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# The dynamics of trade firms during the COVID-19 pandemic: the case of Via Padova, Milan

Valentina Cattivelli <sup>a,b</sup> and Guido Ferilli <sup>a</sup>

## ABSTRACT

This paper investigates trade firms' dynamics in the Via Padova neighbourhood at the end of 2020. The COVID-19 pandemic has stressed local economies and it has resulted in economic downturns, income inequalities and increased unemployment. While the current literature analyses widely its impacts on international trade, little attention has been given to the resilience of trade firms at the urban level. The containment measures to limit the pandemic have caused temporary closings of non-essential goods firms, while forcing other firms offering essential goods to stay open, albeit the many difficulties encountered. Since the Via Padova neighbourhood has one of the highest densities of trade firms in Milan, this makes it an interesting study area to test the effects associated with the containment measures. Exploring the data about trade firms' survival rates related to the period 2019–20 demonstrates a certain resilience of local firms. The number of firms closing down decreases in 2020, while the variation in the active ones tends to become insignificant compared with the previous year. The negative effects on non-essential goods firms persist during the first wave of the pandemic, whereas during the second wave essential goods firms are especially affected. These dynamics of resilience towards hostile economic and social conditions caused by the pandemic are a useful clue for reconsidering and developing new recovery policies.

## ARTICLE HISTORY

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## KEYWORDS

firms' dynamics; trade sector; COVID-19; creative resilience; Milan

## 1. INTRODUCTION


The COVID-19 outbreak is generating unprecedented economic damage at the global level (e.g., Hevia & Neumeyer, 2020; Leal Filho et al., 2020). The United Nations Conference on Trade and Development (UNCTAD) (2020) estimated a sharp reduction in gross domestic product (GDP) of more than US\$1 trillion in 2020, and a substantial increase in the number of people living in extreme poverty conditions globally for the following years as well.

One of the immediate responses to the spread of this virus has been the imposition of some restriction measures on businesses' and people's activities. These restrictions included lockdowns in cities across the country and severe nationwide mobility constraints. They were

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initially implemented in the second quarter of 2020 (the first wave of the pandemic, March–June 2020). In the summer, such restrictions were lifted or reduced. When the second wave hit Europe in the early autumn of 2020, the lessons learnt during the first wave were not always the best solutions for individual and economic activities to mitigate negative consequences (Hayakawa & Mukunoki, 2021a; Nazareth et al., 2020).

These restrictions generated distortions in international trade, such as supply-and-demand restrictions, Barlow et al., 2021) and forced closures of businesses worldwide (Maliszewska et al., 2020). Compared with the previous period, trade globally fell by about 14% in the second quarter of 2020 (World Trade Organization (WTO), 2020).

Research has provided immediate estimates of the economic implications of COVID-19 outbreak and the related restrictions on trade, mostly addressing macroeconomic dimensions at the global level (e.g., Baldwin & Tomiura, 2020; Vidya & Prabheesh, 2020). However, the diffusion of the pandemic has also generated massive uncertainty about the effects induced by global economic implications locally and, therefore, about urban resilience (e.g., Cappelli & Cini, 2020; Florida et al., 2021).

Concerns related specifically to pandemic-induced changes in consumer purchasing and spending patterns will persist, and all factors affecting productivity and social inclusion over the long term (e.g., Altig et al., 2020; Baker et al., 2020; Cattivelli, 2022a; Cattivelli & Rusciano, 2020). Although there is an evident global consensus that these distortions in global trade reflect some disturbances at the local level and thus affect the operation and survival capacity of firms (Chang et al., 2020; Yang et al., 2021), research on this issue remains limited, with a limited ability to express forms of resilience, namely finding positive dynamics from adverse situations in the local ecosystem (Ferilli, 2016), yet emerging as relevant for local economies.

In order to fill this knowledge gap, the present paper explores the likely trade implications of the COVID-19 pandemic through the analysis of trade firms' dynamics in the Via Padova neighbourhood of Milan. This narrative offers three contributions to the scientific debate. On the one hand, it outlines possible variations in the entrepreneurial dynamics of the trade sector induced by restriction measures. Based on data related to the number of firms, it considers specifically their variation for the first and second pandemic waves. On the other, it details the dynamics of the firms operating in the trade sector, analysing separately essential and non-essential goods' firms. In doing so, it offers a separate analysis of the firms that had been obliged to close and those that could remain active during the lockdown. In addition, the paper focuses on a different territorial dimension rather than the global one, as it focuses locally on a specific urban area.

The Via Padova neighbourhood is one of the most specialised in the trade sector and is characterised by the largest presence of foreign entrepreneurs in the whole Milan. Its main street, Via Padova, is the second most important street in Milan as far as the total number of firms and the number of firms operating in the trade sector go (Milan Chamber of Commerce, 2019b). The analysis first assesses the distribution of trade firms in this neighbourhood and then among more specialised trade subsectors, while studying their dynamics during the pandemic period. Subsequently, it presents the variation in their number in the period of 2019–20, with a disaggregated view on the first wave (March–September 2020) and second wave (October–December 2020) of the pandemic, as well as on essential- and non-essential goods firms.

The rest of this paper is organised as follows. It focuses on the effects of COVID-19 on trade as already discussed in the recent literature in section 2. After explaining the method applied in the current study and the reasons explaining the choices of Via Padova neighbourhood as case study in sections 3 and 4, the paper shows the results of the analysis of trade firms' performance in the period 2019–20 and specifically during the two pandemic waves in section 5. Finally, the paper discusses the results and concludes with the last sections.

## 2. THE COVID-19 SPREAD AND ITS IMPLICATION ON TRADE

### 2.1. General overview

The COVID-19 pandemic has caused unprecedented social damage at the local and global levels. The number of infected cases and deaths worldwide increased rapidly over the various waves. On 9 September 2021, the number of infected and dead people stood at 219 million and 4.5 million, respectively. The virus, in fact, had already spread to over 200 countries, including the United States, China and Europe as the most affected areas (World Health Organization (WHO), 2020). Explanatory factors of spatial variability of virus incidents are identified in ethnic composition (Oztig & Askin, 2020); travel distance (Fortaleza et al., 2020) and air transport (Christidis & Christodoulou, 2020); and income and sociodemographic factors (Consolazio et al., 2021).

Immediately following the WHO declaration of the pandemic onset, in March 2020, most countries imposed some form of restrictions on people and businesses activities, including lockdown (and related measures such as required and voluntary quarantine, home isolation), social distancing (of a part or of an entire population or only of the most vulnerable citizens), closure of non-essential businesses/workplaces and schools/educational institutes, stopping or postponing sports and cultural events, cultural and scientific activities, in an attempt to contain and reduce the disease diffusion and transmission.

These restrictions were particularly severe during the first wave of the pandemic (March–June 2020), but during the summer, most countries lifted many of them, only to strengthen them again in early autumn during the first period of the second wave (October–December 2020).

There is a large consensus about the effectiveness of these measures (e.g., Greenstone & Nigam, 2020; Surico & Galeotti, 2020). However, it is largely accepted that these measures have had consequences on global and interregional links, economic growth, and, thereby, increasing severe consequences on global production. Since March 2020, the pandemic has caused massive losses in GDP and working hours throughout the world (Shingal, 2020; UNCTAD, 2020; WTO, 2020), which in certain countries were higher than those of the 2009 Global Financial Crisis. The negative impacts of the pandemic have slowed growth, disrupted supply chains, disturbed financial markets, and interrupted the mobility of goods and people at the global level (Sforza & Steininger, 2020; United Nations Environment Programme (UNEP), 2020). Preliminary studies estimate effects on production, supply chain, policy response (Baldwin & Tomiura, 2020; Vidya & Prabheesh, 2020), analyse conflicts, interdependence between countries (Baldwin & Freeman, 2021), and sector resilience at the global level (Espitia et al., 2021).

Negative consequences also affected the trade sector (e.g., Saturwa et al., 2021; Szabo et al., 2021).

In gross terms, services trade is an important sector for the global economy, as it is worth a quarter of global trade in services and goods. The total value added to services in manufacturing exports represents approximately 30% in the manufacturing sectors and 90% of services exports (WTO, 2019). After the 2008 Global Financial Crisis, trade showed signs of rapid resilience, because it has a low sensitivity to demand shocks and it is less dependent on supply finance (Ariu, 2016). Now, its reaction to pandemic consequences includes a wide range of effects, and its net impact remains indeterminate.

The diffusion of COVID-19 caused an immediate supply shock, which was followed by a demand shock, along the global value chain internationally. These two shocks shortened the value chain networks in geographically closer regions (Javorcik, 2020). Social distancing measures and closures have had negative effects on international trade flows. Compared with

2019, trade volume in fact decreased by 5.3%. Exports from large economies such as the United States, China and Europe decreased a lot (WTO, 2021). Simulations of the possible impact on GDP and trade suggest a fall of GDP of 2% globally and a negative shock in the domestic services output and travel services, as well as a reduction in the domestic services output and in those activities requiring proximity between sellers and buyers (Maliszewska et al., 2020).

Restriction measures have also had positive effects: they reduced social and economic costs and the length of businesses' closing times. They also imposed the adoption of new solutions for restructuring services' management, production decisions and work activities (Dodds et al., 2020). Furthermore, as it has already been the case for other contexts and different traumas, more dynamic forms of resilience have benefited from shocks rather than simply being affected by them (Ferilli, 2016).

While there is a massive literature on the impact of these restrictions on trade at a global level (e.g., Hayakawa & Mukunoki, 2021b; Norheim et al., 2021) or at a national level (e.g., Bontempo et al., 2021, for the UK, Du & Shepotylo, 2022, for Switzerland; and Büchel et al., 2020, for Italy, France and Spain), there is no deep knowledge yet of the effects at the lowest level: the urban one.

The importance of trade at this level has become much stronger. In one of its reports, the WHO (2020) outlines the dependence of local communities on maintaining an active retail sector:

[which] faces the greatest challenges in maintaining the highest standards of hygiene, protecting staff from the risk of infection, maintaining physical distancing when dealing with large numbers of customers, remaining open, and ensuring that adequate supplies of food are available on a daily basis.

Firms operating in trade subsectors specialised in selling essential goods remained open during the entire pandemic period in almost all cities around the world. Other ones such as healthcare facilities, bike and auto repair shops, grocery stores, etc., continued to be active, although facing increasing opposition from online providers. In these subsectors, trade forced a massive experiment in remote/online shopping, inducing a dependency on home deliveries, and thus requiring some form of work and productive reorganisation (Beckers et al., 2021). Therefore, the number of visits to these stores then changed (as outlined in the Chicago Metropolitan Area by Ballantyne et al., 2021). Firms here operating also tested some restrictive measures regarding the access of suppliers and customers, which included the subjective evaluation of a controlling health person by modern devices for medical purposes (thermal cameras, thermometers, etc.).

Other trade firms operating in non-essential goods sectors were forced to close during the lockdown. Trade firms operating in the related trade subsectors whose activities were characterised by some form of physical proximity between consumers and suppliers were more affected by the adverse effects of social distancing practices (Trasberg & Cheshire, 2021).

The effects on the dynamics of non-essential goods trade firms that were obliged to stall during the lockdown are not completely studied. Similarly, the transformations carried out by those firms that have continued to operate selling essential goods in the same period are largely unknown. Concerns refer to the reaction and eventually the subsequent recovery of trade transactions which are characterised by some form of physical proximity between buyers and operators and cannot be replaced by services traded over the Internet (Florida et al., 2021). There is also apprehension for the reaction of firms providing services such as complementary elements to manufacturing and other services whose activity has been drastically delayed due to the lockdown (Shingal, 2020). The Organisation for Economic Co-operation and Development (OECD) (2020) has already revealed that the sectors most affected by social distancing have further tapered the gradual reopening at the end of the first phase of lockdown. This, in turn, has compromised the reopening for many firms operating in the same sectors or along

the same value chains and it has had effects in other related sectors. As an example, investments in service and productive infrastructures have decreased, while the real estate market for commercial space market segment demonstrates evident difficulties. Some concerns also focus on the population's access to services (Cattivelli & Rusciano, 2020). Due to the income reduction of some workers who became underemployed or unemployed, or the lack of access to computer equipment, the risk of increasing social inequalities among the population increases (Cattivelli, 2022b).

Other services firms whose result was characterised by the movement of skilled and unskilled professionals (for instance, in sectors such as education, tourism and travel, transports, business services) are severely affected and they will probably take longer to recover (Daniel, 2020; Gössling et al., 2021). Bars, restaurants, clothing stores, sports venues, etc., had to face a huge crisis due to their demand largely declining. Frago (2021) reveals that their closure leads to the commercial desertification of the city centres and questions of traditional centre–periphery dynamics and real estate market vulnerabilities. The future recovery of these firms needs the implementation of severe safety precautions, which imply high costs. This, in turn, may alter the cost structure of providing them, and thus affecting the final price. In contrast, insurance, financial and communication-related services were more resilient, being less exposed to limiting social distancing measures (Nayak et al., 2021). Online grocery retail has also expanded during the pandemic, but the transition from grocery to e-grocery is slower than one can imagine (Dannenberg et al., 2020). Finally, most of the service sectors that do not require physical proximity, by using information technology (IT) and telecommunications infrastructure, have benefited significantly from the pandemic period (e.g., Gecit, 2021).

## 2.2. The effects in both Italy and Milan

Since the outbreak of COVID-19, more than 130,000 people in Milan have died from COVID-19-related diseases, while 4.59 million people were infected with the virus in Italy. This country experienced the outbreak of the infection earlier than other European countries. The first case was detected in late February 2020 in Codogno, near Lodi and Milan, in Lombardy. Some days later, national and regional authorities imposed restrictive measures to limit the spread of the virus. These measures included social distancing and stay-at-home orders, as well as the mandatory closing of non-essential economic activities. Retail activities were suspended, except for foodstuffs and necessities identified in a specific list included in the Prime Minister's Decree (DPCM) of 22 March 2020, and reported in Appendix A in the supplemental data online. Newsstands, tobacconists, pharmacies and para-pharmacies could remain open. Essential goods could be bought only in those small stores in urban neighbourhoods, medium and large sales structures, including inside shopping centres, which adopted specific safety measures to prevent contagion. These stores were required to comply with appropriate protocols or guidelines to prevent or reduce the risk of contagion, as well as to provide staff with appropriate safety equipment. Shopping malls remained closed during the holidays and before the holidays, while markets were always closed, except for activities aimed at selling only food, agriculture and floriculture.

At the end of the first pandemic wave in June 2020, the government's Technical and Scientific Committee provided technical and organisational solutions to promote the reopening of all commercial activities. Before the second pandemic wave, in the early autumn of 2020, the same institutions promoted the adoption of a prime ministerial decree on 24 October 2020. Based on its rules, the retail commercial activities could:

take place on condition that, in addition to the interpersonal distance of at least one metre, it is ensured that entrances take place in a deferred manner and that it is prevented to stay inside the premises more than the time necessary to purchase goods.

This condition was applied in the regions where the risk of contagion was contained. For regions at higher risk of contagion, more severe restrictions were applied, similar to those implemented during the first wave. To alleviate the economic impacts of these restrictions, the Italian Parliament introduced the governmental decree 'Cura Italia' with which the government promoted the introduction of a tax credit for 60% of the amount of the lease for March 2020 to retailers. This measure was allocated also later through further amendments introduced with the 'Decreto Rilancio' in July 2020.

The first studies conducted by statistical offices and trade associations on entrepreneurial resilience and containment measures are not optimistic. In terms of economic growth, ISTAT (National Institute of Statistics) reports a consistent decrease in the GDP in the first quarter of 2020 (−5.3%), when compared with the same period in 2019 (ISTAT, 2020). The data related to the occupation in the same periods are negative. According to the same institute, the number of unemployed people who are currently looking for a job decreased majorly and more than in 2019. In 2020, also the employment rate decreased in general terms (−1.2%), bringing the overall employment rate to 57.9% at the national level. The number of women, freelancers and young people employed dropped at the end of 2020 (ISTAT, 2020).

Due to restrictions on people and economic activities, Confcommercio (2020), the Italian association that represents companies operating in the retail sector, outlines an acceleration of commercial desertification in urban areas, that already started in 2012. Since then, this association detects the closing of 77,000 activities in these areas and foresees an increase for the next years. Only in the historic centres of the 110 provincial capitals and 10 other medium-sized cities is there evidence of a greater decline in retail (−17.1%) and a loss of a quarter of accommodation and catering firms (−24.9%).

Commercial desertification of these areas is also confirmed by ISTAT, which reveals that the 'working-from-home' solutions (smart and teleworking) and their sudden adoption have aggravated the crisis of commercial services. Before the pandemic, this sector relied largely on heterogeneous city populations and users, whose entity depended on large flows of home-to-work mobility (Bartik et al., 2020). Confcommercio also states that in the period between 2012 and 2020, offline trading activities have been successful. This holding concerns the number of basic stores such as food (−2.6%) and those that perform new functions in addition to meeting basic needs, such as tobacco stores (−2.3%). However, there are some significant changes in consumption in certain sectors, such as technology and communications (+18.9%) and pharmacies (+19.7%). The latter now became places to develop self-care, in addition to the traditional function of supplying medicines. Firms operating in other sectors such as clothing, books, toys, furniture and petrol stations were suffering from the effects of restrictions. Their reaction to this crisis is closing, as well as the relocation towards the peripheral areas or the conversion of their business from physical to online. More uncertain is the fate of the itinerant trade firms in the traditional neighbourhood markets. The data relating to their resilience are comforting; however, it is unclear whether this depends on the swift exchange of licences from one seller to another.

The pandemic has also exposed the trade firms in Milan to strong pressures. According to a recent study by Confcommercio di Milano, Lodi, Monza, and Brianza (2020), retail sales that were closed due to the lockdown lost €4.9 billion in turnover, 40% less than in 2019 (€4.2 billion in Milan and the Metropolitan City alone). A total of 72% of the firms experienced a decrease in customers, and 41% had difficulties with personnel due to the quarantine. The risk of definitive closures of firms was set at around 25%, equal to approximately 3700 firms (estimation on 30 April 2020 by the same organisation). One year later, the same institution confirmed a general pessimism among local firms with great concerns related to the decrease in turnover, the burden of smart working, the quarantine of employees and the difficulties with suppliers. These tensions are not perceived by firms operating in the e-commerce, software, telecommunication

and digital services sectors. The local Chamber of Commerce outlines that its number grows by +3.8% in one year (2021) in the metropolitan area, with a positive trend in the period from 2019 to 2022 (+16.8%).

Based on these data, Tricarico and De Vidovich (2021) hypothesise the risk of desertification also for the city of Milan. If confirmed, desertification would reduce urban liability in all urban areas, as it depletes the economic and social structure of the single neighbourhoods and surrounding cities. Trade, and especially proximity trade, represent an essential service within proximity-based services provision (Williams & Hipp, 2019) and therefore affect the local quality of life. As Futureberry reported in a study conducted for the Municipality of Milan (2019), 'proximity trades are, on the one hand, particularly involved in life and, on the other, they bring innovative results in offered products, space design, additional services offered, relationship and communication with customers' (p. 10). In other words, having social implications, proximity trades contribute to defining the identity of a place and consolidate the local community relationships and bonds (e.g., Deener, 2007). Within the commercial framework designed from travel limitations and social distancing, these economic activities strengthened their social role by offering more than accessible food or furniture. Service personalisation and formal/informal 'trustworthy' relationships between sellers and consumers contribute to socialisation outside the home.

After one year, in 2021, desertification has not taken place yet (*Corriere della Sera*, 2022). The average distance travelled by most Milanese workers has decreased by more than 50% since 2019. This is probably associated with the increased use of neighbourhood services. Everyday life has regrouped around neighbourhoods and the centripetal movement has greatly slowed down, in some cases it even disappeared.

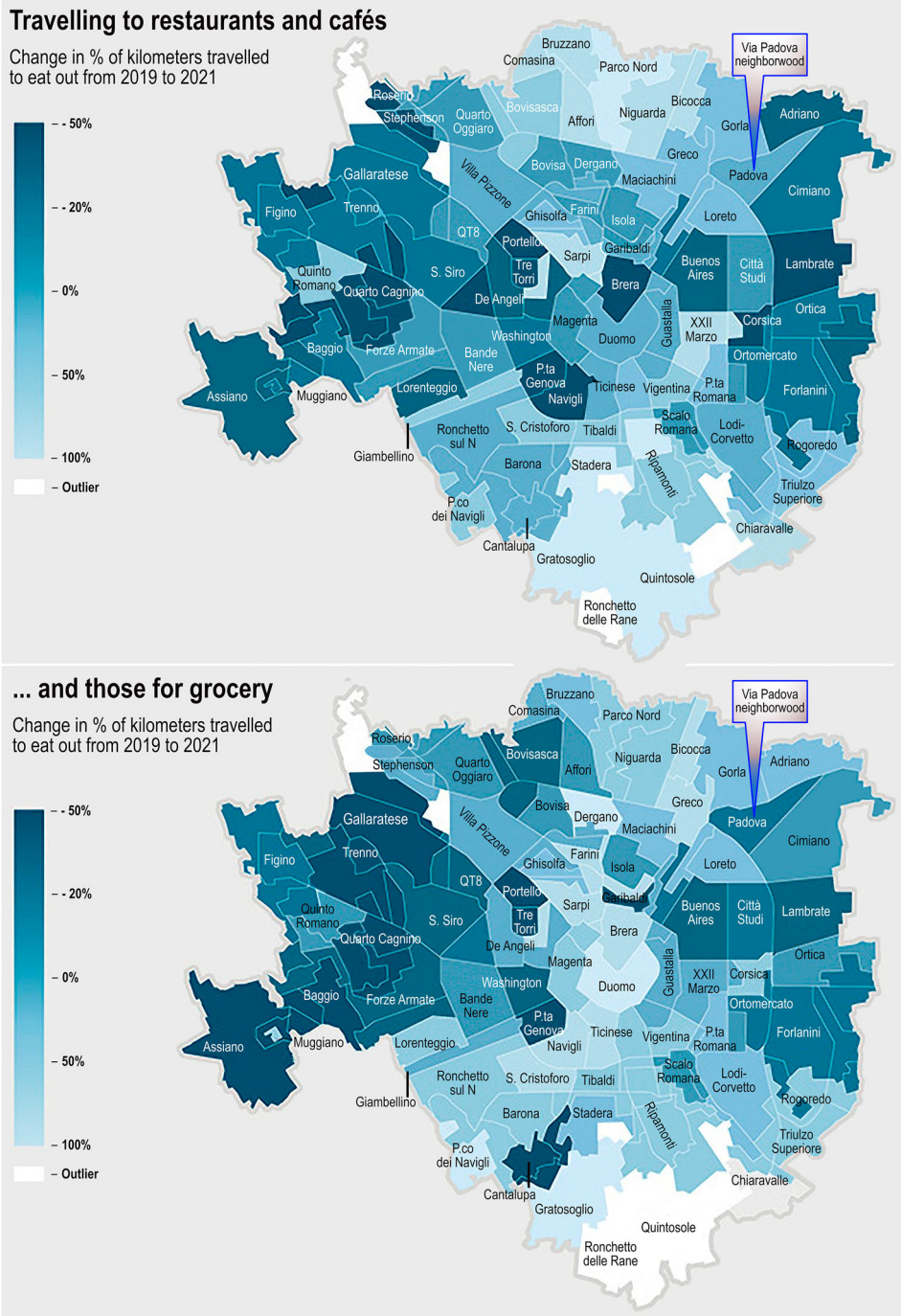
A new geography of work has been redesigned by smart-working and fostered by this profound change (*Corriere della Sera*, 2022). Milan's citizens have resumed shopping predominantly in their neighbourhoods, although not entirely. Looking at the map elaborated by the newspaper *Corriere della Sera* (Figure 1), the redistribution of local outlets is more evident in neighbourhoods in the west rather than in the east of Milan. But this is essentially unambiguous: neighbourhood retail has regained centrality and it has managed to retain a significant share of residents' consumption, which was previously considered to be a constant free-flow. However, with respect to shopping, the entire neighbourhood life has been revitalised, proximity has once again become a generative and, at the same time, competitive factor thanks to an increase of attendance in the suburbs of more than 30% during the daytime.

### 2.3. A brief overview of the concept of resilience

The concept of resilience has been widely adopted in regional studies in recent times (Martin & Sunley, 2015). Initially, it was mainly used to identify the capacity and the speed of an economic system to return to its preshock conditions. Subsequently, this notion has been associated with the system's ability to restructure its original socio-economic and institutional structures toward new growth routes (Boschma, 2015; Ferilli, 2011).

Martin (2012) offers the most complete definition, as he distinguishes between four 'dimensions' or aspects of regional resilience to recessionary (or other such shocks): resistance (degree of sensitivity or depth of reaction to the shock); recovery (speed and degree of recovery from the shock); reorientation (extent of reorientation and adaptability of the regional economy in response to the shock); and renewal (the extent to which regional economy renews its preshock growth path or shift to a new path). In their comprehensive exploration of the meaning and application of this notion, Martin and Sunley (2015) emphasise that resilience is a multifaceted process, not a singular, static state of affairs or fixed characteristic of a regional or local economy, and it can be viewed as comprising four sequential steps: the risk (or vulnerability) of a





**Figure 1.** Travelling to restaurants and cafés (above) and shopping trips (below). Note: Change (%) of kilometres travelled from 2019 to 2021 for each Milanese neighbourhood. Via Padova neighbourhood is clearly indicated. Source: *Corriere della Sera* (2022) based on Jakala elaborations, 2022.

region's businesses and institutions to shocks; the resistance of those entities to the impact of shocks; their reorientation; and finally the degree and nature of recoverability from the shock.

Relative performance paths change based on their territory. Remarkable subnational heterogeneity in resilience is also evident (Faggian et al., 2018). Several factors promote resilience: economic structure composition and diversity, and their territorial capital are one of them (Fratesi & Perucca, 2017; Martin & Sunley, 2015). Innovation, new-firm creation as well as firms' reactions are also considered relevant (Østergaard & Park, 2013), as well as the socio-economic and cultural factors that characterise the regional ecosystem (Ferilli, 2016).

Although there is no universally agreed approach to measuring regional resilience (Martin & Sunley, 2015), the variables used to measure resilience are GDP (Boschma, 2015) or the employment rate (Sensier et al., 2016). Following Martin (2012), output growth after a recession is generally more rapid than employment growth, which is considered a more robust indicator of local economic resilience. Specifically for Italy, Di Caro (2015) confirms this robustness affirming that that employment data are extremely articulated at the regional level. In their review, Pendall et al. (2010) list other revealing factors such as wages, unemployment and poverty rates, income inequality, outmigration, local government debt and revenues. Considering all these variables, these authors suggest that probably a multidimensional index needs to be built.

### 3. THE METHOD

This study analyses the dynamics of trade firms operating in the Via Padova neighbourhood of Milan in the period 2019–20.<sup>1</sup> First, it counts active firms operating here as of September 2020. It then classifies them into more specific trade subsectors, such as the 'Wholesale and retail trade of motor vehicles and motorbikes sub-sector' (ATECO sector 45), the 'Wholesale trade sub-sector (excluding motor vehicles and motorbikes)' (ATECO sector 46) and 'Retail trade sub-sector (excluding motor vehicles and motorbikes)' (ATECO sector 47). The choice of these subsectors is motivated by the fact that they were more affected compared with other economic sectors by social distancing and consequences of contagion-related fears, as well as by the substitution of such services purchased or traded on the internet.

The study also reports the location of these firms based on their postal address in the neighbourhood on a map made possible by ArcMap (@Arcgis). Subsequently, the study tested the resilience of these trade subsectors at the neighbourhood level.

Despite the potential value of exploring the creation of such an index, or applying other more robust resilience measures, the study looks at sub-municipal resilience in Via Padova in terms of variation in the number of firms (active, inactive and closed).

In quantitative terms:

$$Firms' \text{ dynamics}'_{Via \text{ Padova}} = (Firms_t - Firms_{t-1})/Firms_{t-1}$$

where  $Firms_t$  is the number of considered firms in the end period of the analysis, while  $Firms_{t-1}$  is the initial period of the analysis.

This formula is frequently applied referring to different periods. The first period ranges from January to September 2020 and covers the first wave of the pandemic (March–June) and the subsequent and partial reopening of all economic activities (June–September). The second period is from October to December 2020 and covers the second wave of the pandemic. While  $t - 1$  is always 2019 for all companies,  $t$  is the third trimester of 2020 (June–September) for active and inactive companies. For closed firms, all calculations also consider the last 2020 trimester as  $t$ . This depends on the availability of the data. The dataset related to all firms (closed, active and inactive) is provided by the local Chamber of Commerce of Milan and it

is representative and accurate because no firms registered in its list were excluded. However, this institution has provided freely the data for closed enterprises for the whole of 2020, while for inactive and active enterprises only until the third quarter of 2020.<sup>2</sup> Based on this, the study considers the variation of active and inactive firms between 2019 ( $t - 1$ ) and 2020 III quarter ( $t$ ). This calculation is then applied to both the whole trade sector and the three more specialised trade sectors (ATECO sectors 45–47).

Last, the study analyses the dynamics of closed firms distinguishing in between firms operating in essential goods sectors and those operating in non-essential sectors. This distinction was used according to the Prime Ministerial Decree of 22 March 2020. Based on this decree, the Italian government imposed the closing of certain commercial firms deemed non-essential ones and established strict virus-containment measures for those firms dealing with necessary products for people's lives that remained open.<sup>3</sup> In this case, the dynamics are analysed by comparing the variation in the number of closed firms. This was further articulated in the analysis of the three trade subsectors, in the first and second waves of the pandemic. All these calculations are useful to understand in which steps of the resilience process defined by Martin (2012) the local economy of the Via Padova neighbourhood stands.

Data on the change in employment were not considered in this study because the government imposed a layoff freeze during the pandemic emergency. Therefore, the study of the change in employment would have been poorly indicative of territorial resilience.

#### 4. THE CASE STUDY: VIA PADOVA NEIGHBOURHOOD

The Via Padova neighbourhood develops around Via Padova, which is a 4 km-long route that directly connects the centre of Milan towards the north-east part of the metropolis. Its localisation is shown in [Figure 1](#). Since the 1960s, the Via Padova neighbourhood has been the place of residence of factory workers, domestic servants or small traders coming mostly from Italy's Southern regions. Some decades later, in the 1980s–90s, industries relocated to more distant peripheries, outside the inner city. Many residents moved to other districts leaving the place to immigrants coming from Africa, Asia and Latin America. Ten years later, Via Padova has evolved into a multi-ethnic socio-economic neighbourhood. Immigration inflows have triggered population substitution, which was substantial, especially in the 2010–13 period. In 2010, the foreign population accounted for around 28% of the local population, while now it represents about 35%. Its density is the highest in the whole of Milan, where on average foreigners represent 20% of the population (Milan Municipality, 2020). From an economic point of view, Via Padova is specialised in the trade sector with a mix of retail and wholesale activities, which are also owned by non-Italian people. Small ethnic retail stores, wholesale warehouses, ethnic bars and restaurants, call centres and other specific services for foreigners are prevalent in the entrepreneurial context (Milan Chamber of Commerce, 2019a). The arrival of several designers, craftsmen and musicians in the neighbourhood of NoLo (North Loreto) has recently also stimulated the localisation of craft stores, clothing stores, bars and bookshops.<sup>4</sup> As a result, Via Padova is the second most important street in Milan in terms of the total number of firms (1308 firms, equal to 0.7% of the total), and in the trade sector (with 202 firms, equal to 15% of the firms on the street) (Milan Chamber of Commerce, 2019). It is first in terms of sole proprietorships with owners born abroad (with 650 firms, equal to 75.5% of the firms on the street). The entire neighbourhood is one of the most specialised in Milan.

COVID-19 has also spread to the Via Padova neighbourhood. However, at the end of the first wave, this neighbourhood proved to be one of the least affected by the pandemic, along with the city centre neighbourhood and the Adriano neighbourhood, which has a large foreign population in Milan as well, although less than Via Padova. Similar data were found at the end of the second wave (ATS Milano – Agenzia Tutela della Salute, 2021).

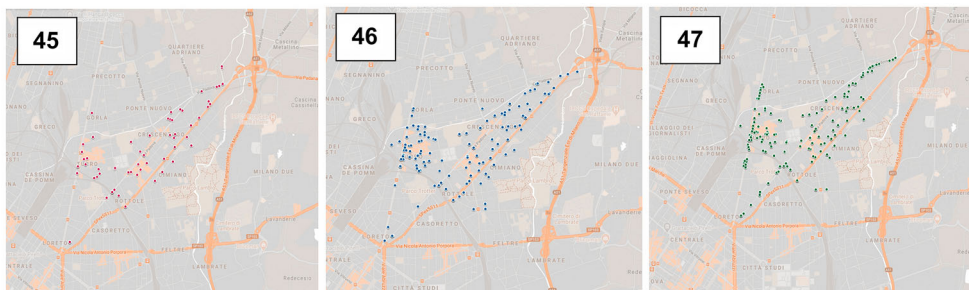
## 5. RESULTS

The Via Padova neighbourhood, in September 2020, had 16,233 firms operating in the trade sector. Of these, 14,757 are active and 1465 are inactive, but not closed.<sup>5</sup> Taking into account their sectorial specialisation, 324 (about 2% of the total) are specialised in wholesale and retail trade in the motor vehicle and motorbikes subsector (ATECO sector 45), while 1425 (about 8.77%) operate in the wholesale trade subsector (excluding motor vehicles and motorbikes) (ATECO sector 46). The majority operates in the retail trade subsector (excluding motor vehicles and motorcycles) (ATECO sector 47). These companies are 2623, representing approximately 16.16% of the total, and are further subdivided into some subsectors. While investigating for this paper we could count 318 supermarkets, discounts, food specialised commercial activities, 254 firms operating in the trade of fruits, vegetables, meats, bread, etc., tobacco, and coffee, 27 fuel, 91 computer and telecommunications equipment in specialised shops. In addition, we also counted 141 retail selling points of other household goods in specialised shops (textiles, hardware, paints, glass, building materials, carpets, flooring) as well as 125 retail selling points of cultural, recreational and leisure goods in specialised shops (books, newspapers, music recordings, sports goods, games, toys) and 145 retail selling points of other goods in specialised shops (clothing, footwear, medicines, cosmetics, flowers, plants, pet food). The presence of 1001 firms specialising in itinerant trade is also significant, while the remaining 175 enterprises are generically classified as retail trade outside shops, stalls and markets (trade through the Internet, by post and vending machines).

The localisation of trade firms demonstrates a sort of concentration along the main streets delimiting the neighbourhood, such as Via Padova in the western and central part and SPexSS11 in the eastern part, and within these limits, in the north and in the south, with less density in the central part around green and park areas. As illustrated in [Figure 2](#), the details for the localisation of active and inactive firms operating in subsectors in the Via Padova neighbourhood draw similar conclusions, except for firms operating in 45 ATECO sector are less and sparsely located within the neighbourhood.

Closed firms were a total of 278 at the end of 2020. Those operating in the 45 ATECO sector are 21, while those specialising in 46 and 47 sectors are 134 and 125, respectively. Among all closed firms, 209 were already closed before the end of the third trimester of 2020.

The dynamics at the urban level in terms of variation in the number of firms reveal a certain degree of resilience in facing several difficulties induced by the spread of the pandemic. By comparing the data related to active and inactive firms and their variation in the 2019–20 quarter,



**Figure 2.** Localisation of active firms operating in 45, 46, and 47 ATECO sectors in the Via Padova neighbourhood of Milan, September 2020.

Source: Authors' own elaboration on Chamber of Commerce of Milano data, 2020.

the data reveal that inactive firms decreased by more than 50%, while active businesses remained almost constant (Table 1).

Looking at the ATECO sectors in detail, there are a total of 14,774 active firms in 2019, while those in the trade sector are 4219. Of the latter, 313 operate in the wholesale and retail trade of motor vehicles and motorcycles (ATECO sector 45), and 11371 in the wholesale trade (excluding motor vehicles and motorcycles) (ATECO sector 46). A total of 2535 firms operate in retail trade (excluding motor vehicles and motorcycles) (ATECO sector 47), and among these the majority are represented by itinerant trade, specialised and non-specialised shops, and commercial areas selling food products, electronic and telephone products. When comparing these data with the same data in the III Quarter of 2020, the results suggest that active firms have remained constant, while those inactive have decreased (Table 2).

The dynamics of closed firms is instead studied by considering the trend in the period January–September 2020 (I–III Quarter, first wave of the pandemic) and October–December 2020 (IV Quarter, second wave of the pandemic). In general, firms in the trade sector decreased by 39%. However, within this sector, opposite trends can be observed. The number of firms that have ceased to exist in sectors 45 and 46 has increased significantly, while those in sector 47 have decreased. Table 3 analyses in detail the resilience of firms after the first pandemic wave and after the second one.

In general, the number of closures in 2020 was limited. The effects of the temporary closing during the two waves of the pandemic have not led to the closure of many firms. However, some differences among trade sectors, as well as among the two waves are evident. Essential-goods commercial firms reacted better than non-essential commercial ones, as the closing rate is lower. Among essential commercial established firms operating in the wholesale sectors, including motor vehicles and motorbike firms, performed worse already during the first wave of the lockdown. In the next wave, the number of closed firms is almost nil. On the contrary, companies operating in this sector performed better during the first phase of the shutdown, while in the second phase they showed difficulties. Their closing rate increased significantly in the last quarter of 2020. Within non-essential commercial firms, the trend is even more interesting. Firms operating in the wholesale and retail trade of motor vehicles and motorbikes ceased at about the same rate in both periods. Those included in the wholesale sector closed less during the second wave than during the first one. Finally, those included in the retail sector performed worse, so the closure rate increased during the second wave (Table 4).

## 6. DISCUSSION

The spread of COVID-19 has exposed firms operating in the trade sector to stress. Restrictions on people's movement and firms' activities as containment policies to limit the spread of the disease transmission have forced the closure of several activities or imposed the adoption of new business models for service management or production activities. Consequences all over the world are not exactly estimated, whereas in Milan this uncertainty is fewer thanks to this

**Table 1.** Local entrepreneurial dynamics in the Via Padova neighbourhood of Milan: active and inactive firms, 2019–20 III quarter.

	Active firms	Inactive firms
2019	14,774	1461
2020 III quarter	14,716	666
Variation (%) two periods	0%	–54%

Note: Values are number and variation (%).

Source: Milan Chamber of Commerce (2020).

**Table 2.** Entrepreneurial dynamics in the Via Padova neighbourhood of Milan in 2019–20 III Quarter: active and inactive firms in the trade sector, ATECO sectors 45–47.

ATECO	Active firms			Inactive firms		
	2019	2020 III quarter	Variation (%)	2019	2020 III quarter	Variation (%)
45	313	311	<b>-1</b>	14	13	<b>-7</b>
46	1371	1367	0	93	58	<b>-38</b>
47	2535	2535	0	233	80	<b>-66</b>
<b>% of two periods</b>	<b>0%</b>			<b>-56%</b>		

Note: Shown in bold are negative values.

Source: Milan Chamber of Commerce (2020).

investigation. Our focus is on the dynamics of the impact generated by COVID-19 on trade firms in the Via Padova neighbourhood of Milan at the end of 2020. This neighbourhood is considered as a case study due to its evident trade specialisation, and thus for its possible vulnerability to restrictions. In this area there are 16,233 firms operating in the trade sector, of which 14,757 are active and 1465 are inactive, but not closed. Considering their sectorial specialisation, about 2% of the total firms are specialised in the wholesale and retail trade of motor vehicles and motorbikes subsector (ATECO sector 45), while about 8.77% operate in the wholesale trade subsector (excluding motor vehicles and motorbikes) (ATECO sector 46). The majority operates in the retail trade subsector (excluding motor vehicles and motorbikes) (ATECO sector 47). The dynamics at the urban level in terms of variation in the number of firms reveal a certain degree of resilience in facing several difficulties induced by the pandemic. Active firms remain the same as before COVID-19, whereas inactive and closed ones are less numerous than in the past. This is particularly true for retail trade subsectors. When comparing the first and second waves, the number of closed firms increases immediately for the ATECO sectors 45 and 46, while the number of firms operating in ATECO sector 47 performs better than in 2019 at the end of June. In contrast, the latter does not perform equally, while other firms continue to decrease. Essential commercial firms reacted better than non-essential commercial ones, as the relative rate of closure is lower. The greater resilience of the former compared with the latter may also be due to the fact that the people living in Via Padova already in 2021 and still now prefer to do their shopping locally, rather than travelling to other neighbourhoods. According to what we previously mentioned above, trips outside the neighbourhood for daily shopping seem to have decreased. Instead, trips to restaurants outside the neighbourhood have increased.

Among essential commercial firms, those operating in the wholesale sectors, including motor vehicles and motorbike sectors, performed worse already during the first wave of the

**Table 3.** Closed firms: comparison among several periods, detailed by trade sector.

ATECO	Closed firms (n)				Closed firms (variation %)	
	2019	2020 III quarter	2020 IV quarter	2020 Total	Variation (%) 2019–III quarter 2020	Variation (%) 2019–20
45	14	16	5	21	14	36
46	93	102	32	134	10	44
47	233	91	34	125	<b>-61</b>	<b>-46</b>

Note: Shown in bold are negative values.

Source: Milan Chamber of Commerce (2020).

**Table 4.** Closed firms: comparison among essential and non-essential commercial activities, detailed by trade sector during the two waves of the pandemic.

Classification	ATECO trade sector	Active and inactive firms	Closed firms						
			I-III quarters 2020 (effects of the first wave of the pandemic)	% on Total ceased in I-III quarters 2020	% on Total ceased in 2020	IV Quarter 2020 (effects of the second wave of the pandemic)	% on Total ceased in IV quarter	% on Total ceased in 2020	
Decree March 2020	Code	January 2020							
	Essential commercial establishments	45	183	11	1.5	1.04	1	0.32	0.09
		46	181	18	2.4	1.69	2	0.63	0.19
		47	923	9	1.2	0.85	24	7.57	2.26
	Total for the three codes	1287	38	5.1	3.58	27	8.5	2.55	
Non-essential commercial establishments	45	143	5	0.7	0.47	3	0.95	0.28	
	46	1248	87	11.7	8.21	19	5.99	1.79	
	47	1700	46	6.2	4.34	10	3.15	0.94	
	Total for the three codes	3091	138	4.5	13.02	32	10.09	3.02	

Source: Milan Chamber of Commerce (2020).

lockdown. On the contrary, firms operating in these latter sectors performed better during the first phase of the lockdown, whereas in the second phase they showed difficulties. Their closing rate increased significantly in the last quarter of 2020. Within the non-essential commercial firms, the trend is even starker. This increase could be an indication of the reduced resilience of this part of non-essential firms.

In any case, the good sign of the resilience of Via Padova confirms what was outlined by Leveratto, Gotti, and (2022) who indicated considerable resilience in Milan metropolitan area, more than its new skyscrapers area, in the undefined areas such as railway yards, crossroads, or neighbourhood squares, as well as in less central and known neighbourhoods. According to both authors, these places, including Via Padova, represent an invisible urban system and informal relationships that accommodate an expandable 'second city'. In this neighbourhood, as well as in the remaining ones in Milan, municipal offices and volunteer associations have contributed greatly to supporting local citizens and companies. This is confirmed by Garavaglia et al. (2021) who reveal some forms of adaptive leadership and anticipatory governance frameworks, as well as of spaces for cooperation and collaboration with citizens in their role as volunteers and of other organisational stakeholders willing to contribute to the co-creation of public value.

Focusing on our calculations, it is clear that Via Padova has moved passed towards the step of resistance and it is going towards reorientation and renewal rapidly along the resilience process as delineated by Martin.

## 7. CONCLUSIONS

This paper investigates the impact of COVID-19 on trade firms' dynamics in the Via Padova neighbourhood of Milan at the end of 2020, detailed by the ATECO sectors and among essential/non-essential goods firms. The results provide new evidence, which can be useful for promoting immediate response to the virus outbreaks, and future policy measures to improve firms' resilience to the virus transmission. Based on the evidences presented, the local trade sectors operating in the Via Padova neighbourhood demonstrate a discrete resilience to the restrictions imposed to reduce the virus diffusion, in apparent contrast with the trade performance at the global level which, by contrast, reveals a negative performance. These results are a good starting point to reflect on the causes of this resilience.

The strong presence of foreigners in the neighbourhood recalls a part of literature that does not depict cultural diversity as a growth-reducing factor but evidences some positive correlation between diversity and economic performance (e.g., Alesina & Ferrara, 2005; Trax et al., 2015). This occurs because this kind of diversity stimulates problem solving capacities that go beyond the single social groups up to the entire neighbourhood, stimulating local resilience (Page, 2007). In parallel, what is outlined by the present article supports the investigation of business model solutions adopted to react to the lockdown or contrast/benefit from the emerging growth of mobile commerce, e-commerce, self-services for retail and neighbourhood services. Closed firms appear to be consistently reduced due to their pandemic resilience while active firms result almost equal, probably because firms experimenting with innovative business services or, hypothetically, because other trade centres outside cities like large supermarkets are usually outside municipal boundaries. Both suggestions, the role of diversity and how exactly local firms develop their resilience will be investigated in the next articles.

Recommendations regarding some policy implications suggest that the municipality should enlarge the framework of the 'proximity economies' beyond the neighbourhood shops and adopt a social innovation and mission-oriented innovation model (e.g., Mazzucato, 2018). This would imply investing in new technologies and forms of social proximities among different organisations to create values locally at the smallest territorial scale. It also suggests new forms of institutional innovation, that can channel the local population and firms' needs at the neighbourhood level and promote the transformation of municipal offices from promoter



to supporter of rules, knowledge, and their diffusion, as well as their consolidation in the long term, when eventually the spur of social innovation expires.

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## AUTHOR CONTRIBUTIONS

Conceptualization: G.F.; Data curation: V.C., G.F.; Formal analysis: V.C.; Investigation: V.C., G.F.; Methodology: V.C., G.F.; Validation: V.C.; Writing – original draft: V.C.; G. F.; Writing – review & editing: V.C., G.F.

## DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

## NOTES

<sup>1</sup> The choice is given by the fact that the study was directly financed by the Municipality of Milan, which wanted to study this neighbourhood specifically.

<sup>2</sup> The survey system of the Chamber of Commerce provides for the quarterly survey of terminated firms, while it does not provide for an equal survey of inactive and active firms according to the same calendar. It offers a snapshot of their dynamics at the time of the survey. Therefore, the Chamber of Commerce provided data on the latter firms at the time of the request. Since it does not have a planned survey, it is unable to provide a complete historical data series.

<sup>3</sup> For the essential and non-essential commercial businesses according to the mentioned Italian governmental decree, see Appendix A in the supplemental data online.

<sup>4</sup> NoLo’s boundaries are marked by the east side of Milan’s Central Station, a section of Viale Monza and the Martesana canal. Its name is an acronym for North of Loreto, a formula also used in New York for the SoHo district, or ‘South of Houston Street’. In recent years, this area has undergone a population boom and numerous urban regeneration and social innovation projects. It is a neighbourhood with a thriving culture and identity. Cultural interference is strong, but it does not alter the local identity. Urban regeneration speaks a universal language that allows different cultures and people to meet.

<sup>5</sup> The remaining 11 firms are not classified (Milan Chamber of Commerce, 2020).

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## REFERENCES

Alesina, A., & Ferrara, E. (2005). Ethnic diversity and economic performance. *Journal of Economic Literature*, 43 (3), 762–800. <https://doi.org/10.1257/002205105774431243>

- Altig, D., Baker, S., Barrero, J., Bloom, N., Bunn, P., & Chen, S. (2020). Economic uncertainty before and during the COVID-19 pandemic. *Journal of Public Economics*, 191, 104274. <https://doi.org/10.1016/j.jpubeco.2020.104274>
- Ariu, A. (2016). Crisis-proof services: Why trade in services did not suffer during the 2008–2009 collapse. *Journal of International Economics*, 98, 138–149. <https://doi.org/10.1016/j.jinteco.2015.09.002>
- ATS Milano – Agenzia Tutela della Salute. (2021). *Data on Covid-19 diffusion*. ATS Milano – Agenzia Tutela della Salute.
- Baker, S. R., Bloom, N., Davis, S. J., & Terry, S. J. (2020). Covid-induced economic uncertainty (No. w26983). *National Bureau of Economic Research*. Working Paper 26983. <https://doi.org/10.3386/w26983>.
- Baldwin, R., & Freeman, R. (2021). Trade conflict in the age of Covid-19. *VoxEU.org*
- Baldwin, R., & Tomiura, E. (2020). Thinking ahead about the trade impact of COVID-19. *Economics in the Time of COVID-19*, 59, 59–71. ISBN: 978-1-912179-28-2.
- Ballantyne, P., Singleton, A., & Dolega, L. (2021). A regional exploration of retail visits during the COVID-19 pandemic. *Regional Studies, Regional Science*, 8(1), 366–370. <https://doi.org/10.1080/21681376.2021.1973548>
- Barlow, P., van Schalkwyk, M., McKee, M., Labonté, R., & Stuckler, D. (2021). COVID-19 and the collapse of global trade: Building an effective public health response. *The Lancet Planetary Health*, 5(2), 102–107. [https://doi.org/10.1016/S2542-5196\(20\)30291-6](https://doi.org/10.1016/S2542-5196(20)30291-6)
- Bartik, A., Bertrand, M., Cullen, Z., Glaeser, E., Luca, M., & Stanton, C. (2020). The impact of COVID-19 on small business outcomes and expectations. *Proceedings of the National Academy of Sciences*, 117(30), 17656–17666. <https://doi.org/10.1073/pnas.2006991117>
- Beckers, J., Weekx, S., Beutels, P., & Verhetsel, A. (2021). COVID-19 and retail: The catalyst for e-commerce in Belgium? *Journal of Retailing and Consumer Services*, 62, 102645. <https://doi.org/10.1016/j.jretconser.2021.102645>
- Bontempi, E., Coccia, M., Vergalli, S., & Zanoletti, A. (2021). Can commercial trade represent the main indicator of the COVID-19 diffusion due to human-to-human interactions? A comparative analysis between Italy, France, and Spain. *Environmental Research*, 201, 111529. <https://doi.org/10.1016/j.envres.2021.111529>
- Boschma, R. (2015). Towards an evolutionary perspective on regional resilience. *Regional Studies*, 733–751. <https://doi.org/10.1080/00343404.2014.959481>
- Büchel, K., Legge, S., Pochon, V., & Wegmüller, P. (2020). Swiss trade during the COVID-19 pandemic: An early appraisal. *Swiss Journal of Economics and Statistics*, 156(1), 1–15. <https://doi.org/10.1186/s41937-020-00069-3>
- Camera di Commercio di Milano, Monza Brianza, Lodi. (2020). *Milano produttiva*. Camera di Commercio di Milano, Monza Brianza, Lodi
- Cappelli, A., & Cini, E. (2020). Will the COVID-19 pandemic make us reconsider the relevance of short food supply chains and local productions? *Trends in Food Science & Technology*, 99, 566. <https://doi.org/10.1016/j.tifs.2020.03.041>
- Cattivelli, V. (2022a). Social innovation and food provisioning initiatives to reduce food insecurity during the Covid-19 pandemic. *Cities*, 131, 104034.
- Cattivelli, V. (2022b). Metropolitan food systems at the test of Covid-19: Changes, reactions, opportunities between food insecurity and new needs. In F. Calabrò, L. Della Spina, & M. Piñeira Mantiñán (Eds.), *New metropolitan perspectives. NMP 2022. Lecture notes in networks and systems* (vol 482, pp. 1415–1424). Springer.
- Cattivelli, V., & Rusciano, V. (2020). Social innovation and food provisioning during COVID-19: The case of urban–rural initiatives in the province of Naples. *Sustainability*, 12(11), 4444. <https://doi.org/10.3390/su12114444>
- Chang, S., Pierson, E., Koh, P., Gerardin, J., Redbird, B., Grusky, D., & Leskovec, J. (2020). Mobility network models of Covid-19: Explain inequities and inform reopening. *Nature*, 589(7840), 82–87. <https://doi.org/10.1038/s41586-020-2923-3>

- Christidis, P., & Christodoulou, A. (2020). The predictive capacity of air travel patterns during the global spread of the COVID-19 pandemic: Risk, uncertainty and randomness. *Journal of Environmental Research and Public Health*, 17(10), 3356. <https://doi.org/10.3390/ijerph17103356>
- Confcommercio. (2020). *Commercio al dettaglio ai tempi del coronavirus e post-covid: Istruzioni per l'uso*.
- Consolazio, D., Murtas, R., Tunesi, S., Gervasi, F., Benassi, D., & Russo, A. G. (2021). Assessing the impact of individual characteristics and neighborhood socioeconomic status during the COVID-19 pandemic in the provinces of Milan and Lodi. *International Journal of Health Services*, 51(3), 311–324.
- Corriere della Sera. (2022). *Le nuove mappe della mobilità*. Milan. [https://www.corriere.it/economia/finanza/22\\_marzo\\_28/milano-come-siamo-cambiati-affari-lavoro-svago-mobilita-il-covid-ecco-mappe-nuova-citta-34b7b078-ae62-11ec-89b4-33ef6a8626b0.shtml](https://www.corriere.it/economia/finanza/22_marzo_28/milano-come-siamo-cambiati-affari-lavoro-svago-mobilita-il-covid-ecco-mappe-nuova-citta-34b7b078-ae62-11ec-89b4-33ef6a8626b0.shtml) based on data elaborated by Jakala, 2022
- Daniel, J. (2020). Education and the COVID-19 pandemic. *Prospects*, 49(1), 91–96. <https://doi.org/10.1007/s11125-020-09464-3>
- Dannenbergh, P., Fuchs, M., Riedler, T., & Wiedemann, C. (2020). Digital transition by COVID-19 pandemic? The German food online retail. *Tijdschrift Voor Economische en Sociale Geografie*, 111(3), 543–560. <https://doi.org/10.1111/tesg.12453>
- Deener, A. (2007). Commerce as the structure and symbol of neighborhood life: Reshaping the meaning of community in Venice, California. *City & Community*, 6(4), 291–314. <https://doi.org/10.1111/j.1540-6040.2007.00229.x>
- Di Caro, P. (2015). Recessions, recoveries and regional resilience: Evidence on Italy. *Cambridge Journal of Regions, Economy and Society*, 8(2), 273–291. <https://doi.org/10.1093/cjres/rsu029>
- Dodds, K., Castan Broto, V., Detterbeck, K., Jones, M., Mamadouh, V., Ramutsindela, M., ... Yuan Woon, C. (2020). The COVID-19 pandemic: Territorial, political and governance dimensions of the crisis. *Territory, Politics, Governance*, 8(3), 289–298. <https://doi.org/10.1080/21622671.2020.1771022>
- Du, J., & Shepotylo, O. (2022). UK trade in the time of COVID-19: A review. *The World Economy*, 45(5), 1409–1446. <https://doi.org/10.1111/twec.13220>
- Espitia, A., Mattoo, A., Rocha, N., Ruta, M., & Winkler, D. (2021). Pandemic trade: COVID-19, remote work and global value chains. *The World Economy*.
- Faggian, A., Gemmiti, R., Jaquet, T., & Santini, I. (2018). Regional economic resilience: The experience of the Italian local labor systems. *The Annals of Regional Science*, 60(2), 393–410. <https://doi.org/10.1007/s00168-017-0822-9>
- Ferilli, G. (2011). *Open studio: Metabolizing 3.11 through culture and creativity*. Tokyo Metropolitan Foundation for History and Culture, Tokyo Wonder Site, Aoyama: Creator-in-Residence.
- Ferilli, G. (2016). *Commitment to 3.11: Response to disaster through culture and creativity in Japan*. AKAACA Art Publishing.
- Florida, R., Rodríguez-Pose, A., & Storper, M. (2021). Cities in a post-COVID world. *Urban Studies*, 00420980211018072.
- Fortaleza, C., Guimarães, R., de Almeida, G., Pronunciate, M., & Ferreira, C. (2020). Taking the inner route: Spatial and demographic factors affecting vulnerability to COVID-19 among 604 cities from inner São Paulo state, Brazil. *Epidemiology & Infection*, 148, e118.
- Frago, L. (2021). Impact of covid-19 pandemic on retail structure in Barcelona: From tourism-phobia to the desertification of city center. *Sustainability*, 13(15), 8215. <https://doi.org/10.3390/su13158215>
- Fratesi, U., & Perucca, G. (2017). Territorial capital and the resilience of European regions. *The Annals of Regional Science*, 60(2), 241–264. <https://doi.org/10.1007/s00168-017-0828-3>
- Garavaglia, C., Sancino, A., & Trivellato, B. (2021). Italian mayors and the management of COVID-19: Adaptive leadership for organizing local governance. *Eurasian Geography and Economics*, 62(1), 76–92. <https://doi.org/10.1080/15387216.2020.1845222>
- Gecit, B. B. (2021). Electronic commerce during the Covid-19 pandemics: A bibliometric analysis approach. *International Journal of Academic Research in Business and Social Sciences*, 11(11), 2435–2444.
- Gössling, S., Scott, D., & Hall, M. (2021). Pandemics, tourism and global change: A rapid assessment of COVID-19. *Journal of Sustainable Tourism*, 29(1), 1–20. <https://doi.org/10.1080/09669582.2020.1758708>

- Greenstone, M., & Nigam, V. (2020). *Does social distancing matter?* (Working Paper No. 2020-26). University of Chicago, Becker Friedman Institute for Economics.
- Hayakawa, K., & Mukunoki, H. (2021a). Impacts of lockdown policies on international trade. *Asian Economic Papers*, 20(2), 123–141. [https://doi.org/10.1162/asep\\_a\\_00804](https://doi.org/10.1162/asep_a_00804)
- Hayakawa, K., & Mukunoki, H. (2021b). The impact of COVID-19 on international trade: Evidence from the first shock. *Journal of the Japanese and International Economies*, 60. <https://doi.org/10.1016/j.jjie.2021.101135>
- Hevia, C., & Neumeyer, A. (2020). A conceptual framework for analyzing the economic impact of COVID-19 and its policy implications. *UNDP Lac COVID-19 Policy Documents Series*, 1, 29.
- ISTAT. (2020). *I trimestre 2020 – conti economici trimestrali: Prodotto interno lordo, valore aggiunto, consumi, investimenti, domanda estera 2020*.
- Javorcik, B. (2020). Global supply chains will not be the same in the post-COVID-19 world. In *COVID-19 and trade policy: Why turning inward won't work*, 111.
- Leal Filho, W., Brandli, L., Lange Salvia, A., Rayman-Bacchus, L., & Platje, J. (2020). COVID-19 and the UN sustainable development goals: Threat to solidarity or an opportunity? *Sustainability*, 12(13), 5343. <https://doi.org/10.3390/su12135343>
- Leveratto, J., Gotti, F., & Lanz, F. (2022). The iceberg, the stage, and the kitchen: Neglected public places and the role of design-led interventions. In *Diversity of Belonging in Europe* (pp. 100–116). Routledge.
- Maliszewska, M., Mattoo, A., & Van der Mensbrugghe, D. (2020). The potential impact of COVID-19 on GDP and trade: A preliminary assessment. *World Bank Policy Research Working Paper*, (9211). <https://doi.org/10.1596/1813-9450-9478>
- Martin, R. (2012). Regional economic resilience, hysteresis and recessionary shocks. *Journal of Economic Geography*, 12(1), 1–32. <https://doi.org/10.1093/jeg/lbr019>
- Martin, R., & Sunley, P. (2015). On the notion of regional economic resilience: Conceptualization and explanation. *Journal of Economic Geography*, 15(1), 1–42. <https://doi.org/10.1093/jeg/lbu015>
- Mazzucato, M. (2018). Mission-oriented innovation policies: Challenges and opportunities. *Industrial and Corporate Change*, 27(5), 803–815. <https://doi.org/10.1093/icc/dty034>
- Milan Chamber of Commerce. (2019a). *Dati dinamica imprenditoriale a Milano*. Milan Chamber of Commerce.
- Milan Chamber of Commerce. (2019b). *Milano, le strade delle imprese*. Milan Chamber of Commerce.
- Milan Chamber of Commerce. (2020). *Dati dinamica imprenditoriale a Milano*. Milan Chamber of Commerce.
- Milan Municipality. (2020). *Demographic data*. Milan Municipality.
- Nayak, J., Mishra, M., Naik, B., Swapnarekha, H., Cengiz, K., & Shanmuganathan, V. (2021). An impact study of COVID-19 on six different industries: Automobile, energy and power, agriculture, education, travel and tourism and consumer electronics. *Expert Systems*.
- Nazareth, J., Minhas, J., Jenkins, D., Sahota, A., Khunti, K., Haldar, P., & Pareek, P. (2020). Early lessons from a second COVID-19 lockdown in Leicester, UK. *The Lancet*, 396(10245). [https://doi.org/10.1016/S0140-6736\(20\)31490-2](https://doi.org/10.1016/S0140-6736(20)31490-2)
- Norheim, O., Abi-Rached, J., Bright, L., Børøe, K., Ferraz, O., Gloppen, S., & Voorhoeve, A. (2021). Difficult trade-offs in response to COVID-19: The case for open and inclusive decision making. *Nature Medicine*, 27(1), 10–13. <https://doi.org/10.1038/s41591-020-01204-6>
- Organisation for Economic Co-operation and Development (OECD). (2020). *Evaluating the initial impact of COVID-19 containment measures on economic activity*.
- Østergaard, C., & Park, E. (2013). Cluster decline and resilience – The case of the wireless communication cluster in North Jutland, Denmark. [ssrn.com/abstract=2196445](http://ssrn.com/abstract=2196445)
- Oztig, L., & Askin, O. (2020). Human mobility and coronavirus disease 2019 (COVID-19): a negative binomial regression analysis. *Public Health*, 185, 364–367. <https://doi.org/10.1016/j.puhe.2020.07.002>
- Page, S. (2007). Prologue to the difference: How the power of diversity creates better groups, firms, schools, and societies, introductory chapters. In *The difference: How the power of diversity creates better groups, firms, schools, and societies*. Princeton University Press.
- Pendall, R., Foster, K., & Cowell, M. (2010). Resilience and regions: Building understanding of the metaphor. *Cambridge Journal of Regions, Economy and Society*, 3(1), 71–84. <https://doi.org/10.1093/cjres/rsp028>

- Saturwa, H., Suharno, S., & Ahmad, A. (2021). The impact of COVID-19 pandemic on MSMEs. *Jurnal Ekonomi Dan Bisnis*, 24(1), 65–82. <https://doi.org/10.24914/jeb.v24i1.3905>
- Sensier, M., Bristow, G., & Healy, A. (2016). Measuring regional economic resilience across Europe: Operationalizing a complex concept. *Spatial Economic Analysis*, 11(2), 128–151. <https://doi.org/10.1080/17421772.2016.1129435>
- Sforza, A., & Steininger, M. (2020). Globalization in the Time of COVID-19. papers.ssrn.com
- Shingal, A. (2020). *Services trade and COVID-19*. VoxEU CEPR Policy Portal.
- Surico, P., & Galeotti, A. (2020). *The economics of a pandemic: The case of COVID-19*. London Business School.
- Szabo, S., Srisawasdi, W., Tsusaka, T., Kadigi, R., Vause, J., & Burgess, N. (2021). Impacts of COVID-19 public measures on country-level trade flows: Global panel regression analysis. *MedRxiv*.
- Trasberg, T., & Cheshire, J. (2021). Spatial and social disparities in the decline of activities during the COVID-19 lockdown in greater London. *Urban Studies*, 00420980211040409
- Trax, M., Brunow, S., & Suedekum, J. (2015). Cultural diversity and plant-level productivity. *Regional Science and Urban Economics*, 53, 85–96. <https://doi.org/10.1016/j.regsciurbeco.2015.05.004>
- Tricarico, L., & De Vidovich, L. (2021). Proximity and post-Covid-19 urban development: Reflections from Milan, Italy. *Journal of Urban Management*, 10(3), 302–310.
- United Nations Conference on Trade and Development (UNCTAD). (2020). *Trade and development report 2020*. UNCTAD.
- United Nations Environment Programme (UNEP). (2020). *COVID-19, the environment, and food systems: Contain, cope and rebuild*. UNEP.
- Vidya, C., & Prabheesh, K. (2020). Implications of COVID-19 pandemic on the global trade networks. *Emerging Markets Finance and Trade*, 56(10), 2408–2421. <https://doi.org/10.1080/1540496X.2020.1785426>
- Williams, S., & Hipp, J. (2019). How great and how good?: Third places, neighbor interaction, and cohesion in the neighborhood context. *Social Science Research*, 77, 68–78. <https://doi.org/10.1016/j.ssresearch.2018.10.008>
- World Health Organization (WHO). (2020). *Data on pandemics*. WHO.
- World Trade Organization (WTO). (2019). *World trade report 2019: The future of services trade*. WTO.
- World Trade Organization (WTO). (2020). *Trade shows signs of rebound from COVID-19, recovery still uncertain*. WTO Press release.
- World Trade Organization (WTO). (2021). *Annual report*. WTO.
- Yang, Y., Li, Y., Kral, K., Hupert, N., & Dogan, T. (2021). Urban design attributes and resilience: COVID-19 evidence from New York City. *Buildings and Cities*, 2(1), 618–636. <https://doi.org/10.5334/bc.130>