (Surgical tape, transparent adhesive plasters); 3005 90 10 (Wadding and articles of wadding); 3005 90 31 (Gauze and articles of gauze); 3005 90 99 (Bandages, cotton sticks and similar articles impregnated or covered with pharmaceutical substances)</p> <p>3401 11 00 + 3401 19 00 (Soap and organic surface-active products and preparations, in the form of bars, cakes, moulded pieces or shapes, and paper, wadding, felt and nonwovens, impregnated, coated or covered with soap or detergent); 3401 20 10 (Soap in other forms: flakes, wafers, granules or powders); 3401 20 90 (Soap in other forms, i.e. liquid); 3401 30 00 (Organic surface-active products and preparations for washing the skin, in the form of liquid or cream and put up for retail sale, whether or not containing soap); 3402 12 00 (Organic surface-active agents other than soap – Cationic)</p> <p>3917 21 (Rigid tubes, pipes and hoses, of polymers of ethylene); 3917 22 (Rigid tubes, pipes and hoses of polymers of propylene); 3917 23 (Rigid tubes, pipes and hoses, of polymers of vinyl chloride); 3917 29 00 (Rigid tubes, pipes and hoses, of plastics); 3917 31 00 (Flexible tubes, pipes and hoses, of plastics); 3917 32 00 (Flexible tubes, pipes and hoses of plastics, without fittings); 3917 33 00 (Flexible tubes, pipes and hoses of plastics, with fittings, seals or connectors); 3917 39 00 (Flexible tubes, pipes and hoses, of plastics, reinforced or otherwise combined with other materials)</p> <p>9018 31 10 (Syringes, with or without needles – of plastic); 9018 31 90 (Syringes, with or without needles – other than plastic); 9018 32 10 (Tubular metal needles); 9018 32 90 (Needles for sutures); 9018 39 00 (Needles, catheters, cannulae and the like – other than above)</p> <p>2804 40 00 (Medical oxygen); 3006 70 00 (Lubricating jelly, Conductive gel for use in an ECG or ultrasound procedure); 3923 29 (Disposal bags for bio-hazardous waste)</p>	<p>3002 20 10; 3003 90 00; 3004 90 00</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>Double counting***</p>
G - Medical vehicles and furniture		<p>8705 90 (Mobile clinics and radiological vehicles); 6306 22 00 + 6306 29 00 (Equipment for setting up field hospitals/ Tents of synthetic fibres or other textile materials); 8479 89 97 (Wall-mounted hand disinfectant dispensers); 8713 90 00 (Emergency trolleys); 9402 90 00 (Medical/surgical furniture: incl. Includes operating tables, examination tables, hospital beds with mechanical fittings, specially designed tables for instruments, anaesthetic or surgical supplies, and their parts); 8424 89 70 (Decontamination / sanitizing tunnels or chambers); 8424 89 00 (Mechanical appliances, whether or not hand-operated, for projecting, dispersing or spraying liquids or powders, n.e.s.)</p>	<p>8705 90; 6306 22 00 + 6306 29 00; 8713 90 00; 9402 90 00; 8424 89 70; 8424 89 00; 8424 89 40</p>	<p>Double counting &amp; Historical reconstruction</p>

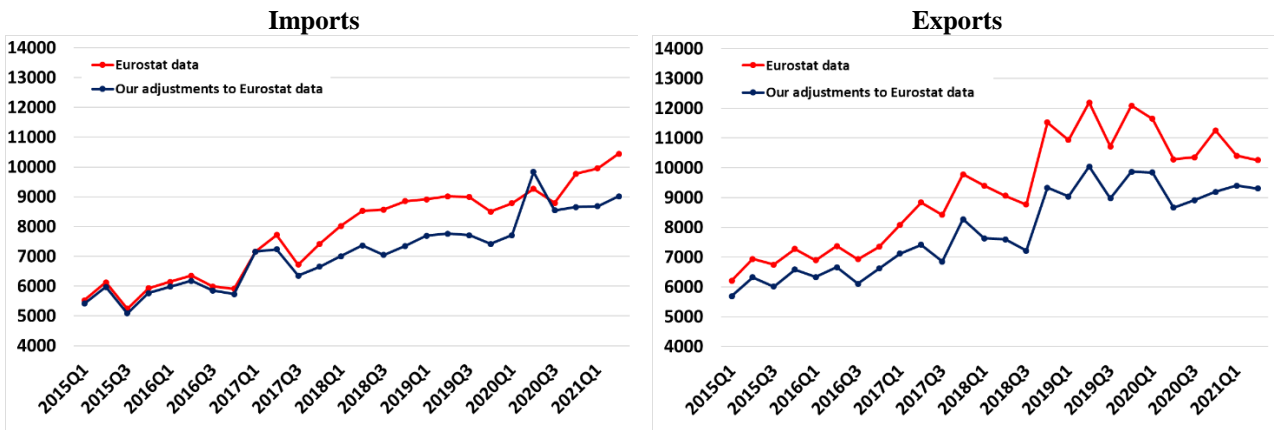
Notes: codes in red indicate products cancelled out by us relative to Eurostat’s classification; codes in blue indicate products we added relative to Eurostat’s classification. "-" indicates that the products in our classification are the same as those in Eurostat's classifications. (\*) denotes products for which data are available only since January 2021. (\*\*) The product names reported in this table are those employed by Eurostat in the HS/CN8 classification reference list for the dataset “EU trade since 2015 of COVID-19 medical supplies” and which do not necessarily coincide with 8-digit CN product names, often for the sake of brevity. (\*\*\*) In the case of vaccines, there is a discontinuity in the series between 2020 and 2021 because 3002 20 10 (COVID-19 vaccines) did not exist before 2021; Eurostat sums up both human vaccines and COVID-19 vaccines (a case of double-counting), whereas we choose to include only the sub-product COVID-19 vaccines (hence no other vaccines prior to December 2020, as the latter were not employed against COVID-19).

**Table A2 – A focus on our historical reconstructions of COVID-19-related products**

Product aggregate	Eurostat code up to 12-2020*	Eurostat code as of 01-2021*	Our reconstruction over the whole period
A1	3002 10 98: Blood fractions and immunological products	3002 10 98: Blood fractions and immunological products  3002 12 00 + 3002 13 00 + 3002 14 00: Immunological products, unmixed, not put up in measured doses or in forms or packings for retail sale	3002 10 98: Blood fractions and immunological products  3002 12 00 + 3002 13 00 + 3002 14 00: Immunological products, unmixed, not put up in measured doses or in forms or packings for retail sale  3002 11 00: Malaria diagnostic test kits  3002 15 00: Immunological products, put up in measured doses or in forms or packings for retail sale  3002 19 00: Immunological products, n.e.s.
B1	6307 90 98: Made-up articles of textile materials, incl. dress patterns, n.e.s.	6307 90 98: Made-up articles of textile materials, incl. dress patterns, n.e.s.  6307 90 93: Filtering facepieces (FFP)  6307 90 95: Protective face masks (excl. filtering facepieces FFP)	6307 90 98: Made-up articles of textile materials, incl. dress patterns, n.e.s.  6307 90 93: Filtering facepieces (FFP)  6307 90 95: Protective face masks (excl. filtering facepieces FFP)
B4	3926 90 97: Protective unisex garments made of plastic sheeting, textile reinforced plastics or textile backed plastics, incl. gloves, face shields, surgical aprons	3926 90 97: Protective unisex garments made of plastic sheeting, textile reinforced plastics or textile backed plastics, incl. gloves, boot covers/overshoes, surgical aprons  3926 90 60: Protective face shields/visors of plastics	3926 90 97: Protective unisex garments made of plastic sheeting, textile reinforced plastics or textile backed plastics, incl. gloves, boot covers/overshoes, surgical aprons  3926 90 60: Protective face shields/visors of plastics
B9	9020 00 00: Gas masks with mechanical parts or replaceable filters for protection against biological agents	9020 00 10: Other breathing appliances - gas masks	9020 00: Breathing appliances and gas masks, incl. parts and accessories
D, E1, E5	9019 20 00: Oxygen therapy equipment and pulse oximeters: respirators for intensive and sub-intensive care, medical ventilators, oxygen tents	9019 20 10: Mechanical ventilation apparatus, capable of providing invasive ventilation  9019 20 20: Mechanical ventilation apparatus, non-invasive  9019 20 90: Other apparatus, including parts and accessories	9019 20: Ozone therapy, oxygen therapy, aerosol therapy, artificial respiration or other therapeutic respiration apparatus
E5	9026 80: Instruments and apparatus for measuring the flow, level, pressure or other variables of liquids or gases: Flowmeter, Thorpe tube for oxygen 0-15L/min	9026 80: Other instruments and apparatus for measuring or checking the flow or level of liquids  9026 80 20: Other instruments and apparatus for measuring or checking the flow or level of liquids - Electronic  9026 80 80: Other instruments and apparatus for measuring or checking the flow or level of liquids - Other	9026 80 20: Other instruments and apparatus for measuring or checking the flow or level of liquids - Electronic  9026 80 80: Other instruments and apparatus for measuring or checking the flow or level of liquids - Other
F1	3002 20: Vaccines for human medicine	3002 20 10: Vaccines against SARS-related coronaviruses	3002 20 10: Vaccines against SARS-related coronaviruses
G	8424 89 00: Mechanical appliances, whether or not hand-operated, for projecting, dispersing or spraying liquids or powders, n.e.s.	8424 89 00: Mechanical appliances, whether or not hand-operated, for projecting, dispersing or spraying liquids or powders, n.e.s.  8424 89 70: Decontamination / sanitizing tunnels or chambers	8424 89 00: Mechanical appliances, whether or not hand-operated, for projecting, dispersing or spraying liquids or powders, n.e.s.  8424 89 70: Decontamination / sanitizing tunnels or chambers  8424 89 40: Mechanical appliances for projecting, dispersing, or spraying liquids or powders, of a kind used for the manufacture of printed circuits

Notes: (\*) This table generally covers those historical reconstructions, highlighted in Table A1, that are due to new product codes introduced in January 2021. Two exceptions are A1 and G, whose product codes changed as of January 2017.

**Figure A1 – Italy’s trade in COVID-19-related products**  
(EUR millions)



Source: Eurostat (DS-1180622) and authors’ calculations on Eurostat international trade merchandise statistics.