Topics in Regulatory Economics and Policy

Pier Luigi Parcu
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The Postal and Delivery Contribution in Hard Times

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Editors
Pier Luigi Parcu
European University Institute
San Domenico di Fiesole, Firenze, Italy

Timothy J. Brennan
School of Public Policy
Univ Maryland, Baltimore County
Baltimore, MD, USA

Victor Glass
Rutgers Business School
Newark, NJ, USA

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Preface and Acknowledgments

This book collects the contributions presented during the 29th Conference on Postal and Delivery Economics, jointly organized by the Florence School of Regulation – Communications and Media (FSR C&M) at the European University Institute and the Center for Research in Regulated Industries (CRRI) at the Rutgers Business School. As it was for the 28th edition, the event took place fully online.

Over 2.5 days, the postal and delivery community discussed almost 30 original papers. Unsurprisingly, an important topic was the short- and long-term effects of the Covid-19 pandemic on the postal sector, with an emphasis on its performance as an essential service during this period of worldwide distress. Several papers investigated, from both an economic and regulatory perspective, the unstoppable growth of e-commerce and its implications for delivery, solutions for the "last mile," and associated challenges in terms of sustainability. Among the traditional topics for postal and delivery sectors, the Conference hosted discussions about competitive dynamics in the sector, business strategies of postal operators, and the definition and funding of Universal Service Obligation.

The Conference was made possible by the contribution of generous supporters. We would like to thank them not only for their financial support but also for joining the organizing committee and providing, along with others, intellectual contributions, advice, and encouragement: Bruno Basalisco, Claire Borsenberger, Mateusz Cholodecki, Alberta Corona, Stefano Gori, Annegret Groebel, Philip Groves, John Hearn, Adam Houck, Sandro Mendonça, Soterios Soteri, Stephen Brogan, Peter Dunn, and Felix Gottschalk.

This year's Conference benefited greatly from the efforts of the Conferences Unit of the Robert Schuman Centre for Advanced Studies and, in particular, Elisabetta Spagnoli and the team of the FSR C&M. We are very grateful to Chiara Carrozza, FSR C&M Coordinator, for her support during the editing process for this book.

Most of all, this year, we thank all authors and participants of the Conference. For the second year in a row, it was not possible to hold the Conference in the usual residential format. The difficult circumstances have not affected the will of the

postal and delivery community of scholars and professionals to exchange ideas and reflect together on the evolution of the sector, and this book is proof of this.
The usual disclaimers are applicable. In particular, the views expressed reflect the views of the authors and are not necessarily those of the editors or supporters.

San Domenico di Fiesole, Firenze, Italy Pier Luigi Parcu
Baltimore, MD, USA Timothy J. Brennan
Newark, NJ, USA Victor Glass

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Chapter 1
The Rise of e-Commerce Platforms in the Parcel Delivery Markets

Pier Luigi Parcu, Niccolò Innocenti, Chiara Carrozza, Anna Renata Pisarkiewicz, and Maria Alessandra Rossi

1 Introduction

In recent years, the growth of e-commerce has fundamentally changed parcel markets. While most economic sectors in the global economy have suffered a severe downturn caused by the ongoing COVID-19 pandemic, the pandemic has boosted the growth of e-commerce. For retailers, marketplaces, postal and parcel organizations, the challenge is how to respond to these increased requirements for e-commerce when business and delivery infrastructures are under pressure due to demand that is being driven by new consumer behaviors and preferences. Consumers increasingly require more express deliveries, easy package return, order tracking, multiple delivery attempts, *ad hoc* services, etc. These activities require significant changes, especially in last mile delivery (Castillo et al., 2018), and increasingly complex and expensive reorganizations to serve urban areas (Beckers & Verhetsel, 2021).

While postal and parcel operators appear to be under pressure to deliver these new and better services, it is not they who only face challenges. Online retailers, and particularly marketplaces, face constraints on the expansion of their traditional ways of doing business, especially regarding to cross-border delivery (Ecommerce Europe, 2021). For this reason, retailers and marketplaces are taking measures to secure new market capacity and to lower their overall transportation costs. One form of response to these difficulties is that major players in the e-commerce sector have started entering the delivery market.

P. L. Parcu (✉) · N. Innocenti · C. Carrozza · A. R. Pisarkiewicz
European University Institute, Florence, Italy
e-mail: pierluigi.parcu@eui.eu

M. A. Rossi
Dipartimento di Economia, Università G.D'Annunzio di Chieti-Pescara, viale Pindaro, Pescara, Italy

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This chapter concentrates on the relationship between the evolution of e-commerce and the restructuring of the parcel delivery markets in Europe. It tells the story of the open competition between three kinds of main actors: leading e-commerce companies, delivery operators and traditional postal incumbents.

Following this introduction, the chapter is divided into four parts. Section 2 presents the evolution of e-commerce markets. Section 3 discusses the different market configurations of the parcel delivery markets in Europe. Section 4 presents four case studies: two relating to the entry of global e-commerce platforms (Italy and the United Kingdom) and two to national operators that are still leading in the e-commerce market (the Netherlands and Poland). Section 5 concludes, comparing the cases presented and providing suggestions for further research.

2 The Boom in e-Commerce: e-Retailers, Global and Local Marketplaces

Online marketplaces have experienced remarkable growth during recent years, with an acceleration since the outbreak of the pandemic. This growth has affected not only the well-known global or multinational players, such as Amazon, eBay, Zalando[1] and, more recently, AliExpress (a subsidiary of Alibaba),[2] but also some European or national players. For example, in the Netherlands, the two most relevant e-commerce platforms are national players.[3] In Poland, Allegro leads the market, with a turnover slightly below one billion euro, whereas, in Belgium, the Dutch e-commerce platform, Bol.com, may be considered the leader, with a turnover of approximately EUR 400 million. In the largest European countries, Germany, France, Italy, the UK and Spain, global companies, such as Amazon or eBay, prevail,[4] but even in some of these countries there are relevant local players, such as Otto in Germany (Amazon is the market leader, with revenue of more than EUR 10 billion, Otto follows with a turnover slightly below EUR 3.5 billion), or Cdiscount in France (with revenues of around EUR 2 billion below Amazon's EUR 5 billion).

[1] Zalando, originally created in Germany, is now present in 17 European markets, and for this reason is included among the multinational e-commerce platforms. Amazon showed a European online turnover of around EUR 32 billion in 2019, followed by Otto, with 6.9 billion, and Zalando, with 6.4. eBay, which adopts a different business model, does not appear in this ranking, however, it is still considered one of the most relevant e-commerce platforms in Europe (European E-commerce report, 2019).

[2] The Alibaba Group, founded in 1999, was initially a B2B e-commerce portal that aimed to connect Chinese companies with foreigner buyers. AliExpress, founded in 2010, is the overseas e-commerce platform of Alibaba, and in 2018 it reached around 150 million overseas buyers.

[3] Bol.com and Coolblue, with a turnover of EUR 2.2 and 1.1 billion, respectively. This is a value three times larger than the online turnover for the Netherlands of the three multinational operators cited in the text.

[4] In all these countries, Amazon is the leading online marketplace, followed by eBay (except for Spain, where AliExpress is second), while Zalando is third in most of these countries (PostNord, 2020).

A recent study (Lehdonvirta et al., 2020), which focused on the role of local and global digital intermediaries in the retail sector, has identified three broad clusters in relation to market configurations. The first includes the five biggest European retail markets – the UK, Germany, France, Italy, and Spain – where the retail sector is highly "platformized" and is dominated by the global players. The second group is formed by countries in which local e-commerce companies lead the market: Poland and the Netherlands are examples. In this group, there are medium-sized retail markets. While still attractive to global leaders, they have markets big enough to allow for the development of local platforms. Finally, a third group includes those countries where the retail e-market has not yet developed to a significant degree and thus is characterized essentially by the presence of small local players.

The variety of configurations in relation to e-commerce markets, and the role of global versus local platforms, may have some intuitive explanations: the dimension of the market (previously mentioned), the preference for shopping locally and in one's own language (this seems to explain the case of Poland, according to PostNord (2020), and of some northern European countries), low internet penetration or mistrust in shopping online (in this respect all the European markets are catching up, but some, particularly from Eastern Europe, still lag behind).[5] A final reason may be fragmentation of regional logistics.

Besides the above explanations, one element that is certainly relevant to this study is that the delivery phase is becoming increasingly crucial for online retailers. This is not only because delivery is in itself a growing and promising sector, but mainly, as suggested by several studies, because timely, trustworthy delivery is one of the major factors that determines the consumers' choice of one e-commerce platform over another. In practice, in online retail markets' competition, the delivery factor sometime emerges as being even more relevant than the price of the products (MH & L, 2016; Kovač et al., 2017).

3 Different Delivery Markets' Configurations across Europe

In recent years, the parcel delivery market has shown a tremendous growth in volumes and revenues (Mazarenau, 2019; ERGP, 2020). The increase is largely due to the rise of e-commerce and to the Covid-19 pandemic, which have accelerated this trend globally, particularly in respect of the B2C and C2X categories.[6] The acceleration is even more evident in those countries that were less digitalized, or that had a low presence of fast delivery, and where, for these reasons, e-commerce was weak before the pandemic (Valarezo et al., 2018).

[5] See the Digital Economy and Society Index (DESI) elaborated by the European Commission (2020).

[6] The parcel delivery market is often divided into three main categories: business to business (B2B); business to consumer (B2C); and consumer to X (C2X, where the X means both other consumers, package return, etc.). The common definition of the parcel delivery market usually excludes documents, mail, and freight or packages over a certain weight (usually around 40 kg).

The development of e-commerce has had an important and positive effect on postal operators that were experiencing a decline in their markets' revenues. This general European trend is shown by contrasting the decline in the numbers of letters sent in 2019 (average of – 2.6%), and the growth in the numbers of parcels (+5.6%), which produced EUR 39 billion in total revenues.

Behind these general trends, parcel delivery markets are widely diversified across Europe (Parcu et al., 2018). Differences are attributed to various reasons. For example, Eccles and Kuipers (2006) pointed to national regulations and the different timelines of the liberalization[7] and implementation of the EU postal directives into the local, national regimes in European countries. According to Jaag (2015), the level of digitalization of a country, which favors the development of e-commerce, strongly affects the parcel delivery market, stimulating both volume and competition.[8] Other local characteristics also play a role, as the dimension of the internal market, the concentration of the population in large cities, or the strength of the incumbent (often the ex-monopolist), all contribute to different market configurations across Europe (Vantomme, 2014; Jaag, 2014).

Despite the relevance of these characteristics, another pertinent difference among European countries may be related to the typology of the e-commerce operators who are present in the market (global versus national) and to their interest in expanding their activities in the delivery markets. Until recently, most of these e-commerce platforms provided only logistic and storage services and left delivery to national, regional, and local players. They are starting to show greater interest in parcel delivery as a promising new opportunity to integrate their supply chain and as a strategic asset for controlling delivery (Sidak, 2017). In any case, the entry of e-commerce platforms into the delivery market is affecting the market structure and the evolution of its competitive configuration. However, until now, relatively little space has been devoted to the study of the role of e-commerce platforms in the logistics and delivery section of the supply chain (Finger et al., 2014; Gori & Parcu, 2018; Alimonti et al., 2020), and to its effects on markets' competition (Borsenberger, 2016; Borsenberger et al., 2018).

More recently some regulatory authorities have started to monitor the role of e-commerce platforms in the delivery market. According to AGCOM (2020), in Italy e-commerce platforms – Amazon, for example – are entering the parcel delivery market mostly through the use of medium and small size operators who, given the strong influence that multinational platforms may exert, can be considered to be

[7] Ultimately, it was the third Postal Directive 2008/6/EC that set the timetable for full market opening, thus putting an end to exclusive rights in the letter segment.

[8] However, the situation in the last few years, and particularly since the outbreak of Covid-19, is becoming more balanced across Europe, since countries that were lagging behind are catching up with internet penetration and e-commerce use.

"dominated" by the platform.[9] AGCOM attributes directly to Amazon market power over the delivery of parcels done through third parties (small postal operators). In addition, AGCOM claimed, that in the future, Amazon may become the only operator that is able to take advantage of the growth of e-commerce, and thus, inevitably, reduce the competition in the market, and the quality of services. More recently, the Italian Competition Authority (AGCM) severely fined Amazon for EUR 1.128 billion for abuse of dominance.[10] The Authority found Amazon guilty of harming competing operators in logistics services. In addition to the fine, the Authority imposed behavioral measures to Amazon with the intent to restore competitive conditions in the market (AGCM, 2021).

Following a similar approach, the Spanish CNMC (2020) identified the activity of two Amazon-owned companies as "postal activity" and subjected them to compliance with the requirements of the Postal Law. In Spain, the discussion is focused on the intensity of control that Amazon has over its parcel delivery service and the fact that Amazon also offers these services to third parties.

The entry of e-commerce operators into parcel delivery is not only a European phenomenon. A few years ago, the U.S. Postal Service started to address the problem. After it identified a risk from the strategic opportunities that might be caused by large e-commerce platforms entering the parcel delivery market, the Office of the Inspector General (OIG) of the U.S. Postal Service asked Professor Panzar (2017) to carry out an analysis. The report discussed the issue through a theoretical model, indicating that the postal operators should set a price that exceeds its unit cost, but is both lower than their competitors' prices and low enough to discourage large retailers from self-delivery. Other scholars suggest that this view does not account for many other possible strategic actions by e-commerce platforms and the possible harm to consumers that may result (Sidak, 2017); a discussion about the pricing of competitive postal products in this context is contained in (Brennan, 2020).

It is therefore crucial for postal operators to understand platforms' market strategies with respect to the delivery phase, given also that different platforms appear to behave very differently. This is certainly the case for the two main e-commerce platforms: Amazon and eBay. The former, a clear leader in the B2C segment, has shown since the late nineties a strong interest in delivery, defining it as crucial since the early 2000s, as evidenced by the "Amazon Prime" project (Hahn et al., 2018).[11] On the contrary, eBay, the leader in C2C, was less interested in delivery services, and started to offer its own delivery services only in the last few years (Heller, 2019).

[9] Following AGCOM (2020), the e-commerce national B2C parcel market has been divided into *express* and *deferred* parcels' delivery, where the latter includes parcels that are delivered in 3–5 days. AGCOM identified Amazon as the first operator in the *deferred* market and the second operator in the *express* market.

[10] This is by far the highest fine imposed by AGCM in its 30 years history. Amazon immediately announced that it will appeal the decision.

[11] Amazon Prime was launched in February 2005 with an initial price for eligible purchases of 79$ for free two-day shipping in the US. (Yurieff, 2018).

To explore cooperation, competition and more general interactions between postal operators and e-commerce platforms in the delivery markets, the next sections will present few case-studies. The choice of the countries studied is based on the presence of a national or global e-commerce platform as a market leader, and on the analyses that emerged from previous research (Lehdonvirta et al., 2020; Parcu et al., forthcoming). The UK, the first country Amazon entered in Europe, and Italy represent the first group of cases, characterized by a big national retail market and the leading position as a global e-commerce platform in the market. The second group of cases, which includes Poland and the Netherlands, present medium-sized national markets where national platforms presently dominate the e-commerce market.

4 Case Studies

4.1 Italy

Among the biggest retail markets in Europe, Italy has only a modest e-commerce market, with online shopping accounting for just 6.5% of overall retail sales. However, the trend is one of rapid growth, due to the rising use of smartphones for shopping and to the effect of the pandemic. In fact, the Italian market has grown at a double-digit rate since 2017. The value of the purchases of Italian e-consumers increased almost twofold between 2015 and 2020: the value of online purchases amounted to EUR 16.6 billion in 2015 and reached EUR 31.6 billion in 2019, before slightly decreasing to EUR 30.5 billion in 2020.[12]

According to the data published by Statista in 2021,[13] Amazon is leading the Italian e-commerce market, with the e-commerce net sales generated in Italy of USD 2.9 billion in 2019, followed by Zalando.it with USD 0.5 billion. Third and fourth places are taken by Apple.com, with revenues of USD 0.4 billion, and Shein.com with USD 0.3 billion. The most used marketplaces, according to market research that was conducted by Casaleggio Associati (2021), are Amazon (38%), eBay (21%), Facebook Marketplace (13%), ePRICE (3%), Alibaba (2%), and Zalando (2%). Amazon is the clear leader in the market, and between June 2019 and 2020 it sold 60 million products from Italian retailers (compared to 45 million in the previous period).

The rapid development of e-commerce in Italy has led to a remarkable growth in both parcels' revenues and volumes (AGCOM, 2021a). In terms of the revenues of the postal services from March 2020 to March 2021, a strong increase of 25.5% is due to an increase of almost 42% in the revenues that come from parcel delivery services, particularly in the domestic market.

[12] All the data are retrieved from https://www.statista.com/map/europe/italy/e-commerce

[13] https://www.statista.com/forecasts/871153/italy-top-online-stores-italy-ecommercedb

The parcel delivery market in Italy seems to present very low barriers to entry.[14] The number of operators has constantly grown, having risen to more than 3.000 companies in 2020.[15] This feature of the Italian market has been defined by AGCOM (2017, Annual Report) as being somehow "anomalous" compared to other European markets. However, the same authority (2021b, p. 89) underlines that the number of operators who are able to compete, at the "end-to-end" level, with the incumbent, is exiguous. AGCOM has argued that for a postal network to be considered as an alternative to Poste Italiane, it is necessary for a large aggregation of operators that are active on smaller scales but can be linked by contracts of *franchising* or *partnership*. This "hub and spoke" market configuration has prompted AGCOM to carefully monitor its evolution and dynamic.

AGCOM analyses of the sector focused on the 27 companies with the highest revenues which, according to the inquiry made by the Authority, are connected to more than 800 local operators who cooperate closely with them in several phases of the delivery process. Among the 27 companies, some are present, either exclusively or primarily, in national deliveries (e.g., Amazon, BRT, Citypost, GLS, Nexive, SDA and TNT), while others mainly deliver cross-border parcels (e.g., Asendia, UPS, Schenker and FedEx). Some of the operators entered the market just after the recent takeoff of e-commerce and are specialized in last mile delivery (e.g., Milkman, a successful start-up that was launched in 2015). At present, Amazon Italia Transport, which has been officially included among postal operators since 2018, is the only vertically integrated online platform and it is also one of the main customers of many of the postal operators.[16]

It has been recognized that the Italian parcel delivery market has a relatively low level of concentration (Parcu et al., Forthcoming): all the operators have shares that are below 20%, and Poste Italiane (which includes the controlled SDA) is the second operator, following BRT. In recent years, the market share of Amazon Italia Transport has grown significantly (+4.3% in the period March 2020-March, 2021, see Fig. 1.1), and the company is now the third operator, with a market share very close to the first two. The market integration in the delivery of the stronger of the e-commerce global platforms in Italy is now a reality.

It is interesting, in this respect, that the number of the so-called Pick-Up Drop-off points (PUDOs) of the alternative operators has registered constant growth, reaching in 2020 more than 50% (from 14% in 2014) of the total number of PUDOs in the country. In conclusion, the Italian delivery market, despite its excessive fragmentation, can be regarded as being quite dynamic and competitive.

[14] Companies have to submit a request for a qualification to the Ministry of Development (MISE) and pay a low fee of about EUR 3000.

[15] https://www.mise.gov.it/images/stories/documenti/elenco-operatori-postali-21-02-2020.pdf

[16] In 2018, Poste Italiane signed a pluriannual contract with Amazon for parcel delivery and, according to the data disclosed by AGCOM (2019), Amazon is at present the first customer, in terms of turnover, of the Poste Italiane Group.

Source: AGCOM 2021a, p. 17

Fig. 1.1 Shares of parcel delivery service operators (those that are not included in the US). (Source: AGCOM, 2021a, p. 17)

4.2 *The UK*

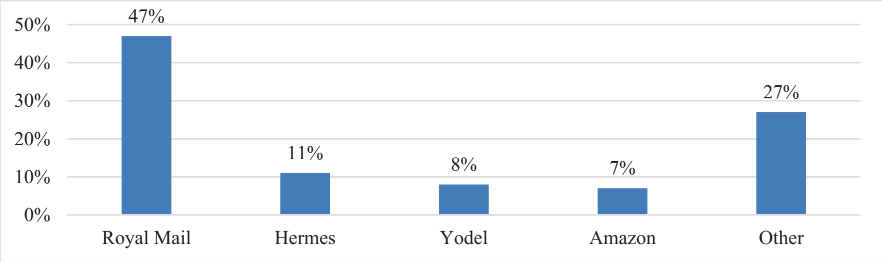
The UK parcel market witnessed high growth due to the increasing popularity of e-commerce, which increased by 20% in the period 2017–2019 (Statista, 2020).[17] With 48.6 million consumers, and 95% of the population aged 15–79 shopping online, and with an average spending per person estimated at EUR 1020, the UK, together with Germany, has the strongest e-commerce market in Europe. Leadership in this market is firmly in the hands of Amazon, which, with a total sales amount of EUR 20 billion in 2020 (Amazon, 2020),[18] has roughly 30% of the share of online sales, followed by eBay (9.8%), Sainsbury's (4.6%) and Tesco (4.5%).

While the traditional strength of the Royal Mail remains unabated, two particular trends have invigorated the competition in the UK parcel market in recent years. Firstly, the number of retailers that have started to offer their own delivery services has grown. For example, after the launch of its own delivery service, Amazon was able to capture 3% of the UK parcel market in just one month. Secondly, in-store collection and delivery services have both grown significantly. Furthermore, as parcel carriers continue to invest in new capacity, the pricing pressure increases. According to the Royal Mail's estimate, there is presently an approximate 25% overcapacity in the UK parcel market (Royal Mail, 2020).

In 2019–2020, Ofcom continued to collect revenue and volume data from the major parcel operators in the UK, which include: the Royal Mail Group (including

[17] Starting from slightly different markets definitions other statistics suggest an increase of approximately 20–25% in the period (PosteNord, 2020).

[18] The total revenues reported in the Annual report il even larger, reaching $26.5 billion in 2020, but this amount includes Prime membership fees, advertising revenues and web services that are not relevant to this study.



Source: Statista Dossier Postal Services in the United Kingdom.

Fig. 1.2 Distribution of the courier parcel market in the United Kingdom (UK) in 2017, by company. (Source: Statista Dossier Postal Services in the United Kingdom)

Parcelforce Worldwide); Hermes; Yodel; Amazon Logistics (encompassing both Amazon Marketplace and Amazon Retail); DHL International and DHL Parcel UK; DPD Group; DX; FedEx and TNT UK (a subsidiary of FedEx); the Alternative Parcels Company; Tuffnells and UPS (Fig. 1.2).

During the last year, due also to COVID-19, the parcel delivery volumes and revenues grew tremendously, in particular for the incumbent USP. According to its report, Royal Mail volumes grew by approximately 35%, and revenues by 20% (Royal Mail, 2020). Despite the belief that the increased demand for e-commerce, to which postal operators responded with substantial investment,[19] will not change even after the end of the Covid-19 pandemic, operators are concerned about the future of parcel delivery, and their voiced concern is due particularly to Amazon's entrance into B2C parcel delivery.

> Amazon is an increasingly important player in B2C market dynamics and continues to expand its parcel delivery capability. As a large online retailer, Amazon uses multiple carriers to deliver its own retail products, as well as the goods of third-party sellers on the Amazon Marketplace who use its Fulfilment by Amazon (FBA) service. The FBA service provides warehouse storage, customer services and product delivery. Amazon also has its own delivery network – Amazon Logistics. Amazon uses Amazon Logistics to carry parcels sold on the Amazon website, either by Amazon Retail or third-party FBA sellers. In addition, Amazon has recently launched Amazon Shipping in the UK, whereby Amazon has begun to collect parcels from some retailers' own premises for delivery. Ofcom (2020).

To conclude, the UK parcel market has been affected by rapid changes and the recent entry of Amazon into delivery is clearly one of the most significant. Nonetheless, despite the concerns that are related to the future of the industry and connected to the entry of this leading e-commerce platform into parcel delivery, the traditional position of the Royal Mail presently remains strong. New investments

[19] According to Ofcom (2020), due to Covid-19, all the main parcel operators responded to the increased demand by creating new jobs and increasing their investments. Hermes announced that it would recruit 10,500 new employees, DPD 6000, Yodel 2950 and Royal Mail 33,000 temporary workers for specific periods.

and recruitment, as well as several mergers among the other parcel operators, are all elements of an attempt to respond to this market confrontation.

4.3 *The Netherlands*

The Netherlands is among the top countries in Europe in terms of purchasing online retail. Even if, in absolute terms, it finds itself in a position that is below the leading markets of UK, France, Germany and Spain, it stands out due to its rapid expansion in recent years.

The online retail industry in the Netherlands is largely dominated by domestic companies: Bol.com; the electronics retailer Coolblue and the fashion store Wehkamp, with major e-commerce global platforms Amazon and Zalando also being in the top six (see Fig. 1.3).

Bol.com and Coolblue, the leaders in the Dutch e-commerce market (Gelici, 2020), present a business model that resembles certain features of Amazon in the USA. Bol was established in 1999 and started off by selling books, CDs, and DVDs, but quickly evolved into a full marketplace, widening its product range to cover a large variety of niches. In 2018, Bol had a turnover of EUR 1.64 billion, making it the biggest online retailer in the market. The popular marketplace, Coolblue, was created in 2000, and three separate online shops were finally merged into the

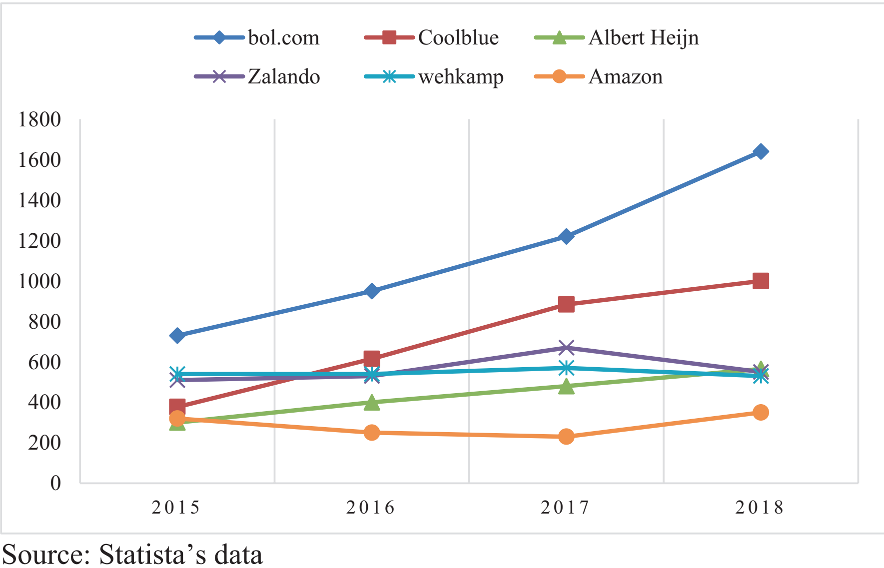


Fig. 1.3 Leading online retailers in the Netherlands 2015–2018 (revenues; million euros). (Source: Statista's data)

Coolblue.nl domain in 2018. The company is focused on building “end-to-end” solutions for its customers. It launched its own van delivery service, CoolblueDelivers, in 2016, and further expanded its delivery modalities in 2018 by introducing CoolblueBikes.

The E-commerce platform, Zalando has been active in the Netherlands since 2010, while Amazon was not active in the country for years, since it was using only a partially translated version of its international websites to reach Dutch consumers. Only in March 2020 Amazon launched Amazon.nl, and its reach has since increased steadily, even if the leadership of the two cited local marketplaces is still unquestioned.[20]

The peculiarity of the e-commerce market’s configuration in the Netherlands can be explained as the combination of several factors. These include the high percentage of people who access the Internet on mobile devices, which has boosted mobile commerce; the consumers’ strong preference for shopping domestically and in Dutch language; an online payment space that is dominated by the domestic brand IDEAL, which was developed and launched by Dutch banks in 2005, in a country that is known for its relatively low use of credit cards as a payment method (PostNord, 2020). Fast delivery – a legacy of the country’s reputation for world-class delivery and logistics – is also a key component of the Dutch e-commerce culture, which makes the quick fulfilment of orders essential for e-commerce companies (Morgan, 2019).

The delivery market is much less dynamic than the e-commerce market. There are six large parcel carriers in the country, which, in 2020, managed a total of 778 million parcels, of which 586 million were delivered to a Dutch address (ACM, 2021). In domestic parcel delivery, B2C represents 74% of the total volumes and recorded an increase of 37.8% if compared to 2019; while the B2B segment demonstrated a lower increase of 13.3% in the same period. A strong increase was also registered in the C2X segment (38.6%), which, however, represents only 4% of the domestic parcels volumes. PostNL remains the largest carrier of domestic parcels and, in 2020, its market share was 55–60%, both in terms of volume and revenue. After the leader, DHL Parcel as in previous years has the second largest market share, 30–35% in 2020 based on both volume and turnover. All the other companies follow at a considerable distance: DPD, GLS UPS and TNT (the smallest carrier) all have market shares in the interval 0–5%.

It is worth mentioning that the Netherlands is actually becoming a laboratory for experimenting with alternatives modalities in last mile delivery.[21] One of the main reasons is the high costs of this phase, due to the wages of the delivery personnel, which account for up to 50% of the costs per parcel, and which are growing quickly, partially due to the scarcity of personnel on the labor market.

Moreover, environmental regulations are destined to have an increasing effect on delivery costs. Large cities, like Utrecht and Amsterdam, have declared a complete

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[20] https://ecommercenews.eu/amazon-doubles-reach-in-the-netherlands/

[21] https://www.brand-experts.com/brand-distribution/last-mile-innovation/

ban on combustion engines for inner city delivery vans from 2025. This means that logistics service providers will need to change their fleets to more expensive electric delivery vans and/or to delivery bikes. The leaders of Dutch e-commerce are anyway increasing their investments into the last mile. Amazon has recently announced that it will open its own delivery station in the Schiphol area, and it will start working with small and medium-sized independent local delivery companies, in addition to its existing carrier partners: DHL and PostNL.[22]

In conclusion, the parcel market in the Netherlands remains highly concentrated, and e-commerce platforms still don't have a significant presence in the delivery phase.

4.4 Poland

With respect to e-commerce, the largest marketplace in Poland is the domestic platform Allegro, established in 1999, which has around 40% of market share. According to Ecommerce-news.eu, Allegro has also become popular in other countries. With its 194 million monthly visitors, it is currently the tenth most visited marketplace in the world. In October 2020, Allegro was listed on the Warsaw Stock Exchange, becoming the largest IPO in Poland's history. In the Prospectus for its IPO offering, Allegro (2020) stated: "*Merchants are able to take advantage of a smart logistic network that is simple to use and that provides a range of delivery options, while benefiting from more competitive delivery costs through the [Allegro] Group's umbrella agreements with key logistics players, including, among others, InPost, DPD, UPS and the Polish state postal service (Poczta Polska).*" Moreover, "*the Group is focused on delivering the [user] experience primarily through an "asset-light" model that is achieved through investments in technology and solutions that support 3P merchants, rather than through investing in the "asset-heavy" inventory and infrastructure parts of the e-commerce value chain*" (p. 109).

Other relevant marketplaces in Poland, albeit with a limited presence so far, are AliExpress (which belongs to the Chinese Alibaba), Zalando and Amazon, which launched its fully Polish version only on March 2, 2021.[23] Amazon has a limited presence not only in Poland but in general in the emerging Eastern European e-commerce markets, which in comparison to their Western European counterparts (Germany, Italy or UK) are much smaller. However, considering the rapid growth these markets have recorded in recent years, and the opportunity for further expansion that they present, they could become attractive for investment by global platforms in the coming years.

[22] http://www.citylogistics.info/business/amazon-opening-a-regional-urban-parcel-hub-in-amsterdam-region/

[23] Until recently, Amazon has served its customers in Poland through its German website.

In 2020, the sum of the revenues from postal services in Poland increased by 14% in comparison to 2019. It was the fourth consecutive year in which growth in the postal market exceeded that of the Polish economy. This growth has mostly been driven by the increase in the revenues from courier services, which in turn has been caused by the growing volumes of e-commerce transactions and shipments. In 2020, courier shipments accounted for nearly 34% of postal services, in terms of volume, but as much as nearly 59% in terms of value (UKE, 2021).

As of December 31, 2020, Poland had 291 postal operators, including Polish Post (Poczta Polska) the designed provider of universal service. However, as noted by the Polish postal and telecom regulatory authority, UKE (2021), only 138 of the 290 alternative operators had actually been active in the market (as not all registered operators actually undertake postal activities). A gradual increase in the number of registered alternative postal operators was observed in the period 2012–2014. However, since then, the number has remained stable, varying from 267 in 2012 to 290 in 2020. Alternative operators provide services in three segments of the postal sector: courier services, services falling within the scope of the universal services, and other postal services.

Altogether, in the courier services segment, which is the area in which competition has developed the most, operate 89 postal companies, including Poczta Polska.[24] Moreover, courier services contribute the most to the overall value of the Polish postal market. Despite higher prices, in Poland couriers remain the preferred shipment option for e-commerce transactions (rather than the traditional postal package services). The seven largest operators offering courier services together accounted for 96.6% of market volume, and 93.9%, of market revenues. These operators include three global players (DHL, UPS and FedEx/TNT), two companies that are owned by European posts DPD (French Post) and GLS (British Post), a domestic courier with foreign capital (InPost) and the national postal incumbent (Poczta Polska). In 2018, the French-owned DPD led in the courier market with a 25% market share, followed by the German DHL with approximately 20% of the market share. The domestic operator Poczta Polska and the American UPS both controlled 15% of the market, they were followed by InPost and GLS (Royal Mail). Since 2018, the leadership in the market has changed as, in 2020, InPost[25] moved to the top of the list, pushing DPD into second position. GLS jumped to the third position,

[24] Although, in recent years, courier companies have benefited from the dynamically developing demand for their services, declining unemployment (which in 2019 decreased to 3.3%, in comparison to the EU-average of 6.3%) and the correlated pressure for wage increases, resulted in a marked increase in the costs of running courier activities in Poland. Arguably, despite large scale operations and very high operational efficiency, Polish operators have found it difficult to achieve high profitability.

[25] In 2021, Inpost also acquired Mondial Relay, a major French logistics company, thus expanding its international presence.

while UPS and Poczta Polska have become, respectively, the fourth and fifth players in the market (UKE, 2021).[26]

The late arrival of global e-commerce platforms in Poland explains their complete absence in the parcel delivery activity that, at present, is provided solely by the traditional couriers.

5 Conclusion

While the preferred e-commerce channel for European enterprises is still proprietary websites and apps rather than marketplaces, the latter have experienced a remarkable growth in recent years, further accelerated by the outbreak of the pandemic. The growth is related not only to the well-known global or multinational players, but also to several European and local companies.

Parcel delivery is increasingly crucial for all these companies: often customers by their choices value timely delivery even more than the products' prices. E-commerce platforms are responding by entering the delivery markets, thus increasing the pressure on couriers and the traditional postal operator. This dynamic has raised the attention of postal regulatory authorities (in the US, Italy, and Spain), that have started to monitor their role in the delivery markets. More recently, the Italian Competition Authority has fined Amazon EUR 1.128 and imposed behavioral measures in the attempt to restore more competitive conditions in the market.

Our analysis confirms the great dynamism of the parcel delivery markets following the e-commerce boom. At present, there is no clear correspondence between the configurations of the e-commerce markets and the delivery markets. Context-specific factors seem to push online marketplaces to tailor their industrial strategies to seize the opportunities available in each country. However, a few general indications may be derived from the evidence collected in this chapter.

Global marketplaces, primarily Amazon, are increasingly embracing vertical integration, establishing themselves as logistic operators, even in countries where their position in the e-commerce market is still limited, as in the Netherlands. On the other hand, local online marketplaces seem to be relatively less interested in the delivery phase, despite some light investment that has been made by the Dutch champions into the last mile. The choice as to whether marketplaces opt for asset-heavy or asset-light models of delivery is determined by a variety of factors. For instance, in the Netherlands and in Poland, a relevant variable appears to be the cost of labor, as delivery is a labor-intensive business, and these two countries have among the lowest unemployment rates in Europe.

Concerning the role of traditional postal operators in parcel delivery, the situation appears to be diversified. In the Netherlands, the leadership of PostNL in the

[26] With respect to the relatively weak position of Poczta Polska in the courier segment, it must be noted that Poland was one of the last EU countries to fully liberalize its postal market (2013).

delivery market is uncontested, and also in the UK Royal Mail's position appears to still be strong. In Italy, Poste Italiane competes in an apparently dynamic market,[27] while the incumbent postal Polish operator in its country is not even among the top four providers of parcels' delivery. National regulations relating to the universal service providers probably also play a role in explaining the different positions that are occupied by the postal incumbents in the parcel markets. In this respect, the revision of the Postal Directive may lead to changes in the regulatory framework, which, in turn, may have consequences for the configuration of these markets.

The last historical player in parcels' delivery, the couriers, who are traditionally more active in the express and international delivery of parcels, find themselves in a difficult position. This is confirmed by the decline in the market capitalizations of many of the largest companies in this segment, as they are contemporaneously facing competition from powerful new entrants, being e-commerce platforms or incumbent postal operators, and recovering from the disruptive effect of the pandemic on their international logistic chains.

The continuing explosion of e-commerce, with the new increasing competition/co-operation unfolding between global platforms and traditional postal operators, the strenuous resistance of local platforms and large couriers, are all elements that will characterize the future of parcel delivery in Europe and beyond and will certainly constitute an interesting topic for analysis and research in future years.

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[27] But AGCM mega-fine to Amazon cited above unavoidably cast doubts on this assessment.

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Chapter 2
Parcel Locker Stations: The Future of e-Commerce Delivery?

Antonia Niederprüm and Willem van Lienden

1 Introduction

Diverging trends in letter and parcel volumes (including small packages containing merchandise) are driving the transformation of national postal operators into more parcel-oriented services. Some national postal operators have distanced themselves from the daily delivery of letters to all households by switching to alternate-day (or even less frequent) delivery models. In contrast, quality of parcel delivery (particularly B2C) has improved with next-day delivery as the new standard in many countries. The European Regulators Group for Postal Services (ERGP) reported that, since 2015, the total number of parcels has increased from 5.07 billion to 7.15 billion, or by 9.2% p.a. on average, while letter post volume declined by 5.3% p.a. across the ERGP member countries (2015–2019).[1] The COVID-19 pandemic and resulting lockdowns have further boosted e-commerce sales as well as the number of online shoppers. Eurostat reports that in the European Union (EU-27) the share of individuals with online purchases during the last 12 months increased from 60%

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[1] ERGP (2020b), p. 41.

A. Niederprüm (✉) · W. van Lienden
WIK Wissenschaftliches Institut für Infrastruktur und Kommunikationsdienste, Bad Honnef, Germany
e-mail: a.niederpruem@wik.org

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to 65% between 2019 and 2020.[2] This jump in online purchases resulted in growing B2C parcel volumes for national postal operators as well as parcel and express carriers in 2020.

Many national postal operators (universal service providers) reported significant increases in parcel volumes: e.g. Deutsche Post DHL ('DPDHL') reported a 15% increase in 2020[3]; PostNL's parcel volume increased by 19%[4]; La Poste (colissimo),[5] Royal Mail,[6] and Austrian Post[7] achieved growth rates between 28% and 30%; PostNord Sweden reported an increase of 23%; and PostNord Denmark had a growth rate of 37%.[8] The European parcel carriers DPD and GLS reported significant increases in their parcel volumes: 26% at GLS[9] and 24% at DPD; both reported an increase in the share of B2C parcels, GLS to 57% (+12 percentage points compared to the previous period) and DPD to 55% (+10 percentage points).[10]

The effects of the pandemic accelerated growth in parcel volumes. The shift to B2C parcel deliveries by several years and revealed significant capacity constraints in the last mile. Expansion in home deliveries became limited due to driver shortages and is extremely costly due to a significant rate of unsuccessful first-time delivery attempts. Consequently, parcel and postal operators have been extending delivery (and return) options for parcels by increasing the number of alternative pick-up and drop-off points. Postal outlets and parcel shops are increasingly complemented by parcel locker stations (or automatic parcel machines (APMs)). These trends are also confirmed by statistics on 'postal establishments' and parcel lockers collected by the ERGP (European Regulator Group for Postal Services) for a selection of European countries. Between 2015 and 2019, their number increased by 16% to nearly 180,000 outlets driven by the increasing number of parcel shops.[11] The number of parcel locker stations even increased by 57% within 1 year from 19,344 (2018) to 30,338 (2019).[12] However, the developments resulted in densities that vary considerably among European countries (Fig. 2.1).

Figure 2.1 shows that in 2020 the density of parcel locker stations varied considerably among 26 European countries from more than five stations per 10,000 inhabitants in Estonia to less than one station in more than two-thirds of the countries (starting with Germany). The density of postal outlets/parcel shops is considerably

[2] Based on Eurostat, until 2019 [isoc_ec_ibuy] and 2020 [ISOC_EC_IB20].

[3] Deutsche Post DHL (2021), p. 14.

[4] PostNL (2020) and PostNL (2021).

[5] Le Groupe La Poste (2021).

[6] Royal Mail Group (2021).

[7] Austrian Post (2021).

[8] PostNord (2021a), p. 7–8.

[9] Royal Mail Group (2021).

[10] Le Groupe La Poste (2020, 2021).

[11] ERGP (2020b), p. 60.

[12] Ibid, p. 72.

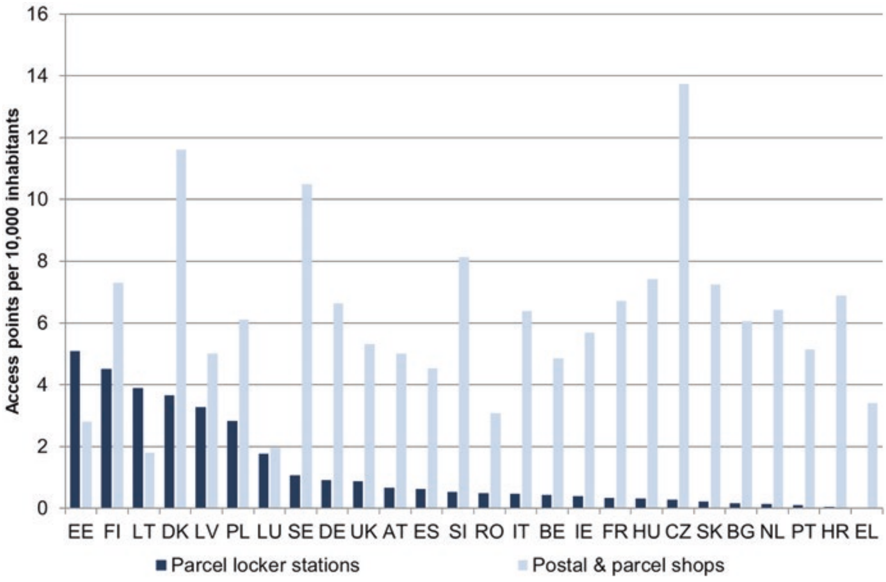

Fig. 2.1 Density of access points per 10,000 inhabitants by country (2020). (Source: Own research from publications of operators and market studies of national regulatory authorities, complemented by Last Mile Experts (2021)). Notes: AT Austria, BE Belgium, BG Bulgaria, CZ Czechia, DE Germany, DK Denmark, EE Estonia, EL Greece, ES Spain, FI Finland, FR France, HR Croatia, HU Hungary, IE Ireland, LT Lithuania, LU Luxembourg, LV Latvia, NL Netherlands, PL Poland, PT Portugal, RO Romania, SE Sweden, SK Slovakia, SE Sweden, UK United Kingdom

higher (see Fig. 2.1). We estimate that in 2020 the ratio 'parcel locker station per postal outlet/parcel shop' was around 1:7 on average.

During 2020, the networks of postal outlets and parcel shops were partly hit by the closure of stationary retail shops during the lockdowns in respective countries.[13] Alongside social-distancing requirements, the lockdowns apparently led to the increasing attractiveness of parcel locker stations as an alternative to home or parcel shop deliveries in 2020. This was followed by announcements of parcel carriers and national postal operators that indicated that the number of parcel locker stations will be expanded in the coming years.

DPDHL planned to double the number of parcel locker stations ('DHL Packstationen') to 12,500 by 2023.[14] Polish InPost increased the number of parcel locker stations by more than 2500 in 2020 and plans to expand the total number to 14,500–15,500 locker stations by the end of 2021.[15] The Norwegian postal operator, Posten, plans to roll out 3000 parcel locker stations at 1000 locations during 2021.[16]

[13] See ERGP (2020a), p. 12–13.

[14] Deutsche Post DHL (2020).

[15] InPost (2021a), p. 139.

[16] Posten (2020).