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PRINCIPLES OF EU POSTAL REGULATION AND IMPLICATIONS FOR THE FUTURE

CLIENT: UPS
JUNE 2020

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PREFACE

The European postal regulatory framework dates back to the early 1990s and the Green paper on the development of a single market for postal services. This document laid the foundation for the development of the first Postal Services Directive in the European Union (EU) entering into force in 1997. It was later updated by means of a second and a third Postal Services Directive in 2002 and 2008, respectively. Thus, more than ten years have now passed since the adoption of the current regulatory framework – and postal and delivery markets throughout the EU have developed significantly since then.

In March 2020, the European Commission published an evaluation road map, outlining the context, purpose and scope of its evaluation of the existing Postal Services Directive. In time for this process, UPS has asked Copenhagen Economics to investigate whether the current market reality warrants more sector-specific regulation on top of the existing EU postal regulatory framework. More specifically, we have been asked to analyse evidence relevant for policymakers' decision on whether there is a need for additional regulation of the delivery of e-commerce packets and parcels – regulation which would be on top of the provisions already included in the existing Postal Services Directive and other, complementary, regulatory frameworks.

The report is structured as follows:

In chapter 1, we provide a brief overview of the background for the report and our assignment.

In chapter 2, we discuss the principles for when and how to regulate postal and delivery markets. We start from a theoretical perspective, discussing the basic concepts of market failures and their potential application to European postal and delivery markets. We thereafter discuss a few important principles for regulating dynamic markets, such as the market for delivery of letters and parcels. We end by briefly summarizing the implications for the evaluation of the Postal Services Directive.

In chapter 3, we provide an overview of the current EU postal regulatory framework, its history and underlying motivations (i.e. what concerns is the current regulatory framework aiming to tackle). We also discuss the application of the existing regulatory framework to different types of market players and the implications of our findings for the evaluation of the Postal Services Directive.

In chapter 4, we assess key elements relevant to policymakers' decision on whether there is a need for additional sector-specific regulation of EU postal and delivery markets on top of the provisions contained in the current Postal Directive. We conclude by discussing the implications of our findings for the evaluation of the Postal Services Directive.

KEY TERMS AND ABBREVIATIONS

TERM	DEFINITION
AGCOM	Autorità per le Garanzie nelle Comunicazioni (Italian competition authority)
Delivery price	The price a buyer (final consumer) pays to have a product bought online delivered
E-retailer	A retailer that sells goods online
E-shopper (e-commerce shopper)	A buyer of e-commerce goods
ERGP	European Regulators Group for Postal Services
EC	European Commission
EU	European Union
GDPR	General Data Protection Regulation
PSD	Postal Services Directive
User	An individual that uses postal and delivery services
USO	Universal service obligation
USP	Universal service provider
UPU	Universal Postal Union

EXECUTIVE SUMMARY

Most postal markets have been shaped by policies based on two widespread beliefs, which have had important implications for how these markets have been treated by regulators and other policy makers. The first belief has been that national postal operators have high market power (often alleged to persistent effects of a history of national postal monopolies and /or to strong and unsurmountable economies of scale in mail delivery). The second belief is that at least some postal services are of general economic interest.

These beliefs have historically led to concerns that, in the absence of regulation, there would be a risk that essential postal services would not be provided in the situations where the cost of provision is higher than the revenue obtained by the postal operator. In addition, the long-lasting belief of high market power has underpinned a concern that dominant postal operators could take actions leading either to potential exploitation (high prices/ low quality) and /or to anti-competitive foreclosure of efficient competitors/ entrants.

In the European Union, the above-mentioned concerns are addressed by existing regulatory frameworks, such as the Postal Services Directive.

At this time, the European Commission has started to evaluate the effectiveness of the current Postal Directive, which may possibly lead to a proposal of future changes to the regulatory framework. In the light of the ongoing evaluation, UPS has asked Copenhagen Economics to investigate whether the current market reality warrants more sector-specific regulation on top of the existing regulatory framework.

To answer this question, we start with the basic economic principles for when and how to regulate postal and delivery markets. We thereafter provide an overview of the current postal regulatory framework in the EU, its history and underlying motivations. Last, but not least, we present new empirical evidence regarding the competitive landscape of e-commerce delivery markets in Europe. Throughout our analysis, we discuss the implications of our findings for the evaluation of the Postal Services Directive.

Based on our analysis, we find that

- The dynamic characteristics of postal and delivery markets mean that careful consideration is needed of whether there is any need for regulatory remedies and, if so, what remedies would be appropriate.
- Choice and innovation in EU postal and delivery markets seem to eliminate the need for more regulation of parcel delivery services related to e-commerce purchases.
- In terms of the evaluation of the Postal Services Directive in the EU, policymakers should consider carefully what market failures the regulation aims to address and avoid overlaps and conflicts with other regulatory frameworks.

Dynamic postal and delivery markets require careful consideration of whether there is a need for regulatory remedies and, if so, what remedies would be appropriate

The type of remedy most suitable to deal with an undesirable market outcome depends on the specific situation and the underlying problem. In this context, there are three considerations that are relevant to acknowledge in relation to e-commerce delivery markets in Europe.

First, policy intervention may have adverse effects on policy objectives. Regulatory failures may occur when regulators try to protect consumers – but in doing so, they adversely create entry barriers and reduced competition without obtaining any quality improvement. This risk of regulatory failure is large if policy makers fail to consider marketplace realities such as innovations, technical progress, development of substitute services, and changes in consumers' needs and preferences. In these situations, policy makers often do not have a "formula" to apply in developing policy. Instead, they are forced to take a much more reasoned approach to what will happen in the market – with technology, innovation, and market power.

Second, the market for the provision of parcel delivery services related to e-commerce purchases is highly dynamic. Many European markets have developed into what is today considered mature in terms of e-commerce levels and shipment volumes without policy intervention to force this development. Thus, remedies that may be appropriate and proportionate today (or were so a few years ago) may not be appropriate in a few years' time. Similarly, remedies that may not be necessary today may become relevant in the future. Again, this calls for a more dynamic assessment of the undesirable outcomes observed in the market and the potential remedies.

Third, although there is a longstanding tradition of sector-specific regulation in the postal sector, primarily related to letter mail delivery, the dynamics of the sector warrants the consideration of whether it is still necessary to apply sector-specific regulation on top of general competition law (in the whole or parts of the market). In some instances, ex-post competition law might be too slow to tackle market failures relating to strong market power. This can be the case in markets with no effective competition and high barriers to entry. For this reason, the European Commission has developed practice within the telecoms area where the following three criteria must be cumulatively fulfilled in order to introduce ex ante regulation in a market¹:

- i. The presence of high and non-transitory barriers to entry;
- ii. A market structure which does not tend towards effective competition within the relevant time horizon;
- iii. The insufficiency of competition law alone to adequately address the market failure(s) concerned.

While these criteria could equally well be applied to other markets to assess the value added of ex ante regulation, this specific assessment has not been performed in the postal sector.

Choice and innovation eliminate the need for more regulation of e-commerce delivery

Based on our analysis, we find that choice and innovation in the access to/provision of parcel delivery services related to e-commerce purchases seem to eliminate the need for additional regulation of these services. Our conclusion builds on three main findings.

¹ ERG (2008) Guidance on the application of the three criteria test.

First, evidence from existing studies and policy papers shows that regulators, policy makers and researchers alike observe fierce competition in the e-commerce delivery market. This is natural since growing e-commerce demand triggers growth in the supply of delivery services.

Second, we observe that most businesses selling online in the EU today can choose from at least ten parcel delivery operators. Moreover, access to alternatives has developed within the past 5-7 years and is expected to continue to do so.

Third, new empirical evidence shows that, although competition for the provision of e-commerce delivery services may have historically developed first in urban/suburban areas with a higher level and density of demand and relatively low cost to serve, today this competitive pressure also seems to apply to and benefit e-commerce shoppers all over each country. This empirical evidence is directly relevant to the policy concern / desire that all EU citizens (including those in remote/rural areas) should have access to appropriate delivery services that allow them to shop online. More specifically, based on research in eight EU markets, we find that e-commerce shoppers across Europe have access to the same delivery options and they also pay the same for getting their items bought online delivered, irrespective of where in the country they are located. This evidence shows that the above policy desire is currently met and thus does not support a case for additional regulation.

We still observe minor differences in delivery services and prices offered to e-commerce shoppers in the different national markets. This is not surprising as European countries still differ in terms of maturity of e-commerce, cultural preferences and geographical conditions, as confirmed in a recent study for the European Commission.² E-retailers are free to pursue different strategies related to delivery services and to target their offerings to their customers' (i.e. the e-commerce shoppers' preferences) and actively do so. As a result, some e-retailers offer to their e-shoppers one simple delivery solution whereas others offer a spectrum of different options. In turn, not all e-commerce shoppers may be willing to pay for more options.

Over the past 5-10 years, we have seen e-commerce markets throughout the EU mature and develop, resulting in increased provision of e-commerce delivery services by a larger number of operators and by means of a wide variety of business models. As e-commerce continues to grow and mature, we expect this development to continue also in the coming years – especially in the countries with less mature e-commerce delivery markets today.

When evaluating the Postal Services Directive, policymakers should carefully consider what market failures the regulation aims to address and avoid overlaps and conflicts with other regulation

In conclusion, the evidence reviewed and gathered for this study does not support a case to introduce additional regulation of the provision of parcel delivery services for e-commerce purchases.

Furthermore, for all the above reasons, additional, broader/stricter regulation of the provision of delivery services might not necessarily result in better access to delivery options for e-commerce shoppers. A key factor is the structure of the e-commerce value chain and the B2B nature of delivery services underpinning e-commerce. Indeed, e-retailers decide what delivery options to offer to their customers – and at what prices to offer these. Thus, regulating delivery services in this context may neither be proportionate nor a fit for purpose solution.

² WIK (2019), Development of cross-border e-commerce through parcel delivery.

Finally, the current Postal Services Directive is designed to tackle two potential market failures, linked to the provision of essential postal services (public goods market failure) and lack of competition (concentrated market power market failure). When considering the future of EU postal regulation, policy makers should thus consider carefully what market failures the future regulation should aim to address. Have markets changed over the past 15 years, making the market failures in scope for the existing regulation irrelevant – or have new market failures been documented across the EU? Moreover, it is important that any changes to the Postal Services Directive should not duplicate or conflict with other regulations. At the same time, it is necessary to ensure that the regulatory frameworks in place apply in a comparable way to all relevant market players at equivalent conditions, thus ensuring a level playing field.

Any updated version of the Postal Services Directive must thus start from the current situation, considering all changes in the market and regulatory context since its last revision and, in particular, any market failures that still exist and might warrant continued or revised regulation.

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CHAPTER 1

SETTING THE SCENE: EVALUATION OF THE EU POSTAL SERVICES DIRECTIVE**1.1 TRADITIONAL CONCERNS REGARDING THE FUNCTIONING OF POSTAL MARKETS**

Most postal markets are characterised by two general assumptions having important implications for how they are treated by regulators and other policy makers. First, there is a general assumption that national postal operators have high market power. This is due to the history of national postal monopolies and strong economies of scale in mail delivery, leading to a natural advantage for incumbent operators with high market shares. Second, there is a general assumption that postal services, or at least some postal services, are of general economic interest. This has led to universal service obligations (USO) being a cornerstone in postal market regulation. It is an important principle in postal policy to ensure that all consumers access to postal services and enjoy a sufficiently high service quality.

Based on these assumptions there are concerns that, in the absence of regulation, there would be a risk that essential postal services would not be provided where the cost of provision is higher than the revenue obtained by the postal operator. In addition, the risk of concentrated market power introduces a concern about potential exploitation (high prices/ low quality) by dominant postal operators and a risk of anti-competitive foreclosure of efficient competitors/ entrants.

1.2 TRADITIONAL CONCERNS ARE TREATED BY EXISTING REGULATION, BUT NEW ONES HAVE EMERGED

In the European Union, the above-mentioned concerns are addressed by existing regulatory frameworks, such as the Postal Services Directive (the first one being introduced in 1997), which mandate governments to ensure provision of universal postal services in line with the following principles

- collection and delivery of postal items (including packages up to at least 10 kg and cross-border postal packages up to 20 kg) within the USO;
- ubiquitous and uniform provision of letter services;
- affordable, cost-oriented, transparent and non-discriminatory pricing of universal services (including postal packages);
- (together with national legislation) service quality targets and standard complaints procedures.

The time has now come for the European Commission to assess if the current regulatory framework, including the Postal Services Directive, is fit for purpose and to propose revisions if necessary. In this respect, the Commission published in March 2020 an evaluation road map, outlining the context, purpose and scope of the evaluation. According to the road map, the Commission's evaluation will:

“examine the universal service obligation, in particular as regards the services included, the financing of the net cost compensation, price regulation and quality of service. It will also examine competition in the EU and national postal markets and whether the current regulatory instruments are flexible enough to accommodate national particularities. It will assess the impact of the

Directive on the basis of effectiveness, efficiency, coherence, EU added value and, above all, relevance, to see if the Directive still responds to the present needs of the European citizens and businesses and will continue to do so in the foreseeable future.”³

Doing this, the Commission does not only have to consider the success of the existing regulation, but also the fact that postal and delivery markets in Europe have developed significantly, on both the demand and supply side, since the design of the current regulation.

Full liberalisation of EU postal markets (ensured by the third Postal Services Directive) and the market wide trend of declining letter mail volumes imply that concerns of historically strong market power of ex-monopolists are shrinking. As mail volumes continue to decline, this reduces the potential for anti-competitive cross-subsidies (unless there is state aid) by ex-monopolies. We believe that this trend will continue in the future, suggesting that ex-monopolists’ market power will also continue to decline. The reduced relevance of letter mail in postal operators’ service portfolio has also been highlighted by the European Regulators Group for Postal Services (ERGP), stating that *“In the foreseeable and long-term future, it is likely that the relevance of delivery of postal items as a means of communication or exchange of information (letters, magazines, direct mail) will further diminish due to e-substitution.”⁴*

However, new concerns have emerged. When presenting its mid-term strategy in September 2019⁵, the ERGP pointed to three regulatory challenges related to (i) the harmonisation of conditions governing the provision of letter post and especially parcel delivery services, (ii) promotion of competition, and (iii) users’ interest and the gradual transition from a “sender oriented” to a “receiver oriented” model (primarily related to commercial processes and e-commerce rather than traditional postal services).

1.3 OUR ASSIGNMENT

In light of the upcoming evaluation of the Postal Services Directive, and the priorities identified by the ERGP, UPS has asked Copenhagen Economics to investigate whether the current market reality warrants more sector-specific regulation on top of the existing regulatory framework. In particular, we will assess (i) if current parcel delivery practices meet e-commerce shoppers’ needs and (ii) test for any evidence of lacking market-based responses to changing user needs – factors which may justify additional regulation on top of the provisions already included in the existing Postal Services Directive and other, complementary, regulatory frameworks.

In relation to a previous study, conducted for the European Commission in 2013⁶, we found that consumers considered certain e-commerce delivery services or features important, but these services/features were not always available to them, suggesting that *service gaps* existed in the market.

We found that service gaps were lower in mature markets and sometimes affected by e-retailers, who decided what delivery options to offer to their customers. Whereas we found that delivery operators offered most services requested by consumers, we also found that e-retailers sometimes restricted the services offerings available to consumers. The reason for doing this was to avoid large

³ European Commission (2020), Postal services – evaluation roadmap, <https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/11965-Report-on-the-Application-and-Evaluation-of-the-Postal-Services-Directive>

⁴ ERGP PL I(19) 12 Opinion on the review of the regulatory framework, p. 5

⁵ ERGP (2019), MTS 2020-2022, Stakeholder Forum, Brussels – 18 September 2019

⁶ Copenhagen Economics (2013), E-commerce and delivery

complexity or because delivery prices were higher than consumers' willingness to pay. We also found that the availability of services was lower in less mature e-commerce markets (compared to more mature ones). In these markets, many delivery services were only serving parts of the country, possibly due to low volumes (low commercial attractiveness) and interoperability problems. These findings imply that the supply of delivery services increases as soon as markets mature and a demand for these services is established – making it commercially attractive for new or existing market players to serve customers with an unmet need.

Important to note here is that the existence of service gaps does not automatically warrant a USO for these services. The fact that sometimes the cost to serve is greater than the consumers' willingness to pay is not a market failure. In fact, the non-provision of services in this context is the outcome of a well-functioning market where consumers have access to services at prices that match their valuation of those services and where suppliers, i.e. delivery service providers, find it commercially attractive to serve the customers. Further, the existence of prices higher than consumers' willingness to pay does not automatically warrant price regulation. A relevant question to answer before any regulation is introduced is thus whether prices are high because of market failure (i.e. lack of competition) or if consumers' expectations with respect to low delivery prices just are too high.

The remainder of the report is structured as follows:

In chapter 2, we discuss the principles for when and how to regulate postal and delivery markets. We start from a theoretical perspective, discussing the basic concepts of market failures and their potential application to European postal and delivery markets. We thereafter discuss a few important principles for regulating dynamic markets, such as the market for delivery of letters and parcels. We end by briefly summarising the implications for the future revision of the Postal Directive.

In chapter 3, we provide an overview of the current EU postal regulatory framework, its history and underlying motivations (i.e. what concerns is the current regulatory framework aiming to tackle). We also discuss the application of the existing regulatory framework to different types of market players and the implications of our findings for the future evaluation of the Postal Services Directive.

In chapter 4, we assess the need for additional sector-specific regulation of EU postal and delivery markets on top of the provisions contained in the current Postal Services Directive. Finally, we conclude by discussing the implications of our findings for the future revision of the Postal Services Directive.

CHAPTER 2

PRINCIPLES FOR WHEN AND HOW TO REGULATE POSTAL AND DELIVERY MARKETS

2.1 POTENTIAL MARKET FAILURES IN POSTAL MARKETS

According to the First Fundamental Theorem of Welfare Economics, in the absence of so-called *market failures*, competitive markets provide the efficient amount of goods and services, i.e. the amount which best meets consumers' needs and preferences, given scarce resources. Thus, in the case of no market failures, markets are not prevented from functioning efficiently and no regulatory intervention is warranted.

”

Market failure - a situation producing economically inefficient outcomes in which, under some conditions, public intervention may be indicated in order to improve social welfare.

Market failures that may emerge in postal markets are:

- *Concentrated market power/lack of competition*
- *Public goods*
- *Externalities*
- *Asymmetric information*

A description of the market failures, and examples of how they might emerge in postal and delivery markets, are provided in Table 1 below.

Table 1
Market failures and examples from the postal context

MARKET FAILURE	DESCRIPTION	EXAMPLES IN THE POSTAL SERVICES CONTEXT
Concentrated market power	Lack of competition may lead to higher prices, lower quality, or lower efficiency than what would be the case in a competitive market	Postal operators with significant market power (or even a regulated monopoly) in parts of the market may exploit consumers by increasing prices for essential services if users do not have access to alternatives.
Public goods	Goods or services that the consumer does not have to pay for in order to use and that can be consumed without reducing their availability to others.	Universal coverage of postal services. Requirement to supply services to all households, including those households that are commercially unattractive to deliver to, such as those in sparsely populated areas.
Externalities	A cost or benefit that impacts a third party although the third party did not participate in the transaction creating the cost/benefit and has no control over the amount of cost or benefit created.	Negative externality: Environmental impact caused by the delivery of letters and parcels. Positive externality: Higher volumes of letters and parcels delivered to rural areas reducing the cost per item of serving rural recipients.
Asymmetric information	Inefficient outcomes may arise because one of the two parties in a transaction (the buyer/user or the seller) has more information.	Lack of trust in delivery services (leading to lower consumption of the services in question) created by the fact that senders and recipients do not know whether a letter/parcel will be delivered on time or not.

With respect to *concentrated market power*, or *lack of competition*, different markets exhibit different levels of competition. At the two extremes there exists monopoly markets, and perfectly competitive markets, see Figure 1.

Figure 1
From monopoly to perfect competition

1 Characteristics of monopoly markets	2 Characteristics of perfectly competitive markets
1. One firm selling a unique good or service (lack of substitutes)	1. Large number of firms selling homogenous goods/services (no product differentiation) to a large number of buyers/users.
2. The monopoly firm can influence the price and charge higher prices than it would have in a market with many competitive firms.	2. Firms are price takers - there is a uniform price in the market. Firms do not have any market power and cannot influence the price.
3. Difficulty entering the market due to the monopolist's market power.	3. Free entry and exit in the market, the costs of entering and exiting a market do not restrict firms from entering or exiting
4. The firm earns high profits due to its ability to set prices above the competitive level.	4. Firms earn no economic profit (i.e. not return in excess of normal return on capital)

Source: Copenhagen Economics

As a result of the characteristics described in Figure 1, markets with no or very low levels of competition (compared with more competitive ones) typically tend to present consumers with:

- Higher prices / lower quality
- Less product choice / less innovation
- Lower volumes, leading to unmet buyer needs

Thus, if postal operators enjoy significant market power, resulting from the lack of relevant product alternatives and limited competitive pressure, there is a risk that they may price above the efficient market price. By the same token, postal operators with significant market power also do not need to maintain a high level of quality or differentiate their products and services from competitors in order to keep their customers. Further, operators with significant market power do not need to innovate to stay competitive. This could limit the service offerings for users of postal and delivery services and therefore consumer choice. Last, but not least, postal operators with significant market power may price some potential users out of the market by increasing prices above their willingness to pay. Since these users do not purchase the service due to the high price, there is an inefficient allocation of resources and a loss of consumer surplus.

Lack of competition in a market can depend on different factors, such as high entry barriers, legal monopolies, economies of scale and scope, and abuse of dominance. Thus, when considering how to tackle this market failure, one also needs to understand its underlying cause.

With respect to *public goods*, these can generally be defined by two characteristics: (i) being non-rivalrous (the consumption of the good by one person does not limit its availability for others) and (ii) being non-excludable (it is not possible to limit consumption of the good for those who have not paid for it). The existence of a postal network covering all addresses in each EU Member State which is interconnected with other national postal networks can be considered a public good. The mere existence of these national networks has a value to all EU citizens, whether they use it or not.

First, one person using the postal service (e.g. sending or receiving a letter) does not prevent other people from doing so (=non-rivalrous). From the postal operator's perspective, the cost of operating the entire network is substantial in comparison to the marginal cost of delivering a singular letter. Thus, the more letters and parcels in the network, the better.

Moreover, the benefit of knowing that every citizen can get letters and parcels delivered to them through the network at no cost for the recipient is something that no one can be excluded from (=non-excludable). Thus, everybody caring for an inclusive society will benefit from the mere existence of the postal network.

As a result of the public good characteristics, there is a risk that the benefit of having universal access to postal services is larger than the willingness to pay for these services. As a result, there might be a need to regulate the provision of services through a universal service obligation for areas or services that are not served by market players on commercial terms.

Provision of postal services may also create positive and negative *externalities*. An example of a negative externality in the postal services context is the environmental impact caused by the delivery of letters and parcels (often not considered by the buyers of these services – and not reflected in

the price). An example of a positive postal service externality is the fact that higher volumes of letters and parcels delivered to rural areas reduce the cost per item of serving rural recipients.

Last, but not least, inefficient postal market outcomes may arise because one of the two parties in a transaction (the buyer/user or the seller) has more information – often referred to as *asymmetric information*. For example, if senders and recipients do not know whether a letter/parcel will be delivered on time or not, this may lead to lack of trust in delivery services and lower consumption of the services in question than what would be economically efficient.

Depending on their characteristics and underlying factors, all types of market failures discussed above may warrant regulatory intervention. However, it is important to remember that there are different ways to tackle market failures and the most appropriate solution is the one that considers the specifics of the market in question.

2.2 PRINCIPLES TO REGULATE DYNAMIC POSTAL AND DELIVERY MARKETS

When regulatory intervention is warranted, postal policy makers have access to four groups of remedies to tackle problems emerging from market failures: command-and-control policies, market-based policies, co-regulation, and industrial policies, see Box 1.

Box 1 Remedies to tackle postal sector market failures

Command-and-control policies (ex-ante or ex-post regulation, e.g. competition law or a universal service obligation) are traditional remedies imposed in the case of market failures. These policies work to directly influence the supply side of the market. It is important to consider, that a challenge in relation to government intervention is to ensure that public objectives are reached in an effective and efficient way. According to the OECD (2009) alternatives to traditional regulation should therefore be considered when the case for regulation is less clear cut than strictly a market failure.

Market-based policies (e.g. taxes or state aid) seek to influence the supply side of the market by changing the relative costs or providing certain services and/or providing incentives for the market players to behave in a more desirable way. For example, subsidies in the form of lawful state aid can make it more attractive for suppliers to provide certain services above others.

Co-regulation is used by policy makers to support initiatives that have already been taken by the market, e.g. by providing legislative backing. Co-regulation is thus somewhere in-between command-and control policies and market-based policies. A pre-requisite for co-regulation is that the market has by itself initiated a form of regulation e.g. industry rules, guidelines, or code of good conduct to influence industry behaviour. For instance, sharing of information about change of addresses between the national postal operator and other operators in the market.

Policy makers also have access to **industrial policies**, e.g. facilitation of education, basic R&D, technology spill-overs, or knowledge sharing. These policies can be implemented to stimulate faster market development and increase growth and productivity. Industrial policies can be targeted towards the supply and/or the demand side of the market.

Source: OECD (2009), Alternatives to traditional regulation

2.3 IMPLICATIONS FOR THE EVALUATION OF THE POSTAL SERVICES DIRECTIVE

The type of remedy most suitable to deal with an undesirable market outcome depends on the specific situation and the underlying problem. In this context, there are three considerations that are relevant to acknowledge.

First, policy intervention may have adverse effects on policy objectives. Regulatory failures may occur when regulators try to protect consumers – but in doing so, they adversely create entry barriers and reduced competition without obtaining any quality improvement.

This risk of regulatory failure is large if policy makers fail to consider marketplace realities such as innovations, technical progress, development of substitute services, and changes in consumers' needs and preferences. In these situations, policy makers often do not have a "formula" to apply in developing policy. Instead, they are forced to make a much more reasoned approach to what will happen in the market – with technology, innovation, and market power. For example, consumers' preferences may go well beyond simply the price of a delivery service, and may also include its attributes, performance, qualities, etc. If the goal of public policy is broader than simply lower (short-term) prices, policy makers must to a larger extent consider dynamic factors, such as innovation, economic growth, and the magnitude and quality of investment over the long run.

The importance of adequate consideration of how a policy intervention may impact *innovation* cannot be overemphasised. Innovation often happens when entrepreneurs see a business opportunity (potential profit) in solving a problem in an innovative manner. If regulation removes the profit opportunity or forces prices down, there will be less incentive to innovate. Hence, in some situations, a strict price regulation will hinder the innovation that could solve the problem.

Second, the market for the provision of delivery services is highly dynamic. Delivery markets have developed into what is today considered mature in terms of e-commerce levels and shipment volumes without policy intervention to force this development. Thus, remedies that may be appropriate and proportionate today may not be appropriate in a few years' time. Similarly, remedies that may not be necessary today may become relevant in the future. Again, this calls for a more dynamic assessment of the undesirable outcomes observed in the market and the potential remedies.

Third, although there is a longstanding tradition of sector-specific regulation in the postal sector, especially with regards to letter mail, the dynamics of the sector warrants the consideration of whether it is still necessary to apply sector-specific regulation on top of general competition law (in the whole or parts of the market).

A key principle of competition law is that there is a boundary for what a firm with a dominant market position can do. Therefore, a key question relates to determining if a firm has a dominant market position or not. Answering this question relies on the specific market conditions, which change over time as technology and consumer preferences evolve. In this way the boundaries of competition law are dynamic to allow for adaptation to the market developments.

Competition agencies also have a track record of conducting empirical work, applying the competition economics toolbox, to ensure that any future analyses reflect the evolution of business and market conditions. In contrast, a static approach where sectoral laws define the scope and subject of regulation (*ex-ante* regulation), would fail to hit a fast-moving target if demand and technologies evolve.

In certain instances, however, *ex-post* competition law is considered too slow to tackle market failures relating to strong market power. This can be the case in markets with no effective competition and high barriers to entry. The Commission has identified several specific markets susceptible to *ex ante* regulation. In these instances, however, one needs to demonstrate that there is a robust justification for introducing sector specific regulation as an additional layer of protection on top of the existing competition law framework.

The criteria that are normally applied as part of this exercise are the following⁷:

- i. The presence of high and non-transitory barriers to entry;
- ii. A market structure which does not tend towards effective competition within the relevant time horizon;
- iii. The insufficiency of competition law alone to adequately address the market failure(s) concerned.

In order to introduce *ex ante* regulation, the three criteria listed above must be cumulatively met.

⁷ ERGP (2008) Guidance on the application of the three criteria test

Chapter 2 conclusions

- Potential market failures in the postal market include concentrated market power/lack of competition, public goods, externalities and asymmetric information. While the presence of these market failures may warrant regulatory intervention, there are several regulatory solutions available to policymakers.
- When considering regulatory policy in the postal sector it is necessary to consider any potentially adverse effects on policy objectives. The fact that the market for delivery services is highly dynamic means that rigid legislation may not be a suitable solution.
- Regulators must consider if sector specific regulation is necessary in addition to general competition law and provide robust justification for introducing or extending such regulation.

CHAPTER 3

THE EU POSTAL REGULATORY FRAMEWORK: A HISTORIC PERSPECTIVE

3.1 THE EVOLUTION OF THE POSTAL REGULATORY FRAMEWORK IN THE EU

EU postal sector regulation dates back to the early 1990's when two primary concerns, along with various sub concerns relating to the postal environment in Europe, were identified in the *1991 Green Paper on the development of the single market for postal services and the 1994 Council Resolution on the development of Community postal services*.

First, the **lack of a single market**⁸ for postal services was identified as a primary concern. At the time, universal services were defined differently in each Member State to the extent that it led to significant operational difficulties to post similar items in different Member States and/or sending a postal item between different Member States.

*“The operations providing universal service in each Member State have evolved independently, with the effect that there are now many operational differences between them. This can lead to significant problems for mail passing between Member States; it can also have opportunity costs. Most obviously, the universal service is defined differently in different Member States with the effect that customers cannot confidently post similar items in different Member States.”*⁹

These differences also created differences in regional incentives for companies to enter and invest, thereby reducing consumer choice. For example, large operational differences could make it more difficult for a company to market its products by post in some Member States compared to others, thereby disincentivising firms to establish themselves in certain Member States – and reducing the level of competition.

Second, the presence of **poor service quality** and varying quality levels of universal postal services across the EU was identified as a concern.

*“Service performance for universal service varies greatly between different postal administrations. There are some Member States where next day delivery performance reaches the generally accepted target of 90%; in others, performance is 15%/16%; in others, performance is between the two (but tending more towards the former). The generally accepted, but not very demanding, service target for cross border mail is delivery within three working days; performance is currently measured at an average of only about 40%, and with large variations between different postal administrations.”*¹⁰

⁸ The single market refers to the EU as one territory without any internal borders or other regulatory obstacles to the free movement of goods and services.

⁹ European Commission (1991) Green paper on the development of the single market for postal services, p. 2

¹⁰ Ibid. p.3

Poor quality of services provided by national postal incumbents was considered to hamper commercial and social life in the Community and impact cohesion within the Member States as businesses and individuals had a feeling of being cut off from the broader society.

Both concerns highlight underlying market failures that were present in the postal market at the time, namely (i) concentrated market power, and (ii) public goods (also discussed in chapter 2).

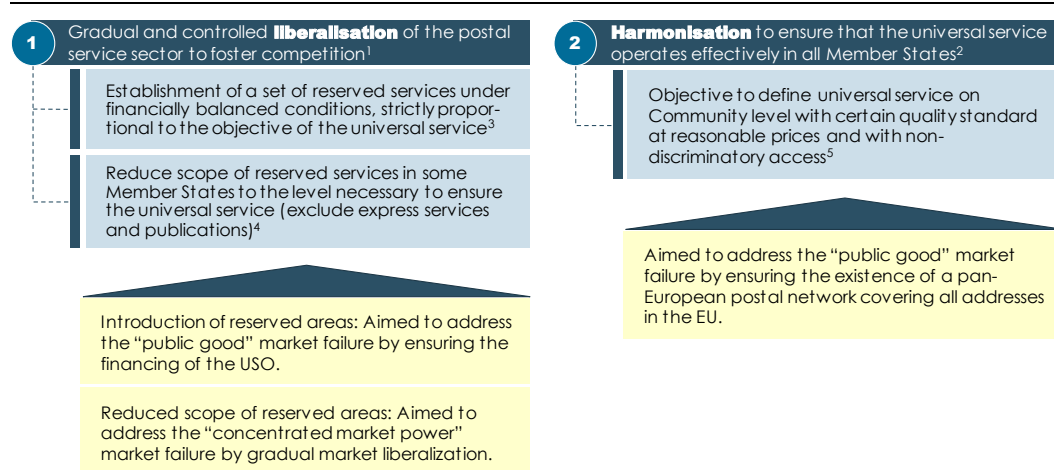
In order to address these concerns related primarily to letter mail services, policy makers were presented with three possible approaches¹¹:

1. **Complete and immediate liberalisation.** However, since this would lead to a loss-making universal service, the idea received no political support.
2. **Complete an immediate harmonisation of USO requirements.** This would imply a single operator, same tariffs, same access conditions, and same levels of service throughout the Community. Whereas this solution could solve issues related to service quality, it would potentially present other challenges, e.g. making it difficult to adapt to local demand and supply conditions. Hence, this idea received no political support.
3. **Equilibrium between the two options,** i.e. further opening of market/strengthening of the universal service through harmonisation. This was chosen as a preferred solution.

As a result of the above, the first Postal Services Directive was put into place in 1997 with the aim to gradually liberalise European postal markets while at the same time providing for a harmonisation of universal service obligations, see Figure 2.

Figure 2

The first Postal Services Directive – towards liberalisation and USO harmonisation

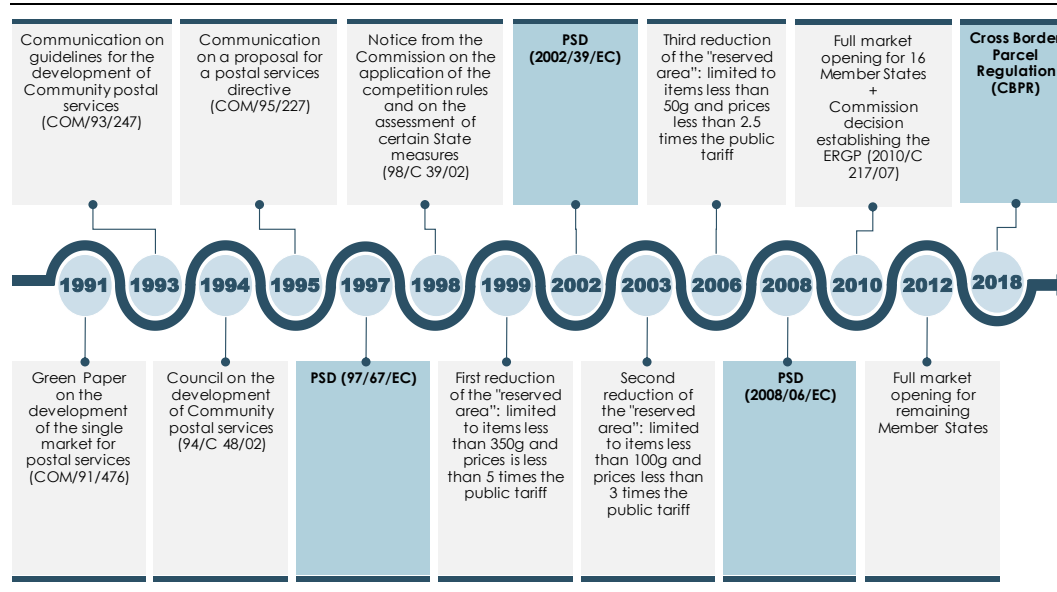


Sources: ¹ Directive 97/67/EC, p. 1 (8); ² Directive 97/67/EC, p. 1 (9); ³ Directive 97/67/EC, p. 2 (16); ⁴ Directive 97/67/EC, p. 7 Art. 7; ⁵ Directive 97/67/EC, p. 8 Art. 1

The first Postal Services Directive was later followed by a second and third Directive – and later supplemented with the Cross-border parcel regulation (see Figure 3).

¹¹ Ibid. p.5-7

Figure 3
The birth and development of EU postal regulatory framework



Source: Copenhagen Economics

For an in-depth review of the evolution of the Postal Services Directive, see the Box 2 below.

Box 2 1997-2008: Evolution of the Postal Services Directive: focus on establishing a single market and ensuring a minimum quality level of letter services

1997: The first Postal Services Directive aimed at establishing a single postal market and ensuring a minimum quality level of postal services.

The objectives of the first Postal Services Directive included establishing a single postal market and ensuring a minimum quality of postal services in the EU¹². The idea behind establishing a single postal market was to reduce barriers to economic integration and define minimum characteristics of the USO to be guaranteed by each Member State¹³. In addition, ensuring a minimum quality of postal services was intended to limit disparities between member states, particularly regarding the quality of cross-border services¹⁴.

“[...] the current extent of the universal postal service and the conditions governing its provision vary significantly from one Member State to another; [...] in particular, performance in terms of quality of services is very unequal amongst Member States [...]” “Cross-border postal links do not always meet the expectations of users and European citizens, and performance, in terms of quality of service with regard to Community cross-border postal services, is at the moment unsatisfactory [...]” “The establishment of the internal market in the postal sector is of proven importance for the economic and social cohesion of the Community, in that postal services are an essential instrument of communication and trade [...]” - European Commission, 1997

The importance of a single postal market and a sufficiently high quality of postal services in EU postal regulation has also been acknowledged by other sources.

“[...] the disparities and poor quality of cross-border postal services also erect barriers to economic integration through the creation of a ‘border effect’ impeding communication between Member States.” – Geradin & Humpe, 2002
“[...] disparities between Member States in the quality of postal services impede the progress towards internal cohesion since ‘regions deprived of postal services of sufficiently high quality find themselves at a disadvantage as regards both their letter service and the distribution of goods’. – Geradin & Humpe, 2002

In addition, the 1997 Postal Services Directive also adopted several tools to support the policy instruments, as initially formulated in the 1994 Council Resolution on the development of Community postal services¹⁵:

- National regulators work out quality standards that are monitored independently and publicly
- Establishment of tariff principles related to real costs and reduction of price differences to diminish market distortions; necessary subsidies must be transparent
- Introduction of a terminal dues system (for cross-border mail) considering national characteristics
- Harmonisation of technical standards to ensure interoperability and harmonisation of regulatory requirements, incl. tariff principles, transparency of accounts, authorisation procedures for provision, complaints procedures
- Focus on ensuring fair competition outside reserved areas¹⁶
- Separate regulatory and operational functions in Member States

¹² Geradin, Humpe (2002) The Liberalisation of Postal Services in the European Community. Analysis of Directive 97, pp. 2-3

¹³ Directive 97/67/EC, p. 6, Art. 3

¹⁴ Directive 97/67/EC, p. 9, Art. 16

¹⁵ EC (1991) Green paper on the development of the single market for postal services; EC (1994) Council on the development of community postal services; Directive 97/67/EC; https://ec.europa.eu/growth/sectors/postal-services/legislation_en, retrieved 24/01/2020; Jaag (2014) Postal-sector policy: From monopoly to regulated competition and beyond

¹⁶ As confirmed by the Notice from the Commission on the application of the competition rules and on the assessment of certain State measures (98/C 39/02)

Doing this, the Postal Services Directive also called for regulators to:

- Respect needs of consumers, employees, and the sector's contribution to economic, cultural, and social development
- Take account of cohesion and specific difficulties encountered by peripheral regions

2002: The second Postal Services Directive sets the path towards accomplishment of an internal market for postal services

The goals of the second PSD in 2002 were to set up a strategy for liberalisation, i.e. removal of barriers to the provision of postal services, and to provide a gradual approach for further market opening¹⁷. To accomplish this, the PSD reduced the scope of reserved areas for USPs in the form of price and weight limits. Member States were requested to open their postal markets for competition for delivery of letters weighing more than 100 grams (2003) and 50 grams (2006). In addition, all outgoing cross-border mail was opened for competition¹⁸.

2008: The third Postal Services Directive takes final legislative step in the process towards a fully liberalised postal sector

The objectives of the third PSD were in line with the objectives in the first PSD 1997: focussing on quality standards and single European market. The third PSD also acknowledges that drivers of change, such as demand and changing user needs, organisational change, automation, and new technologies reduce the need for reserved areas. Further, in order to meet competition, cope with new consumer requirements, and secure new sources of funding, postal operators may diversify their activities by providing electronic business services or other information society services¹⁹.

These objectives were reached through four actions²⁰:

- Requiring Member States to abolish reserved areas by the end of 2010.
- Alternative ways of funding the provision of universal services when reserved areas are abolished (public procurement, compensation for the USO net costs).
- Allowing USPs to set prices in accordance with the cost orientation principle (still with the possibility to maintain uniform tariffs for certain products).
- Maintaining obligations for USPs to keep separate and transparent accounts.

The Postal Services Directives cover “postal items”²¹, including both letters and parcels. However, in contrast to letter mail services, parcel services were traditionally not subject to a reserved area:

*“Parcel services were also traditionally not subject to a reserved area as was the case for letter mail services”*²². This means that the provision of parcel delivery services always has been open for competition and thereby subject to competitive pressure. This can also be seen when looking at the market share of the national postal operator in letter and parcel delivery respectively, see Figure 4.

¹⁷ Directive 2002/39/EC

¹⁸ Jaag (2014) Postal-sector policy: From monopoly to regulated competition and beyond

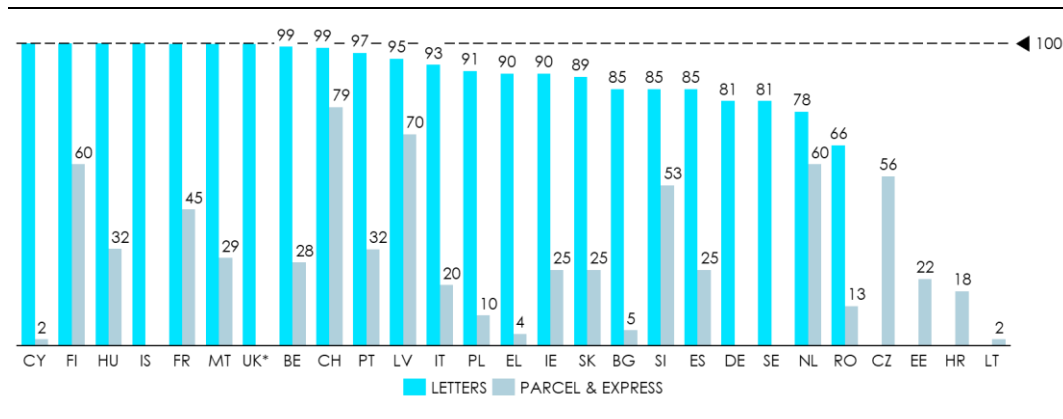
¹⁹ Directive 2008/6/EC

²⁰ Jaag (2014) Postal-sector policy: From monopoly to regulated competition and beyond

²¹ A postal item is defined as an “item addressed in the final form in which it is to be carried by the universal service provider. In addition to items of correspondence, such items also include for instance books, catalogues, newspapers, periodicals and postal packages containing merchandise with or without commercial value”, see PSD 1997, Art. 2

²² EC (2016) Proposal regulation cross-border parcel delivery services, p. 3

Figure 4
Market share of the incumbent in the domestic CEP market, 2016
% market share



Note: The market shares are approximations (based on volume or revenue) and refer to different types of competition: end-to-end or upstream. Product composition can vary, and it is subject to NRA interpretation.
Source: Copenhagen Economics (2018) Main Developments in the Postal Sector (2013-2016)

Therefore, we also note that domestic B2X parcel delivery services often are not part of the USO, as decided by national legislation, whereas this is usually the case for domestic B2X and C2X letter delivery services and C2X parcel delivery services. In addition to different levels of competitive pressure, letter and parcel delivery services are also subject to fundamentally different demand and supply conditions, see Table 2. This further supports the different regulatory treatment of the two categories of services and needs to be considered in relation to any future considerations to change the current scope of regulation.

Table 2
Demand and supply conditions for letter and parcel delivery services

CATEGORY	LETTERS	PARCELS	
DEMAND	Demand level	Declining demand due to existence of digital alternatives	Rising demand due to rise in e-commerce
	Urgency (speed) of delivery	Declining demand for urgent and frequent delivery (due to digital alternatives)	Increasing demand for urgent & frequent delivery (suppliers developing new solutions, such as parcel boxes, pick-up/ drop-off points)
	Accuracy of delivery (delivery at specified time)	Demand for time certain delivery is low	Increasing demand for time certain delivery, i.e. delivery at specified time during the day, e.g. 14-16.00 o'clock
	Senders' willingness to pay for delivery	Willingness to pay is typically low (digital alternatives, limited value added services)	Willingness to pay for delivery depends on the value of the good shipped. However, the consumer might not know what they pay for e-commerce delivery.
SUPPLY	Incentives for market entry	Small incentives to enter due to declining demand; unless high economies of scale	High incentives to enter due to high willingness to pay
	Required investment	Low (especially for B2X where sorting is highly automated)	High (higher demand regarding vehicles and facilities for sorting/storing parcels)
	Supplier costs	Delivery to the home + decreasing demand increases delivery cost /item	Users willing to accept delivery drop-off/pick-up points improves economies of scale and decreases delivery cost/item

Source: Copenhagen Economics (2018) Main Development in the Postal Sector (2013-2016)[Source]

Acknowledging the specificities of parcel delivery, new regulation at EU level was adopted in 2018 - as a complement to the existing Postal Services Directive. Regulation 2018/644 on cross-border parcel delivery services (often referred to as *the cross-border parcel regulation*) aims to tackle specific challenges in relation to cross-border parcel delivery, by:

- Enhancing the regulatory oversight of parcel delivery services²³.
- Increasing transparency of certain single-piece tariffs through publication on a website.
- Improving quality of service standards and interoperability of cross-border parcel delivery services.
- Assessing tariffs for certain cross-border parcel delivery services to establish a single European market.

These objectives – as mentioned in Art. 1 of the regulation itself – complement the Postal Services Directive as both regulations have similar objectives regarding the building of the single European market as well as a similar role in promoting social and territorial cohesion. However, since the delivery of letter mail and parcels in many aspects are very different, the tools to achieve these objectives are considerably different. Whereas the Postal Services Directive focuses on liberating the

²³ The regulation covers parcels over 20 mm thickness and up to 31.5 kilograms

market and ensuring financial incentives for providing the otherwise commercially unattractive services, the cross-border parcel regulation focuses on transparent tariffs.

Considering the ongoing evaluation of the Postal Services Directive, we focus in this report on domestic delivery.

3.2 APPLICATION OF THE REGULATORY FRAMEWORK TO DELIVERY OPERATORS IN THE MARKET

Providers of parcel delivery services in the EU (depending on their status as universal service providers or private carriers) are subject to different parts of the regulatory framework. Sometimes, although they are subject to the same regulations, operators are treated differently based on their identity, for example, their ownership or USP status.

First, the primary purpose of the Postal Services Directives applies to postal universal service providers and aims at protecting users of postal services by ensuring that a minimum range of services of a specified quality are provided at an affordable price. This is ensured through the universal service obligation (USO). Moreover, the Directives also aim at ensuring that competition can develop in the market by (i) requiring full market opening (which is now accomplished), (ii) obliging USPs to provide access to elements of their postal infrastructure as well as downstream services and to (iii) adhere to cost-orientation, non-discrimination, and transparency conditions when setting prices for services within the USO (incl. parcel delivery).

The aim of the Postal Services Directives is to promote competition while at the same time ensuring the provision of universal postal services introduces an important trade-off: increasing competition (which typically only emerges in parts of the market) may provide great benefits for users in those market segments, but at the same time may reduce the ability for the designated universal service providers to maintain a financially sustainable provision of universal postal services. At the same time, it is important that the universal service providers do not use their positions in the non-contestable market segments to distort competition in other (contestable) market segments.

Second, the cross-border parcel regulation – as discussed above – mandates postal sector regulators to collect public pricing information from all parcel delivery operators (not only universal service providers) about products and market data to increase price transparency towards e-retailers and consumers. This also means that national postal regulators are getting further authority to collect data on the national delivery markets beyond what is possible under the PSD.

Third, cross-border parcel delivery is also affected by the global postal convention governed by the Universal Postal Union (UPU). This regulatory framework (applying so far only to universal postal service providers) includes rules governing remuneration of cross-border letter and packet delivery services and technical standards regarding physical characteristics of postal items and information exchange between postal universal service providers. Noteworthy, there is a discussion to open the UPU also to other (non-designated) operators. However, currently, the UPU convention applies only to operators that have been designated by their country under the UPU convention.

In addition, postal and broader delivery services are subject to other EU policy instruments:

- *Rules governing transportation* of goods such as requirements on working (driving and resting time) conditions for truck drivers. We note that different delivery operators might have to comply with different rules depending on whether they are registered as universal service provider or not.
- *Customs procedures and rules* that apply equally to all import and export of goods whether moving between designated operators, universal service providers or by other operators via the traditional postal channel as duties on imports/exports or free trade agreements may impose specific handling requirements of duty collection.
- *Aviation sector regulations*, including aviation security protocols and regulations.
- *Environmental regulations* restrict postal operators' mode and place of delivery. For example, mobility plans in cities, which impose car-free zones in order to reduce congestion in city centres and encourage the use of electric vehicles and bicycles, may result in increased costs for postal operators, both for the vehicles and for the recharging infrastructure.
- *Regulations on consumer privacy and safety*, such as the General Data Protection Regulation (GDPR), present new requirements to all market stakeholders on how they should handle customer (sender and recipient) data.

3.3 IMPLICATIONS FOR THE EVALUATION OF THE POSTAL SERVICES DIRECTIVE

As the Postal Services Directive is up for evaluation, it is thus important to consider (i) its links to the other regulatory frameworks governing the activities of postal and delivery operators in Europe as well as (ii) market developments relating to the provision of letter and parcel delivery services respectively.

When considering a potential revision of the Postal Services Directive, policy makers should consider that any changes to the Directive should not duplicate or conflict with other regulations. Additionally, there is no need to introduce into the Directive areas that are covered by other regulatory frameworks already. Instead it is necessary to ensure that the existing regulatory frameworks apply to USPs at equal conditions as they do to non-USPs (ensuring a level playing field). Last, but not least, any changes to the Directive should consider the fundamental aims of the regulatory framework and ensure that the updated regulatory framework fulfils these aims, given the current and specific market context.

The next version of the Postal Services Directive must thus take the current situation as the starting point, considering all changes in the market and regulatory context since its last revision and, in particular, any market failures that still exist and might warrant continued or revised regulation.

Chapter 3 conclusions

- The first Postal Services Directive was put in place in 1997 as a response to concerns relating to the lack of a single market for postal services and varying and poor service quality throughout the EU.
- The Postal Services Directives cover both letters and parcels. However, in contrast to letter mail services, parcel services were traditionally not subject to a reserved area. Also, national legislations in many Member States focus on letters and keep bulk parcel delivery services outside the universal service obligation.
- As a result of the above, the provision of parcel delivery services has always been open for competition and thereby subject to competitive pressure. This can also be seen when looking at the market share of the national postal operator – parcel markets are less concentrated than letter markets in the EU.
- In relation to the upcoming evaluation of the Postal Services Directive, policymakers should consider carefully what market failures the regulation aims to address and avoid overlaps and conflicts with other regulatory frameworks.

CHAPTER 4

**ASSESSING THE NEED FOR ADDITIONAL
REGULATION OF EU POSTAL MARKETS**

In this chapter, we assess the need for additional regulation of EU postal markets. More specifically, we start from the concerns outlined in Chapters 2 and 3 and analyse if these would warrant additional sector-specific regulation on top of the already existing Postal Services Directive. We specifically assess whether delivery services sufficiently serve e-commerce shopper needs since many shoppers rely on parcel delivery services related to their e-commerce purchases. Thus, our focus is the delivery of e-commerce packets and parcels.

In order to assess if the current market situation justifies a revision of the existing legislation, we focus on two concerns, see Table 3:

- (i) Risk of essential services not being provided at all in areas where the cost of provision is higher than the revenue obtained (public goods market failure).
- (ii) Risk of exploitation (high prices/low quality) by dominant postal operators (concentrated market power market failure).

Table 3
Assessing the need for additional regulation

CONCERN	QUESTION TO ANSWER
<i>Public goods market failure</i> Risk of essential services not being provided at all in areas where the cost of provision is higher than the revenue obtained.	Do we observe instances where e-commerce shoppers do not have access to essential delivery services?
<i>Concentrated market power market failure</i> Risk of exploitation (high prices/low quality) by dominant postal operators.	Do we observe lack of competition (high concentration and high entry barriers) in European postal markets or parts thereof?
These risks above are perceived higher in areas that are particularly costly to serve <ul style="list-style-type: none"> • Low population density • Difficult geographical conditions 	

Source: Copenhagen Economics

Our assessment consists of three parts:

First, we take stock of what regulators, other policy makers and sector experts in Europe have considered regarding the level of competition in European parcel delivery markets, see section 4.1.

Second, we assess the availability of delivery service providers active within the e-commerce delivery segment throughout the EU to see if there is lack of competition in the delivery segment leading to a lack of choice between delivery options for businesses selling online, see section 4.2.

Third, we present new empirical evidence regarding what options e-commerce shoppers in Europe have access to when it comes to the delivery of products bought online. By investigating the differences (if any) in *actual* service provision and service levels across and within markets, our research illustrates, by looking at market outcomes, the competitive landscape of the e-commerce delivery market throughout Europe. Our research covers eight EU markets, including markets where domestic e-commerce delivery historically has been most challenging and where levels of competition historically have been low, see section 4.3.

4.1 REGULATORS, POLICY MAKERS AND SECTOR EXPERTS CONSIDER PARCEL DELIVERY MARKETS IN EUROPE TO BE COMPETITIVE

Regulators and policy makers in different EU Member States as well as at the EU level typically view parcel delivery markets as competitive and dynamic. This view has also been confirmed by studies performed by the industry, economic consultancies and research institutes. Below we provide a selection of quotes pointing to the competitiveness of EU parcel delivery markets:

AGCOM: *“The development of e-commerce has led to greater competition and the emergence of a receiver-oriented business model, as well as new ways of network management (e.g. joint parcel and letter delivery, flexible delivery), in particular, in the delivery phase (e.g. parcel lockers).”*²⁴

Dutch State Secretary for Economic Affairs and Climate: *“While for many Dutch citizens letters are slowly disappearing from daily life and the public importance of mail is diminishing, this is slowly but surely being replaced by parcels. This raises the question whether parcel delivery may eventually become a matter of public interest. Although effective and affordable parcel delivery in all of the Netherlands is becoming increasingly important, I note that this market is thus far developing by itself. Therefore, there is no need to take action at the moment.”*²⁵

ERGP: *“Parcel volumes are growing as consumers buy more and more online, generating more orders for parcel delivery. This has made an impact on the competition among postal operators, who may seek to improve their networks such as extending capacity to provide parcel delivery services, implementing and optimizing of tracking systems, introducing new delivery options, especially through parcel lockers and pick-up points, and investing in new infrastructure aimed at volumes derived from e-commerce.”*²⁶

ERGP: *“The most frequently stated reasons for NRAs to indicate that regulated access is not desirable are that according to these NRAs parcel delivery is competitive enough or that the service providers can cooperate on a commercial basis.”*²⁷

Copenhagen Economics: *“Competition in the parcel delivery segment is intensifying, primarily due to the development of ecommerce. A growing and very attractive market will normally spur*

²⁴ AGCOM (2019) In Consultazione Pubblica Il Documento Sull'analisi Del Mercato Dei Servizi Di Consegna Dei Pacchi

²⁵ Letter from the Dutch State Secretary for Economic Affairs and Climate to the Chair of the Second Chamber of the States-General, 15 June 2018 https://www.postnl.nl/en/Images/unofficial-translation-letter-postal-dialogue_tcm9-123684.pdf?v=89827854d74e0d0b942f76ab8660db2

²⁶ ERGP (2019), Report on the development of postal networks

²⁷ Ibid.

new entries and acquisitions. Hence, nine out of 17 NRAs replied to our survey that the incumbent's three main competitors' market shares in the national parcel segment are growing at an at least moderate pace, and three classified the growth pace as strong."²⁸

*WIK: "Challenges for parcel carriers mentioned in the workshops were: ... to cope with limited margins when negotiating rates with e-retailers because of price pressure driven by fierce competition in the delivery market (especially in Belgium, Sweden, Germany, Poland)."*²⁹

*WIK: "Competition for the last mile was assumed to become more fierce. Local delivery companies in urban areas (express companies or crowd delivery solutions) are expected to offer instant or same-day delivery at lower prices in all countries."*³⁰

*Royal Mail: "Competition in the UK domestic and international parcels markets is intense, with competitors offering innovative solutions that include convenient, reliable delivery and return options, improved tracking services and features that put recipients increasingly in control of their deliveries."*³¹

4.2 THE MAJORITY OF BUSINESSES ACROSS THE EU CAN CHOOSE FROM MORE THAN TEN PARCEL DELIVERY OPERATORS AND CHOICE IS INCREASING

The majority of businesses selling online in the EU (+the UK), have more than ten alternatives to the USP for provision of parcel delivery services. The average number of operators per country in 2018 has more than doubled compared to 2012 (16 vs 7, respectively). If we look at the median number of operators across the same countries, it has increased from 7 to 12 between 2012 and 2018, see Figure 5.

²⁸ Copenhagen Economics (2018) Main developments in the postal sector 2013-2016, p. 81

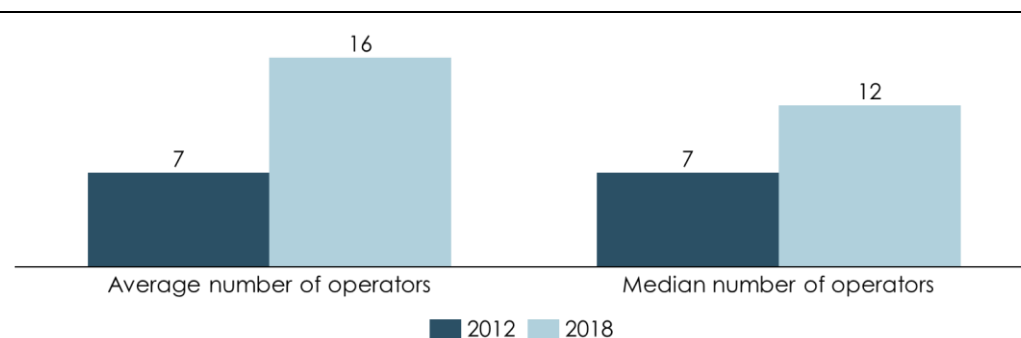
²⁹ WIK (2019) Development of Cross-border E-Commerce through Parcel Delivery

³⁰ Ibid.

³¹ Royal Mail (2019) Annual Report and Financial Statements 2018-2019

Figure 5
Development of domestic parcel delivery operators in the EU

Number of operators per EU Member State



Note: Sharp increase in the average number of operators can also be a result of incomplete data in some countries in 2012 and not just due to market dynamics. Hence, we also provide a median number of operators which is less sensitive to such data issues.

Source: Copenhagen Economics (2013), *E-commerce and delivery: A study of the state of play of EU parcel markets with particular emphasis on e-commerce* (prepared for the European Commission); PostEurop (2020), *The Post Deliverers for Europe - Facts & Figures* and European Commission (2020), *Public tariffs on cross-border delivery services database*

Virtually all EU countries saw an increase in the number of parcel operators between 2012 and 2018, see Table 4.

Table 4
Active domestic parcel delivery operators 2012-2018

COUNTRY	NUMBER OF OPERATORS		COUNTRY	NUMBER OF OPERATORS	
	2012 ⁽¹⁾	2018 ⁽²⁾		2012 ⁽¹⁾	2018 ⁽²⁾
AT	8	11	LV	4	9
BE	9	19	LT	3	11
BG	6	15	LU	8	12
CY	2	4	MT	4	10
CZ	6	34	NL	8	8
DK	7	10	PL	8	14
EE	3	9	PT	9	18
FI	7	11	RO	7	14
FR	10	17	SK	6	17
DE	9	38	SI	7	16
EL	6	7	ES	9	53
HU	7	9	SE	7	16
IE	9	9	UK	13	19
IT	7	10	Average number of operators	7	16

Note: This does not include operators that provide only international delivery services. See **Error! Reference source not found.** for a detailed list of domestic delivery operators active in each country.

Source: 1) Copenhagen Economics (2013), *E-commerce and delivery: A study of the state of play of EU parcel markets with particular emphasis on e-commerce* (prepared for the European Commission); 2) PostEurop (2020), *The Post Deliverers for Europe - Facts & Figures*, <https://deliver4europe.eu/facts-figures/> and European Commission (2020), *Public tariffs on cross-border delivery services database*.

We also note that the diversity of business models employed by parcel delivery operators is evolving. In most of the countries, senders have access to at least five different types of delivery operators: (i) the postal universal service provider, (ii) one or several of the global integrators (e.g. UPS, FedEx) (iii) regional players (e.g. DB Schenker, GLS), (iv) national or local delivery operators, and (v) operators providing delivery services based on new/innovative business models (e.g. offering delivery of e-commerce packets together with newspaper or food delivery).

4.3 E-COMMERCE SHOPPERS ACROSS EUROPE HAVE ACCESS TO A VARIETY OF DELIVERY OPTIONS

In this chapter, we present our findings of an e-commerce delivery shopping experiment conducted in eight EU markets³² during February and March 2020. The aim of this empirical research is to shed more light on the *actual* provision of parcel delivery services related to e-commerce purchases from the recipients' perspective. By investigating the differences (if any) in service levels across and within eight EU markets our research illustrates, by looking at market outcomes, the competitive landscape of e-commerce delivery markets in Europe.

4.3.1 Research design: e-commerce shopping experiment

The overarching research question that guides our research design is the following: *Do recipients of e-commerce related parcel deliveries have access to sufficient delivery options related to speed, price and delivery location?* More specifically, we test the following research hypotheses that:

- e-commerce shoppers in rural areas **do not have access to convenient options** for the delivery of their online purchases
- e-commerce shoppers in rural areas **must travel long distances** to pick up/ return their online purchases
- e-commerce shoppers in rural areas **pay more** to get their purchases delivered to them
- e-commerce shoppers in rural areas **must wait many days** for their purchases to arrive

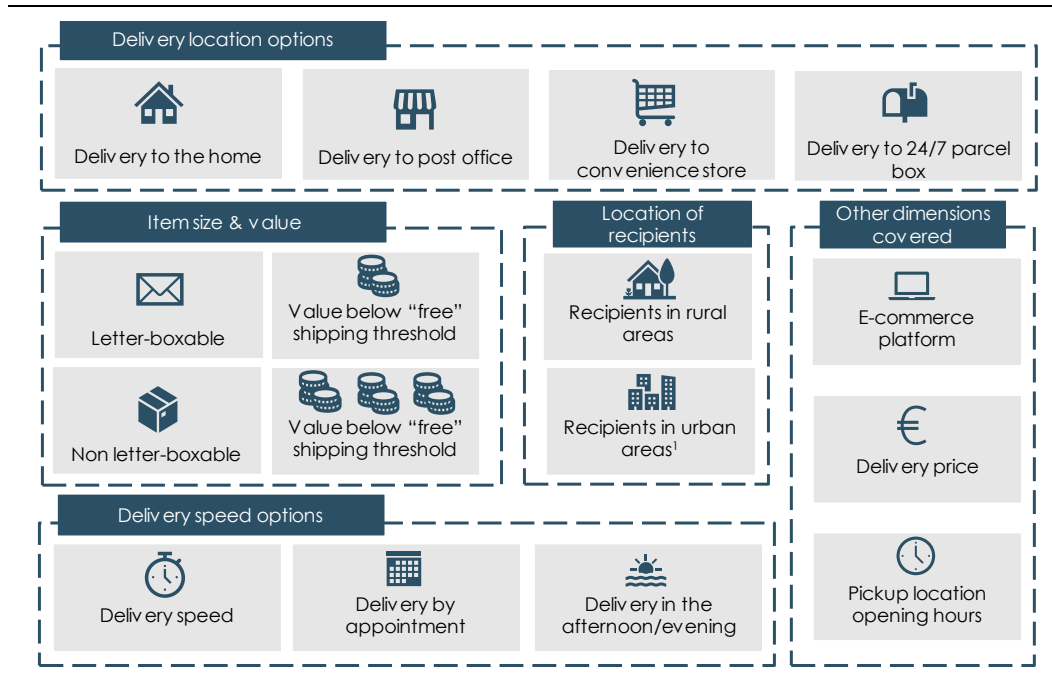
The reason for focusing on e-shoppers in rural areas is (as stated in the beginning of this chapter) that the risks of negative impacts on users stemming from potential market failures are perceived higher in areas that are particularly costly for delivery operators to serve (due to e.g. low population density or difficult geographical conditions).

Our research focuses on the delivery of domestic e-commerce purchases through local e-commerce sites. We have selected the most popular e-commerce platforms nationally, often representing more than 70% of total online traffic for e-commerce. These e-retailers do not have their own delivery network and therefore rely on 3rd party delivery services. It therefore provides a relevant picture of parcel delivery services, as used by e-commerce sellers to reach their end consumers.

We have identified various dimensions that are relevant to test in order to answer our research question. These dimensions include options for the location of delivery, the size of the delivered item and its value, the location of the recipient and delivery speed options, see Figure 6.

³² The study included Belgium, Bulgaria, France, Germany, Greece, Poland, Portugal, and Sweden.

Figure 6
Relevant dimensions to test



Note: [1] Urban areas are defined as 1 km² with a density of at least 300 inhabitants per km² and a minimum population of 5000. The European Commission's definition for urban areas can be found in Appendix A.

Source: Copenhagen Economics

Our research covers e-commerce shoppers in Belgium, Bulgaria, Germany, Greece, France, Poland, Portugal and Sweden. In our study about e-commerce and delivery for the European Commission in 2013, some of these countries were identified as having the least developed domestic e-commerce delivery markets.³³ The experiment covers e-commerce shoppers living in both urban and rural areas to test the availability of e-commerce delivery throughout the country. For more details on the research methodology, see Appendix A.

4.3.2 Do e-commerce shoppers in rural areas have access to convenient options for a delivery of their online purchases?

Previous research³⁴ has revealed that the most important aspects of delivery for e-shoppers are:

- delivery to the home address,
- low delivery prices,
- access to electronic delivery notifications and track and trace, and
- convenient return options.

In this section we focus on the first aspect – delivery to the home address. Other aspects that e-shoppers find important are discussed further in this report: delivery prices are discussed in section

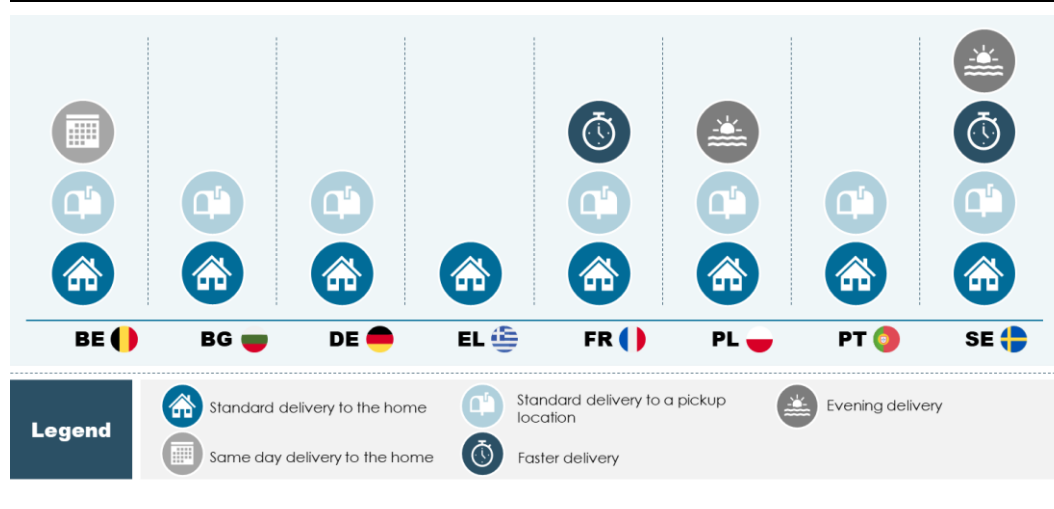
³³ Copenhagen Economics (2013) E-commerce & delivery study: A study of the state of play of EU parcel markets with particular emphasis on e-commerce

³⁴ Ibid., p. 20.

4.3.4 and accessibility of pick-up and return locations is discussed in section 4.3.3. We have observed that access to electronic delivery notifications and track and trace has become an industry standard in most of the markets. Also, as a rule, such service is provided nationally and available to both urban and rural recipients in the same manner.

Our results show that e-commerce shoppers in all markets covered by our research have access to delivery to their home address, regardless of where they live. In addition, shoppers in general appreciate having a choice of different delivery options, e.g. faster delivery, time certain delivery, evening delivery, delivery to pick-up location, etc. We find that in all but one of the countries studied, e-commerce shoppers in rural areas also have access to additional delivery options, see Figure 7.

Figure 7
Delivery options available to rural e-commerce shoppers when buying online



Note: The list of delivery options is based on the available options on the e-commerce sites and is therefore a filtered list based on the e-commerce site's preferences. Delivery operators often offer more options. For example, faster delivery and delivery to parcel lockers is most likely available in all countries.

Source: Copenhagen Economics

However, it is important to remember that e-retailers apply different strategies in terms of their provision of delivery options. As discussed in section 4.2, e-retailers often have access to a selection of delivery providers, offering a wide spectrum of delivery services. To avoid large complexity, and the costs of integrating the offers of multiple delivery operators and simplify the shopping experience for consumers, however, the e-retailers often provide their customers (the e-commerce shoppers) with a selected number of options (see discussion in Chapter 1). Along the same lines, previous studies have also shown that the price that e-shoppers pay for their parcel delivery do not necessarily match the price that delivery companies charge e-retailers.³⁵

³⁵ Copenhagen Economics (2016), Principles of e-commerce delivery prices

The number of reported alternative options to home delivery is based on our research of *options that a shopper is offered by the e-retailer* when making an e-commerce purchase on its platform. The true range of delivery options *offered by delivery operators* may be significantly wider. For example, we expect that faster delivery and delivery to parcel lockers are services made available by delivery operators in all studied countries. However, e-retailers decide which delivery options they offer on their platform, and in some cases, to which e-commerce shoppers and/or products they shall apply.

4.3.3 Must e-commerce shoppers in rural areas travel long distances to pick up their e-commerce purchases?

An important attribute that is relevant in examining access to e-commerce delivery services is the accessibility to parcel pick-up and return locations. Two parameters define accessibility:

- Location and density of pick-up/ return points;
- Flexibility in opening hours of pick-up/ return points.

We are not aware of any previous studies having assessed how accessible pick-up/ return³⁶ locations are, specifically in the most rural areas. We note that it is natural that networks of pick-up/ return locations are less dense in rural areas and distances are potentially farther for rural e-commerce shoppers compared to urban e-commerce shoppers. What is important, however, is that *distances to pick-up locations should mirror the reality of living in a rural/urban area and match normal commuting patterns*, e.g. from home to work or to the supermarket.

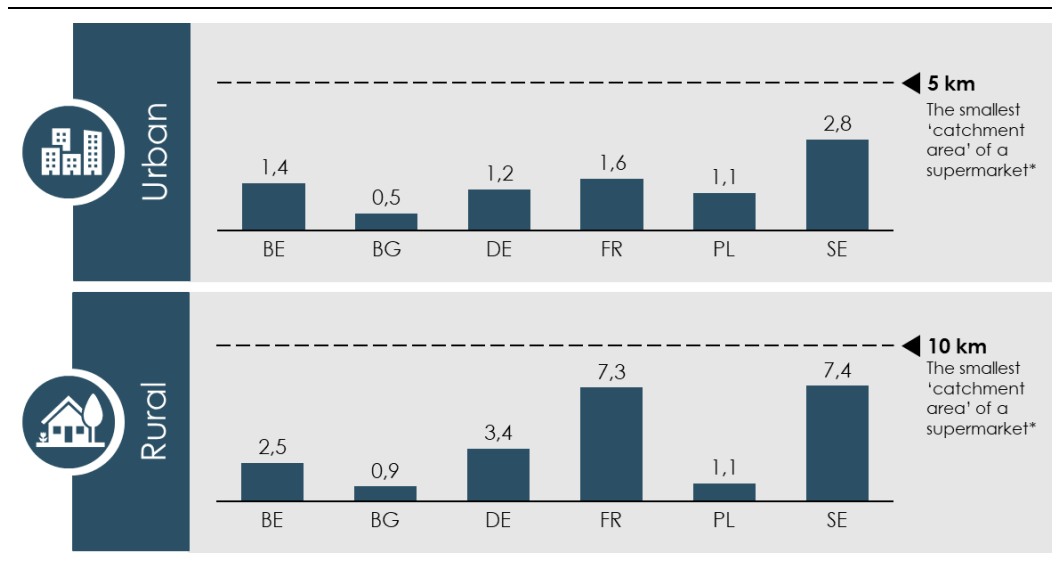
In order to derive the normal commuting patterns in urban and rural areas, we have applied a concept of “catchment areas” which often is used in supermarket merger cases. A catchment area is defined as the area around a store where the store can attract customers. If we assume that individuals regularly visit supermarkets and that a store’s catchment area covers the distance that customers are willing to travel to shop at the supermarket, we can use the catchment area as a proxy for a “reasonable travel distance” for parcel pickups and returns. In fact, catchment areas are often defined using actual consumer data, i.e. actual data on travel distances.³⁷

Based on an analysis of the most recent European supermarket merger cases where catchment areas were assessed, we find that the smallest catchment area (travel distance to supermarkets) is 5-7,5 km. in urban areas and 10-20 km. in rural areas. When we apply this to our research findings, we find that, irrespective of where they live, the distance that e-commerce shoppers need to travel to pick up a package is within a normal catchment area for a supermarket. We find that the average travel distance to the closest pick-up/ return location is shorter than 5 km. in urban areas and shorter than 10 km. in rural areas, see Figure 8. This means that pick-up/ return locations are generally accessible to e-commerce shoppers in these countries, irrespective of their location.

³⁶ We note that in this study we assume that any pick-up location (i.e. a post office and a parcel locker) serves also as a return drop-off point.

³⁷ For a more detailed description of the methodology of catchment areas, see Appendix A.

Figure 8
Average travel distance to the nearest pick-up/ return location
Kilometres



Note: In PT and EL, e-commerce shoppers only had access to delivery to the home. This figure is based on delivery options presented by e-retailers for non-letter boxable items. * Supermarket catchment areas' sizes are accepted by national competition authorities as appropriate to measure retail service availability and presence of competition. Supermarket catchment areas are defined and explained in more detail in Appendix C.

Source: Copenhagen Economics

4.3.4 Do e-commerce shoppers in rural areas pay more to get their online purchases delivered to them?

When discussing delivery of products bought online, pricing is often identified as one of the most important attributes for e-commerce shoppers.³⁸

We note that economies of scale for delivery are lower in more sparsely populated areas compared to more densely populated areas due to longer distance between delivery points. Thus, if prices reflected the underlying costs of delivery, one would not expect prices to be uniform across geographical areas.

Nevertheless, it is still important that excessive pricing does not exist for vulnerable users, e.g. rural e-commerce shoppers, as this would be a signal of dominant delivery operators abusing their market power to exploit e-commerce shoppers that do not have access to alternative delivery solutions. We assume that e-retailers would pass on such excessive prices charged by delivery operators to consumers living in rural areas.

³⁸ ERGP (16) 36, p. 25

Our results show that, in nearly all markets, rural e-commerce shoppers receive the same delivery price³⁹ as urban e-commerce shoppers. In the single case where there is a price difference, this is less than 5%, see Figure 9. This finding does not follow the economic thinking discussed above, which assumes that higher delivery costs should lead to higher prices in more remote areas. However, this illustrates that besides costs of delivery, e-retailers need to consider other factors, such as e-commerce shoppers' willingness to pay for delivery and simplicity of pricing systems.

Figure 9
Delivery fees stated by the e-retailers in their pricing

Index, average urban delivery price = 100



Note: Higher delivery prices in rural areas (compared to urban) in France are due to the existence of free delivery promotions in some cities.

Source: Copenhagen Economics

4.3.5 Must e-commerce shoppers in rural areas wait many days for their online purchases to arrive?

Short transit time is another important quality of delivery that e-commerce shoppers value. Many delivery operators are introducing faster delivery services, e.g. same day delivery options, to serve e-commerce shoppers who value speed of delivery.

When presented with a trade-off between a low price and time certain delivery (e.g. delivery in two days) or faster but more expensive delivery – e-commerce shoppers typically prioritise price. This suggests that delivery speed is not the most important quality of delivery services for e-commerce shoppers.⁴⁰

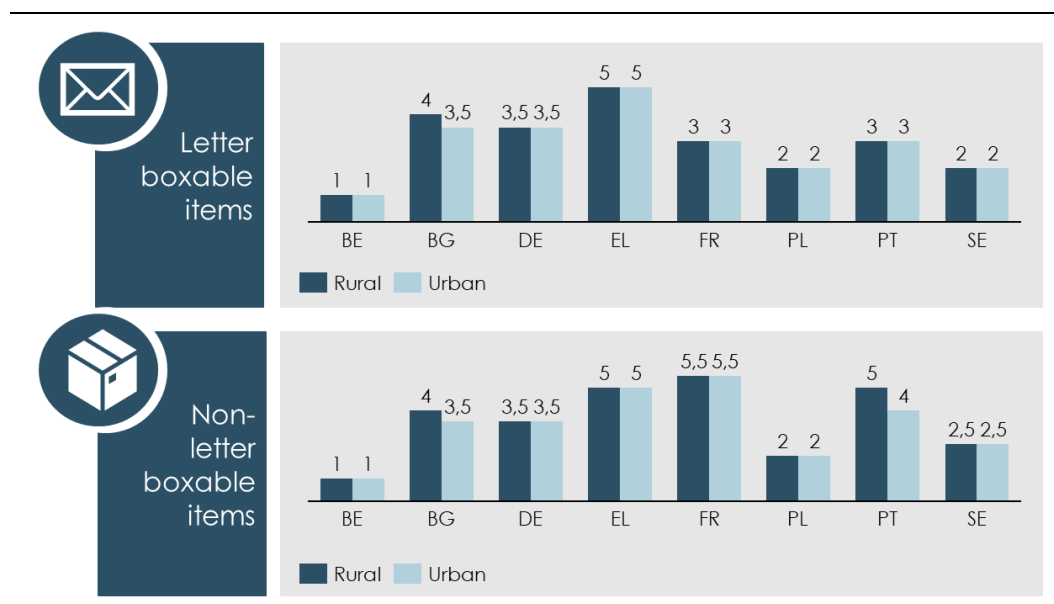
³⁹ The delivery price refers to the delivery fee component stated by the web shop as part of the total item price presented to the e-shopper.

⁴⁰ Copenhagen Economics (2013) *E-commerce & delivery study: A study of the state of play of EU parcel markets with particular emphasis on e-commerce*, p. 66

Nevertheless, one could expect that people living further away from central postal distribution centres and other postal terminals, e.g. rural users, might wait longer for their e-commerce deliveries. This is due to longer driving distances and the incentive for operators to pool deliveries in sparsely populated areas to improve scale economies.

Our results show that overall delivery times vary across countries, but there is almost no variance between rural and urban delivery times within countries, see Figure 10. The variance across countries could be explained by different maturity of e-commerce markets (which can depend also on demand and adoption of e-commerce) as well as different geographical conditions, making it easier or more difficult to deliver parcels to all households in the country.

Figure 10
Standard delivery speed to the home including fulfilment by e-commerce retailer
Number of days, as stated by e-retailers



Note: Delivery times are reported by e-retailers, which includes the time for some of the e-retailer's own fulfilment activities (pick&pack etc). In some cases, delivery times are reported in ranges. In these cases, we have used the midpoint of a range as a standard delivery speed.

Source: Copenhagen Economics

Importantly, in most of the countries in our survey, delivery times are the same irrespective of where in the country the e-commerce shopper lives. Where the time differs within a country, the difference is at most one day (often less).

Worth noting is also that the options available to the e-shoppers in our experiment reflect what the e-retailers offer and not necessarily what is available from the delivery operators. As discussed above, to avoid large complexity and simplify the shopping experience for e-commerce shoppers, often only a few options are provided (see also discussion in Chapter 1).

4.4 IMPLICATIONS FOR THE EVALUATION OF THE POSTAL SERVICES DIRECTIVE

Based on the findings presented earlier in this chapter, we conclude that choice and innovation in the access to/provision of e-commerce related parcel delivery services seem to confirm that the parcel delivery market is fit for purpose when it comes to providing adequate delivery options for shoppers in both rural and urban areas. Although competition may develop first in urban/suburban areas with a high demand and relatively low cost to serve, this competitive pressure seems to be benefit users of parcel delivery services, such as e-commerce shoppers, all over each country.

First, as shown in section 4.1 regulators, policy makers and researchers alike observe fierce competition in the e-commerce delivery market. This is natural since growing e-commerce demand triggers growth in the supply of delivery services.

Second, in section 4.2 we observe that, throughout the EU, the vast majority of businesses selling online can choose from at least ten parcel delivery operators. Moreover, access to alternatives has developed within the past 5-7 years and is expected to continue to do so.

Third, new empirical evidence based on our research in eight EU markets demonstrates that e-commerce shoppers across Europe have access to a variety of delivery options:

1. Within all countries where we surveyed the most popular e-commerce platform, e-commerce shoppers have access to delivery to the home address and other alternative delivery options, irrespective of where in the country they live.
2. Irrespective of where they live, the distance that e-commerce shoppers need to travel to pick up a package is within a normal catchment area for a supermarket.
3. In nearly all markets, all e-commerce shoppers receive the same delivery price, irrespective of where in the country they live. In the single case where there is a price difference, this is less than 5%.
4. In all but two countries in our survey, delivery times are the same irrespective of where in the country the recipient lives. Delivery times vary slightly across countries, but the difference is never more than one day.

Based on our research, we find that e-retailers in the eight countries covered by our research offer (in all but very few instances) the same service levels and prices to e-commerce shoppers, irrespective of where in the country they live. The (small) observed differences in delivery services offered by e-retailers are *between countries* and not between geographical areas within a specific country. This variance across countries could be explained by different factors. On the one hand, observed differences may be explained by supply-side factors, such as different maturity of e-commerce markets as well as different geographical conditions, making it easier or more difficult to deliver parcels to all households in the country. On the other hand, observed differences may also be explained by demand-side factors, such as e-retailers preferring to offer one simple delivery solution instead of a spectrum of different options, or e-commerce shoppers not being willing to pay for more value-added options.

The assessment of regulatory impacts – as per better regulation principles – should reflect an alignment between the regulatory objective and the measures considered. The nature of industry value chains affects fundamentally this assessment, as impacts on final consumers depend on how any

new rules create effects conveyed across the value chain, in this case of e-commerce. This could lead to disproportionate outcomes. For this reason, it should be kept in mind that a stricter regulation of the provision of delivery services might not necessarily result in better access to delivery options for e-commerce shoppers. The reason for this is (as discussed at several instances in this chapter) that e-retailers decide what delivery options to offer to their customers – and at what prices to offer these. Thus, regulating delivery services in this context may neither be proportionate nor a fit for purpose solution.

Based on our findings we also conclude that, although service levels differ slightly across countries, this does not warrant additional regulation of parcel delivery services. Over the past 5-10 years, we have seen e-commerce markets mature and develop. We have seen increased demand for e-commerce delivery services result in increased provision of these services and expect this to happen in the coming years also in the countries that have less mature e-commerce delivery markets today.

Thus, in the context of the ongoing evaluation of the Postal Services Directive, there does not seem to be a need to regulate the provision of delivery services to ensure that all EU citizens (and particularly those in remote/rural areas) have access to appropriate delivery services that allow them to shop online.

Chapter 4 conclusions

- Previous studies show that regulators, policy makers and researchers alike observe fierce competition in the e-commerce delivery market. This is natural since growing e-commerce demand triggers growth in the supply of delivery services.
- We observe that most businesses selling online in the EU today can choose from at least ten parcel delivery operators. Moreover, access to alternatives has developed within the past 5-7 years and is expected to continue to do so.
- New empirical evidence shows that, although competition for the provision of e-commerce delivery services may develop first in urban/suburban areas with a high demand and relatively low cost to serve, this competitive pressure seems to benefit e-commerce shoppers all over each country.
- More specifically, based on research in eight EU markets, we find that e-commerce shoppers across Europe (irrespective of whether they are located in urban centres or more peripheral areas) have access to the most convenient delivery options, do not have to travel long distances for package pick-up, do not have to wait longer for delivery and they also pay the same for getting their items bought online delivered.
- Stricter regulation of the provision of delivery services might not necessarily result in better access to delivery options for e-commerce shoppers. The reason for this is that e-retailers decide what delivery options to offer to their customers – and at what prices to offer these.
- Moreover, over the past 5-10 years, we have seen e-commerce markets throughout the EU mature and develop, resulting in increased provision of e-commerce delivery services by a larger number of operators and by means of a wide variety of business models.
- Thus, there does not seem to be a need to regulate the provision of delivery services to ensure that all EU citizens (and particularly those in remote/rural areas) have access to appropriate delivery services that allow them to shop online.

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APPENDIX A

METHODOLOGY OF THE SHOPPING EXPERIMENT**Sample selection**

In order to combat any sampling risks, we have carefully considered the selection of countries, cities and addresses and shipments in our sample, see Table 5 and Table 6.

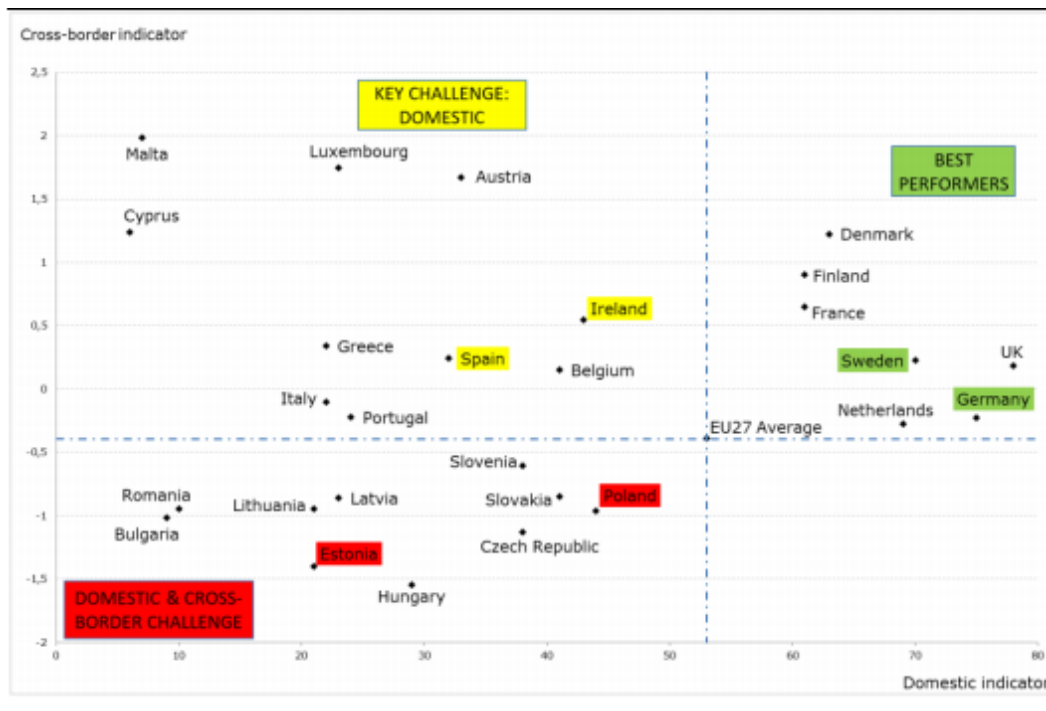
Table 5
Sample selection

STEP	POTENTIAL RISKS AND CRITICISMS	SOLUTION
Country selection	Too few countries risk that one specific postal operator drives results	Choose 8 countries from different regions
	Countries chosen are not representative of the diverse e-commerce landscape in Europe	Use CE (2013) E-commerce & delivery study to choose countries with historically different e-commerce development levels
	Countries chosen are not representative of delivery challenges from varying demographic and geographic conditions	Choose countries with diverse demographic and geographic features to ensure different market conditions are covered
City & address selection	Lack of diversification	Choose different geographic regions with high and low population density
	Selected cities /addresses do not represent the vulnerable users	Choose cities with varying population densities and addresses both close to city centres and further away
Shipment selection	Small number signals potential bias	Select a large enough number of shipments
	Shipments do not represent all characteristics of e-commerce delivery	Vary prices (e.g. above/below the threshold for "free" delivery) and size of products (e.g. letter-boxable and bulky items)

Source: Copenhagen Economics

Previously identified countries with a challenge in domestic e-commerce delivery

Figure 11
Domestic vs. cross-border indicator: three groups



Note: The countries highlighted are the sample selected for the in-depth analysis of e-shopper preferences. No countries are such that they: i) perform above the EU average as to domestic e-commerce; and simultaneously ii) perform below the EU average as to cross-border e-commerce. Thus, no country belongs to the group in the fourth quadrant. The countries in the top left section of the figure (Austria, Cyprus, Luxembourg and Malta) are small economies where not only businesses, but also consumers are quite open to imports from at least another EU country with cultural proximity. This is supported for instance by a common language (e.g. Austrian e-shoppers purchase from German e-retailers, or Cypriots from Greeks)

Source: Copenhagen Economics (2013) E-commerce & delivery study: A study of the state of play of EU parcel markets with particular emphasis on e-commerce

Definition of urban vs. rural areas and city selection

Cities were selected using a list of NUTs 3 level cities and towns from Eurostat, see Table 6 **Error! Reference source not found.**. At this level Eurostat has categorized the towns and cities as urban or rural. This definition is based on the amount of high-density clusters within the city or town. For example, in urban areas at least 50% of the population is living in high density clusters. In order to ensure a diverse sample, we have randomly selected, through random number generation, three rural towns and three urban towns for each country.⁴

We have used the European Commission’s definition of urban and rural areas as:

- Densely populated area: (alternative name: cities)

⁴ Details about the selected cities and towns can be found in the Appendix A.

- At least 50% living in high-density clusters(4) (alternative name: urban centre).
- Intermediate density area (alternative name: towns and suburbs)
 - Less than 50% of the population living in rural grid cells; and
 - Less than 50% living in a high-density cluster.
- Thinly populated area (alternative name: rural area)
 - More than 50% of the population living in rural grid cells.

And grid cells are defined as:

- High-density cluster (or urban centre): Contiguous(5) grid cells of 1 km² with a density of at least 1500 inhabitants per km² and a minimum population of 50000.
- Urban clusters: Clusters of contiguous(6) grid cells of 1 km² with a density of at least 300 inhabitants per km² and a minimum population of 5000.
- Rural grid cells: Grid cells outside urban clusters

We have chosen to purchase two items at each e-commerce platform for each address. We categorize these items as letter-boxable and non-letter boxable. In total, this amounts to 504 orders across 8 countries studied.

Letter-boxable items are delivered in small packets and are therefore small enough to fit in the individual's mailbox or any other parcel pick-up facility. Thus, we would expect to see a larger range of delivery options for letter-boxable items compared to non-letter boxable items. In addition, when choosing this smaller item we also chose items that were priced below and above the "free delivery promotion" for the studied e-commerce platform to test the price of delivery when the promotion is not applied. The letter-boxable item we purchased was a USB stick.

Non-letter boxable items cannot be delivered to the purchaser's mailbox and therefore often require the purchaser to be home to receive delivery to the home. In many cases, non-letter boxable items also cannot be delivered to 24-7 parcel boxes. In many cases, these items are also priced above the "free delivery promotion" and therefore are eligible for free delivery. The non-letter boxable item we purchased was a vacuum cleaner.

The selection of cities and addresses in our research is presented in Table 6.

Table 6
Selection of cities and addresses

COUNTRY	CITY	POPULATION	AREA (KM ²)	POPULATION DENSITY (PEOPLE/KM ²)	RURAL/URBAN
BE	Hannut	16571	86.53	191.50	Rural
BE	Hasselt	78296	102.24	765.81	Urban
BE	Limbourg	5912	24.63	240.04	Rural
BE	Mechelen	86616	65.19	1328.72	Urban
BE	Mouscron	58474	40.08	1458.96	Urban
BE	Waimes	7425	96.94	76.60	Rural
BG	Blagoevgrad	75329	620.12	121.48	Urban

BG	Bratya Daskalovi	7852	482.20	16.28	Rural
BG	Chiprovtsi	3139	286.88	10.94	Rural
BG	Dobrich-selska	20345	1296.16	15.70	Rural
BG	Haskovo	86611	739.80	117.07	Urban
BG	Ruse	159410	570.62	279.36	Urban
DE	Alfdorf	7085	68.52	103.40	Rural
DE	Gerolsbach	3573	58.98	60.58	Rural
DE	Pähl	2480	32.22	76.97	Rural
DE	Schwelm, Stadt	28542	20.49	1392.97	Urban
DE	Stadtbergen	15010	11.49	1306.35	Urban
DE	Sulzbach (Taunus)	8971	7.85	1142.80	Urban
EL	Local Commune of Kariani	664	33.09	20.07	Rural
EL	Local Commune of Peristeri	770	28.15	27.36	Rural
EL	Local Commune of Plakados	302	5.39	56.03	Rural
EL	Municipal Commune of Ioannina	65574	15.59	4206.08	Urban
EL	Municipal Commune of Nea Penteli	7198	3.30	2178.21	Urban
EL	Municipal Commune of Neo Psychiko	10137	1.13	8983.71	Urban
FR	Bessancourt	7065	6.40	1103.91	Urban
FR	Boussy-Saint-Antoine	7282	2.90	2511.03	Urban
FR	Château-Chinon (Ville)	2001	4.30	465.35	Rural
FR	La Mulatière	6320	1.80	3511.11	Urban
FR	Pech-Luna	39	6.60	5.91	Rural
FR	Saint-Geniès-des-Mourgues	1865	11.40	163.60	Urban
PL	Gdansk	466631	262.00	1781.31	Urban
PL	Jaroslaw	37690	35.00	1088.99	Urban
PL	Jemielnica	7216	113.00	63.60	Rural
PL	Warsaw	1777972	517.00	3437.42	Urban
PL	Wymiarki	2297	63.00	36.41	Rural
PL	Zielona Gora	140297	278.00	504.09	Urban
PT	Baraçal	227	12.22	18.57	Rural
PT	Castedo	236	17.94	13.158	Rural
PT	Ginetes	1378	12.14	113.53	Urban
PT	Laundos	2055	8.53	240.99	Urban
PT	Ruilhe	1142	2.20	518.27	Urban
PT	Vilarinho de São Romão	294	6.20	47.41	Rural

SE	Helsingborg	145415	343.84	422.91	Urban
SE	Krokom	14858	6154.45	2.41	Rural
SE	Mellerud	9354	513.72	18.21	Rural
SE	Örebro	153367	1373.03	111.70	Urban
SE	Tanum	12873	917.18	14.04	Rural
SE	Västerås	152078	958.36	158.69	Urban

Note: Data 2019 or latest available.

Source: Eurostat. France area data from French statistical agency INSEE. Portugal data available on Parish only from the 2011 census (INE).

Analysis of supermarket catchment areas in EU merger cases

Box 3 Supermarket catchment areas identified in EU merger cases can be used as a proxy for a reasonable parcel pickup location distance

A catchment area is defined as the area around a store where the store has the ability to attract customers. In other words, a catchment area covers a store's sphere of influence. This type of analysis is often used in merger compliance cases to determine geographic market definition. One example of the use of catchment areas, is in supermarket merger cases.

In these cases, catchment areas are used to determine how far a supermarket's competitive sphere reaches. Looking from the consumer perspective, these catchment areas can equally express how far a consumer would travel to visit the store.

Assuming that individuals regularly visit supermarkets and a store's catchment area covers the distance that customers are willing travel to shop at the supermarket, we can use the catchment area as a proxy for a "reasonable travel distance" for parcel pickups. In fact, catchment areas are often defined using actual consumer data, i.e. actual data on travel distances.

Our analysis of most recent European supermarket merger cases where catchment areas were assessed show that that a typical travel distance to supermarkets in urban areas is 5-7.5 km. (with the exception of one case in Germany) and in rural areas – 10-20 km.

Catchment area calculations from European cases

Country	Source	Travel distance in km.	
		Urban	Rural
Finland	KKV/1575/14.00.10/2015	5 ¹	10 ¹
Germany	B2-96/14	2 (super-urban) ²	20 ³
UK	ME/6466-14	10min / 5km ⁴	15min / 15km ⁴
Norway	V2015-24	10-15min / 5-7,5km ⁴	15-20min / 15-20km ⁴
Poland	DKK- 227/2018	10-15min / 5-7,5km ⁴	10-15min / 10-15km ⁴

Note:

- 1) The FCCA uses straight line radius. The actual travel distance is longer.
- 2) BKartA defines large urban areas as above 500.000 inhabitants
- 3) BKartA carries out analysis based on 20-25km areas around dedicated central cities and considers these areas are relevant markets for groceries retail
- 4) The Competition Authority uses drive times instead of distances, minutes converted to kilometres based on the analysis of travel times in the UK: an average travelling speed in urban areas is 31 km/h and in rural areas - 60 km/h.

APPENDIX B

DOMESTIC B2C PARCEL DELIVERY OPERATORS 2012 AND 2018**Table 7**
Active domestic parcel delivery operators 2012-2018

COUNTRY	NUMBER OF OPERATORS		MAIN OPERATORS ACTIVE IN THE SMALL PACKET MARKET (2018)
	2012	2018	
AT	8	11	Österreichische Post, UPS, DP DHL, FedEx TNT, DPD, GLS, Otto Group, Amazon Logistics, Hermes, Quehenberger Express GmbH
BE	9	19	Bpost, UPS, DP DHL, FedEx TNT, DPD, GLS, Otto Group, Bubble Post, Dynalogic, Eurosprinters, Kariboo, Mondial Relay, Mikropakket, Sprintpack, PostNL, Ciblex, Post Lux, TBC-Post, Belgium Parcels Service
BG	6	15	Balgarski poshti, Econt Express, Speedy, Starpost, M&BM, Tip Top Courier, Eurocourier, Europat 2000 AD, In Time, Interlogistica Courier, Leo Express, OK Express, Rapido Express and Logistics, Toyota Tixim, Transpress
CY	2	5	Cyprus Post, ACS Courier, ARAMEX, Kronos Express, G.A.P. Vassilopoulos Express Courier Ltd
CZ	6	34	Česká pošta, UPS, DP DHL, FedEx TNT, DPD, GLS, Geis, Toptrans, Schenker, Zásilkovna, BXB, Česká Distribuční, Direct Parcel Distribution, Global Box, Haypost C.JSC, i-post solutions, J + M logistika, Jednota, Kouzelná Almara, Mediaservis, Mechanika Prostějov 97, Messenger, MUFF, Novanet Systems, OVISION CZ, PETER STRÍBRNÝ, Pošta CÍL, SuperDoručovatel.cz, TAU impex, Uloženska, ViS Post Express, In Time Spedice, PPL
DE	9	38	Deutsche Post DHL Group, UPS, FedEx TNT, DPD, GLS, Otto Group, Amazon Logistics, Hermes, Trans-o-flex, Go! Express, Schenker, All Kurier, Arriva, Brief und mehr, BWPOST, CITIPOST, CLS Express Logistics, drs Mail, Euregio MH Boten, Fa. Rheiner Fahrrad Kurier Briefdienst Rothensee, HB-Regiopost, ISG Intermed Service, Kurier-Blitz, Logistic-Mail-Factory, LVZ Logistik, MAILCATS, Marketing Service Magdeburg KG, Media Logistik, Medienhaus Krause Logistik, Messenger, Morgenpost-Briefservice, MZZ-Briefdienst, Nordkurier Mediengruppe, PIN Mail, REGIO, Südwest-Mail Brief + Service, WSG, Zustellgesellschaft Schleswig-Holstein
DK	7	10	PostNord, UPS, DP DHL, FedEx TNT, DPD, DK Fragt, DSV, Bring, DAO 365, VNL
EE	3	9	Omniva, DPD, VNL, Balti Logistika, Cargobus, Itella, OSC Transport, EKL, Venipak
EL	6	7	ELTA, ACS, Courier Center, Easy Mail, GENIKI TAXYDROMIKI, Orbit Couriers, Speedex
ES	9	53	Correos, UPS, DP DHL, FedEx TNT, DPD, GLS, Otto Group, Amazon Logistics, Dachser, MRW, Nacex, Secur, Enviaia, Tourline, ASM, Resyer, Sending, ICS, Rapid Express, FLR, May Courier, Tipsa, Halcourier, Zeleris, FC Courier, General Courier, SPC Courier, OCS, SEUR, Alas Courier, Aljutrans Cadiz, Ontime, Sending, Bramosa, Corditrans, Cuenca Pack, Dronas 2002, Fitman, Inter Lleida, Intercomarques, Logisland, Logropal, Redtranshu, Segui 2000, Someva, Toletransa, Transalinetas, Transanhez, Transcano, Trans-Imperial, Vasquez Rivas, Transporte Integral de Paqueteria, Transporte Peinado de Cordoba

COUNTRY	NUMBER OF OPERATORS		MAIN OPERATORS ACTIVE IN THE SMALL PACKET MARKET (2018)
	2012	2018	
FI	7	11	Posti, UPS, DP DHL, FedEx TNT, DPD, Matkahuolto, PostNord, Schenker, Bring, Suomen sivuliike, General Logistics Systems
FR	10	17	La Poste, UPS, DP DHL, FedEx TNT, DPD, GLS, Otto Group, Amazon Logistics, Colis Privé, Mondial Relay, Expaq, France Express, Ciblex, Relais, Colis, Chronopost, G3 Worldwide Spring
HU	7	9	Magyar Posta, UPS, DP DHL, FedEx TNT, DPD, GLS, Express One, Sprinter, Royal Sprint
IE	9	9	AnPost, UPS, DP DHL, FedEx TNT, GLS, DPD, Nightline, Fastway, Schenker
IT	7	10	Poste Italiane, UPS, DP DHL, FedEx TNT, DPD, GLS, Otto Group, Amazon Logistics, SDA, Bartolini
LV	4	9	Latvijas Pasts, DPD, Itella, GreenCarrier, Autopasts, EKL/LS, Expresspost.delivery, Omniva, Venipak Latvija
LT	3	11	Lietuvos paštas, Bijusta, Omniva, DPD, Samus, Venipak, Itella, Kautra, Baltic Post, Prima Line, Skubios Siuntos
LU	8	12	Post Luxembourg, UPS, DP DHL, FedEx TNT, DPD, GLS, Otto Group, bpost, PostNL, Ciblex, Hermes, Mondial Relay
MT	4	10	Malta Post, Aramex, Gozo Express, Airstped Express, Tubeline, Gazelle, GLS, Arrow Express, Miles Express, Xpress Logistics
NL	8	8	PostNL, UPS, DP DHL, FedEx TNT, DPD, GLS, Otto Group, Hermes
PL	8	14	Poczta Polska, UPS, DP DHL, FedEx TNT, DPD, GLS, InPost, Geis, Speedmail, X-Press Couriers, Ruch, AGAP, Quries Tomasz Gać, RAFFO
PT	9	18	CTT Correios, UPS, DP DHL, FedEx TNT, DPD, GLS, MRW, Dachser, Nacex, Rangel, Chronopost, Seur, Adicional, Enviália, Torrestir, Correos Express, Lis-espo, TCI
RO	7	14	Pošta Română, DPD, Urgent Cargus, GLS, Fan Courier Express, Sprint Courier Express, Nemo Express, Posta Atlassib, Bookurier, Delivery Solutions, Dynamic Parcel Distribution, Romfour Tour, World Media trans
SE	7	16	PostNord, UPS, DP DHL, FedEx TNT, Schenker, Best, Bring, DB Schenker, Busgods, Hall Media, Jetpak Sverige, Nim, Norrobotens, Prolog KB, Svensk Hemleverans HB, VTD
SI	7	16	Pošta Slovenije, DP DHL, FedEx TNT, DPD, GLS, Intereuropa, Slovenske železnice, Gold Ekspres, Global Express, Bona J, Kurirček, Klade Logistika, EC Logistics, Venneti, In Time, Eurosender
SK	6	17	Slovenská pošta, DP DHL, FedEx TNT, Aramex, DER KURIER, DPD, Geis Parcel SK, GLS, GO4, IN TIME, INSPEKTA SLOVAKIA, Remax Courier Service, SLOVENSKÝ DORUČOVACÍ SYSTÉM, Uložienka, Zásielkovňa, Slovak Parcel Service
UK	13	19	Royal Mail, UPS, DP DHL, FedEx TNT, DPD, GLS, Otto Group, Amazon Logistics, Yodel, Tuffnells, DX, APC Overnight, CitySprint, DX S&C, DX Freight, Hermes, Interlink, Parcelforce, UK Mail

Note: Multinational operators UPS, DHL, TNT Express, FedEx (Integrators) serve most countries, also for domestic deliveries and are not included in the above table.

Source: 1) Copenhagen Economics (2013) E-commerce and delivery; 2) The Post Deliverers for Europe; 3) European Commission Public tariffs on cross-border delivery services database

About Copenhagen Economics

Copenhagen Economics is one of the leading economics firms in Europe. Founded in 2000, the firm currently employs more than 90 staff operating from our offices in Copenhagen, Stockholm, Helsinki, and Brussels. The Global Competition Review (GCR) lists Copenhagen Economics among the Top-20 economic consultancies in the world, and has done so since 2006.

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