

# E-commerce and delivery

A study of the state of play of EU parcel markets with particular emphasis on e-commerce

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# Foreword

Copenhagen Economics has been commissioned by DG Internal Market to provide an assessment of the state of play of the EU parcel market with particular emphasis on e-commerce. In other words, this study is focused right at the intersection of parcel (and packet) delivery and e-commerce issues, as per the Terms of Reference for this work.

In order to capture this specific investigation target, we have soon realised that existing information, while useful to characterise e-commerce as a whole (e.g. its economic contribution, trends and needs) or the entire courier, express and parcel (CEP) market (including non-parcel express deliveries, yet no postal packets), would only go so far in shining a light on the exact area we had been asked to study.

For this reason, we have sought to complement the existing secondary data with the collection of primary data from four sources: (i) e-shoppers, (ii) e-retailers, (iii) delivery operators, and (iv) regulators. Our approach has been to collect statistical data from surveys and questionnaires and complement this with case studies based on interviews and desk research. This enables us to combine quantitative and qualitative methods. We use quantitative methods to describe markets and test hypothesis, while we use case studies to understand the market dynamics and develop theories.<sup>1</sup>

This data collection exercise was ambitious due to the novelty of its specific focus (the delivery of e-commerce goods) and its engagement with not one but four different types of stakeholders. The data collection allows us, together with a review of existing literature, to provide a snapshot of which gaps affect the delivery of e-commerce parcels and packets. Moreover, we assess general trends in e-commerce and in delivery markets as a whole as part of the backdrop for our analysis.

The four different primary data sources gathered for this study generate a unique interplay of perspectives which allows us to paint a holistic picture of the burgeoning area of e-commerce parcels / packets delivery. At the same time, it became clear that stakeholders engage with a study of this type in dissimilar manners. For the purpose of this study, we have obtained data from stakeholders throughout the EU, namely 3,077 e-shoppers, 70 e-retailers (out of more than 1,000 reached), 61 delivery companies (out of more than 100 reached) and 26 national postal regulators (out of the 27 contacted).

The asymmetry in data provision from e-shoppers versus e-retailers is a factor which also affects previous studies. For instance, a survey conducted by Worldpay in 2012 is based on evidence from 19,000 e-shoppers yet only 153 e-retailers. Other prominent studies<sup>2</sup> of e-commerce have not collected data from e-retailers, but have relied on data from e-shoppers.

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<sup>1</sup> See for example Odell (2001) for a discussion of the use of cases studies and statistical methods in social science.

<sup>2</sup> For example Civic Consulting (2011).

Two obstacles make this type of study peculiarly challenging. First, many delivery operators have chosen not to provide data due to aversion to sharing information that is highly commercially sensitive to them. While we have mitigated this aversion by offering strict non-disclosure agreements, a mere research study by its nature cannot overcome all barriers to disclosure. Second, e-retailers, the majority of which are micro firms staffed by a small number of employees (perhaps as a venture alongside a bricks and mortar operation) have limited resources to engage with studies – and many have expressed less interest for delivery aspects compared to other challenges (like payment solutions) for their business. E-retailer association often have conducted own studies, but have often chosen not to provide data for our study. As a consequence we have only been able to supplement our data on e-retailers with studies provided by delivery operators and public studies based on mystery shopping.<sup>3</sup>

We are grateful for the support and interest we have received from different stakeholders and for constructive discussion with the project team at DG Internal Market.

The project team at Copenhagen Economics has consisted of partner and project manager, Ph.D. Henrik Ballebye Okholm, senior economist Anna Möller, economist Signe Rølmer, economist dr. Bruno Basalisco, and quality assurer managing director, Martin Hvidt Thelle. A team from DLA Piper, consisting of Prof. dr. Patrick van Eecke and Julie De Bruyn, has helped us with legal analysis. The team has received great support from colleagues at Copenhagen Economics.

The study consists of two parts. This is Part A which contains the main text. The separately available Part B contains the consolidated country fiches.

Copenhagen, July 15<sup>th</sup> 2013

Ph.D. partner Henrik Ballebye Okholm

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<sup>3</sup> See for example Snow Valley (2011, 2013), Accenture (2011), European Commission (2012a), and IPC (2010).

# Terms and abbreviations

## Terms used throughout the study

Consolidator	A firm providing preparation of mail / parcels, which are injected into the delivery operator's mail / parcel pipeline
Drop-shipper	A firm offering e-retailers the ability to market products via the firm's website and ship products to final consumers
E-commerce	Defined in this study as: B2C sale of goods requiring physical delivery to the buyer, conducted via the internet, excluding orders via manually typed e-mails
E-retailer	A firm selling online
E-shopper	A consumer purchasing online
Express carrier	Delivery operator providing value added, door-to-door transport and next day or time-definite shipments
Freight forwarder	A firm acting as an expert in supply chain management, organising shipments by contracting with carriers to move cargo without moving the goods itself
Integrator	Multi-national delivery operator with world-wide presence, providing time-defined delivery through own integrated network or through local business partners
Logistics intermediary	A specialised firm supplying software solutions or logistics services to firms willing to outsource logistics functions
Parcel broker	Firm reselling delivery capacity bought in bulk from integrators, national postal operators, and couriers, taking a commission for each parcel booking made
Parcel kiosk	An unstaffed automated locker located in a public access area which stores parcels awaiting collection by their recipients (or also functions conversely as a drop-off point to send parcels)
Relay point	A shop with whom a delivery operator has an agreement to serve as a parcel outlet, allowing recipients to collect their parcels
Software solution provider	A firm providing e-retailers and delivery operators with software solutions to support e-logistics and e-fulfilment
4th party logistics provider	A firm providing full integration and logistics fulfilment for e-retailers. This includes goods intake, pick&pack, customer service, return management, or goods sourcing

## Abbreviations

B2B	Business-to-business
B2C	Business-to-consumer
CEN	European Committee for Standardisation
CERP	European Committee for Postal Regulation
DG	Directorate General (of the European Commission)
EC	European Commission

ECCN	European Consumer Centres Network
EEA	European Economic Area
EU	European Union
NCA	National competition authority
NCPA	National consumer protection authority
NPO	National postal operator
NRA	National regulatory authority
QoS	Quality of service
SME	Small or medium enterprise
UPU	Universal Postal Union
US	Universal service
USO	Universal service obligation
USP	Universal service provider
VAT	Value added tax

# Executive summary

In 2012, the EU B2C e-commerce market grew by approximately 20 per cent to around 250 billion Euros.<sup>4</sup> Between 2013 and 2016, an annual increase in e-commerce of more than 10 per cent is expected for the entire European region.<sup>5</sup>

Levels of e-commerce vary greatly across EU's Member States. Whereas 82 per cent of internet users in the UK bought something online in 2012, only 11 per cent of internet users in Romania engaged in e-commerce. At the same time, cross-border e-commerce is still lagging behind domestic e-commerce throughout almost the entire EU.<sup>6</sup> In 2012, 70 per cent of e-shoppers have not bought cross-border.

If consumers and retailers throughout the EU would engage in e-commerce to an extent comparable to the UK<sup>7</sup>, this would more than double the level of e-commerce in the EU. This suggests that there is a very large potential for increased e-commerce in the coming years. This potential will only be realised if obstacles to e-commerce are addressed. This requires, among other issues<sup>8</sup>, that delivery services meet the needs of e-shoppers and e-retailers sufficiently well, so that delivery services do not become a bottleneck for increased e-commerce.<sup>9</sup>

This study analyses how *delivery of products bought online* can be improved to increase the amount of domestic and cross-border e-commerce in Europe. Improving delivery services is an important driver to enhance e-commerce.

## Why are improved delivery services important for e-commerce?

We have conducted a survey among 3,000 e-shoppers in six EU countries<sup>10</sup> for the purpose of this report. The six countries reflect different stages of adoption of domestic and cross-border e-commerce. We use the survey to examine the importance of delivery services from three angles. First angle: Why do e-shoppers chose not to buy online? Second angle: Why do e-shoppers choose to return to the same e-retailer again (repeat purchase)? Third angle: What are e-shoppers satisfied and dissatisfied with.

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<sup>4</sup> EMOTA (2012)

<sup>5</sup> See for example yStats (2012) and E-commerce Europe (2013)

<sup>6</sup> In 2012, 59 per cent of internet users in the EU engaged in e-commerce. The share varied from 11 per cent in Romania to 82 per cent in the UK. Whereas, on average, 90 per cent of the e-shoppers engaged in domestic e-commerce, only 30 per cent engage in cross-border e-commerce (Eurostat, 2012a).

<sup>7</sup> In 2011, the online spending per capita in the UK amounted to 4.5 per cent of GDP per capita (based on B2C online turnover data from IMRG and GDP data from Eurostat). If this level of online spending would apply to the entire EU27, with an estimated GDP of slightly more than 13,000 million Euro in 2013, this would imply an online spending of nearly 586,000 million in total.

<sup>8</sup> In its e-commerce communication, cf. European Commission (2012c), the European Commission identifies five main obstacles to the Digital Single Market: 1) inadequate supply of legal, cross-border online services, 2) insufficient information for online service operators or protection, 3) inadequate payment and delivery systems, 4) difficulties to settle abuses and disputes, and 5) insufficient use of high-speed communication networks and hi-tech solutions.

<sup>9</sup> In addition, attitudes towards e-commerce are, for example, affected by cultural and social differences, regulatory differences, language barriers, as well as lack of trust in (online) payment solutions and the handling of personal information.

<sup>10</sup> Estonia, Ireland, Poland, Spain, Sweden, UK

The survey reveals that problems related to delivery services are a key reason for not buying online. Delivery-related problems are responsible for 68 per cent of the situations where e-shoppers have added items to their shopping chart, but abandoned the shopping chart before finalising the order<sup>11</sup>. The primary problem is that e-shoppers suddenly face unexpected delivery costs that are considered too high. The second most important reason is that delivery times are considered too long.

Our survey also shows that delivery conditions affect repeat purchases. At least 90 per cent of e-shoppers mention low delivery prices and convenient return options as important for their decision to buy from the same web shop again. ‘Free’ delivery or flexible and convenient deliveries are also important (mentioned by 85-90 per cent of e-shoppers).

As for user satisfaction, our survey shows that 38 per cent of e-shoppers were dissatisfied with one or several aspects of delivery in relation to their most recent online purchase<sup>12</sup>. Taking into account the importance of delivery for the decisions to buy online, this indicates that improving delivery services has a large potential to also increase the levels of e-commerce.

### **Who is involved in e-commerce delivery?**

Delivery of products bought online is a rather complex business with multiple layers of contracts. The delivery value chain involves four main stakeholder groups and a variety of different combinations and business models:

- *E-shoppers*: Buy products and delivery services from e-retailers;
- *E-retailers*: Buy delivery services from delivery operators and logistics intermediaries;
- *Delivery operators*: Deliver the products on behalf of the e-retailers. Delivery operators may use other delivery operators as subcontractors;
- *Logistics intermediaries*: Operate in the intersections that exist between e-shoppers, e-retailers and delivery operators.

The multiple layers of contracts pose two challenges. *First*, it is a challenge to ensure interoperability between the different stakeholders. Thus, a central theme in this study is to analyse how to ensure interoperability. *Second*, it requires careful analysis to identify the source of the problem when e-shoppers or e-retailers are dissatisfied with one or several aspects of delivery. For example, when e-shoppers experience a lack of preferred delivery services, the reason can be that delivery operators have not offered these services to e-retailers (lack of supply from operators). However, the reason can also be that e-retailers chose not to offer the delivery services in their web shops (lack of demand from e-retailers), e.g. in order to keep their logistics simple. Finally dissatisfaction could also arise if the e-retailer has not been sufficiently transparent about the delivery solutions, so that the e-shopper has not found the relevant delivery solution at the website. Hence, another central theme in this study is to analyse where problems arise in the delivery value chain and what are the underlying reasons.

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<sup>11</sup> Copenhagen Economics, E-shopper survey

<sup>12</sup> Consequently, 62 per cent of e-shoppers were satisfied with all aspects of delivery.

We observe that e-commerce related shipment volumes are fairly evenly distributed between national postal operators (NPOs), multinational integrators and local or regional carriers. Based on volume data obtained from delivery operators, we estimate an average NPO market share for delivery of B2C parcels and packets of 35 per cent. The highest NPO market shares are found in the most mature markets (on average 54 per cent of the market volumes shipped by the NPOs). These findings are in line with the results from our survey among e-shoppers where 40 per cent of e-commerce shipments are delivered by NPOs. Multinational integrators handle the largest share of e-commerce deliveries. According to our e-shopper survey, multinational integrators deliver 42 per cent of all e-commerce shipments and 50 per cent of all cross-border e-commerce shipments. The competitive pressure, e.g. measured by the number of delivery operators, seems to be stronger for domestic than for cross-border deliveries. This can most likely be explained by the fact that approximately 85 per cent of e-commerce shipments are domestic. Hence it is natural that domestic markets attract more delivery operators and logistics intermediaries.

### **What aspects of delivery should be improved?**

As a first step in identifying potential for improvements in delivery, we identify what aspects of delivery that e-shoppers and e-retailers find important, and what they are most and least satisfied with today.

Our research reveals that the most important aspects of delivery for **e-shoppers** are:

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

Features considered less important are for example next day delivery, Saturday or evening delivery, and delivery to a post office or collection point.

Rather unexpectedly, preferences often do *not* differ significantly between countries. In other words, e-shoppers in countries where e-commerce is less widespread have similar preferences as e-shoppers in countries with a high level of e-commerce. The few country-specific preferences that we observe seem to be caused by tradition (acquired taste)<sup>13</sup>, or cultural differences (e.g. preference for cash on delivery in certain countries) – and not by a difference in market maturity for e-commerce. For example, the home address is still the preferred delivery point in all countries, except Sweden.<sup>14</sup>

Based on an online survey among 70 e-retailers and a number of in-depth interviews with e-retailers and e-retailer associations across the EU, we find that e-retailers' delivery preferences to a large extent mirror those for e-shoppers. This is above all the case with re-

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<sup>13</sup> Acquired taste means that customers who do not have access to a delivery feature today (e.g. parcel kiosks) have a weaker preference for this feature compared with customers who already have access to the feature.

<sup>14</sup> This is most likely explained by the well-developed network of retail outlets (post-in-shops and collection points) where Swedish e-shoppers are used to pick up their parcels.

spect to the *time and speed of delivery, value added features, and return options*. Preferences for delivery points are more diverse.<sup>15</sup>

We find that e-retailers' delivery preferences differ with respect to whether they sell cross-border or not. For example, domestic e-retailers tend to find faster delivery more important than cross-border e-retailers do. This is not surprising, since domestic deliveries normally are expected to be faster than cross-border ones.

We have asked e-shoppers and e-retailers about their satisfaction with delivery in relation to e-commerce. The results reveal that 38 per cent of e-shoppers were dissatisfied with one or several aspects of delivery in relation to their most recent online purchase. The highest levels of dissatisfaction are observed among younger e-shoppers and e-shoppers in urban areas (i.e. those with preferences for more advanced and convenient delivery solutions).

The aspects of delivery found to cause the greatest dissatisfaction were:

- *Returns (26 per cent of e-shoppers unsatisfied)*
- *Delivery prices (21 per cent of e-shoppers unsatisfied)*
- *Delivery speed and value added delivery services (16 per cent of e-shoppers unsatisfied)*

A high level of dissatisfaction (30 per cent) was also found in relation to *complaints* made to the e-retailer.<sup>16</sup>

Dissatisfaction with delivery is also found among e-retailers. E-retailers are primarily dissatisfied with *delivery prices*. In addition, e-retailers also express dissatisfaction with respect to the provision of *return options* and *the speed of delivery*.

Based on a wide variety of sources<sup>17</sup>, we have identified *delivery gaps* (i.e. mismatches between user needs and services provided) responsible for the observed dissatisfaction.

### **How can delivery gaps be minimised?**

Based on an analysis of the underlying reasons for the observed delivery gaps, we provide a number of recommendations on how to minimise the gaps and increase user satisfaction and e-commerce. The recommendations that we provide are of two types: *market solutions* and *policy solutions*.

*Market solutions* exist when market players have found solutions without policy intervention. For example, we observe that e-retailers, delivery operators, and logistics intermediaries

<sup>15</sup> Whereas both parties find home delivery to be the preferred delivery option, e-retailers tend to find delivery to work address more important than e-shoppers do. Conversely, e-shoppers tend to prefer delivery to a post office more important than e-retailers do.

<sup>16</sup> The high level of dissatisfaction in relation to complaints may partly be explained by the source of the e-shopper's complaint. For example, an e-shopper who was unsatisfied with the product bought, but who did not get a refund from the e-retailer, might be unsatisfied with the e-retailer's handling of the complaint due to the mere fact that the refund was rejected and not due to the convenience of the complaints handling procedure per se.

<sup>17</sup> Desk research and review of existing literature; interviews with delivery operators, e-retailers and (e-)retailer associations across Europe; two online surveys among e-shoppers and e-retailers; and questionnaires distributed to national regulatory authorities and delivery operators in EU27.

aries in more mature e-commerce markets have developed innovative and customer-oriented delivery solutions which are now being rolled-out to new markets and adapted by additional operators. We expect these solutions to spread out and eventually also reach the less developed markets, without intervention.

*Policy solutions* can either stimulate or regulate market forces. For challenges that can be, or already are, solved by a market solution, policy initiatives such as information dissemination and the creation of trust marks can support and stimulate the market solution in order to achieve a faster or more robust outcome. In this way, industrial policy can facilitate and stimulate the market development. For challenges for which we cannot expect the market to find a solution, i.e. *market failures*, policy solutions in terms of regulation can change the market development, e.g. by the implementation of price regulation.

The distinction between situations with, and situations without, market failures is important. Whereas regulation can remedy market failures, it can also hinder the development of free markets, reduce innovation and impose burdens on market players, especially in cases where it may impose excessive requirements in view of the objectives pursued. If regulation is implemented when there are no market failures, the dynamics of the market may be distorted to the potential detriment to consumers. When trying to reduce the gaps, it is thus essential to define the nature and the source of the problems (market failure or not). Moreover, it is also important to keep the fast development of the market in mind. This implies that solutions that are warranted today may no longer be needed in a few years. Hence, regulators should follow the market development closely and update regulation accordingly.

In order to facilitate a structured analysis of the identified delivery gaps, and the possibilities for minimising the gaps, we group the identified delivery gaps into three groups:

- *information gaps,*
- *service gaps, and*
- *performance gaps*

We analyse the gaps independently, but one should be aware that the gaps are interdependent.<sup>18</sup>

### **Information gaps**

*Information gaps* occur when e-shoppers and e-retailers do not have access to adequate and user-friendly information about what services they can buy. Adequate information may be lacking because it is too time consuming or too difficult to find or to interpret the information.

Information gaps cause e-shoppers and e-retailers to base their decisions on imperfect information. This can lead to dissatisfaction and to strategies where the e-retailers and e-shoppers minimise the information need, e.g. by using the same delivery operator instead

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<sup>18</sup> For example, lack of information about delivery alternatives (information gap) can make e-retailers reluctant to switch between delivery operators and thereby reduce the competitive pressure between delivery operators. This may, in turn, result in higher delivery prices (service gap) or worsened delivery performance (performance gap).

of examining what other delivery operators can offer. As a consequence, e-retailers and e-shoppers may not buy the services that best fit their needs or they may experience disappointments due to misperceptions about what delivery services they have bought. Hence, improving information about delivery is one of the keys to increase e-commerce.

Our e-shopper survey shows that 15 per cent of the e-shoppers who have abandoned an online shopping cart have done so because the information provided was not clear enough. Delivery prices is the type of information that has the largest impact on e-shoppers' decision to cancel the buying process. This is in particular a problem when e-shoppers are presented with new information late in the online buying process.

Our e-shopper survey also shows that many e-shoppers find it time consuming and difficult to find and process information about delivery. Two observations underline this. First, 14 per cent of e-shoppers are unsatisfied with the information about delivery and returns provided by e-retailers. Second, 20 per cent of e-shoppers refrains from reading the terms and conditions about delivery prior to the purchase. This may well be a rational choice because it minimises the time spent on the purchase – especially if the information is not provided in a user friendly way. However, not reading the delivery terms can lead to wrong decisions and false expectations about delivery which can result in dissatisfaction.

From the e-retailers' perspective, we observe that lack of adequate information and high search costs often cause e-retailers to stay with the same (well known) delivery operator and refrain from investigating alternative possibilities. Every fifth e-retailer responding to our survey is aware of only one delivery operator, although the number of alternatives is significantly higher (typically 3-4).

#### *Market solutions*

Information supply is, similar to service features and prices, a competition parameter for e-retailers and delivery operators. E-retailers or delivery operators that provide adequate (timely, relevant, accessible, trustworthy etc.) user friendly information about delivery to their customers will thus have a competitive advantage. A prerequisite for good information provision to e-shoppers is that *both* delivery operators *and* e-retailers provide user-friendly information. For instance, if the e-retailers do not pass on the information about delivery provided by the delivery operator(s) to e-shoppers in a good way, the information to the e-shopper will be insufficient. In the course of this study, we have encountered several e-retailers who realise the value of providing adequate information to their customers and who provide updated information about delivery operators, the status of delivery, delivery prices, and delivery point options throughout the entire buying process.<sup>19</sup> Thus, we expect that this behaviour will spread as markets mature and competition among e-retailers increase.

We also observe that stakeholders in the e-commerce and delivery markets (mainly more mature markets) contribute to minimising information gaps in other ways. Notably:

- *Active e-retailer associations informing e-retailers about delivery alternatives and helping them to understand their customers and their needs*

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<sup>19</sup> Examples are provided by PostMe (2012), M (2013), Shoes Please (2013)

- *Pro-active delivery operators that help e-retailers provide easily accessible and relevant information about delivery alternatives on their websites*
- *E-shoppers and e-retailers sharing delivery experiences in social media and at rating sites to allow others to make more informed decisions about delivery.*
- *Consumer organisations providing information about consumer rights and obligations*

*Policy solutions*

The market solutions identified above can be supported and enforced by policy initiatives. Examples of policy instruments that can be implemented to address information asymmetries and high search cost are:

- *Regulation of information provision*
- *EU-wide trust mark for delivery*
- *Consumer and supplier information and awareness*

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## Box 1 Policy solutions to minimise information gaps

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### **Regulation of information provision**

The new Consumer Rights Directive 2011/83, entering into force in 2013, is designed to reduce the information gaps in online transactions by regulating e.g. the information that e-retailers have to provide. Yet, there still seems to be room for improvements. For example, the Directive does not specify when, nor in what form, information should be provided in order to be useful for the e-shopper.

If competitive pressure is not believed to provide for an efficient outcome with respect to the provision of adequate information, one solution could thus be to extend the Consumer Rights Directive with requirements for when and how information about delivery (delivery mode, time, price) should be displayed at the e-retailer's website.

### **EU-wide trust mark for delivery**

A complement to the new Consumer Rights Directive could be a European trust mark for delivery. Trust marks can assist consumer protection authorities by creating best-practice standards for firms and ensuring compliance with such standards. Trust marks could thus reduce search costs and information asymmetries and thereby improve the confidence in delivery services.

We conclude that existing trust marks do not fulfil the needs regarding delivery. Firstly because existing trust marks have very few, if any, obligations regarding delivery. Secondly because the trust marks are national and therefore not well suited to provide trust for cross-border e-shoppers.

A European trust mark could be implemented for delivery operators, including e.g. requirements related to delivery performance, return possibilities, complaints handling, and the provision of transparent and easily accessible information. E-retailers who would like to display the trust mark to their customers would have to use accredited delivery operators only. Mystery shopping could be conducted to control compliance with the requirements.

A common trust mark would moreover provide a single logo that can be recognised across the EU-27 and beyond. It could be developed as a new, delivery oriented, trust mark or as part of a broader scheme including additional requirements regarding e.g. payments and data protection.

The trust mark could be administered through co-regulation where European associations for consumer organisations, e-retailers, and delivery operators would be accountable for the development and the administration of the scheme.

### **Consumer and supplier information and awareness**

Information and initiatives to increase consumers' and suppliers' awareness about information challenges may accompany the initiatives mentioned above. The policy initiatives in place will only have their intended effect if consumers and suppliers are aware of their existence and their implications. For example, trust marks will not be very useful if suppliers are not aware of their existence or if customers do not know how to interpret them. Education can be performed by national or EU-wide consumer authorities, e.g. in terms of campaigns.

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Source: Copenhagen Economics

### **Service gaps**

*Service gaps* occur when e-retailers and e-shoppers do not have access to the delivery services they prefer, e.g. in terms of service characteristics, destinations, or prices.

We identify a service gap for an e-shopper if the delivery services which she considered to be important were unavailable at her most recent online purchase. In other words, if an e-shopper finds express delivery important – but was not able to buy this service at the most recent online purchase, we identify this as a service gap.

The analysis reveals that e-shoppers experience the largest service gaps with respect to:

- *convenient returns*,
- *'free delivery'*, and
- *specific services*, e.g. the ability to redirect a parcel in transit or the ability for e-shoppers to make their own choice of delivery point at the time of purchase.

At least 80 per cent of e-shoppers find these features to be important for their decision to shop online, but only 30 per cent had access to them at their most recent online purchase. In other words, at least 50 per cent of e-shoppers experienced a service gap.

By analysing the services provided by delivery operators, we conclude that most of the services are indeed offered by the delivery operators. However, e-retailers sometimes have to combine the offerings of several delivery operators to be able to offer a wide spectrum of delivery services. That e-retailers offer a smaller spectrum of services is thus natural, because the more services the e-retailer decides to offer the higher is the logistical complexity, and the costs of integrating the offers of multiple delivery operators. Another reason for more narrow service offerings provided by e-retailers is high delivery prices. If services are offered at too high prices by the delivery operators, this might discourage e-retailers from offering the services in question.

However, we also observe occasions where services do not seem to be available from delivery operators.

For domestic deliveries (especially in less mature e-commerce markets), this seems to be the case with respect to e.g. return options and more convenient delivery times, such as Saturday or evening delivery, or delivery at a pre-defined timeslot. Moreover, we also observe that many services are only available in part of the country.

For cross-border deliveries, we find that delivery operators to a lesser extent offer value added services such as electronic notification of delivery and tracking of parcels, as well as certain return options. The availability of services is in general better for domestic delivery than for cross-border delivery. This leads to service gaps for e-shoppers, notably when comparing domestic and cross-border offerings.

We identify two main reasons for why delivery operators do not offer certain services. These are *low volumes* and *interoperability problems*.

*First*, the fact that pick-up and transportation costs are the same irrespective of the volume handled means that customers or areas with *low volumes* are more costly to serve than those with high volumes. If the cost of delivery exceeds the willingness to pay, the service in question will not be provided on a commercial basis. This is not a market fail-

ure, but instead it is well functioning market forces ensuring that services where costs exceed the willingness to pay are not provided.

*Second*, insufficient *interoperability* in terms of lack of access to integrated systems for information exchange (e.g. track and trace) sometimes prevent small delivery operators from offering these services. The reason is that they find it too costly to integrate solutions on a bilateral basis. In fact, 25 per cent of delivery operators that have responded to our questionnaire perceive a lack of access to integrated systems for tracking to be problematic.

An important finding from our research is that too high delivery prices are a key concern for both e-shoppers and e-retailers. Our survey among e-shoppers reveals that 21 per cent of all e-shoppers were dissatisfied with the price of delivery at their most recent purchase. One reason for this might be high expectations with respect to low delivery prices. In fact, the survey shows that almost 50 per cent of e-shoppers are not given the choice of ‘free delivery’ as often as they would like to. We do not observe any relation between satisfaction with prices and e-retailer size or location. Customers of small e-retailers are just as satisfied with prices as customers of big e-retailers. Moreover, we find no significant difference between prices for domestic and cross-border deliveries.

High delivery prices also seems to be problematic from the e-retailers’ perspective. According to a recent Eurobarometer survey, 27 per cent of EU retailers considered high costs of cross-border delivery to hinder cross-border sales to other EU countries. We observe that e-retailers primarily face high prices in relation to small volumes and cross-border delivery. Notably, we observe that e-retailers who are able to send shipments in bulk save, on average, at least 18 per cent per parcel compared to small retailers who buy delivery as single piece shipments. Sometimes the savings are significantly higher. We also observe that cross-border delivery prices often are 3-5 times higher than domestic delivery prices. High delivery prices reduce e-commerce.

We observe that higher delivery prices can be explained by a combination of challenges, where the two most prominent seems to be low volumes (leading to high costs and therefore high prices) and insufficient interoperability. Interoperability challenges contribute to high prices by reducing the competition between delivery operators. Notably, many e-retailers find it difficult to engage with multiple operators because they find it too costly to do so. As a result, e-retailers do not switch between delivery operators but remain with the same operator.<sup>20</sup> This reduces the competitive pressure among delivery operators and might thus to some extent explain the high prices observed for some users.

We find that high cross-border prices only partly can be explained by extra costs incurred in relation to cross-border delivery (e.g. transport, sorting, labelling). High cross-border prices also seem to result from weaker competition for cross-border deliveries and from lower volumes handled (resulting in higher cost per item). We observe that there are no formal barriers for local or regional delivery operators to engage in cross-border e-commerce. Still, we note that the majority of cross-border volumes (almost 90 per cent)

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<sup>20</sup> In the e-retailer survey, 28 per cent of the e-retailers state that the only relevant alternative for delivery is the national postal operator.

are delivered by national postal operators or multinational integrators. This could weaken the competitive pressure on delivery operators and result in higher prices.

#### *Market solutions*

For several of the challenges that explain the lack of delivery services we note that market solutions can be found (and often already are at play). Examples are:

- Low volumes
  - *Co-operation among delivery operators for last mile delivery*
  - *Parcel brokers and consolidators offering bulk discounts to smaller e-retailers*
  - *Large e-retailers (market places) offering smaller e-retailers bulk discounts*
- Insufficient interoperability
  - *Co-operation among delivery operators with respect to common labels<sup>21</sup>*
  - *Co-operation on ‘e-commerce friendly’ letter box standards*
  - *Bilateral integration of systems for cross-border tracking*
  - *Provision of stand-alone cross-border return solutions*
  - *Logistics intermediaries providing solutions for multi-sourcing of carriers*
  - *Customised delivery solutions provided by delivery operators*

To reduce delivery costs, e-retailers have the possibility to consolidate their volumes, e.g. by selling via market places that offer delivery, or by engaging with parcel brokers and consolidators. Until now logistics intermediaries have primarily been present in more mature e-commerce and delivery markets. However, we notice a tendency of expansion also to the more emerging markets. For example, several intermediaries that previously have focussed on domestic deliveries in their home country or core markets are now extending their offers to cross-border services and additional markets. Our research, however, reveals that most e-retailers are not aware of these alternatives today. This is an information gap.

We also observe that national postal operators often co-operate to improve the provision of customer-oriented delivery solutions. Examples are provided by co-operation on common labels, integrated systems for returns handling, and common platforms for tracking of parcels. A more widespread adaption of these kinds of solutions could benefit the development of e-commerce.

#### *Policy solutions*

Sometimes, service gaps are created by *market failures*. In these situations, policy solutions may be necessary to minimise the gaps. Policy instruments that can be implemented to complement existing market solutions and address insufficient interoperability and weak competition are:

- Insufficient interoperability
  - *General requirement to base tracking systems on open APIs*
  - *Standardisation of tracking systems*

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<sup>21</sup> A label is a tag with information on the recipient’s name and address, barcode for tracking, and other necessary information for processing a delivery.

- *Facilitation of further industry collaboration on cross-border tracking*
- *Introduction of EU-wide addressing and labelling standards<sup>22</sup>*
- *Introduction of a EU-wide e-commerce friendly letter box standard*
- *Continued development of initiatives to increase interoperability*
- Weak competition
  - *Effective enforcement of competition law*
  - *Policies to reduce structural entry barriers*
  - *Extension of the postal USO to more parcel/packet products*
  - *Regulation based on SMP framework*
  - *Introduction of price regulation on cross-border shipments*

Out of these examples, we propose to prioritise four initiatives:

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## **Box 2 Policy solutions to minimise service gaps**

### **Facilitate further industry collaboration on cross-border tracking**

Integration of track and trace systems can be facilitated in several ways. One way is through standardisation (i.e. forcing delivery operators to use the same systems). Another way is through a general requirement on delivery operators to base their tracking systems on open application programming interfaces (APIs).

Implementing a European standard for tracking and information exchange implies a number of challenges that have to be considered. For example: What standard should be used (existing or new)? Will the choice of standard system provide some operators with a competitive advantage? What is the cost of developing and implementing the standard? How will innovation be affected?

Requiring open APIs will enable integrated tracking systems, but it may be costly. Requiring open APIs will especially be costly for delivery operators that have long standing systems in place which are not based on open APIs, or when much adjustment has to be made in order to ensure compatibility across systems.

An alternative to standardisation and general requirements could be to facilitate further collaboration among operators via conferences and studies. This approach is already implemented, e.g. by the IPC which already has developed systems for cross-border tracking within its Parcel Group (the EPG). By applying this approach to a wider audience, the European Commission might be able to expand this kind of knowledge sharing and development of common solutions to non-NPOs.

### **Introduce EU-wide labelling standard**

A European labelling standard could reduce delivery costs (and possibly spill over in lower delivery prices) by (i) reducing parcel labelling costs for delivery operators (no double labelling), (ii) reducing delivery time for delivery operators (no re-labelling), (iii) reducing search costs for e-retailers engaging in direct insert (no uncertainty as to which label to stick onto the package), and (iv) reducing the postage costs for small e-retailers (increased ability to work share). Introducing common standards for labelling also has some disadvantages. For example, harmonising label formats that have been developed by delivery operators over decades will be costly and cause many failed deliveries in a transition period.

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<sup>22</sup> An addressing standard would define a specific way of denoting a unique address including the number of rows in an address, the order of names, street names, house number, postal codes etc. A labelling standard is a standardised format for tags attached to parcels and packages including information on the recipient's name and address, barcode for tracking, and other necessary information for processing a delivery.

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However, the fact that some delivery operators with large bilateral cross-border flows (e.g. bpost and la Poste) have developed compatible label formats on a bilateral basis indicates that the benefits of a common label format exceed the costs. This kind of co-operation could be extended to include also other countries. However, sufficiently large flows of parcels and packets between the countries are necessary to make the investments in dual labels desirable. In other words, the introduction of dual labels between large trading partners such as France, Germany, Belgium and the Netherlands, or between Spain and Portugal would most likely be more viable than the introduction of a dual label between Finland and Malta. Thus, the introduction of a common labelling format for the entire EU, or the introduction of dual labels for all combinations of trade flows would require policy intervention as it would not be provided by the market on commercial terms.

#### **Continue development of existing initiatives to increase interoperability**

Potential to reduce delivery costs (and thereby delivery prices) exists in relation to cross-border and inter-modal transport, where administrative procedures and sub-optimal capacity deployment of the infrastructure in place result in inefficient and costly delivery processes. Here, we observe that on-going initiatives at EU level could be further developed to help reduce delivery costs (and thereby prices). Two examples of such initiatives are DiSCwise and eFreight.

These initiatives aim at improving the homogeneity of cross-border rules, addressing inefficiencies in freight transport information exchange, and improving the competitiveness of the transport & logistics sector in Europe, through the smart use of ICT.

Developing these initiatives further could thus reduce the costs of providing cross-border delivery and thereby facilitate cheaper and more customer-oriented delivery solutions.

#### **Regulation based on SMP framework**

As the majority of e-commerce shipments falls outside the scope of the USO, the ability for NRAs to monitor market performance and regulate prices for e-commerce shipments is rather limited.

A solution to allow for monitoring and regulation of products or segments outside the USO where competition is limited could be to decouple the regulatory scope from the USO scope and impose regulation for those markets where an operator is found to have significant market power (SMP). This would enable ex ante regulation when warranted.

However, before ex ante regulation is implemented, regulators should conduct a market review to ensure that the regulation imposed is both warranted and appropriate. The market analysis performed by the NRA should take place on a case by case basis involving three steps: (i) definition of relevant market(s), (ii) assessment of significant market power, and (iii) market analysis to decide on possible remedies.

An ex-ante SMP framework would allow regulators to: (i) obtain information from all market players for the purpose of conducting market reviews; and (ii) if SMP is found, impose transparency obligation on the SMP operator. By doing so, the regulators could gather and publish (possibly with limitations) information that allows both the regulator and all market players to monitor the conduct of the SMP operator.

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Source: Copenhagen Economics

## **Performance gaps**

*Performance gaps* occur when delivery operators and e-retailers fail to fulfil their obligations (e.g. late delivery, delivery outside agreed timeslot). Our research reveals that 10 per cent of e-shoppers that buy the delivery features that they find important still are dissatisfied. This dissatisfaction is most likely explained (at least to some extent) by the performance of e-retailers and/or delivery operators.

Performance gaps often occur in relation to home delivery. Evidence from previous studies and own desk research witness about (i) non-delivery, (ii) delivery notes that are left in the mail box stating that no one was at home at the time of delivery, although the recipient was at home (iii) delivery operators leaving parcels with a neighbour, at the doorstep, or by the entrance in multi household buildings, without prior consent from the e-shopper<sup>23</sup>, or (iv) e-shoppers waiting for arranged pick up of return parcels that do not take place on the agreed time.

Performance indicators, such as the shares of failed delivery attempts, delayed, or non-delivered items, confirm that delivery operators face challenges to meet the e-shoppers' expectations with respect to delivery performance. We observe that, on average, 13 per cent of NPOs' deliveries fail at the first attempt. For non-NPOs, the corresponding figure is 6 per cent. The reason for this difference might be differences in the services provided (e.g. home delivery with and without prior appointment being made). Nevertheless, failed deliveries are likely to cause frustration among e-shoppers, who do not receive the ordered product as anticipated. Moreover, we note that the average share of delayed deliveries in the EU is approximately 18 per cent. The fact that almost every fifth delivery is delayed is likely to causes frustration and dissatisfaction among e-shoppers.

Our analysis of performance gaps reveal that most performance gaps seem to derive from *operational problems*, i.e. delivery workers failing to comply with delivery instructions due to lack of training<sup>24</sup>, too high work load (insufficient time to provide good quality), and motivational problems between management and delivery workers. As a result, delivery workers may not live up to the standards promised by the delivery operator.<sup>25</sup>

In addition to operational problems, we observe that delivery performance is caused by *insufficient access to address databases and keys to multi-household buildings*.

#### *Market solutions*

We find that market solutions, such as sharing of user experiences via social media and rating platforms, may minimise performance gaps caused by operational problems. Bad publicity from social media and press can be a fire starter for policies or measures taken to improve efficiency of distribution networks and performance. Whether this pro-activeness of managers follow through the entire delivery value chain to the individual delivery worker and improve performance is however less evident. By providing users of

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<sup>23</sup> Sometimes this is an information gap. For example, the contract between the e-retailer and the delivery operator might include a clause allowing the delivery operator to leave the parcel with a neighbour. If the e-retailer has not informed the e-shopper about this prior to the purchase, this might cause dissatisfaction with the e-shopper at the time of delivery.

<sup>24</sup> Lack of training seems to be a problem, especially in relation to peak periods, such as Christmas, when delivery operators hire additional (often inexperienced) workers to cope with the higher volumes. See for example, Mesure, S. (2013)

<sup>25</sup> This can be a problem both with employed delivery workers and subcontractors (for example self-employed).

delivery services with a signal of quality of a given supplier, social media plays a similar role as trust marks for delivery. Market solutions and policy solutions can thus complement, and to some extent substitute, each other.

*Policy solutions*

Complementary policy solutions, such as *EU-wide trust marks for delivery and access to address databases for the purpose of parcel delivery*, could further promote better delivery performance.

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### **Box 3 Policy solutions to minimise performance gaps**

#### **EU-wide trust marks for delivery**

A trust mark that only is granted to delivery operators who adhere to identified codes of conduct with respect to training and working conditions might incentivise delivery operators to perform well. Monitoring of delivery performance could be done through mystery shopping. As the choice of delivery operator often is made by e-retailers, a trust mark would first and foremost help e-retailers tell apart the best performing delivery operators from the less good performers. Objective measures from mystery shopping would also allow e-retailers to use more effective incentive contracts where the payment for delivery depends on delivery performance (e.g. the share of delayed or non-delivered items).

Trust marks could also serve to incentivise good performance for e-retailers, for instance by including requirements with respect to procedures for complaints handling and dispute resolution developed in cooperation with national consumer authorities. By requiring the provision of timely notifications of product dispatch, a trust mark could also reduce the share of delivery delays caused by e-retailers. Monitoring of compliance with the trust mark policy could be facilitated through mystery shopping – to be carried out in compliance with applicable law.

#### **Ensure access to address databases for the purpose of parcel delivery**

National databases containing addresses and information about change of addresses exist in most Member States. However, they are often managed by the NPOs and other delivery operators often lack access. As a consequence, delivery operators experience problems with wrong or incomplete addresses, which result in the consignments not being delivered on time, or even being returned to the sender.

Hence, to improve delivery performance and reduce the share of delivery failures due to faulty addresses, access to national address databases at transparent and non-discriminatory conditions should be granted not only to postal operators, but also to other delivery operators.

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Source: Copenhagen Economics

## Chapter 1

# Setting the Scene

In this chapter, we describe the relationship between e-commerce and delivery, present the key operators in these markets, and describe how they interact.

### 1.1 The purpose of this study

Domestic and cross-border e-commerce levels in Europe vary greatly across countries and levels of cross-border e-commerce are in general significantly lower than the levels of domestic e-commerce.<sup>26</sup>

Earlier research<sup>27</sup> has shown that increased confidence in, and use of, e-commerce, require delivery systems that meet both e-retailers' and e-shoppers' needs in terms of providing:

- An adequate choice of delivery services (including pick-up solutions)
- Affordable prices of delivery services
- Good quality and reliability of delivery services
- Adequate timing and speed of delivery services
- The provision of the right delivery related information at the right place/time
- Good quality and reliability of return procedures

In this study we analyse how *delivery of products bought online* can be improved to increase the amount of domestic and cross-border e-commerce in Europe.

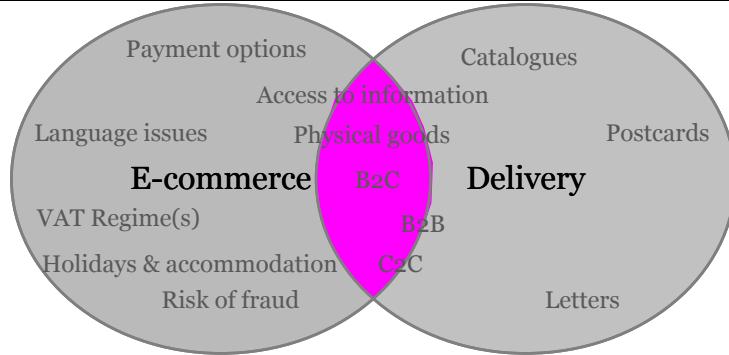
Our study is neither a full-scale e-commerce study, highlighting all challenges and opportunities linked to e-commerce, nor is it a study about all kinds of delivery. The focus is solely on the *delivery of products bought online*, cf. Figure 1.

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<sup>26</sup> Eurostat (2013a)

<sup>27</sup> See for example Civic Consulting (2011)

**Figure 1 The scope of the study**



Note: Left circle: E-commerce includes B2B, B2C and C2C online sales of both physical goods and services such as holidays and accommodation. There is a broad spectrum of factors affecting e-shoppers' and e-retailers' propensity to engage in e-commerce, e.g. payment options, language issues, and access to information. Right circle: Delivery in the broad sense includes all types of conveyance of physical products, e.g. letters, postcards and physical goods in terms of packets and parcels. This study focuses on B2C e-commerce involving physical goods being delivered to the buyer via a delivery service – i.e. the intersection of the two circles.

Source: Copenhagen Economics

## 1.2 E-commerce and delivery

E-commerce is a broad concept. It includes online transactions business-to-business (B2B), business-to-consumer (B2C), consumer-to-business (C2B)<sup>28</sup>, and consumer-to-consumer (C2C), both with respect to virtual and physical goods.

The definition of e-commerce used by Eurostat<sup>29</sup> is:

*"the sale or purchase of goods or services, whether between businesses, households, individuals or private organizations, through electronic transactions conducted via the internet or other computer-mediated (online communication) networks."*

For households and individuals (x2C e-commerce), Eurostat defines e-commerce as:

*"[...] the placing of orders for goods or services via the internet. Also included in the definition are:*

- *buying financial investments - such as shares;*
- *confirming reservations for accommodation and travel;*
- *participating in lotteries and betting;*
- *paying for information services from the internet;*
- *buying via online auctions.*

*Orders via manually typed e-mails, however, are excluded."<sup>30</sup>*

B2B e-commerce is defined as:

*"the placement of orders (an order is a commitment to purchase goods or services) via computer networks. [...] Orders via manually typed e-mails, however, are excluded."<sup>31</sup>*

<sup>28</sup> For example in case of returns

<sup>29</sup> Eurostat (2013b)

<sup>30</sup> Eurostat (2013b)

<sup>31</sup> Eurostat (2013b)

For the purpose of this study, we define e-commerce as:

***B2C sale of goods requiring physical delivery to the buyer, conducted via the internet, excluding orders via manually typed e-mails***

In addition to e-retailers selling goods via their *own* web shops, this definition also includes auction site trading by small and medium sized enterprises (SMEs) via market places such as eBay, Marktplaats, PriceMinister, PixPlace, and Amazon Market place. Three types of online trade are, however, excluded from this definition.

*The first one* is online purchases where *no physical delivery* is required, e.g. accommodation and travel arrangements, cinema tickets, e-books and the likes. The reason for excluding this type of trade from the analysis is the focus on the delivery element of e-commerce in this report.

*The second one* is *pure B2B e-commerce*. The reason for excluding this type of trade is that most B2B e-commerce is of highly automatic nature, e.g. a car manufacturer ordering windscreens from a fabric in another Member State. Moreover, most delivery-related challenges met in B2C e-commerce do not apply to B2B e-commerce. For example, businesses often order large quantities and are always “at home” to receive the delivery.

*The third one* is *pure C2C e-commerce*. The reason for excluding this type of trade is that C2C orders often are made via e-mail or telephone (hence outside the e-commerce definition). Moreover, the role of delivery for C2C e-commerce is very similar to that for SME B2C e-commerce. Thus, we will review the findings from SMEs engaging in B2C e-commerce and highlight the issues likely to be of greatest relevance to C2C e-commerce.

### **Domestic vs. cross-border e-commerce and delivery**

The focus of this study is both domestic and cross-border e-commerce. Although domestic e-commerce transactions often involve domestic delivery, and cross-border e-commerce transactions often involve cross-border delivery, this is not always the case.

Sometimes domestic e-commerce (i.e. shopping from the website of a domestic e-retailer or a foreign e-retailer with a local web shop in the e-shopper’s country) involves delivery from a warehouse in another country. For example, Danish e-shoppers ordering products from Pixmania (with a Danish-language site) will get their products delivered from France. In this case, the e-shopper may not perceive the transaction as “cross-border” although the e-retailer and delivery operator do so.

Similarly, cross-border e-commerce (i.e. shopping from the website of a foreign e-retailer without a local web shop) may involve domestic delivery from a warehouse in the e-shopper’s own country. We investigate all these aspects of cross-border transactions, cf. Table 1, (i.e. the challenges faced by e-retailers and delivery operators when delivering goods within and between countries).

**Table 1 Domestic vs. cross-border e-commerce and delivery**

	Warehouse in the same country as e-shopper	Warehouse NOT in the same country as e-shopper
E-retailer and e-shopper in the same country	<b>DOMESTIC E-COMMERCE + DOMESTIC DELIVERY</b> e.g. Danish e-shopper orders a toy from lirumraumleg.dk which is shipped from warehouse in Hornbæk (DK)	<b>DOMESTIC E-COMMERCE + CROSS-BORDER DELIVERY</b> e.g. Danish e-shopper orders a computer game from pixmania.dk which is shipped from Paris (FR)
E-retailer and e-shopper NOT in the same country	<b>CROSS-BORDER E-COMMERCE + DOMESTIC DELIVERY</b> e.g. Danish e-shopper orders a book from bokia.se which is shipped directly from a publisher in Denmark	<b>CROSS-BORDER E-COMMERCE + CROSS-BORDER DELIVERY</b> e.g. Danish e-shopper orders a shirt from bivolino.com which is shipped from Belgium

Source: Copenhagen Economics

Sometimes, domestic e-commerce may involve cross-border *wholesale trade*. For example, an Austrian e-retailer may import products from a manufacturer in Germany to a warehouse in Austria for further distribution to Austrian e-shoppers. This type of cross-border wholesale transport is *not* covered in this study.

This study focuses on intra-EU transactions. Online purchases from web shops in the US or in Asia, as well as B2B delivery from wholesalers located outside the EU to e-retailers in the EU, are thus excluded.

### 1.3 The e-commerce delivery value chain

E-commerce driven delivery, i.e. delivery of products bought online, is a rather complex business involving four main stakeholder groups and a variety of different combinations and business models:

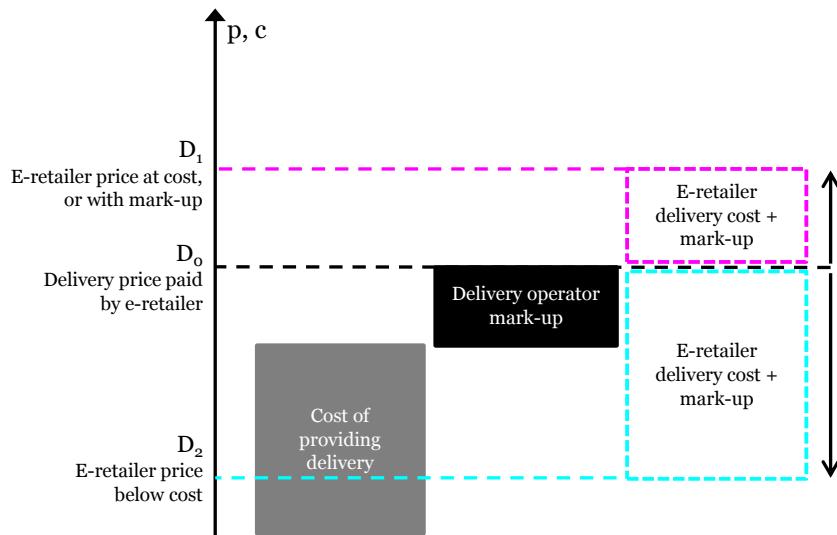
- E-shoppers: Buy products and delivery services from e-retailers;
- E-retailers: Buy services from delivery operators and logistics intermediaries;
- Delivery operators: May buy part of their services from other delivery operators;
- Logistics intermediaries: Operate in the intersections that exist between e-shoppers, e-retailers and delivery operators.

In this setup, delivery operators and logistic intermediaries determine what services are available to e-retailers (and at what prices). However, the availability of service options and prices faced by the e-shoppers may not necessarily reflect this. The reason is that e-retailers often cannot provide tailor-made delivery solutions for all e-shoppers but have to decide on a mix of services and prices that they believe fit their customers' needs and preferences. As a result, some e-retailers offer a wide range of delivery options at different prices, whereas others provide fewer options.

Also, some e-retailers use the delivery price as a marketing tool and even choose to include the delivery cost in the product price and offer one standard solution of 'free delivery'. Consequently, the price charged by the delivery operator (paid by the e-retailer) might not be the same as the delivery price paid by the e-shopper. This is illustrated in

Figure 2 where the delivery price paid by the e-shopper ( $D_2$ ) in one case is lower than the delivery price paid by the e-retailer ( $D_o$ ).

**Figure 2 E-retailer versus e-shopper delivery price**



Source: Copenhagen Economics

Finally, delivery costs constitutes an important part, between 10-30 per cent<sup>32</sup>, of e-retailers' sales costs, (i.e. total costs excluding stock costs). Hence, e-retailers that manage to obtain rebates on their delivery price will have a competitive advantage over other e-retailers.

To analyse the interactions and challenges in this nest of transactions, we develop a systematic model - *the e-commerce delivery value chain*. The value chain explains how stakeholders in e-commerce and delivery markets interact and how their behaviour affects the confidence in, satisfaction with, and use of, e-commerce.

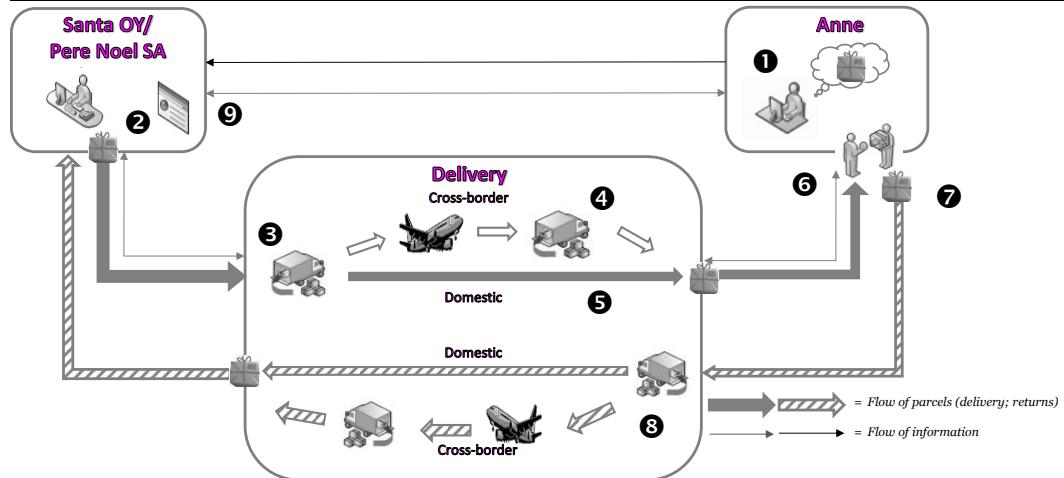
#### The story of an e-purchase

We illustrate the value chain and the delivery-related challenges that may exist by telling the story of the French lady Anne who is shopping online for gifts for her niece and nephew.

Anne in France wants to buy toys online for her niece and nephew. The e-retailer Santa OY supplies presents from Lapland, northern Finland. An alternative e-retailer, Pere Noel S.A., supplies presents from Anne's home country France. Anne decides to buy one gift from Finland, and one from France. The journey from her orders to final delivery is depicted in Figure 3.

<sup>32</sup> Copenhagen Economics based on information from market operator obtained in 2013. Botha et al (2008) report similar figures for delivery of online grocery shopping.

**Figure 3 The e-commerce delivery value chain**



Source: Copenhagen Economics

1. Anne orders the presents from the websites of Santa OY and Pere Noel SA.
2. Santa OY and Pere Noel choose delivery partner(s) and set the delivery price to be paid by Anne.
3. Presents are picked up by delivery operators.
4. Present from Santa OY is delivered cross-border from Finland to France.
5. Present from Pere Noel is delivered domestically within France.
6. Presents are delivered last mile to Anne (to home, retail outlet, pack station etc.).
7. Anne decides to return the present from Santa OY.
8. Present from Santa OY is delivered back to Finland.
9. Santa OY annuls the order and refunds Anne her money.

There are many things that can go wrong in the different stages of the process, causing disappointment and regret for Anne and/or the two e-retailers. Some of them are shown in Table 2.

**Table 2 Illustration of problems occurring along the value chain**

Step in value chain	Example of problem
1. Order placed	Inadequate information provided at e-retailer's website. Lack of customer-oriented delivery options (speed, price, value added features etc.). Lack of transparency.
2. E-retailers choose delivery partners, delivery mix and delivery prices	High delivery prices faced by e-retailers and/or e-shoppers. Limited access to logistics intermediaries. Preferred services not available from delivery operators.
3. Pick-up of products	No notification of pick-up sent to e-shopper.
4-5. Domestic/cross-border delivery	Lack of tracking, long delivery times. Lacking interoperability between delivery operators. Lack of transparency.
6. Last mile delivery	High share of failed first delivery attempts, inconvenient collection procedures (e.g. opening hours, parking facilities), mismatch between e-shopper's expectations and delivery performance.
7-9. Return process	Complicated and/or expensive return procedures. Difficult to find information about returns on e-retailer's website.

Note: The problems described in this table are only a subset of the delivery-related problems that may occur in relation to e-commerce.

Source: Copenhagen Economics

The problems shown in the table above have different sources. For example, some of them may be due to the fact that delivery operators and/or e-retailers do not provide the delivery services that their customers need and prefer. Some of them may be due to the fact that delivery operators do not live up to their promised performance. And some of them may be due to the fact that e-shoppers lack access to adequate information about delivery, or do not check the terms and conditions for delivery prior to the purchase.

Irrespective of the source of the problem, all these situations may lead to unsatisfactory delivery experiences for Anne and/or Santa OY/Pere Noel SA, which in turn may deter them from engaging in domestic and/or cross-border e-commerce.

### Key delivery providers in the e-commerce value chain

Fulfilment of delivery of products bought online involves a number of different market players, cf. Table 3. Whereas some of them are present in all EU Member States, others are only present in more mature e-commerce and delivery markets.<sup>33</sup>

<sup>33</sup> By mature e-commerce market, we refer to markets where the share of internet users engaging in e-commerce is higher than the EU average. By mature delivery markets, we refer to markets with high volumes of packets and parcels per capita in relation to the EU average. For a more detailed description, see chapter 3.

**Table 3 Key delivery operators in the e-commerce value chain**

Operator	Role	Presence	Examples of delivery operators	Examples of users
Integrators	Provide delivery services to e-retailers, both domestically and cross-border (own cross-border network)	Everywhere	UPS, DHL, TNT, FedEx	Easyrollups, Mystica, Pixmania
National postal operators (incl. subsidiaries)	Provide delivery services to e-retailers, both domestically and cross-border (often not own cross-border network)	Every country	Royal Mail, La Poste, PostNord, DPD, GLS	Nespresso, Cool blue, Zalando
National delivery operators	Provide delivery services to e-retailers, domestically and sometimes also cross-border (often not own cross-border network)	Every country	Parcelforce, Hermes, DB Schenker	Chal-Tec, JD Williams, Redcats
Parcel brokers	Buy delivery capacity in bulk from integrators, NPOs and couriers. Discounts obtained are partially passed on to e-retailers.	Mature e-commerce markets	Interparcel, Parcel-to-Europe, Versandbroker.de, myShip.it, fraktjakt.se	Smaller retailers
Parcel and courier consolidators	Provide preparation and collection of parcels, which thereafter are injected into the parcel pipeline. Discounts obtained are partially passed on to e-retailers.	Mature e-commerce markets	Couriers Express (UK), BTB Mailflight, IMX, van-sleent pakketdienst (NL),	Smaller retailers
Fourth party logistics providers (4PL)	Provide full integration (goods intake for e-retailers, pick&pack, shipping as basic services and also Customer Service, Return Management, Goods Sourcing etc.	Mature e-commerce markets	PFS Europe, Katoennatie, CEVA Logistics, S&H Product Fulfillment, various NPOs.	Lego, Olympus, Sorel, O'Neill
Software solution providers	Provide e-retailers and delivery operators with software solutions to support e-logistics and e-fulfilment, e.g. EDI, tracking, labelling, last mile delivery	Mature e-commerce markets	Metapack, GFS, EDIsoft, Hybris, IBM, DemandWare, Blackbay	JD Sports, ASOS
Drop-shippers	Offer e-retailers the ability to market products via their own websites. Sometimes including shipping, where the e-retailer marketing the product has no physical ownership of the product.	Every country	Pixmania Pro, Amazon, bol.com	Smaller retailers

Source: Copenhagen Economics

#### *National postal operators, integrators, courier companies*

National postal operators (NPOs), integrators, and courier companies provide either partial or full end-to-end delivery solutions to e-retailers. Whereas NPOs are present in all countries and with full geographical coverage in their country, integrators and courier companies may focus to a higher extent on urban areas and high volume regions.

Many NPOs and integrators try to expand into other parts of the e-commerce value chain. Two examples of this are PostNL and LaPoste that offer retail, marketing, web shop, payment, fulfilment, delivery and customer service solutions. The purpose of such expansion is often to offer a more integrated solution to e-retailers who do not want to focus on various logistics procedures in-house. By offering a variety of integrated and interoperable solutions, delivery operators provide e-retailers with a one-stop-shop and reduce the need for engaging with several different logistics partners.

#### *Parcel brokers*

Parcel brokers do not actually ship any parcels. They simply act as a broker and take a commission for each parcel booking they make. They offer e-retailers cheap delivery pric-

es by buying delivery slots in bulk and reselling them or by sourcing the lowest price offered on the day from a variety of parcel couriers. Parcel brokers are primarily present in more mature delivery/e-commerce markets with large supply of delivery operators and many smaller senders. Examples of parcel brokers in the EU are Interparcel, Parcel-to-Europe, Parcelmonkey, Versandbroker.de, fraktjakt.se, [www.tarif-colis.com](http://www.tarif-colis.com), [www.envoimoinscher.com](http://www.envoimoinscher.com) etc.

#### *Parcel and courier consolidators*

Parcel and courier consolidators provide preparation and collection of parcels and packets, which thereafter are injected into the delivery operator's parcel pipeline. By collecting volumes from many smaller senders, the consolidator can obtain larger discounts from the delivery operator than the senders would have been able to obtain individually. The discounts obtained are partially passed on to the senders. Just as parcel brokers, consolidators are primarily present in more mature parcel/e-commerce markets with large supply of delivery operators and many smaller senders. Examples of consolidators of parcels and packets in the EU are Couriers Express, BTB Mailflight, IMX, Van-sleen pakketdienst, myShip.it, [www.spedire.com](http://www.spedire.com) etc.

#### *Fourth party logistics providers (4PLs)*

Fourth party logistics providers provide full integration and logistics fulfilment for e-retailers. This includes goods intake, pick&pack, customer service, return management, goods sourcing etc. Examples of fourth party logistics providers in the EU are PFS Europe, Katoennatie, CEVA Logistics, and S&H Product Fulfilment. As observed above, various NPOs also provide logistics and fulfilment for e-retailers.

#### *Software solution providers*

Software solution providers provide e-retailers and delivery operators with software solutions to support e-logistics and e-f fulfilment and to improve efficiency and quality of service (thereby meeting customer needs). Solutions include EDI, tracking, labelling, integration of several delivery operators, personalisation of deliveries, push-notifications to recipients etc. The solutions often aim at lowering the rate of first time delivery failures and increasing customers' satisfaction with delivery. Examples of software solution providers in the EU are MetaPack, GFS, EDI-soft, Hybris, IBM, DemandWare, and Blackbay.

#### *Drop shippers*

A drop shipper is an e-retailer shipping products directly to the e-shoppers from the wholesaler or manufacturer (without keeping them in stock himself). A drop shipper can also be an e-retailer reselling the products of another retailer (typically a larger e-retailer). E-shoppers buying from the drop shipper can usually see that the product is offered originates from a third party, but this is not always the case. Drop shipping includes two options for delivery. On the one hand, the larger retailer or manufacturer may store and ship the product directly, using its existing delivery network (acting as a consolidator). On the other hand the drop shipper may organise shipping from the wholesaler or manufacturer himself. Examples of large e-retailers that provide drop shipping opportunities for smaller e-retailers in the EU are Pixmania, Amazon and Bol.com.

### Business and cooperation models

E-retailers may choose to co-operate with the various operators along the value chain in a number of different ways with respect to the fulfilment of delivery. The e-retailer's choice of delivery model depends on several different factors. The most important factors seem to be the size of the e-retailer in question, its *geographical focus* (domestic vs. cross-border agenda) and its *business model* (pure e-commerce player or multi-channel provider). The *types of products* sold and the *maturity of the e-commerce market* seem to be less important drivers, cf. Table 4.

**Table 4 Factors driving e-retailers' choice of co-operation model**

Primary drivers	Secondary drivers
<b>Size of e-retailer</b> Decisive for e-retailers' ability to obtain discounts on delivery prices when using more than one delivery operator and for their ability to pay for outsourcing of activities.	<b>Product</b> Some outsourcing partners have built strong experience within product-specific areas, e.g. Netrada in Germany that manages logistics on behalf of fashion companies like Esprit, Puma etc. Other examples are outsourcing partners specializing in logistics solutions for medical products or furniture.
<b>Domestic vs. cross-border agenda</b> Decisive for e-retailers' choice of delivery partners and the availability of delivery alternatives.	<b>Maturity of e-commerce market</b> Some co-operation models, e.g. parcel brokers and parcel consolidators, are only available in more mature e-commerce and delivery markets.
<b>Core business (pure players vs. multi-channel companies)</b> Ex: Firms selling fast moving consumer goods often go for full outsourcing as e-commerce is too far away from their core business - preparing many small orders and shipping every day is very different from sending a pallet of goods to a shop, once a week	
<b>Marketing strategy (low price vs. wide choice)</b> Marketing strategy is decisive for the e-retailers choice to offer one or few delivery services at low costs or to provide a wider menu of delivery options and prices.	

Source: Copenhagen Economics, industry expert interviews

The variety of delivery models applied by e-retailers is described in Table 5. We note that small and medium sized e-retailers are more likely only to engage with a single delivery operator than larger e-retailers, but there are also examples of even small e-retailers co-operating with several delivery operators. Also small e-retailers can benefit from engaging with parcel brokers, consolidators, and drop-shippers, cf. Table 5. There are examples of parcel brokers and consolidators with a focus on both domestic and cross-border delivery services while some only focus on domestic deliveries.

**Table 5 Business and co-operation models: Delivery fulfilment**

Value chain business/co-operation model	Examples
Vendor conveyance / direct insert	Large, multinational e-retailers, e.g. Pixmania, Elganten, Bakker group
Direct contract with one delivery partner	Small and new e-retailers + e-retailers without need for differentiated delivery services, e.g. postme.com
Direct contracts with several delivery partners	Small, medium and large e-retailers, e.g. lirumlarumleg.dk , bol.com, Bokia.se, Sleepo.se
Use of parcel consolidator	Small and medium sized e-retailers with difficulties to obtain volume discounts on delivery
Use of parcel broker	Small and medium sized e-retailers with difficulties to obtain volume discounts on delivery
Outsourcing of carrier management	Larger e-retailers with need for variety and resources to outsource carrier management, e.g. Marks & Spencers, Asos
Outsourcing of entire supply chain management	Larger e-retailers with need for variety and resources to outsource carrier management. Multi-channel providers or offline retailers often choose this model, as online sales is not their core-business, e.g. ESPRIT, Puma
Drop-shipping	Small e-retailers who wish to avoid warehousing and logistics (product delivered by drop-shipper), e.g. gucca.dk

Source: Copenhagen Economics

As shown in the table above, large e-retailers with a cross-border agenda may transport their products cross-border themselves (vendor conveyance or “direct insert”) and insert them directly into the domestic delivery network in the destination country. By doing this, the e-retailer do not have to pay the cross-border delivery tariffs charged by ordinary delivery operators. Instead, the e-retailer only pays for last mile delivery (i.e. domestic tariffs) in the destination country. One example of an e-retailer engaging in own conveyance of products is Pixmania, cf. Box 4.

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#### Box 4 Vendor conveyance and multi-sourcing at Pixmania

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Pixmania is one of Europe's leading cross-border e-retailers with virtual presence in 14 countries and a yearly turnover of almost 1 billion Euros.<sup>1</sup> Consumers are buying consumer electronics, household appliances, sports articles and other products from local websites, e.g. pixmania.dk, or pixmania.be although Pixmania does not have physical presence in these countries. When consumers in Denmark or Belgium place orders at the Danish or Belgian Pixmania web shop, the orders are automatically sent to the central European warehouse close to Paris where almost all goods are shipped from. Customer service for each country is also organized out of Paris.

The ordered products are shipped via vendor conveyance. This means that the products are picked and packed at the warehouse in Paris and distributed either via Pixmania's own line haul transport into the respective countries or via a transport partner who injects shipments into a local domestic network in the country of destination. By inserting products directly to the local network, Pixmania pays the domestic delivery rates rather than more expensive cross-border tariffs.

To cater for different consumer preferences, Pixmania often engages with several delivery operators per country. For example, in Belgium Pixmania used to have three delivery partners at one given time: bPost for standard home delivery, DPD for express home delivery and Kiala for collection point delivery<sup>2</sup>. Catering for differing consumer preferences involves a trade-off in terms of giving up a lean logistics setup where all products are delivered by the same operator. However, this trade-off is often larger for smaller e-retailers with low volumes that will lose significant volume discounts on delivery when splitting volumes between several different delivery operators.

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Note: <sup>1</sup>Before April 2013, Pixmania was virtually present in 26 countries. <sup>2</sup>Today, Pixmania engages with bPost for all next day, express and pick-up/drop-off traffic in Belgium.

Source: Copenhagen Economics, E-retailer and industry expert interviews and ACSEL (2012)

Smaller e-retailers often cannot benefit from transporting their products themselves, due to low volumes and low capacity deployment (e.g. driving with half empty trucks). Instead, they engage with one (or sometimes several) delivery operators who takes care of end-to-end delivery of the products.

E-retailers can either engage directly with delivery operators, or use the services provided by consolidators, brokers, and fourth party logistics providers. It is not only e-retailers that have different co-operation models for delivery in place – so do delivery operators. Delivery operators without full geographical coverage, either national or multi-national, can, and to a vast extend do, co-operate with other delivery operators to obtain coverage. This implies that a consignment from an e-retailer in country A might be handled by several different operators before it reaches the e-shopper in country B. For example, the e-retailer might engage with a regional delivery operator in its home country, which in turn co-operates with a regional delivery operator in the destination country. To serve the entire country, the regional delivery operator in the destination country might co-operate with the NPO (which might be the only operator with full geographical coverage). Thus, delivery operators do not have to have their own integrated cross-border networks to provide cross-border delivery services. A concrete example is Norwegian based e-retailer Elgiganten, a Nordic chain selling electronics, house hold appliances etc. For shipments

to Danish customers, delivery operator Bring ships all parcels from the warehouse to Denmark, where last mile delivery is then performed by the NPO, Post Denmark.<sup>34</sup>

The most common cross-border delivery co-operation models are described in Table 6.

**Table 6 Co-operation models for cross-border delivery**

Co-operation model	Description	Examples
NPO→NPO	National postal operators co-operate with respect to cross-border delivery and returns based on multi-lateral and bilateral agreements.	IPC parcel network (European Parcel Group + European Return Solution) Members, e.g. Itella, Poste Italiane; Kahala Posts Group
NPO→foreign subsidiary	National postal operator with foreign subsidiary use own delivery network cross-border. Full integration of computer system allows for end-to-end tracking	Deutsche Post-->DHL, La Poste-->DPD, Royal Mail-->GLS,
NPO→private operator/courier	National postal operators co-operate with private operators abroad due to cost, quality and efficiency reasons. Have to provide computer system for integration of tracking systems and reach agreements on data sharing with co-operation partners	PostNL (drop-off for senders via CollectPlus in the UK)
Private operator→NPO/private operator partner	Private operator without full geographical coverage of last-mile delivery	EURODIS network, UPS (last mile delivery with Bring in parts on Denmark), Hermes, InPost
Private operator A→private operator B	Private operator co-operate with other private operator to enhance the variety of delivery services on offer	Kiala (home delivery via DPD), DPD (returns via DHL)

Source: Copenhagen Economics

The choice of cross-border co-operation model is driven by four main factors: *price and quality of delivery, reciprocity, and the presence of own delivery networks*.

Price and quality of physical delivery and associated data (e.g. information used for cross-border tracking of parcels) are decisive for delivery operators' choice of co-operation partner. Although NPOs often co-operate with each other, they do not always do so if they get better quality and price offers from other operators. For example, PostNL co-operates with both other NPOs and with private operators, depending on which operator provides the most favourable conditions.

Reciprocity ("If you give me business, I'll give you business") is another factor that to some extent affects the choice of cross-border delivery partners.

Last, but not least, the choice of cross-border delivery partner is affected by the presence of own delivery networks. For example, PostNL is operating an own B2C network in Belgium and does therefore not co-operate with bpost. Royal Mail is using their own subsidiary GLS for deliveries in Belgium so there is no use setting up better tracking between Royal Mail and bpost. The same goes for postal operators' individual International Mail and Parcels divisions (bpost International Mail, Asendia, DHL Global Mail etc).

<sup>34</sup> Copenhagen Economics, Delivery operator interviews.

## Chapter 2

# User needs

When e-shoppers buy products online they have almost infinite choice in terms of what they can buy, where they can buy it, and when they can buy it. E-shoppers expect similar choice and control when it comes to delivery of the products bought. This puts new challenges on delivery operators as they need to develop new customer-oriented delivery solutions that offer convenient delivery options at reasonable prices. If the delivery services on offer do not meet the needs of e-retailers and e-shoppers, this may imply a lower willingness to engage in e-commerce.

This chapter describes the demand for e-commerce driven delivery. Based on existing literature and new research, we investigate e-retailers' and e-shoppers' delivery preferences when buying online.

### 2.1 Main findings

Delivery conditions are important for consumers' decisions to buy online. At least 90 per cent of e-shoppers<sup>35</sup> mention low delivery prices and convenient return options as important for their decision to buy from the same web shop again. 'Free' delivery or flexible and convenient deliveries are also important (mentioned by 85-90 per cent of e-shoppers).

We find that the most important delivery aspects for e-shoppers are low delivery prices, home delivery, access to electronic delivery notifications and track and trace, as well as convenient return options. Features considered less important are for example next day delivery, Saturday or evening delivery, and delivery to a post office or collection point. An interesting finding is that e-shoppers find time-specific delivery more important than fast delivery. This means that delivery operators that traditionally have focussed on speed are faced with new logistical demands. It also highlights the importance of good information flows between delivery operators, e-retailers and e-shoppers during the delivery process, e.g. access to real time information, track and trace and electronic delivery notifications.

The main drivers of delivery preferences seem to be the age of e-shoppers as well as their residential location (urban versus rural). For example, we observe that fast delivery is more important to younger e-shoppers than to older ones. 51 and 48 per cent of e-shoppers aged 18-29 and 30-45 years respectively find evening delivery important, while only 39 per cent of e-shoppers aged 45-65 years old find this delivery feature important.<sup>36</sup> We also observe that e-shoppers in urban areas tend to assign higher importance to speed in comparison to e-shoppers in rural areas. For example, we find that 66 per cent of e-shoppers residing in urban areas find next day delivery important, while the corresponding share of e-shoppers in rural areas finding this feature important is 58 per cent.

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<sup>35</sup> The results regarding e-shoppers' preferences for delivery are based on an online survey conducted among 3,000 e-shoppers in Estonia, Germany, Ireland, Poland, Spain, and Sweden.

<sup>36</sup> Copenhagen economics, E-shopper survey, cf. Appendix B.

Preferences often do not differ significantly between countries. In other words, e-shoppers in countries where e-commerce is less widespread have similar preferences as e-shoppers in countries with a high level of e-commerce. For example, the home address is still the preferred delivery point in all countries, except Sweden<sup>37</sup>. The country-specific preferences we observe seem to be caused by tradition<sup>38</sup>, cultural differences or difference in technological development.

We find that e-retailers' delivery preferences to a large extent mirror those of the e-shoppers.<sup>39</sup> This is particularly the case with respect to the time and speed of delivery, value added features, and return options. Preferences are more diverse for delivery points. Whereas both e-shoppers and e-retailers find home delivery to be the preferred delivery option, e-retailers tend to find delivery to work address more important than e-shoppers do. Conversely, e-shoppers tend to prefer delivery to a post office more important than e-retailers do.

Last, but not least, we find that e-retailers' delivery preferences differ with respect to whether they sell cross-border or not. For example, domestic e-retailers tend to find faster delivery more important than cross-border e-retailers do. This result is not surprising, since domestic deliveries normally are expected to be faster than cross-border deliveries. Similarly, cross-border e-retailers tend to prefer a wider spectrum of delivery services with different prices, whereas domestic e-retailers tend to prefer a smaller spectrum of services with less price flexibility for the e-shopper. This finding might reflect the fact that e-retailers in Europe in general are more aware of the domestic customers' preferences than those of cross-border customers. It might also reflect the fact that cross-border e-retailers often are more experienced than domestic ones<sup>40</sup> and therefore can handle the complexity of offering more choice.

## 2.2 Analytical framework

The findings in this chapter are based on two surveys among users of e-commerce driven delivery services (e-retailers and e-shoppers), as well as existing studies.

The e-shopper survey was conducted as an online survey between 10<sup>th</sup> and 30<sup>th</sup> January 2013, including 3,077 respondents in six countries; Sweden, Germany, Poland, Spain, Ireland, and Estonia. These six countries represent different level of e-commerce maturity.<sup>41</sup> They are also of different size and represent different parts of Europe. The selection of countries is described in more detailed in chapter 3. The e-shopper survey was con-

<sup>37</sup> This is most likely explained by the well-developed network of retail outlets (post-in-shops and collection points) where Swedish e-shoppers are used to pick up their parcels.

<sup>38</sup> Tradition means that customers who do not have access to a delivery feature today (e.g. parcel kiosks) have a weaker preference for this feature compared with customers who already have access to the feature.

<sup>39</sup> The results regarding e-retailers' preferences for delivery are based on an online survey conducted among 70 e-retailers in 21 Member States, as well as in-depth interviews conducted with e-retailers and e-retailer associations across the EU.

<sup>40</sup> Many e-retailers start out with selling only in the domestic market, before they expand to cross-border sales.

<sup>41</sup> By e-commerce maturity, we mean the level of domestic and cross-border e-commerce conducted by internet users. Sweden and Germany are considered to be well-performing markets with respect to both domestic and cross-border e-commerce. Ireland and Spain are considered to be well-performing markets with respect to cross-border e-commerce, but with a challenge with respect to domestic e-commerce. Poland and Estonia are performing worse than the EU average both with respect to domestic and cross-border delivery.

ducted among respondents who already shop online and hence have experience with e-shopping. By targeting these respondents, we ensure statistical validity of our results through a high number of respondents with actual experience of e-commerce. For this reason, our sample does not contain non-e-shoppers. To shed light on delivery problems perceived by non-e-shoppers, We use results from a recent study by Civic Consulting (2011), who studied the differences in online shopping behaviour between frequent e-shoppers, less frequent e-shoppers, and non-e-shoppers.

The e-retailer survey was conducted as an online survey between 11<sup>th</sup> January and 26<sup>th</sup> February 2013. By distributing a link to the survey both directly to e-retailers and to e-retailers indirectly through e-retailer associations throughout Europe, we have addressed a more than 1,000 e-retailers. The final number of respondents was 70 e-retailers, located in 21 different Member States. Detailed results from these surveys are presented in Appendix B.

We have also surveyed the vast existing literature on e-commerce and user needs. Whereas e-shoppers' attitudes towards online shopping and delivery of products bought online have been the subject of several previous studies, relatively little research has been conducted with respect to e-retailers' delivery needs. Table 7 summarizes the most recent, relevant research in the area of user needs. Due to the rapid development of e-commerce, delivery options, and user needs, we have chosen to include literature that is no more than three years old. We will refer to these studies throughout this and subsequent chapters of the report.

**Table 7 Outline of existing literature**

Author	Full title	Year
IMRG	UK Consumer Home Delivery Review - 2012	2012
Post Danmark	E-handel 2012.	2012
Post Nord	E-commerce in the Nordics 2012	2012
Bring	E-handelsrapporten från Bring 2012	2012
Pitney Bowes	E-commerce survey provides roadmap	2011
IPC	Cross-border E-Commerce Report	2010
Civic Consulting	Consumer market study on the functioning of e-commerce and Internet marketing and selling techniques in the retail of goods	2011
Accenture	European Cross-border E-commerce The Challenge of Achieving Profitable Growth	2012
WorldPay	Are you giving your customers what they really, really want?	2012
Flash Eurobarometer 332	Consumers' Attitude towards Cross-Border trade and Consumer protection	2012
Flash Eurobarometer 331	Retailers' Attitude towards Cross-Border trade and Consumer protection	2012
BVH	E-commerce Leitfaden	2012
Deutsche Post &TNS Infratest	Einkaufen 4.0 Der Einfluss von E-commerce auf Lebensqualität und Einkaufsverhalten	2012
Miccos E-commerce Services	Home Delivery in the UK – The Doorstep Experience	2012
Posten, HUI, Svensk Distanthandel	e-barometern Q1 2012, Den svenska detaljhandelns utveckling inom e-handel	2012
ECCN	Online cross-border mystery shopping – state of the e-union	2011
Snow Valley	Online returns & refunds	2011
Consumer Focus Scotland	Effective parcel delivery in the online era – What consumers in Scotland need	2012

Source: Copenhagen Economics

## 2.3 Users of e-commerce driven delivery services

There are two types of users of e-commerce driven delivery services:

- *E-shoppers*: final consumers of delivery, buying delivery service from e-retailer without a contract with the delivery operator(s).
- *E-retailers*: intermediate consumers of delivery, buying delivery services from delivery operators and logistics intermediaries.

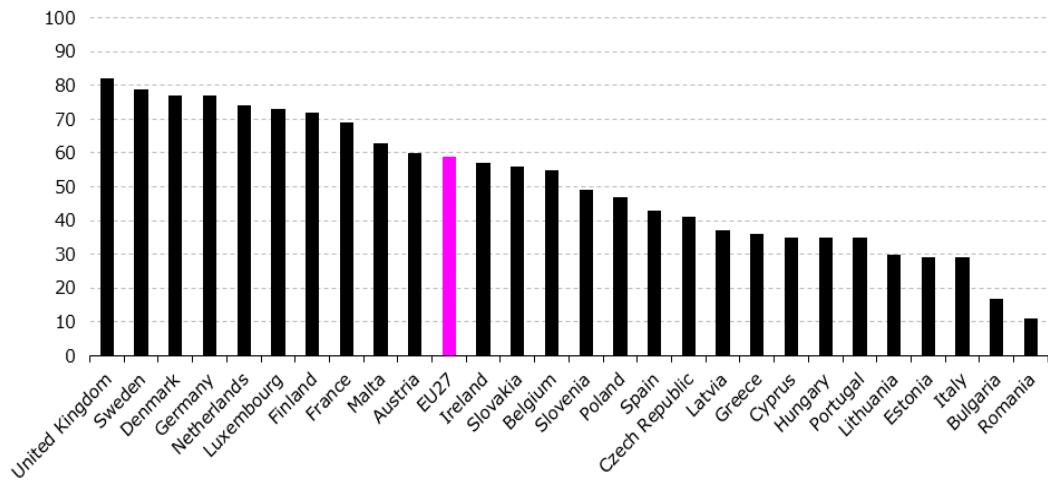
### E-shoppers

In this section, we identify the e-shoppers. Who are they? What do they buy? Where do they live? The reason for doing this is that user characteristics may impact on delivery needs and preferences.

As a starting point, we observe that the levels of e-commerce differ significantly across EU's member States. Whereas over 80 per cent of internet users in the UK bought something online in 2012, the corresponding figure for Romania is approximately 10 per cent, cf. Figure 4. The majority of EU citizens engaging in e-commerce today reside in the northern and western parts of Europe (UK, Sweden, Denmark, Germany, Netherlands, Luxembourg, Finland, France, Malta and Austria). In these countries, more than 60 per cent of internet users engaged in e-commerce in 2012. For Member States in the southern and eastern parts of the EU, the share of internet users having bought something online is

significantly lower. In the ten Member States with the lowest share of online purchases, less than 40 per cent of internet users bought something online in 2012.

**Figure 4 Share of internet users engaging in e-commerce, 2012**

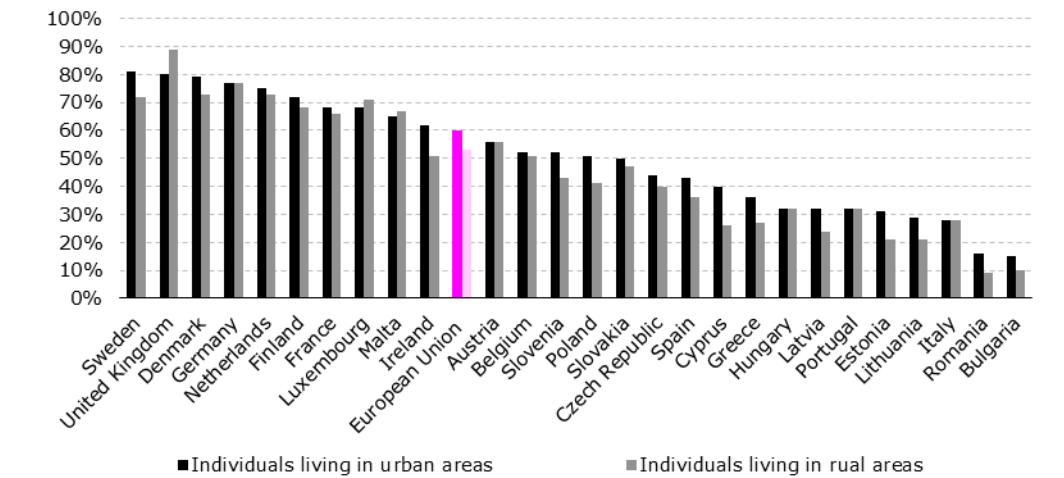


Note: Share of internet users who bought goods or services online during the past 12 months. Figures for Denmark, the Netherlands and the Czech Republic are from 2011.

Source: Eurostat (2013a)

The share of internet users engaging in e-commerce is in general higher in urban than in rural areas. This is the case for all EU Member States except for Austria, Germany, Hungary, Italy, Luxembourg, Malta, Portugal, and the UK, cf. Figure 5. Still, the differences between countries are much larger than the differences between urban and rural households.

**Figure 5 E-commerce in urban/rural areas, 2011**



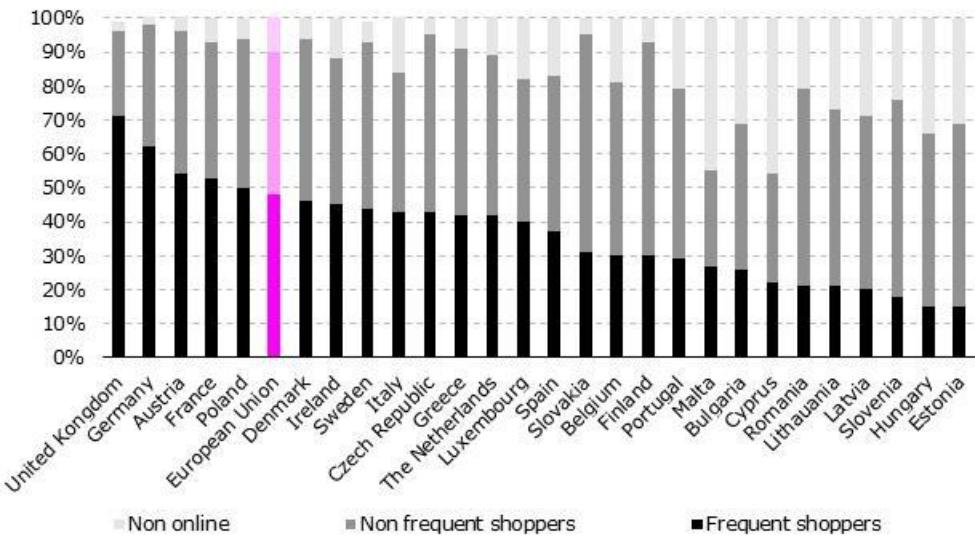
Note: Share of internet users in urban/rural areas that bought goods or services online during the past 12 months

Source: Eurostat (2013a)

We observe that the share of frequent shoppers (people who shop at least once a month) is above the EU average in UK, Germany, Austria, France, and Poland. In these countries the share is between 71 and 50 per cent.<sup>42</sup> At the other end of the spectrum we find the Baltic countries together with Romania, Slovenia, and Hungary, where the share of frequent e-shoppers is between 21 and 15 per cent, cf. Figure 6.

<sup>42</sup> These figures are based on Civic Consulting (2011) who conducted an online consumer survey among 29,010 respondents in EU27. Malta and Cyprus was however covered by phone. The survey was carried out in the period December 2010–February 2011.

**Figure 6 Frequency of e-commerce, 2011**

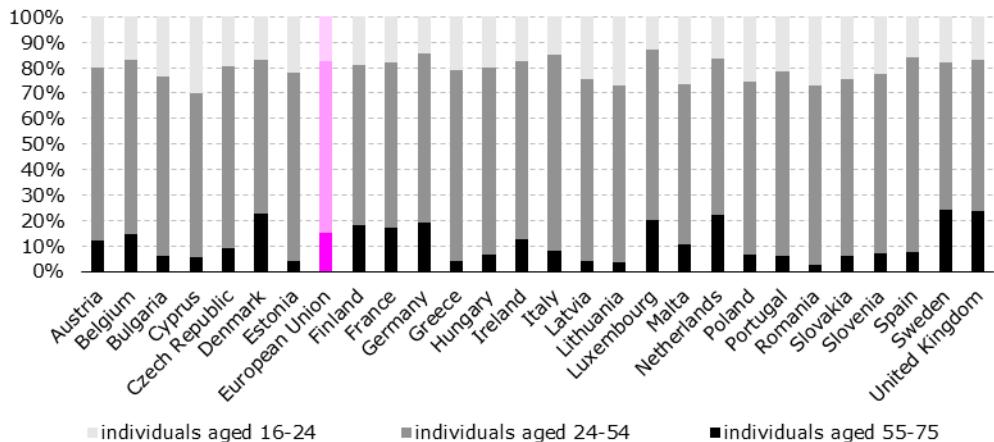


Note: Based on survey conducted among 29,010 respondents.

Source: Civic Consulting (2011), p. 23

Most e-shoppers in Europe are young or mid-aged (up to 54 years old). The share of older residents (aged 55-75) engaging in e-commerce is the highest in Denmark, Finland, France, Germany, Luxembourg, the Netherlands, Sweden, and the UK (i.e. markets with a high overall e-commerce take-up), cf. Figure 7. This is an interesting finding, indicating that the e-commerce adoption starts with the younger generations and is taken up by the older generation as the market matures.

**Figure 7 Age distribution among e-shoppers in the EU, 2011**

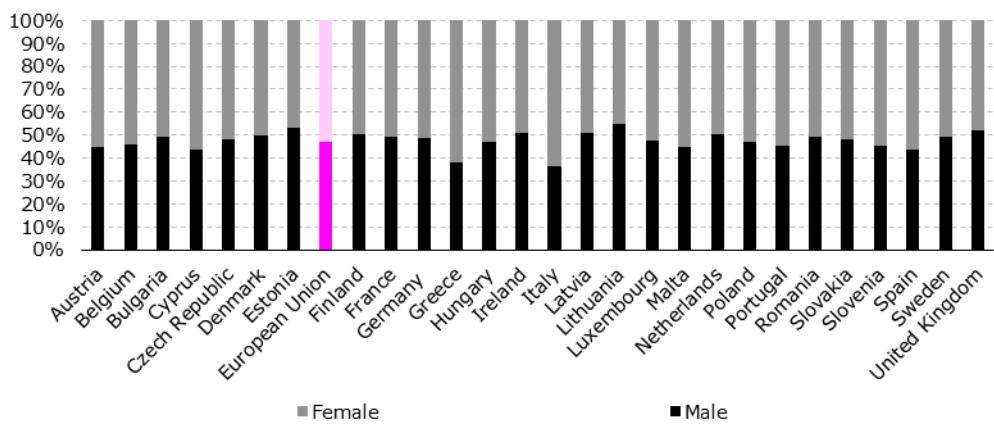


Note: Amount of individuals for Bulgaria, Cyprus and Slovenia was approximated for the 55 to 75 age range, as no data was available.

Source: Eurostat (2013a)

On average, 53 per cent of e-shoppers in the EU are female and 47 per cent are male, cf. Figure 8.

**Figure 8 Gender distribution among e-shoppers in the EU, 2011**



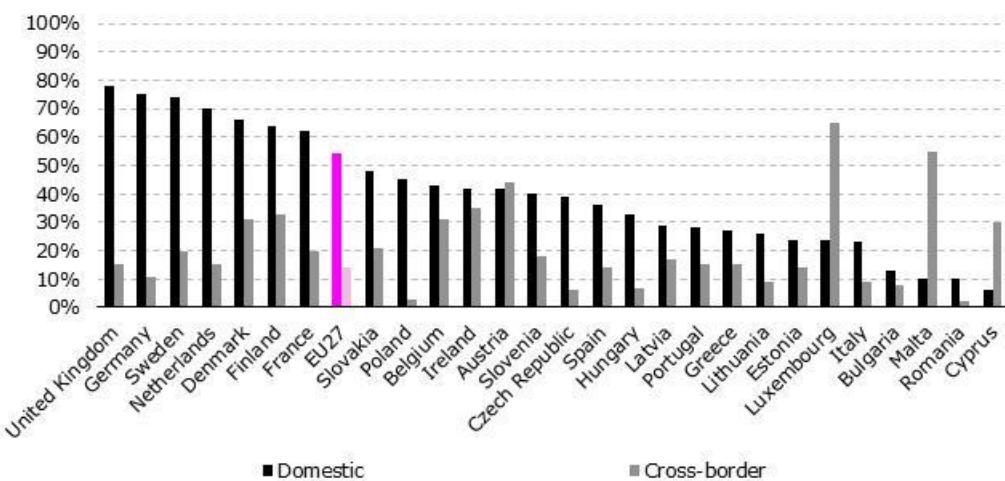
Source: Eurostat (2013a)

The age and gender of e-shoppers may have an impact on delivery needs and preferences. For example, younger e-shoppers may expect faster delivery than older ones. Younger e-shoppers may also be more inclined to try new delivery solutions such as parcel kiosks, or the possibilities to follow their parcels in real time via track and trace solutions.<sup>43</sup>

<sup>43</sup> For example, a study conducted by Post Danmark in 2012 showed that younger e-shoppers find short delivery times more important than older e-shoppers. Younger e-shoppers also tended to put relatively more importance on delivery notifications and the ability to track the parcel while still in transit. With respect to delivery points, the study showed that

We note that e-shoppers in the EU have a larger propensity to engage in e-commerce with e-retailers in their own country. Whereas, on average, 53 per cent of internet users in the EU had bought something online from an e-retailer in their own country in 2012, the corresponding figure for cross-border purchases is only 13 per cent, cf. Figure 9. Nevertheless, there are some small countries (Austria, Luxembourg, Malta, and Cyprus) where the level of cross-border e-commerce exceeds that of domestic e-commerce. This is most likely due to the size of these countries and their close relations (including common language) with neighbour countries.

**Figure 9 Domestic vs. cross-border e-commerce in the EU, 2012**



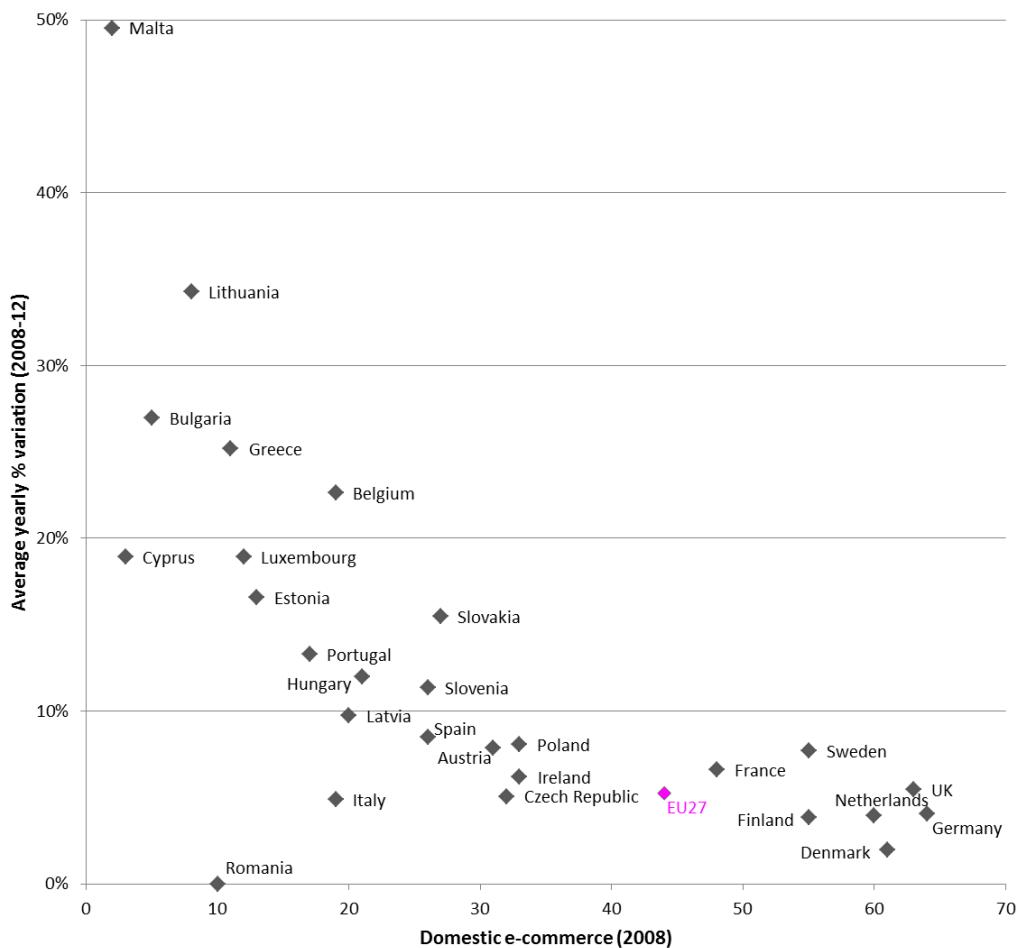
Note: Share of internet users engaging in domestic vs. cross-border e-commerce during the past 12 months

Source: Eurostat (2013a)

Besides reviewing the current situation (as per the latest 2012 figures), it is also valuable to assess how different countries in the EU have evolved in terms of e-commerce over the past few years. Figure 10 displays how the share of domestic e-shoppers of the population has changed over the past four years. These variations are set against the level of domestic e-commerce in 2008, when the Eurostat data started capturing this.

whereas younger people to a larger extent prefer delivery to a 24 hours accessible point of delivery (parcel kiosk), older e-shoppers still prefer home delivery. (Post Danmark, 2012), p. 18, 22, 24, 26 and 32.

**Figure 10 Trends in domestic e-commerce, 2008-2012**



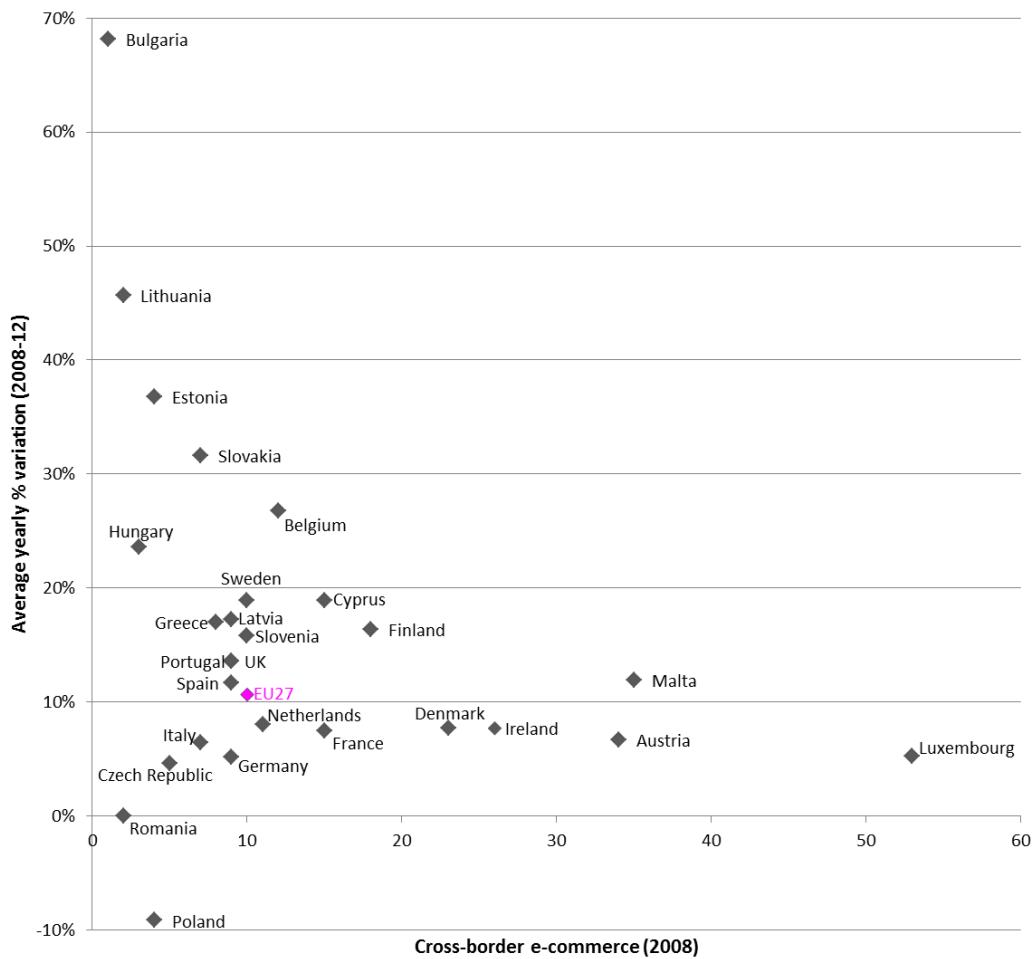
Note: The X axis displays (per 100 internet users) the number of those engaging in domestic e-commerce during the past 12 months, as of 2008.

Source: Eurostat (2013a)

As can be seen in Figure 10 above, the countries exhibiting the highest growth in e-commerce (over the period 2008-2012) are those catching up, starting from a low diffusion of e-commerce back in 2008. Many of these countries continue to exhibit lower values of domestic e-commerce compared to the average (cf. Figure 9). For instance, Bulgaria, while exhibiting a relatively high average yearly growth rate, had a very modest share of (internet) population engaging with domestic e-commerce: only 5 per cent. Even with a sustained high relative growth, it remains a country where a below-EU average share of the internet population does domestic e-commerce. On the contrary in the UK, which already in 2008 had 63 per cent of internet users doing domestic e-commerce, the growth has been a more modest 5 per cent year on year. Nonetheless, the UK remains today the EU country with the highest diffusion of domestic e-commerce.

We provide a similar display relative to cross-border e-commerce, as presented in Figure 11 below. This shows that, as was the case for domestic e-commerce, it is the countries with the lowest starting points that have experienced the highest percentage growth rate year on year.

**Figure 11 Trends in cross-border e-commerce, 2008-2012**



Note: The X axis displays (per 100 internet users) the number of those engaging in domestic e-commerce during the past 12 months, as of 2008.

Source: Eurostat (2013a)

We observe that trade patterns for online sales to a large extent follow geographical and linguistic patterns. Countries that share a language or close ties with another EU country have higher levels of cross-border (intra-EU) e-shopping. For example, the overall most common countries for cross-border shopping are the UK and Germany. This can most likely be explained by the fact that many EU citizens understand the English and/or German language. Indeed, language seems to be important for the origin of cross-border e-commerce. For instance, most cross-border e-shoppers in Belgium do their online shopping in France, the Germany or the Netherlands; cross-border e-shoppers in Luxembourg

shop online mostly in Germany and France; and cross-border e-shoppers in Portugal often buy from Spain, cf. Table 8.

**Table 8 Top-3 countries for cross-border e-commerce, 2011**

E-shopper origin	Intra-EU Country 1 for cross-border purchases	Intra-EU Country 2 for cross-border purchases	Intra-EU Country 3 for cross-border purchases	Primary extra-EU country for cross-border purchases
EU27	Germany	United Kingdom	France	United States
AT	Germany	United Kingdom	France	United States
BE	France	Netherlands	Germany	United States
BG	United Kingdom	Germany	France	United States
CY	United Kingdom	Greece	Germany	United States
CZ	Germany	Poland	United Kingdom	United States
DE	Austria	United Kingdom	Netherlands	United States/ China
DK	United Kingdom	Germany	Sweden	United States
EE	United Kingdom	Germany	Finland	United States
EL	United Kingdom	Germany	France	United States
ES	United Kingdom	France	Germany	United States/ China
FI	United Kingdom	Germany	Sweden	United States
FR	Germany	United Kingdom	Belgium	United States
HU	United Kingdom	Germany	Austria	United States
IE	United Kingdom	Germany	France	United States
IT	Germany	United Kingdom	France	United States
LT	United Kingdom	Germany	Poland	United States
LU	Germany	France	United Kingdom/ Belgium	N/A
LV	United Kingdom	Germany	Sweden	United States
MT	United Kingdom	Italy	Germany	China
NL	Germany	United Kingdom	Belgium	United States
PL	Germany	United Kingdom	France	United States
PT	United Kingdom	Spain	Germany	United States
RO	Germany	United Kingdom	Italy	United States
SE	United Kingdom	Germany	Denmark	United States
SI	Germany	United Kingdom	Austria	United States
SK	Czech Republic	Germany/ United Kingdom	France	China
UK	Germany	France	Spain	United States

Source: Civic Consulting (2011)

E-shoppers' demographic characteristics is also a key factor influencing e-commerce flows. Whereas male e-shoppers buy from both EU and non-EU countries, female e-shoppers focus on EU (an especially their own country). Similarly, higher educated e-shoppers are more likely to shop cross-border (both intra and extra-EU) and younger e-shoppers are more likely to buy from outside the EU than older ones.<sup>44</sup>

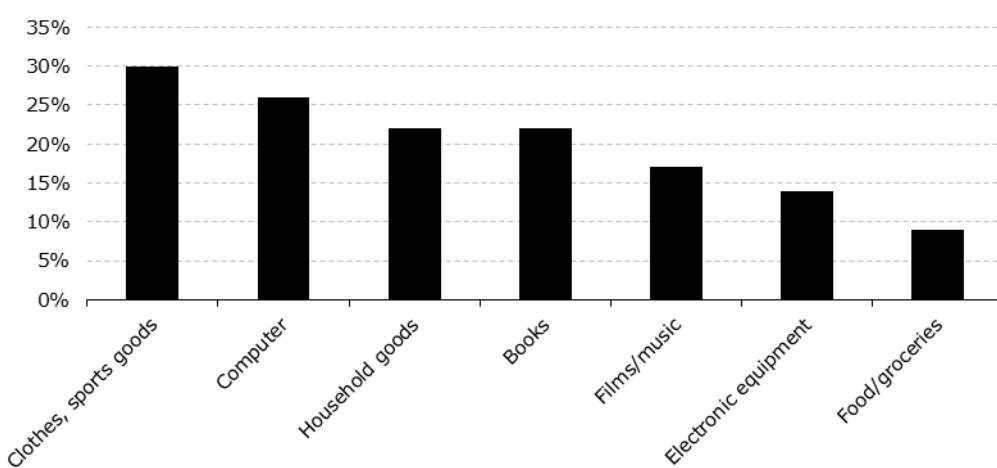
<sup>44</sup> Civic Consulting (2011)

Although the spectrum of products available online is almost infinite, the online purchases made by e-shoppers in the EU is concentrated to seven main categories, cf. Figure 12. The most common products to buy online are clothes and sports goods (bought by approximately 30 per cent of EU e-shoppers). Other popular products to buy online are computer items as well as household goods and books and magazines.

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**Figure 12 Products bought online by e-shoppers in the EU, 2011**

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Source: Eurostat (2013a)

The type of product bought may have an impact on delivery needs.<sup>45</sup> Another factor that might influence delivery preferences is the amount of money spent on the online purchase. More specifically, the amount of money spent per purchase has implication on the willingness to pay for delivery. E-shoppers may not agree to pay 20 Euro for delivery of a book that costs 5 Euro. Similarly, willingness to pay for delivery services and value added features such as insurance and tracking may be larger for expensive products.

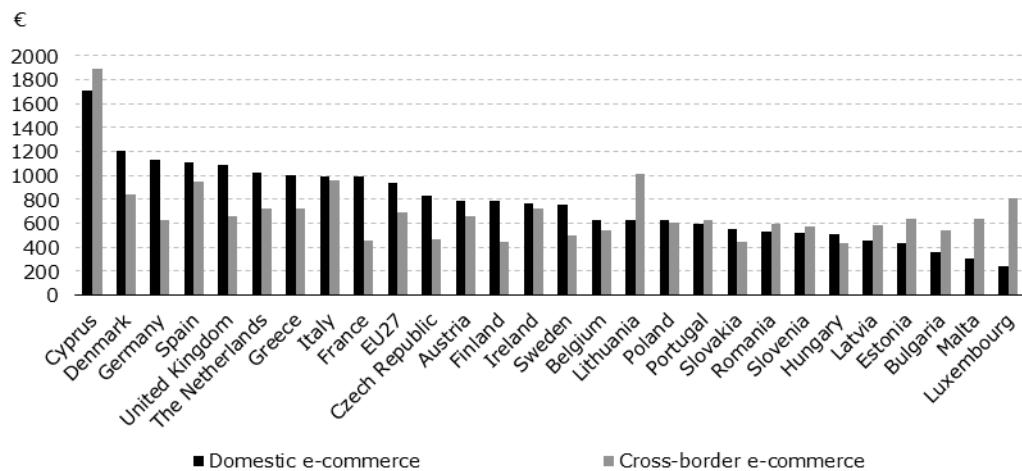
The average amount of money spent online per year amongst those citizens who shop online varies significantly across Member States. The average EU e-shopper spends 939 Euro per year on domestic e-commerce and 693 Euro per year on cross-border e-commerce. The spending varies from 245 Euro in Luxembourg (domestic purchases) to 1,891 Euro in Cyprus (cross-border purchases), cf. Figure 13. This does, however, not say anything about the total online spending in the various Member States. For example, the highest online spending per e-shopper is observed in Cyprus – the country with the lowest share of e-shoppers in the population (cf. figure 9). This does not imply a high total online spending in Cyprus, but that a Cypriot e-shopper in general spend more money

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<sup>45</sup> According to a study by the Norwegian delivery operator Bring (2012, p.13), e-shoppers in Sweden, Norway, and Denmark prefer to have heavy goods such as white goods, TV sets etc. delivered to the home, while buyers of smaller and cheaper products, e.g. shampoo or a book, often prefer to get the products delivered without extra insurance directly to the mailbox without a proof of receipt. Buyers of more expensive (but smaller) items, e.g. an iPhone or a camera, often want insurance and delivery to the home or to a pick-up point with proof of receipt.

online than any other average e-shopper in the EU. The total online spending per country is displayed in Table 9.

**Figure 13 Average online spending per e-shopper and year, 2011**



Note: The high value of online spending in Cyprus might be an outlier, explained by a low share of online shopping and therefore a smaller sample of respondents in comparison with other Member States. The median amount of money spent online per e-shopper in Cyprus is below the EU median for domestic e-commerce (€342 vs. €439) and above the EU median for cross-border e-commerce (€500 vs. €260).

Source: Civic Consulting (2011)

### E-retailers

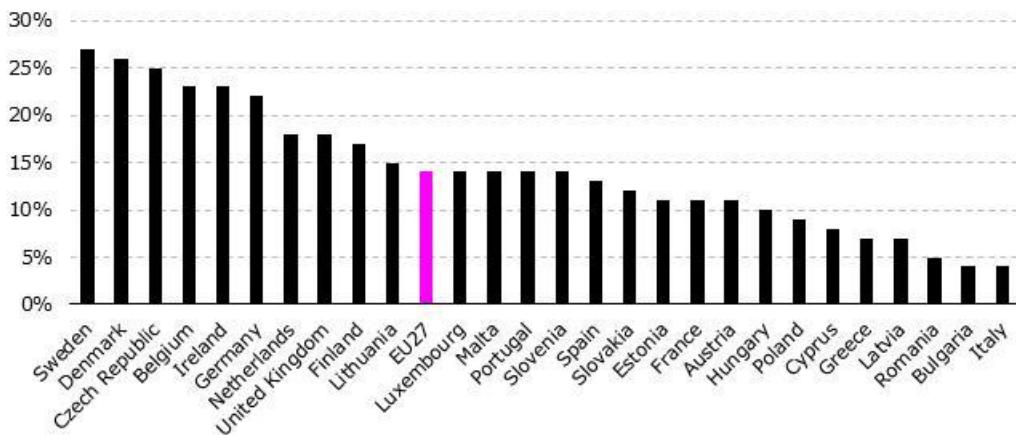
In this section, we identify the e-retailers. Similar to the e-shoppers, the characteristics of the e-retailers may have an impact on their delivery needs and preferences. For example, e-retailers selling white goods online may require other types of delivery features than e-retailers selling jewellery, or books.

The share of EU enterprises engaging in e-commerce is significantly lower than the share of internet users engaging in e-commerce. On average, 13 per cent of enterprises in the EU engaged in e-commerce in 2012, cf. Figure 14. The share is largest in Sweden (27 per cent) and lowest in Bulgaria and Italy (4 per cent).

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**Figure 14 Share of enterprises in the EU engaging in e-commerce, 2012**

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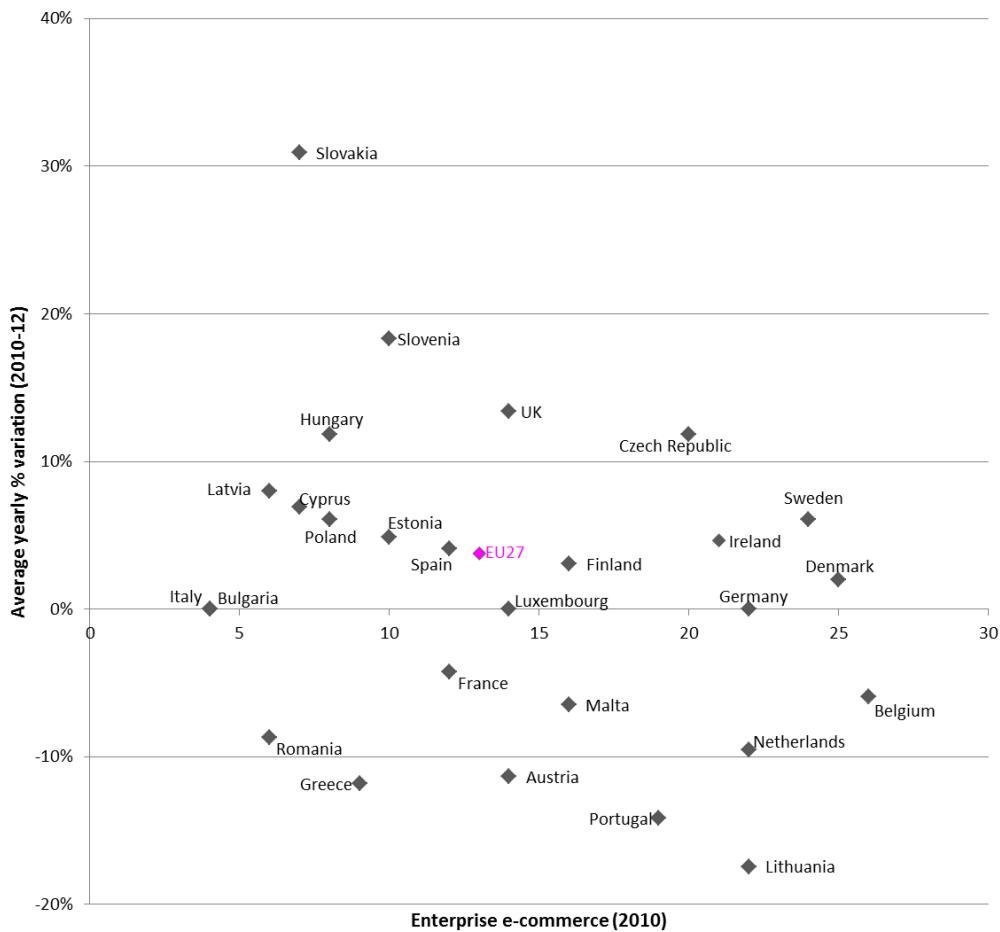
Note: Share of enterprises selling online (at least 1% of turnover), out of all enterprises, without financial sector (10 persons employed or more).

Source: Eurostat (2013a)

Besides reviewing the current situation (as per the latest available figures), we also assess how different countries in the EU have evolved in terms of firms' engagement with e-commerce over the past few years. We display below how the share of enterprises selling online has changed over the past two years. These variations are set against the level of firms' online activities in 2010, when the Eurostat data started capturing this.

As shown in Figure 15, there is considerable variation in how firms are embracing e-commerce across different EU countries. There is indication that percentage growth has been higher in countries where enterprise e-commerce diffusion levels were lower. This signals some (yet moderate catch up). Most notably, in many countries since 2010 the diffusion of e-commerce across firms has decreased, probably due to the impact of the financial crisis.

**Figure 15 Trends in enterprise e-commerce in the EU, 2010-2012**



Note: The X axis displays (per 100 enterprises, without financial sector and with 10 persons employed or more) the number of enterprises selling online (at least 1% of turnover), as of 2008.

Source: Eurostat (2013a)

The turnover generated by e-commerce is a combination of the share of enterprises engaging in e-commerce and the e-shoppers' propensity to buy online. We observe that the e-commerce generated turnover varies significantly across Member States, from 28 Euro per capita in Romania to 1,248 Euro per capita in the UK, cf. Table 9. The UK, France and Germany account for 75 per cent of the online turnover.

**Table 9 E-commerce turnover in the EU, 2011**

Member State	Online turnover 2011 (million €)	Online turnover per capita	GDP per capita	Online spending per capita as share of GDP per capita
<b>EU27</b>	<b>250</b>	<b>496</b>	<b>25,600</b>	<b>1.7%</b>
United Kingdom	78,631	1,248	27,900	4.5%
France	37,723	577	30,600	1.9%
Germany	35,422	433	31,700	1.4%
Spain	9,152	198	23,100	0.9%
Netherlands	9,006	538	36,100	1.5%
Italy	8,141	134	26,000	0.5%
Sweden	7,845	827	41,100	2.0%
Austria	6,935	821	35,700	2.3%
Denmark	6,447	1,155	43,200	2.7%
Finland	4,503	834	35,200	2.4%
Belgium	4,002	363	33,700	1.1%
Ireland	3,702	808	35,400	2.3%
Poland	3,379	88	9,300	0.9%
Greece	1,701	151	18,500	0.8%
Czech Republic	1,601	152	14,900	1.0%
Portugal	940	89	16,000	0.6%
Hungary	615	62	10,000	0.6%
Romania	600	28	5,800	0.5%
Slovakia	400	74	12,700	0.6%
Bulgaria	N/A	N/A	4,800	N/A
Cyprus	N/A	N/A	21,100	N/A
Estonia	N/A	N/A	11,900	N/A
Latvia	N/A	N/A	9,800	N/A
Lithuania	N/A	N/A	10,200	N/A
Luxembourg	N/A	N/A	82,100	N/A
Malta	N/A	N/A	15,500	N/A
Slovenia	N/A	N/A	17,600	N/A

Note: The data is not adjusted for differences in GDP across countries.

Source: Data for online turnover: IMRG (2013); Data for GDP per capita: Eurostat

The highest online turnover per capita as share of GDP per capita is found in the UK (4.5 per cent). If companies and citizens throughout the EU would engage in e-commerce to an extent as observed in the UK, this would increase the online turnover significantly. In fact, assuming an online turnover per capita as share of GDP per capita of 4.5 per cent throughout the EU in 2013 would imply a total online turnover in the EU of almost

586,000 million Euros<sup>46</sup>. This is an increase of today's online turnover (approximately 250 billion Euros according to EMOTA (2012)) by 2.3 times.

Engaging in e-commerce is more common among large firms than among smaller ones. Whereas on average 35 per cent of large firms engage in e-commerce to the domestic market, the corresponding figures for medium and small firms are 22 and 12 per cent respectively, cf. Table 10. The differences are even larger with respect to cross-border e-commerce. Whereas 20 per cent of large firms sell online cross-border, only 1 and 5 per cent of medium and small firms do so. However, due to the significantly higher number of small firms in the EU, the majority of firms engaging in e-commerce are small firms with less than 50 employees.

**Table 10 Firm size of e-retailers**

	Small firms	Medium Firms	Large firms	Total
No. of firms in the EU	1,355,000	222,000	42,421	1,619,421
<b>Share of firms selling online (EU27 average):</b>				
Selling online domestic	12%	22%	35%	14%
Selling online cross border	5%	1%	20%	5%

Note: Small firm: 10-49 employees, medium firm: 50-250, large firm: 250+.

\*EUROSTAT data shows percentage of enterprises (excluding financial sector) having done *electronic sales* to the own country/other EU country in 2011.

Source: Eurostat (2012a), Eurostat (2012b)

Firm size may have an impact on e-retailers' delivery needs. For example, larger e-retailers may have more resources to spend on delivery in comparison with smaller ones. It may also be easier for larger e-retailers to engage with several delivery operators to meet the delivery needs of their customers.

## 2.4 E-shoppers' delivery needs

In this section we investigate e-shoppers' delivery needs and preferences with respect to different aspects and features of delivery, cf. Table 11. We do this based on our survey among 3,000 e-shoppers in six member states (Germany, Sweden, UK, Poland, Spain, and Estonia). These countries have different levels of e-commerce maturity. The sample thus represents challenges for e-shoppers faced in different stages of the market development. We have analysed the data to identify country specific needs, age specific needs, and differences by residential area. We report such differences, when they are present in the data (in other words we do not show all the analyses where the conclusion is that there is no difference).

<sup>46</sup> The estimated EU27 GDP (in EUR) for 2013 is 13,086,459 (source: Eurostat). If the level of online spending in the UK would apply to all EU 27 Member States, it would imply an online turnover of 586,000 million Euro (4.5% \* 13,086,459).

**Table 11 Delivery aspects and features analysed**

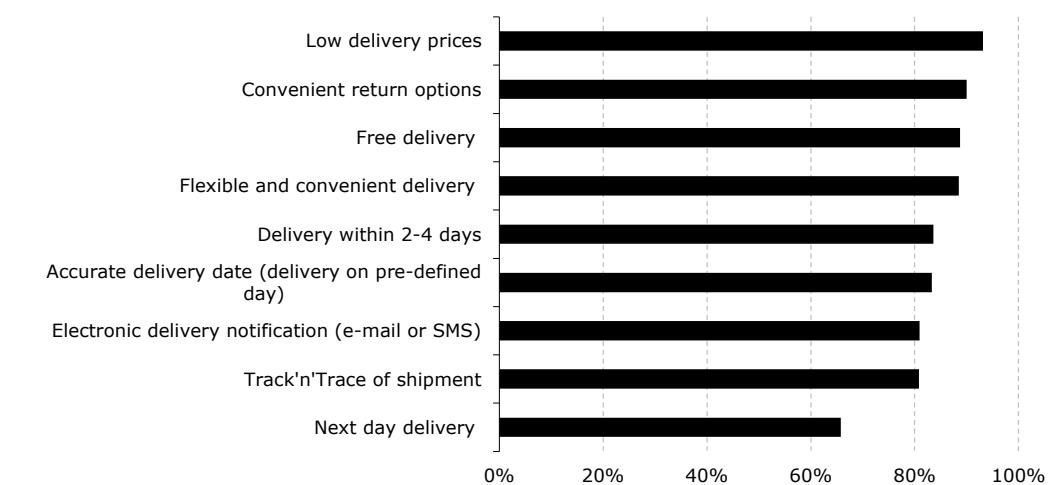
Category	Feature	Description
<b>Time and speed of delivery</b>	Express delivery	Value-added, door-to-door transport and deliveries next day or time-definite shipments
	Next day delivery	Delivery the day after purchase
	Delivery within 2-4 days	Delivery 2 to 4 days after purchase
	Delivery at agreed time slot	Delivery at a pre-defined day and time slot, say between 6 and 8 pm.
	Evening delivery	Delivery to the home after working hours
	Saturday delivery	Delivery to the home on a Saturday
<b>Point of delivery</b>	Delivery to home address	Delivery to the customer's home
	Delivery to work address	Delivery to the customer's work place
	Delivery to post office	Delivery to a post office
	Delivery to relay point (shop)	Delivery to a shop with whom a delivery operator have an agreement to serve as a parcel outlet
	Delivery to parcel kiosk (automated locker)	Delivery to an unstaffed, secure, and automated locker
	Delivery to neighbour	Delivery to neighbour in case that no one is home at the time of delivery -
	Delivery to relay point or parcel kiosk specified by the e-shopper	Delivery to relay point or parcel kiosk specified by the e-shopper
	After ordering but before delivery, having the ability to redirect the parcel	The ability to change the address for delivery after the purchase has been placed and parcel is on its way to the recipient.
	Track and trace	Ability for e-retailer and e-shopper to get live information of the parcel's geographical location
<b>Value added features</b>	Electronic notification of delivery (email or SMS)	Email or SMS received by e-shopper when order is dispatch and/or delivered to final destination
	Insurance related to delivery	Insurance against any delivery-related damages to the product
	Extra service at delivery, e.g. installation of product bought	The delivery staff will carry a heavy product from street level to a higher level floor in an apartment building or take care of installation of e.g. a TV set.
	Cash on delivery	The products is paid for at the moment of delivery
	Free delivery	The cost of delivery is not invoiced explicitly but is included in the final price of the product.
<b>Price of delivery</b>	Standard delivery	Cheapest and default choice of delivery that is not classified as being "free".
	Faster but more expensive delivery than standard delivery	Faster but more expensive delivery than standard delivery
	More convenient but more expensive delivery than standard delivery	More convenient but more expensive delivery than standard delivery
	Take return parcel to a post office/collection point	Customer can send parcel back to seller from either a post office or a collection point
<b>Return features</b>	Organise a specific pick up with delivery operator	Customer can arrange for a delivery operator to pick up the return parcel from an address specified by the customer
	Take the return parcel back to a physical store	Customer can return unwanted items bought online to a physical store owned by the e-retailer
	Track and trace of return parcel	Ability for e-retailer and e-shopper to get live information of the return parcel's geographical location
	Return product immediately at the moment of delivery	Customer can refuse to receive the parcel at delivery. The delivery operator will then bring the parcel back to distribution centre.

Source: Copenhagen Economics

We investigate what features e-shoppers find more and less important and whether needs differ with respect to country of origin or characteristics such as age or residential location of the e-shopper.

We have asked e-shoppers to assess which specific features or qualities of delivery they find important for them to shop from an e-retailer again. These qualities are related to, but not identical to, the features outlined in Table 11. The features considered most important for repeat purchases are low delivery prices and convenient return options<sup>47</sup> (considered important by at least 90 per cent of the respondents). ‘Free’ delivery or flexible and convenient delivery are also important features affecting e-shoppers’ propensity to shop from the same e-retailer again (considered important by 85-90 per cent of respondents), cf. Figure 16. In this context, it is worth noting that the delivery price paid by the e-shopper to the e-retailer not necessarily reflects the delivery price paid by the e-retailer to the delivery operator, cf. chapter 1.

**Figure 16 Important features for shopping from same web shop again**



Note: The figure shows the percentage of e-shoppers that have rated each service as “somewhat important” or “very important”. E-shoppers have answered the question: “How important are the following features for the likelihood that you order from the same web shop more than once?” Respondents answering “Don’t know what this is” have not been included in the sample size.

Source: Copenhagen Economics, E-shopper survey

The above results are also supported by earlier research. According to previous studies conducted by Post Danmark, IPC and PostEurope, 90 per cent of consumers claim to be more likely to shop from the same e-retailer again if they have been satisfied with the delivery service.<sup>48</sup> A UK survey indicates a similar finding of 77 per cent of respondents more likely to shop again after a good delivery experience.<sup>49</sup>

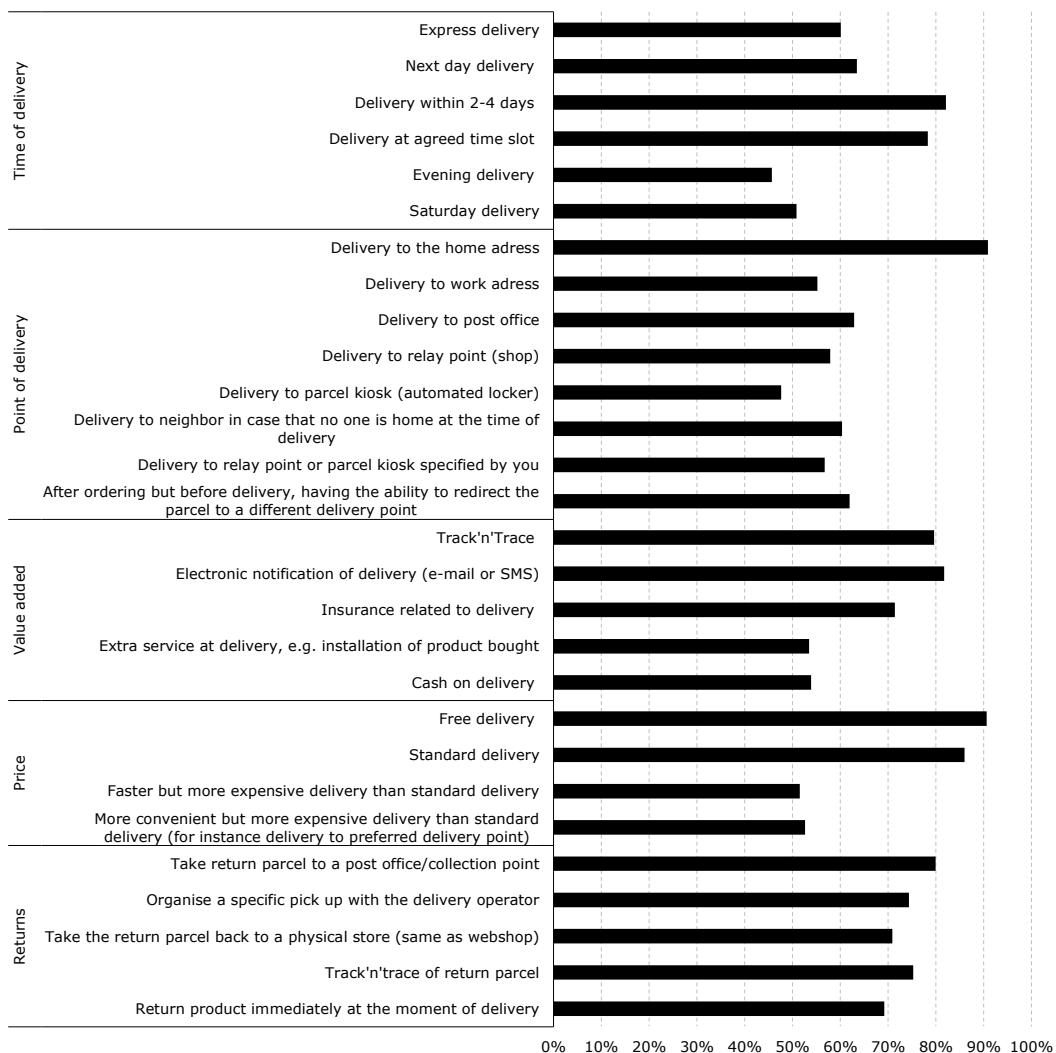
<sup>47</sup> Convenient return options are considered more important than flexible and convenient delivery in all countries, except Estonia.

<sup>48</sup> Post Danmark (2012) (only in Danish) and IPC and PostEurope (2012), p.8.

<sup>49</sup> IMRG (2012d), p. 6.

When asking e-shoppers how important they find different delivery features when shopping online in the first place (i.e. not when considering repeat purchases), we find a similar pattern, cf. Figure 17.

**Figure 17 Importance of delivery characteristics – e-shoppers**



Note: The figure shows the percentage of e-shoppers that have rated each service as "somewhat important" or "very important". E-shoppers have answered the question: "When placing the final order, how important are the following features of delivery services?" Respondents answering "Don't know what this is" have not been included in the sample size.

Source: Copenhagen Economics, E-shopper survey

Together with delivery to the home address, delivery price (either 'free' or standard delivery) is the most important feature for e-shoppers. More than 85 per cent of e-shoppers consider these features important for their decision to buy online. Other delivery features that are considered important by a large share of e-shoppers are delivery within two to four days, delivery at an agreed time slot, track and trace, electronic delivery notifications,

and convenient return procedures. These features are mentioned as important by between 70 and 85 per cent of all e-shoppers in our survey.

In the following, we investigate the five different aspects of delivery one by one to find what e-shoppers consider most and least important in terms of delivery when shopping online. We also investigate whether preferences differ with respect to country of origin, age and geographical location (rural or urban).

The aspects investigated are:

- *Time and speed of delivery*
- *Point of delivery*
- *Value added features*
- *Delivery price*
- *Return options*

#### *Time and speed of delivery*

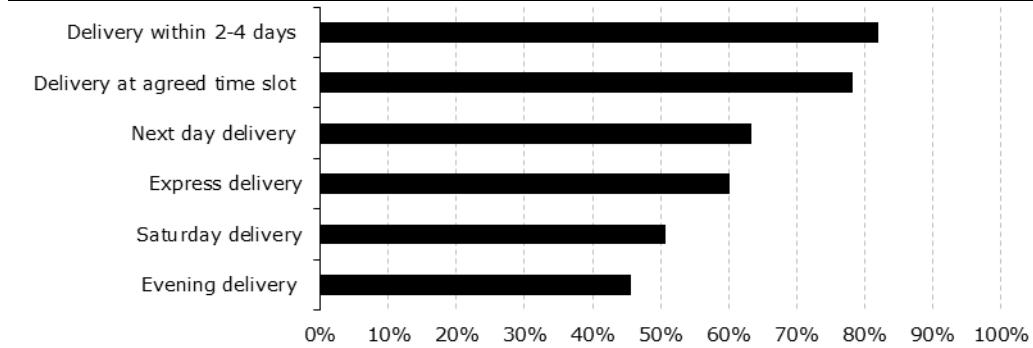
Our survey reveals that most e-shoppers find delivery within two to four days more important than both express and next day delivery. In fact, delivery within two to four days is considered the most important feature in all six countries surveyed (mentioned as important by over 80 per cent of the respondents).

Taking into account the timing of delivery, it turns out that delivery at an agreed time slot (e.g. between 2 and 4pm) is almost as important as delivery within two to four days, and more important than next day, express delivery, Saturday and evening delivery, cf. Figure 18. These findings are supported by earlier research.<sup>50</sup>

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<sup>50</sup> In a study conducted by PostNord (2012) delivery within three days was found to be important to nearly 50 per cent of the e-shoppers in the Nordic countries. In Denmark, a survey conducted by Post Danmark (2012), revealed that almost 70 per cent of Danish e-shoppers find fast delivery important when shopping online. In Germany, 65 per cent of e-shoppers find speed and reliability of delivery to be the most important requirements on e-commerce driven delivery. The corresponding figure for Austria is slightly lower, 61 per cent. (Deutsche Post DHL, 2012).

**Figure 18 Importance of time and speed of delivery for e-shoppers**



Note: The figure shows the percentage of e-shoppers that have rated each service as "somewhat important" or "very important". E-shoppers have answered the question: "When placing the final order, how important are the following features of delivery services?" Respondents answering "Don't know what this is" have not been included in the sample size.

In the survey, "Express delivery" was "Express delivery by e.g. UPS, TNT, DHL, FedEx".

Source: Copenhagen Economics, E-shopper survey

Our survey results show very small differences in preferences with respect to the e-shoppers' country of origin. The only feature that e-shoppers seem to value differently across countries is express delivery. Whereas express delivery is ranked as more important than both Saturday delivery and evening delivery in Ireland, Poland, Spain and Sweden, e-shoppers in Germany and Estonia rank express delivery as one of the two least important delivery features.<sup>51</sup> The importance of evening delivery and Saturday delivery has been investigated by the IPC, who found that both evening delivery and Saturday delivery were considered less important than other delivery aspects, such as the flexibility to choose a delivery time.<sup>52</sup>

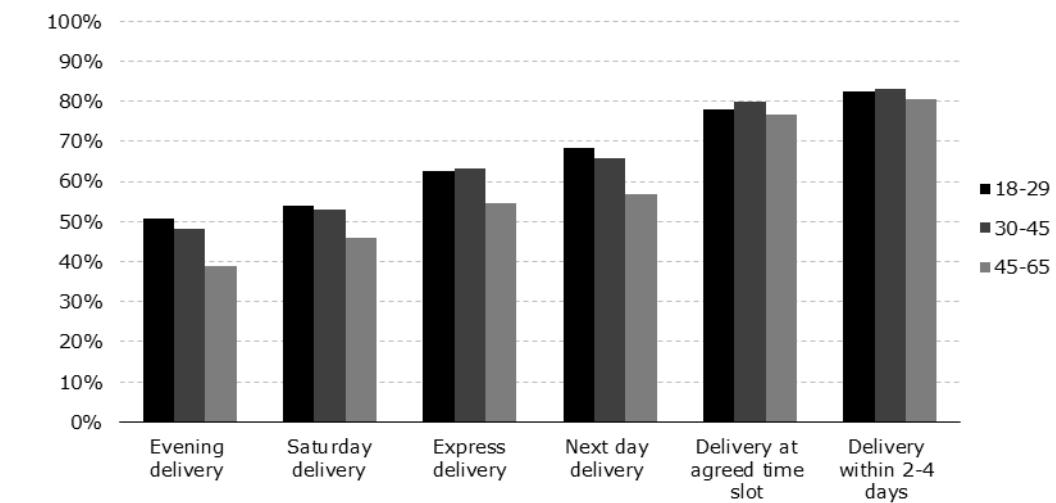
An interesting finding is that e-shoppers in the survey seem more concerned about time-specific delivery than fast delivery. This means that delivery operators that traditionally have focussed on speed are faced with new logistical demands. It also highlights the importance of good information flows between delivery operators, e-retailers and e-shoppers during the delivery process, e.g. access to track and trace and electronic delivery notifications.

Another interesting finding is that the age of e-shoppers seems to have an impact on delivery preferences. Whereas all age groups perceive delivery within two to four days to be more important than next day, express, Saturday or evening delivery, we observe that e-shoppers in the older age category (45-65 years old) find evening delivery, Saturday, express delivery and next day delivery relatively less important than the younger age groups, cf. Figure 19. This finding signals an increased preference for faster and more flexible delivery solutions among the younger generation (and possibly an increased demand for faster and more flexible delivery solutions in the future).

<sup>51</sup> E-shoppers in Germany consider Saturday delivery more important than express delivery. E-shoppers in Estonia consider evening delivery more important than express delivery.

<sup>52</sup> Among the five countries investigated by IPC (BE, DK, DE, FR, NL), only e-shoppers in the Netherlands had an above average preference for evening delivery and Saturday delivery. (IPC, 2010)

**Figure 19 Importance of time and speed of delivery - by age**



Note: The figure shows the percentage of e-shoppers that have rated each service as "somewhat important" or "very important". E-shoppers have answered the question: "When placing the final order, how important are the following features of delivery services?" Respondents answering "Don't know what this is" have not been included in the sample size.

In the survey, "Express delivery" was "Express delivery by e.g. UPS, TNT, DHL, FedEx".

Source: Copenhagen Economics, E-shopper survey

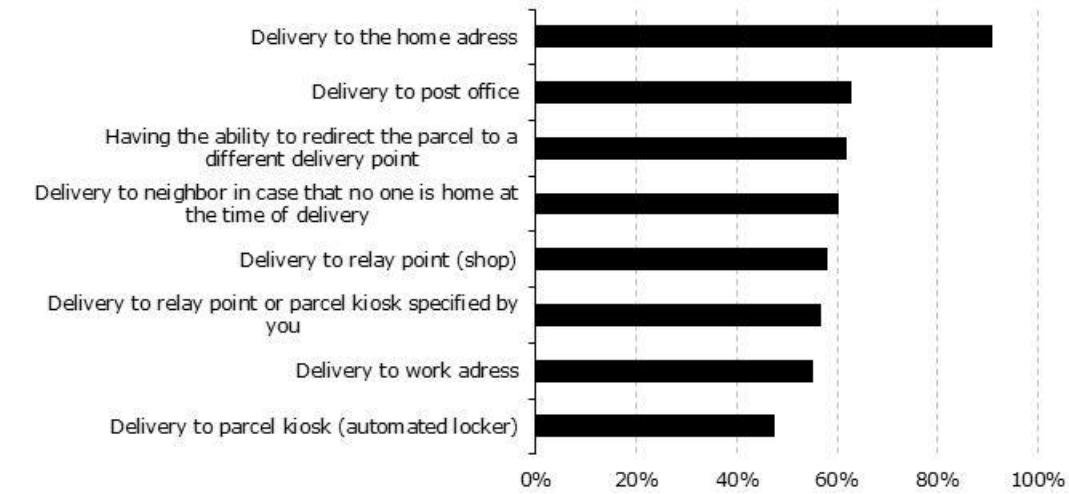
These findings are also supported by earlier research for other Member states. In Denmark, for example, younger e-shoppers (18-39 years old) prefer fast delivery to a higher extent than older e-shoppers.<sup>53</sup>

#### *Point of delivery*

Despite access to delivery points such as parcel kiosks and networks of relay points, our survey results show that delivery to the home address is still important for most e-shoppers, cf. Figure 20.

<sup>53</sup> Post Danmark (2012)

**Figure 20 Importance of point of delivery for e-shoppers**

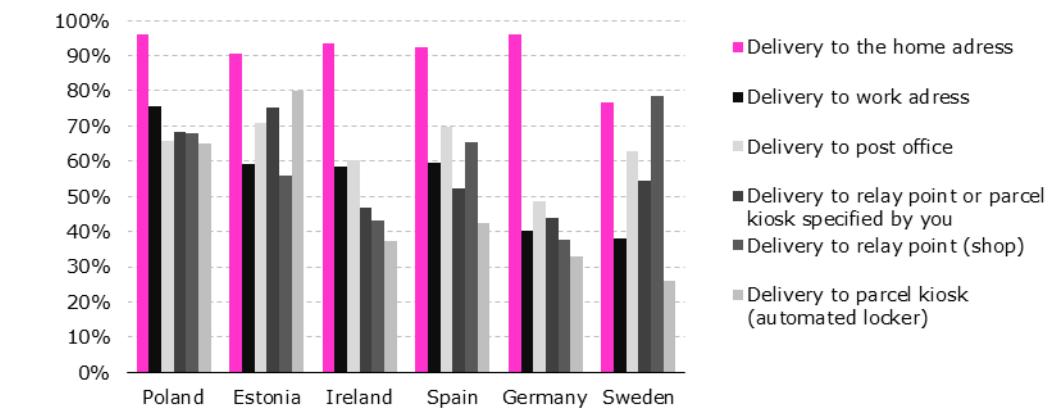


Note: The figure shows the percentage of e-shoppers that have rated each service as "somewhat important" or "very important". E-shoppers have answered the question: "When placing the final order, how important are the following features of delivery services?" Respondents answering "Don't know what this is" have not been included in the sample size.

Source: Copenhagen Economics, E-shopper survey

Delivery to the home address is considered most important in all countries except Sweden, where delivery to a relay point is considered more important. This result can most likely be explained by the well-developed network of postal service points (post-in-shops) in the Swedish retail network. In countries where home delivery is the top choice among e-shoppers, its importance often exceeds that of the second most important delivery choice by 10-20 percentage points, cf. Figure 21.

**Figure 21 Importance of point of delivery - by country**



Note: The figure shows the percentage of e-shoppers that have rated each service as "somewhat important" or "very important". E-shoppers have answered the question: "When placing the final order, how important are the following features of delivery services?" Respondents answering "Don't know what this is" have not been included in the sample size.

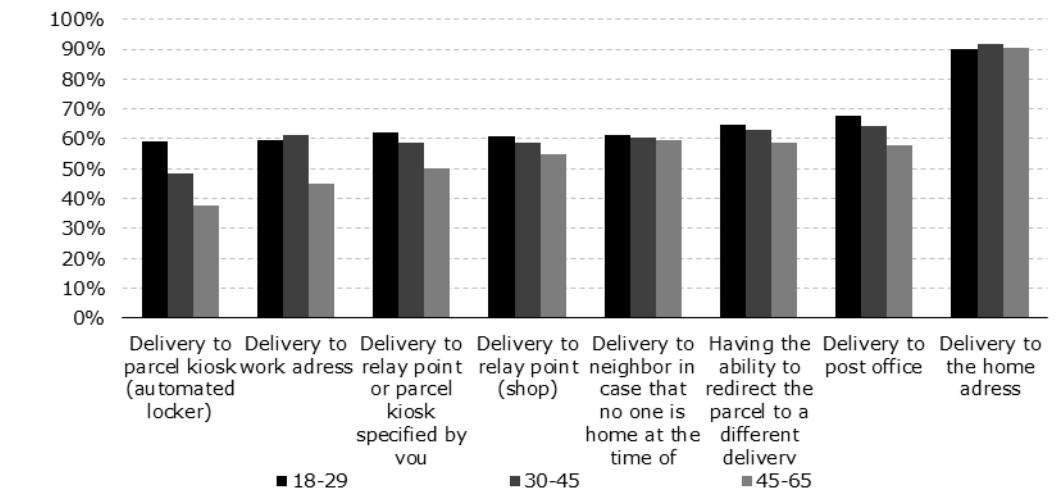
Source: Copenhagen Economics, E-shopper survey

Our survey shows that most e-shoppers (75 per cent of all respondents) want at least some flexibility in choosing where to receive their parcels. In the survey, 42 per cent of respondents find the ability to choose a specific relay point or parcel kiosk as well as the ability to redirect a parcel while still in transit important. An additional 33 per cent of respondents find one of the two alternatives important.

The survey also reveals some interesting findings with respect to differences in preferences by age. Whereas all e-shoppers, irrespective of age, find delivery to the home address to be the most important alternative, preferences for other alternatives vary across age groups. For example, the relative importance of parcel kiosks is higher for e-shoppers aged 18-29 than for any other age group.<sup>54</sup> The lowest relative importance of parcel kiosks is found for e-shoppers aged 45-65. This group of e-shoppers also attach lower importance to options such as delivery to the work address or delivery to a point specified by the e-shopper herself, cf. Figure 22.

<sup>54</sup> In Denmark, younger e-shoppers find delivery to a parcel kiosk important, whereas older e-shoppers to a larger extent prefer home delivery or delivery to a safe place in case no one is at home at the time of delivery. (Post Danmark, 2012)

**Figure 22 Importance of point of delivery - by age**



Note: The figure shows the percentage of e-shoppers that have rated each service as "somewhat important" or "very important". E-shoppers have answered the question: "When placing the final order, how important are the following features of delivery services?" Respondents answering "Don't know what this is" have not been included in the sample size.

In the survey, "Having the ability to redirect the parcel to a different delivery point" was "After ordering but before delivery, having the ability to redirect the parcel to a different delivery point".

Source: Copenhagen Economics, E-shopper survey

We also observe that delivery to a work address, relay point and parcel kiosk seem to be more important for e-shoppers residing in urban areas, cf. Figure 23. This finding is not very surprising, taking into account that work addresses, relay points or parcel kiosks often are located in urban areas.

**Figure 23 Importance of point of delivery - urban/rural e-shoppers**



Note: The figure shows the percentage of e-shoppers that have rated each service as "somewhat important" or "very important". E-shoppers have answered the question: "When placing the final order, how important are the following features of delivery services?" Respondents answering "Don't know what this is" have not been included in the sample size.

Source: Copenhagen Economics, E-shopper survey

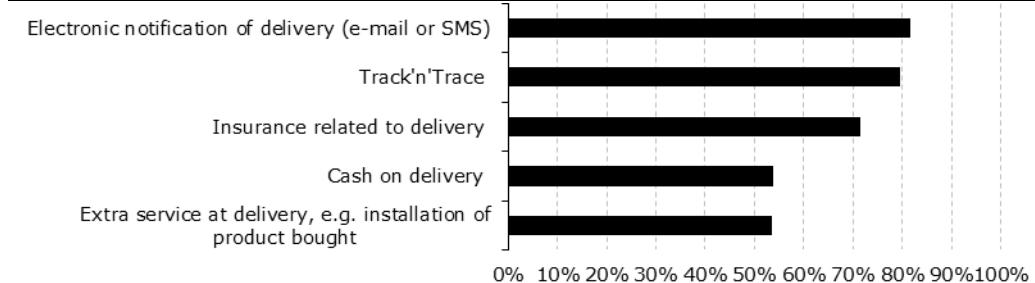
Our survey results are supported by recent research conducted in several EU Member States. For example, a study by the UK e-retailer association IMRG shows that the home address still is the preferred point of delivery in the UK (preferred by nearly 80 per cent of e-shoppers). However, the survey shows a small but consistent decline in the preference for home delivery. Instead, delivery to the work address or delivery to a safe place (e.g. a garden shed or a neighbour) becomes more important.<sup>55</sup>

#### *Value added features*

The two most important value added features are track and trace and electronic notifications (considered important by around 80 per cent of the respondents in our survey). Cash on delivery and extra insurance seem to be less important (considered important by slightly more than 50 per cent of e-shoppers), cf. Figure 24. This is most likely explained by the fact that these kinds of value added services only are relevant for certain types of products, such as white goods, media equipment, or furniture. The survey results indicate a clear preference among e-shoppers for being informed about the dispatch and delivery of the consignment. It is consistent with earlier results showing that e-shoppers in general have stronger preferences for delivery within a certain time slot than for fast delivery, cf. Figure 18.

<sup>55</sup> IMRG (2012c), p. 8.

**Figure 24 Importance of value added features for e-shoppers**



Note: The figure shows the percentage of e-shoppers that have rated each service as "somewhat important" or "very important". E-shoppers have answered the question: "When placing the final order, how important are the following features of delivery services?" Respondents answering "Don't know what this is" have not been included in the sample size.

Source: Copenhagen Economics, E-shopper survey

There are some country-specific differences in the results. For example, e-shoppers in Poland seem to have a strong preference for cash on delivery (the only country where this feature is among the top-three most important value added features). The age of the e-shopper and whether she resides in an urban or rural area do not have a significant impact on the preferences for value added features.

Our results highlight a strong preference among e-shoppers for receiving real time information about their delivery (both at the time of dispatch and while in transit). The importance for consumers to receive information about the progress of their orders has also been highlighted in earlier research.<sup>56</sup>

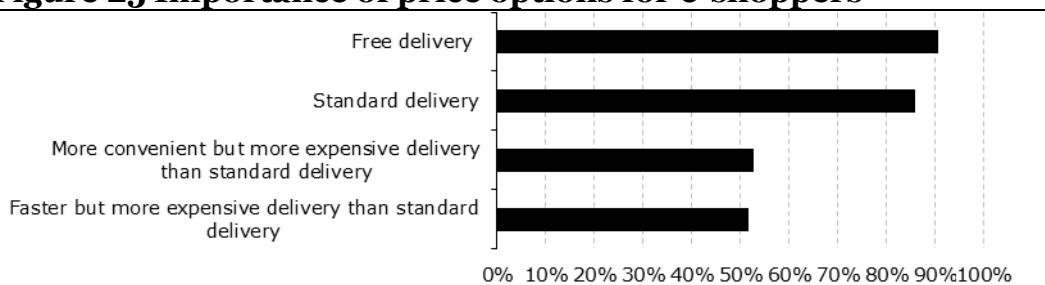
#### *Delivery price (paid by e-shoppers)*

Together with delivery to the home address, pricing is considered the most important delivery feature for e-shoppers. According to our survey, delivery prices are to a large extent decisive for the e-shoppers decision to purchase from an e-retailer at the first place. Prices are also important for the decision to purchase again from the same e-retailer. Still, e-shoppers may have different price preferences. Whereas some e-shoppers only care about paying a low delivery price, others are prepared to pay more for delivery in exchange for extra services, faster, or more convenient delivery. When considering the price paid by e-shoppers, one must remember that the price charged by the e-retailer is not necessarily equal to the delivery price charged by the delivery operator. The e-retailer can add a positive or negative mark-up to the price depending on its marketing strategy, cf. chapter 1.

<sup>56</sup>For example, according to an international study amongst 10,000 global e-shoppers, 21 per cent of respondents consider the ability to track an order the most important factor when purchasing a product online. (Pitney Bowes, 2011). In a study about cross-border e-commerce in 2010, the International Post Corporation, IPC (2010, p.28), found that e-shoppers in six Member States consider delivery notifications important when shopping online. However, the relative importance of delivery notifications was found to differ across countries. Whereas e-shoppers from Denmark and the UK ranked delivery notifications as the second or third most important value added feature, e-shoppers from Germany, France, Belgium and the Netherlands ranked delivery notifications as the fifth, sixth, or seventh most important feature. IMRG (2012c), an e-retailer association based in the UK, recently found that 85 per cent of e-shoppers in the UK perceive that tracking of online orders increase the convenience of online shopping. This is an increase by more than five percentage points compared to the previous year, and an increase by more than ten percentage points compared to 2008/09.

Our survey reveals that the large majority of e-shoppers in all six surveyed countries (90 per cent on average) find ‘free delivery’ important for their decision to order online. Slightly more than 85 per cent find access to standard delivery options important. More convenient, or faster, but more expensive delivery options were only considered important by slightly more than 50 per cent of the respondents, cf. Figure 25.

**Figure 25 Importance of price options for e-shoppers**



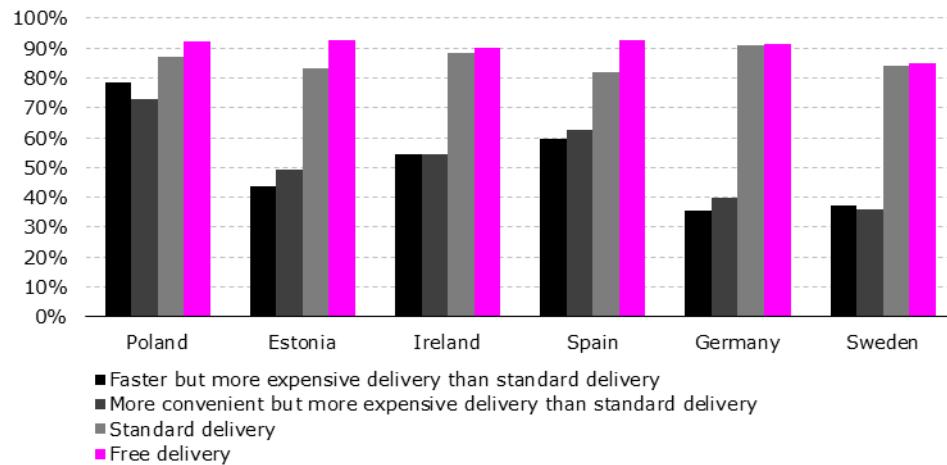
Note: The figure shows the percentage of e-shoppers that have rated each service as “somewhat important” or “very important”. E-shoppers have answered the question: “When placing the final order, how important are the following features of delivery services?” Respondents answering “Don’t know what this is” have not been included in the sample size.

Source: Copenhagen Economics, E-shopper survey

That delivery is offered to the customer ‘for free’ does not mean that the e-shopper does not pay for delivery, something most e-shoppers probably are well aware of. Instead, the delivery cost is often included in the product price. However, buying from an e-retailer that offers ‘free delivery’ might still have some advantages. For example, the ‘free delivery’ guarantee may be an easy way for the e-shopper to avoid unforeseen shipping costs displayed at the final stage of the buying process.

The relative importance of ‘free delivery’ or standard delivery compared to more expensive alternatives is largest in Sweden and Germany. The relative importance of ‘free’ or standard delivery alternatives is lower in Poland and Spain. In these countries, more expensive delivery alternatives seem to be more important than in the other countries, cf. Figure 26. These results might indicate that standard delivery alternatives in Poland and Spain are considered too slow, or insufficiently convenient, by the e-shoppers.

**Figure 26 Importance of price options - by country**

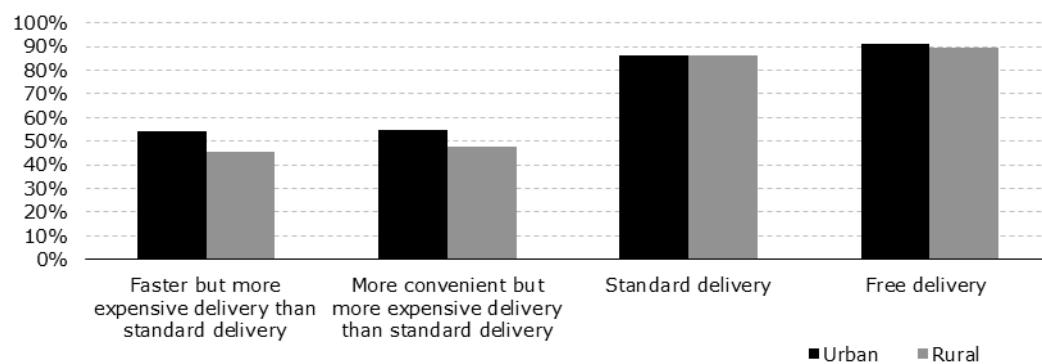


Note: The figure shows the percentage of e-shoppers that have rated each service as "somewhat important" or "very important". E-shoppers have answered the question: "When placing the final order, how important are the following features of delivery services?" Respondents answering "Don't know what this is" have not been included in the sample size.

Source: Copenhagen Economics, E-shopper survey

We note that e-shoppers in urban areas tend to assign higher importance to convenience and speed in comparison to e-shoppers in rural areas, cf. Figure 27.

**Figure 27 Importance of price options - urban/rural location**



Note: The figure shows the percentage of e-shoppers that have rated each service as "somewhat important" or "very important". E-shoppers have answered the question: "When placing the final order, how important are the following features of delivery services?" Respondents answering "Don't know what this is" have not been included in the sample size.

Source: Copenhagen Economics, E-shopper survey

These results are in line with our previous findings, showing that e-shoppers in rural areas put less emphasis on fast delivery compared to e-shoppers in urban areas. That e-shoppers in urban areas put more emphasis on fast delivery may also be explained by a more intense competition from physical stores in urban than in rural areas. Living close to physical stores offering the same products that also can be bought online increases the

need for fast delivery if buying online is still to be perceived as attractive. The importance of delivery price for e-shoppers has also been highlighted in earlier studies. However, earlier studies often show a lower importance of cheap or ‘free’ delivery compared with our results, cf. Box 5.

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### **Box 5 Importance of low delivery prices – earlier research**

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For example, in 2010, IPC found that 50-60 per cent of e-shoppers indicated delivery price as the most important determinant when choosing among available delivery services. A study conducted by Post Nord in 2012 revealed that ‘free delivery’ was considered important for approximately 40 per cent of the e-shoppers. Similarly, an international study by Pitney Bowes shows that 67 per cent of e-shoppers have been discouraged to complete an online purchase due to high shipping costs. Similar results have been found for American consumers by E-tailing group, a niche e-commerce consultancy, who in 2011 found that 73 per cent of e-shoppers find unconditional free shipping as critical for them to complete a purchase from an e-retailer. A UK study by IMRG shows that 68 per cent of UK e-shoppers are not being willing to pay extra for delivery to an alternative delivery location. The same survey also showed a slightly higher preference for delivery at a specific time slot (as also confirmed by our results). Over 90 per cent of UK e-shoppers’ are willing to pay extra to specify a time-slot for delivery.

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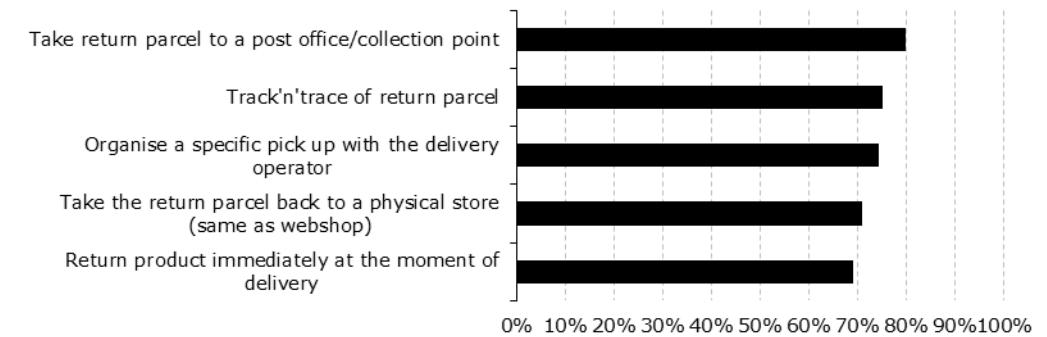
Source: IPC (2010), PostNord (2012), Pitney Bowes (2011), IMRG (2012c), E-tailing Group (2011)

#### *Return options*

Returns are an important part of the online buying process, not only for e-shoppers that actually return the goods they bought online. By ensuring e-shoppers convenient return options already at the time of purchase, e-retailers might be able to increase e-shoppers’ confidence in buying online.

E-shoppers have different preferences with respect to returns. Our survey shows that the ability to return a product bought online by taking the return parcel to a post office or a collection point in general is considered slightly more important than other return features, cf. Figure 28.

**Figure 28 Importance of return options for e-shoppers**

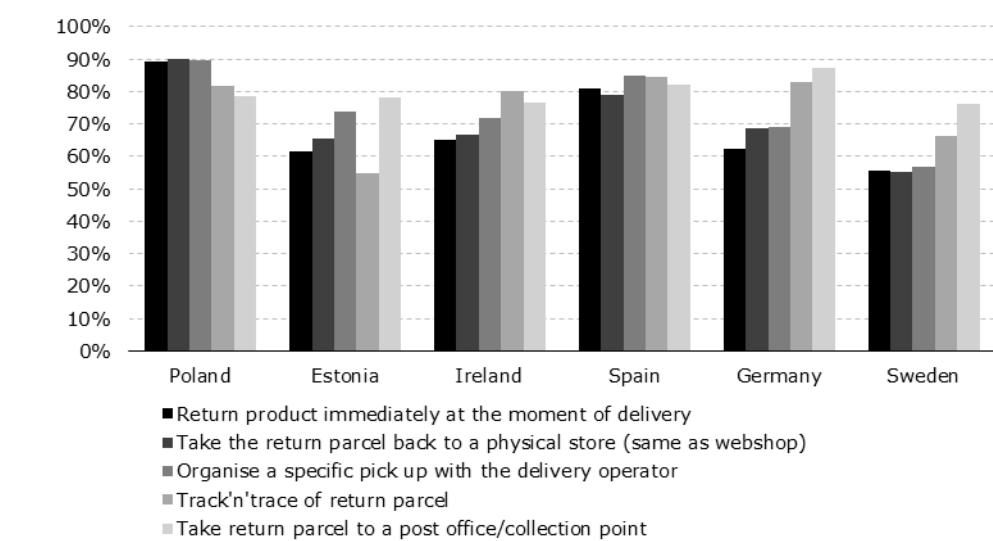


Note: The figure shows the percentage of e-shoppers that have rated each service as "somewhat important" or "very important". E-shoppers have answered the question: "When placing the final order, how important are the following features of delivery services?" Respondents answering "Don't know what this is" have not been included in the sample size.

Source: Copenhagen Economics, E-shopper survey

Return preferences seem to differ across countries. Whereas e-shoppers in Sweden, Germany and Ireland have a clear preference for returning parcels at a post office or collection point, e-shoppers in Spain and Poland prefer other solutions, cf. Figure 29.

**Figure 29 Importance of return options by country – by country**



Note: The figure shows the percentage of e-shoppers that have rated each service as "somewhat important" or "very important". E-shoppers have answered the question: "When placing the final order, how important are the following features of delivery services?" Respondents answering "Don't know what this is" have not been included in the sample size.

Source: Copenhagen Economics, E-shopper survey

Preferences do not vary significantly by the age of the e-shopper or by rural/urban location.

The importance of smooth return procedures has been acknowledged in several earlier studies. According to a worldwide study conducted by Pitney Bowes, 20 per cent of e-shoppers consider return policies the *most* important factor when shopping online in Australia, Brazil, Canada, China, France, Germany, Japan, South Korea, U.K., and the U.S.<sup>57</sup>

According to a UK study carried out annually by e-retailer association IMRG, 89 per cent of e-shoppers think that confirmation of the e-retailer receiving the return parcel is an important aspect in a smoother return procedure. A tracked return service has the additional benefit of allowing e-shoppers to know that the return has arrived safely with the e-retailer. Access to tracking information for return parcels are mentioned as important by nearly 80 per cent of the respondents.<sup>58</sup>

## 2.5 E-retailers' delivery needs

In a competitive market, e-retailer's demand for delivery services should derive from e-shoppers' preferences. However, providing choice to e-shoppers comes at a cost. Hence, e-retailers cannot provide each customer with a tailor-made delivery solution. Instead, each e-retailer will usually decide on a menu of delivery options that he believes will fit both his own need for delivery services (warehousing, packaging, labelling, pick-up etc.) as well as the e-shoppers' needs, at a reasonable cost.

In the following, we analyse e-retailers demand for delivery services in a way similar to the analysis of e-shoppers' needs. The delivery aspects analysed are:

- *Time and speed of delivery*
- *Point of delivery*
- *Value added features*
- *Delivery price*
- *Return options*

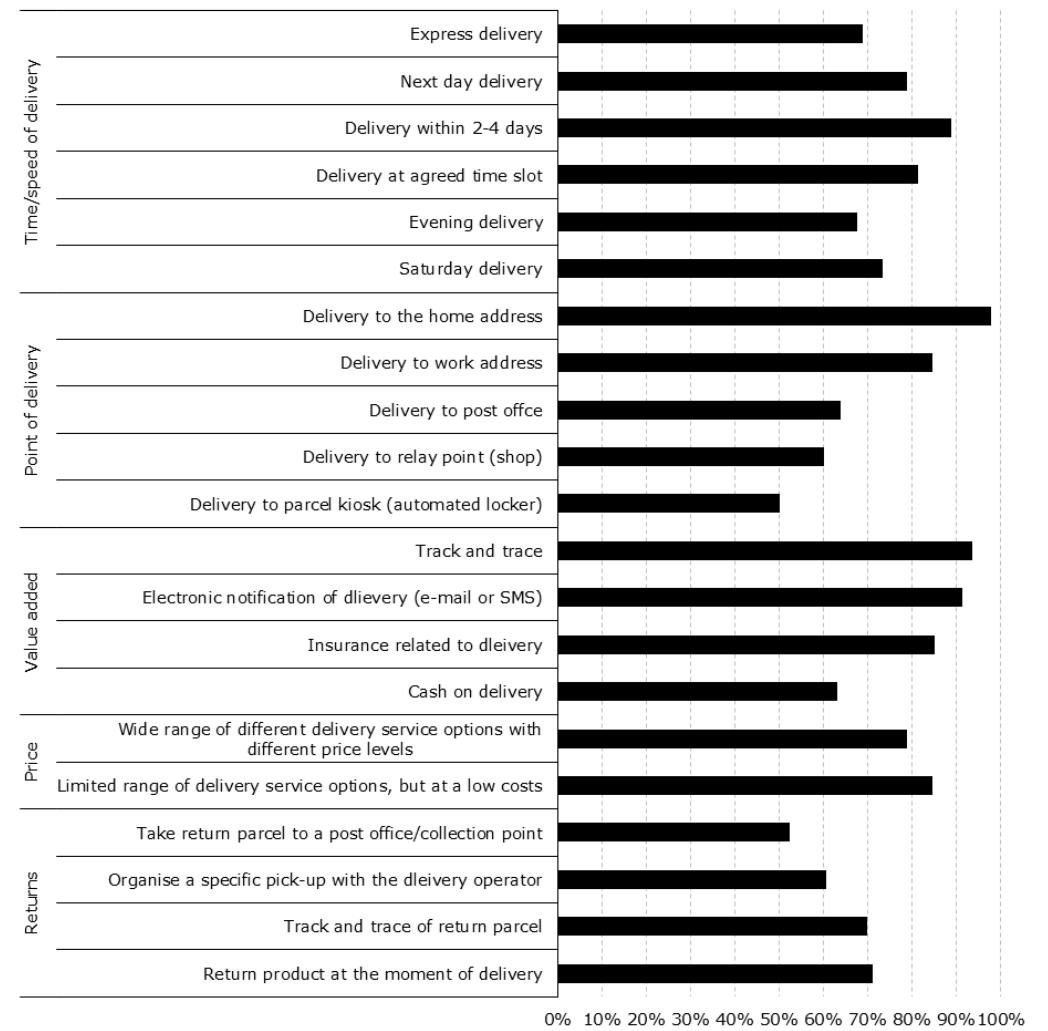
Figure 30 summarizes the features that e-retailers find important. Notably, we find that e-retailers' delivery preferences very much mirror the preferences of e-shoppers. For instance, home delivery is found to be important by 98 per cent of e-retailers and was found to be important by more than 90 per cent of e-shoppers, cf. section 2.4. We also note that, tracking and notification of delivery is found to be important by many e-retailers, cf. Figure 30.

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<sup>57</sup> Pitney Bowes (2011)

<sup>58</sup> IMRG (2012c)

**Figure 30 Importance of delivery characteristics – e-retailers**



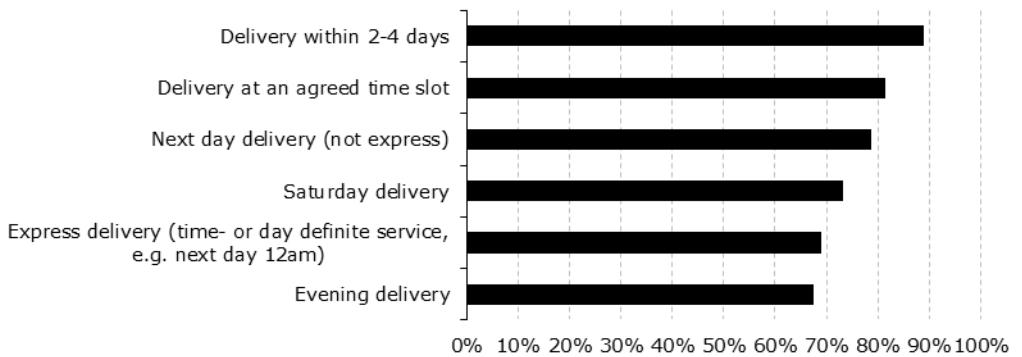
Source: Copenhagen Economics, E-retailer survey

Due to the limited sample size of e-retailers, we have not been able to draw any firm conclusions regarding the impact of e-retailer size or products sold on the preferences for delivery. The detailed overview of our survey results is found in Appendix B.

#### *Time and speed of delivery*

Our survey among e-retailers shows that the preferences with respect to delivery time and speed to a large extent mirror those of the e-shoppers. Just as e-shoppers, e-retailers consider delivery within two to four days, delivery at an agreed time slot, and next day delivery to be the top-three most important features, cf. Figure 31. Similarly, evening delivery is considered least important, both by e-retailers and e-shoppers.

**Figure 31 Importance of time and speed of delivery - e-retailers**

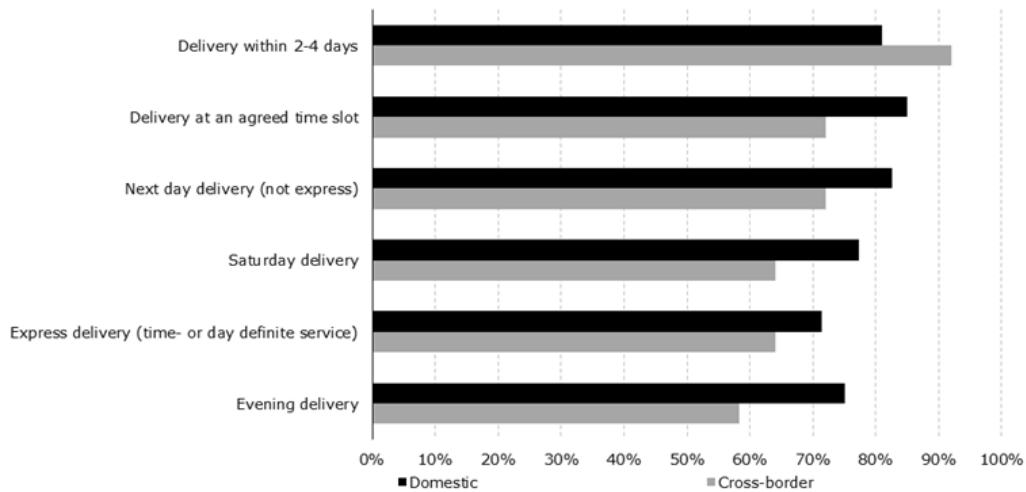


Note: The figure shows the percentage of e-retailers that have rated the importance of "delivery time" delivery features as "somewhat important" or "very important". E-retailers have answered the question: "How important to your business do you consider the following features of delivery services?" Respondents answering "I do not know what this feature means" have not been included in the sample size.

Source: Copenhagen Economics, E-retailer survey

We observe that preferences with respect to time and speed of delivery differ according to the e-retailers' geographical focus. Whereas cross-border e-retailers find delivery within two to four days to be most important, e-retailers that only serve the domestic market find delivery at an agreed time slot to be most important. In fact, domestic e-retailers even find next day delivery to be slightly more important than delivery within two to four days, cf. Figure 32. This result is not very surprising, since e-shoppers to a higher extent might expect domestic delivery to be carried out faster than cross-border delivery.

**Figure 32 Time and speed of delivery – domestic vs. cross-border**



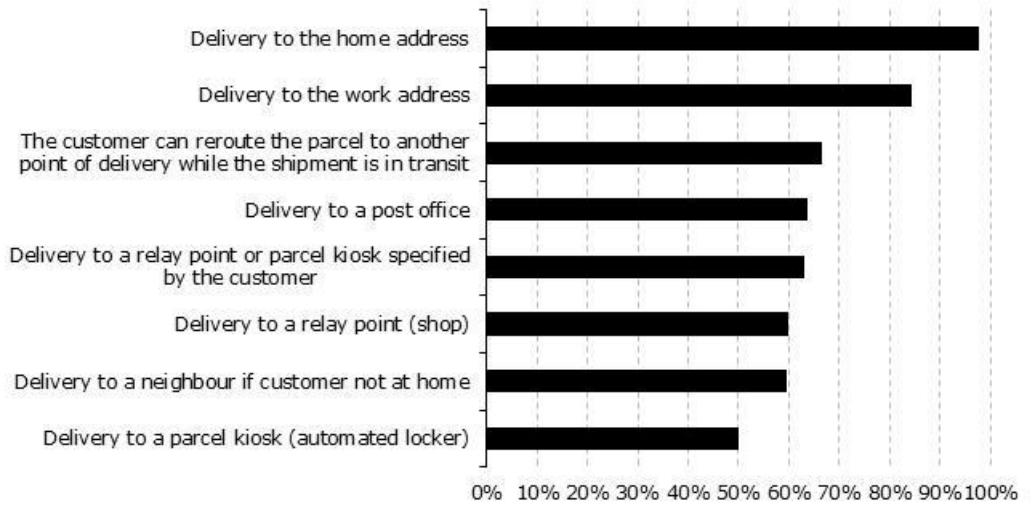
Note: The figure shows the percentage of domestic and cross-border e-retailers that have rated the importance of "delivery time" delivery features as "somewhat important" or "very important". E-retailers have answered the question: "How important to your business do you consider the following features of delivery services?" Respondents answering "I do not know what this feature means" have not been included in the sample size.

Source: Copenhagen Economics, E-retailer survey

#### *Point of delivery*

Almost all e-retailers in our survey (98 per cent) consider delivery to the home address important to their business. Delivery to the work address is considered second most important (mentioned as important by almost 85 per cent of the respondents). Delivery to a relay point or a post office is considered less important (mentioned as important by 60 to 65 per cent of the respondents). Delivery to a parcel kiosk is considered the least important option (mentioned as important by 50 per cent of the respondents), cf. Figure 33.

**Figure 33 Importance of point of delivery - e-retailers**



Note: The figure shows the percentage of e-retailers that have rated the importance of "delivery point" delivery features as "somewhat important" or "very important". E-retailers have answered the question: "How important to your business do you consider the following features of delivery services?" Respondents answering "I do not know what this feature means" have not been included in the sample size.

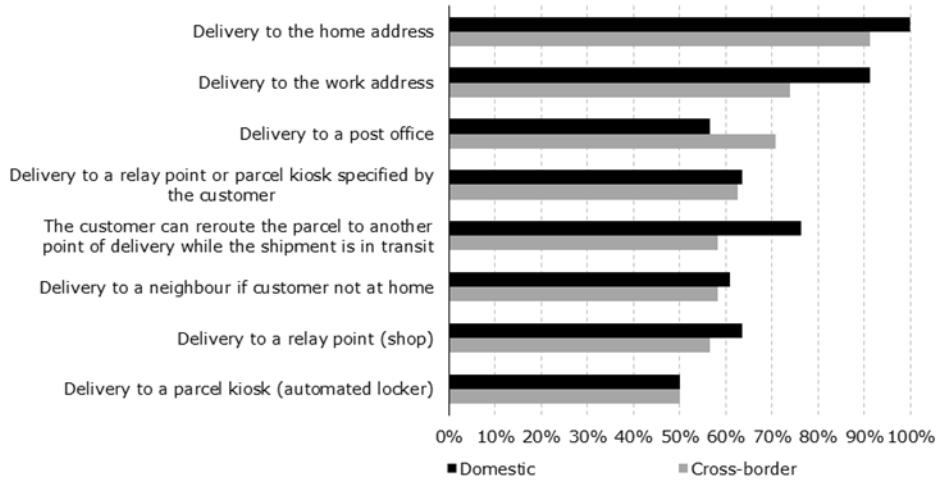
Source: Copenhagen Economics, E-retailer survey

Although the overall picture of e-retailer needs very much mirror that of e-shoppers, the results indicate some differences. For example, delivery to the home address is considered most important by both e-retailers and e-shoppers, whereas the e-retailers in our sample find delivery to work address more important than e-shoppers appear to do.<sup>59</sup>

Similar to preferences for time and speed of delivery, e-retailers' preferences with respect to delivery points differ according to their geographical focus. Whereas delivery to a home or work address are considered the top-two priorities for both domestic and cross-border e-retailers, cross-border e-retailers seem to find delivery to post office more important than domestic e-retailers, cf. Figure 34.

<sup>59</sup> While e-retailers rank delivery to work address as the second most important alternative, e-shoppers rank delivery to work address as the seventh most important alternative.

**Figure 34 Point of delivery – domestic vs. cross-border**



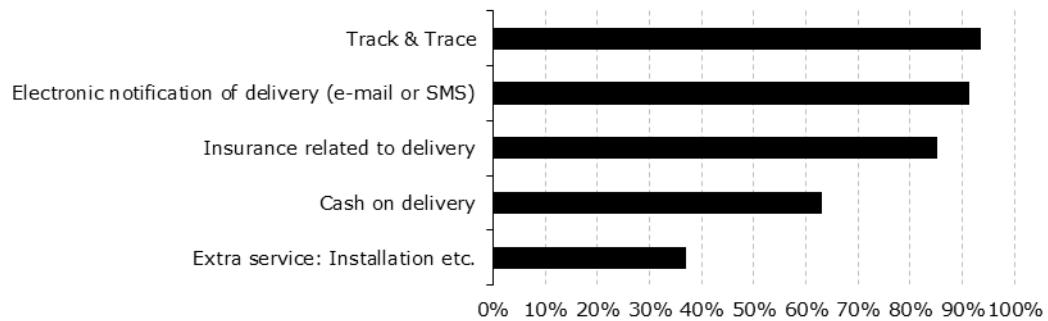
Note: The figure shows the percentage of e-retailers that have rated the importance of "delivery point" delivery features as "somewhat important" or "very important". E-retailers have answered the question: "How important to your business do you consider the following features of delivery services?" Respondents answering "I do not know what this feature means" have not been included in the sample size.

Source: Copenhagen Economics, E-retailer survey

#### *Value added features*

E-retailers' preferences for value added features seem to mirror those of e-shoppers very well. Track and trace and electronic delivery notifications are considered the most important value added features (mentioned as important by over 90 per cent of respondents). Extra services, such as installation of the product bought online, is considered least important, cf. Figure 35. This is most likely due to the fact that only a smaller share of e-retailers in our sample sell products which require such extra services.

**Figure 35 Importance of value added features for e-retailers**

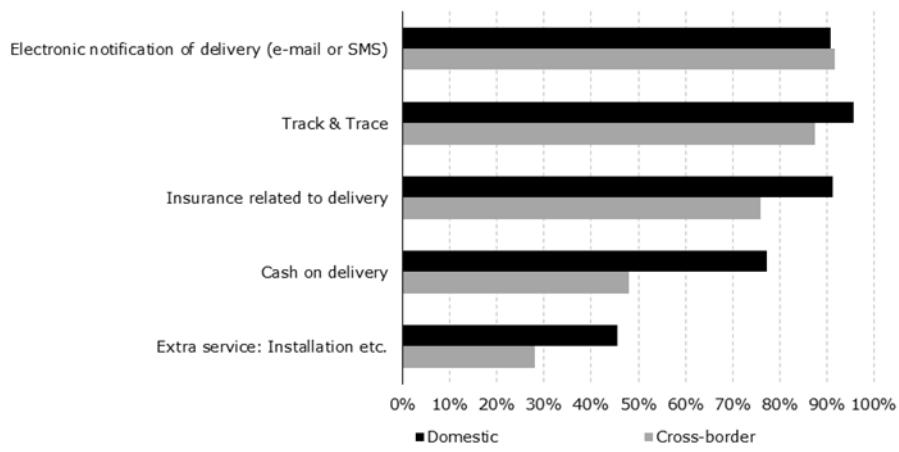


Note: The figure shows the percentage of e-retailers that have rated the importance of "value added" delivery features as "somewhat important" or "very important". E-retailers have answered the question: "How important to your business do you consider the following features of delivery services?"

Source: Copenhagen Economics, E-retailer survey

Again, preferences seem to differ with respect to domestic vs. cross-border sales. In general, all value added features, except for electronic delivery notifications, seem to be more important in case of domestic sales, cf. Figure 36. This finding is quite surprising, as delivery cross-border involves more uncertainty which could be reduced by means of features such as track and trace or extra delivery insurance. A possible explanation could be a difference between the type of products (for instance with respect to value) sold cross-border and domestic. This in turn affects the preference for value added services like insurance.

**Figure 36 Value added features – domestic vs. cross-border**



Note: The figure shows the percentage of e-retailers that have rated the importance of "value added" delivery features as "somewhat important" or "very important". E-retailers have answered the question: "How important to your business do you consider the following features of delivery services?"

Source: Copenhagen Economics, E-retailer survey

The high importance of track and trace and delivery notifications is also supported by our interviews with e-retailers and e-retailer associations across Europe, cf. Box 6.

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## Box 6 The value of track and trace and delivery notifications

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Anja Lytzen, owner of [www.Lirumlarumleg.dk](http://www.Lirumlarumleg.dk), a Danish e-retailer selling toys, interior decoration, and accessories for children in the age of 0-10, describes tracking and delivery notifications as a key feature of the delivery services she provides for her customers. In order for her to choose another delivery operator, tracking and notification of customers when the parcel is on its way and ready for pick up must be part of the service.

The tracking feature she sees specifically as an advantage for the customers and notification by SMS as a great advantage to her as an e-retailer. The value of notification to the e-retailer as well became apparent one day, when the notification systems failed. This gave rise to a large increase in the number of unclaimed parcels from the outlet of delivery operator GLS. Unclaimed parcels at the outlet will eventually be returned to the sender to the disappointment and inconvenience to the e-shopper and to the encumbrance and cost of the e-retailer. Getting the notification system up and running decreased the load on customer service and reduces the costs of handling returns and shipping them once more.

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Source: Copenhagen Economics, E-retailer interviews

Earlier research from IPC confirms that e-retailers consider track and trace essential, especially in cross-border transactions.<sup>60</sup> According to the IPC study, e-retailers rate tracking possibilities for their customers as the third most important feature of cross-border delivery services. According to Accenture, this finding is often due to limited knowledge about delivery operators abroad or low quality of postal services in some countries.<sup>61</sup>

### *Delivery price (paid by e-retailer)*

When choosing which delivery services (and prices<sup>62</sup>) to provide to their customers, e-retailers can choose to provide either a relatively small selection of delivery services (and prices) or a larger variety of delivery services with different price levels. Our survey shows that e-retailers seem to prefer both alternatives, with a slight preference for a more narrow service selection with a focus on lower prices. An interesting finding is that e-retailers engaging in cross-border delivery to a larger extent prefer a wider range of delivery options, whereas e-retailers selling only on the domestic market prefer a more limited range of options at a lower price, cf. Figure 37.

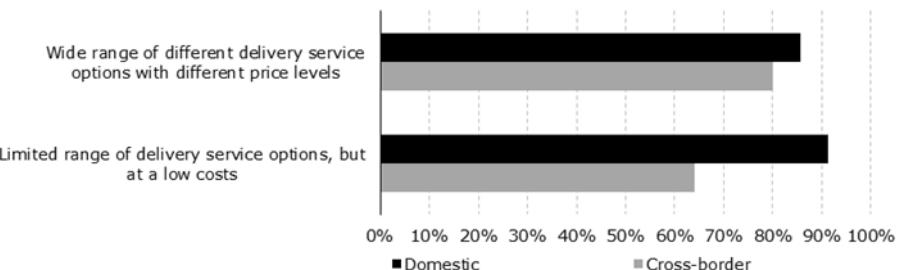
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<sup>60</sup> IPC (2010), p.27..

<sup>61</sup> Accenture (2011)p. 13.

<sup>62</sup> The delivery price set by the e-retailer does not necessarily reflect the delivery price set by the delivery operator, cf. Chapter 1.

**Figure 37 Delivery price – domestic vs. cross-border delivery**



Note: The figure shows the percentage of e-retailers that have rated the importance of "delivery price" features as "somewhat important" or "very important". E-retailers have answered the question: "How important to your business do you consider the following features of delivery services?"

Source: Copenhagen Economics, E-retailer survey.

This might be explained by the fact that e-retailers in general know user preferences in their own country better than they know user preferences cross-border. Thus, selling cross-border may require a wider range of delivery price options to make sure that users can make their preferred choice. Another possible reason may be firm size. Larger e-retailers selling cross-border may have more resources for handling multiple delivery operators and hence allow them to offer more alternatives than small e-retailers.

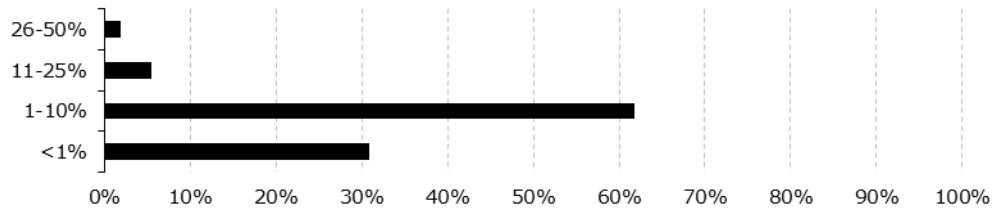
#### *Return options*

A high rate of returns is not necessarily a sign of consumer dissatisfaction. In fact, a high return rate can be part of a successful business model for e-retailers selling apparel, shoes etc. By offering free delivery and free returns, e-retailers move the fitting room from a physical shop to the customers' home. This makes customers less reluctant to order several different sizes or colours of the same item. Having bought initially more than what the customers intend to keep, smooth returns become important for the shopping experience and for the likelihood that customers will shop from the same e-retailer again.

96 per cent<sup>63</sup> of e-retailers in our survey state that easy return solutions are somewhat or very important for repeat purchases. Actual return rates range from less than 1 per cent up to 50 per cent, with the majority of e-retailers experiencing return rates between 1 and 10 per cent cf. Figure 38. The highest return rates are experienced by e-retailers selling clothing, shoes and jewellery, as well as electronic equipment and household appliances.

<sup>63</sup> This is as a percentage of those, that have actually answered the question, for all respondents (i.e. including blanks and don't know) it is 60 per cent.

**Figure 38 Returned items as a share of all shipments in 2012**

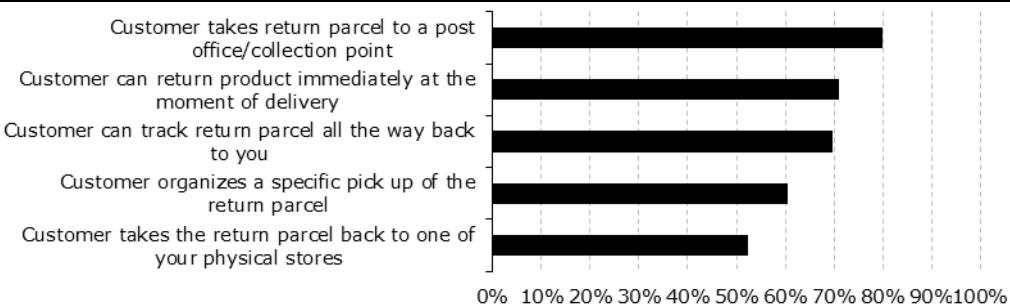


Note: The figure shows how large a share of all shipments in 2012 that was returned by customers. E-retailers have answered the question: "Approximately how large a share of all your company's shipments in 2012 was returned by customers?" Respondents answering "I do not know what this feature means" have not been included in the sample size. The number of respondents is 55.

Source: Copenhagen Economics, E-retailer survey

Similar to the e-shoppers, e-retailers find returns through post offices or collection points to be most important, cf. Figure 39. However, the ability to return the product by taking it to the e-retailer's physical store is only considered important by 50 per cent of the e-retailers, whereas more than 70 per cent of e-shoppers mention this option as important. This discrepancy might reflect the fact that not all e-retailers in our sample have their own physical stores, but merely sell online.

**Figure 39 Importance of return services**



Note: The figure shows the percentage of e-retailers that have rated the importance of "return services" delivery features as "somewhat important" or "very important". E-retailers have answered the question: "How important to your business do you consider the following features of delivery services?"

Source: Copenhagen Economics, E-retailer survey

According to UK e-retailer association, IMRG, smooth and efficient return procedures are important to e-retailers since they ease inventory management and support good customer service.<sup>64</sup>

<sup>64</sup> IMRG (2011)

## Chapter 3

# E-commerce driven delivery in the EU

The purpose of this chapter is to describe the EU parcel and delivery markets in general; and the markets for e-commerce driven delivery in particular.

We present a set of statistics based on data collected from publicly available sources, from the questionnaires<sup>65</sup> and surveys<sup>66</sup> specifically conducted for this study, as well as from a range of interviews with stakeholders.

### 3.1 Main findings

E-commerce driven shipments (approximately 92 per cent) are concentrated to the Member States exhibiting the best e-commerce performance, with respect to both domestic and cross-border e-commerce. As discussed later in this chapter, e-commerce best performing countries are Denmark, Finland, France, Germany, the Netherlands, Sweden, and the UK. These countries also generate the majority (approximately 78 per cent) of all (also non-e-commerce driven) shipments in the EU. In other words, mature delivery markets are also mature e-commerce delivery markets.<sup>67</sup>

This relationship suggests that feedback loops are at play. Without sufficient demand for delivery services, delivery operators may not develop new services suitable for e-retailers and e-shoppers. Simultaneously, without cheap and fast delivery services with high quality and extensive reach (including cross-border), e-retailers may not prosper as much.

Our analysis of key delivery operators and their services on offer show a number of delivery operators active in the EU delivery markets in general, and in e-commerce driven delivery in particular. However, service offerings differ between the types of operators and markets where they are active. Thus, the ability for e-retailers to provide customer-oriented delivery services depends on where they are located (origin) and where they are selling their products (destination).

We observe that the availability of some delivery services, such as delivery to relay points and parcel kiosks, and some value added services, such as electronic notifications and insurance related to delivery is greater in more mature e-commerce and delivery markets. We also observe a marked difference between domestic and cross-border services, where

<sup>65</sup> The delivery operator questionnaire was sent to 114 companies across all 27 EU Member States, out of which we received answers for 61 companies, equalling a response rate of 54 per cent. The questionnaire responses received covered all EU Member States except two (Bulgaria, Latvia). A separate questionnaire was distributed to all 27 NRAs, of whom 26 responded, equalling a response rate of 96 per cent. Besides these EU-wide questionnaires, this report was also based on other primary data obtained via online surveys, cf. below.

<sup>66</sup> An online survey was conducted among 3,077 e-shoppers in six countries (Germany, Sweden, Ireland, Spain, Poland, and Estonia). Another online survey was distributed among more than 1,000 e-retailers. 70 e-retailers in 21 countries responded to this survey.

<sup>67</sup> The countries we denote as 'mature' are countries with a high share of internet users as well as a high level of e-commerce.

many services are provided only for the domestic market (and sometimes not even to the entire country).

We find that prices for cross-border deliveries often are three to five times higher than the prices for domestic delivery. These cross-border price premiums can most likely not (at least not entirely) be explained by higher costs incurred in cross-border delivery. We also find that customers that are able to buy shipments in bulk often enjoy significant discounts compared with customers who buy delivery in terms of single piece shipments. This suggests that small retailers may face high delivery prices (in particular in relation to cross-border delivery), which might prevent them from engaging in domestic as well as cross-border e-commerce.

### **3.2 EU delivery markets**

This chapter provides a broad description of the characteristics of the supply side of the EU parcels and packets markets. Our analysis includes Courier, Express and Parcel shipments (CEP in industry jargon). We also include (as far as possible) the shipments of packets.<sup>68</sup> This is because e-commerce products below 2kg often can be shipped as larger format letter items.

As a starting point, we present the key operators active in delivery of packets and parcels in the EU. We also explain our method for grouping countries for the purpose of the subsequent analysis. We thereafter present statistics about the delivery of parcels and packets in the EU using secondary and primary data. The section is concluded by a discussion of the state of competition and prices in the delivery market.

#### **Key players in the EU delivery markets**

In the following, we provide a summary overview of the delivery operators which are relevant to the context of this study.

We note that three main categories of delivery operators are of key relevance:

- *National Postal Operators*
- *Global integrators*
- *Couriers and other express and parcels specialists*

*National postal operators* (NPOs) are incumbent postal firms such as La Poste, Royal Mail, and Post Denmark. These operators are typically subject to a Universal Service Obligation (USO) which ensures the provision of certain services with a national coverage. The USO also contains requirements with respect to quality, price levels, and delivery frequency. Apart from offering national delivery services, NPOs also offer cross-border services through cooperation with other delivery operators. Whereas some NPOs only

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<sup>68</sup> Packets are postal mail items and are therefore handled as part of the letter flow. A key characteristic of packets is that they exceed the letter and flat formats, while weighing no more than 2 kg. These features make packets suitable for delivery of a large share of products bought online, such as accessories, books, and DVDs. However, the fact that packet products often lack value added features, such as tracking, might make them less attractive for e-commerce driven deliveries. The size limitations of packets used in this study are the following: MINIMUM dimensions: 100 mm(L) X 70mm(H) X 25mm(D). Weight > 200g; MAXIMUM combined length, height and depth of 900mm. Weight up to 2kg.

offer standard delivery services, others also offer time-definite express services on top of the standard services.

*Global integrators* are multi-national operators with world-wide presence, such as DHL, FedEx, TNT Express and UPS. They provide time-defined delivery through their own integrated networks or through local business partners. The services provided are of two types: *express* and *deferred*, where deferred services are slower (e.g. delivery within 4-5 days). Typically, the integrators' services include more value added features than the services of NPOs. Examples of such value added services are secured delivery and end-to-end cross-border tracking.

*Couriers and other express and parcels specialists* differ from NPOs as well as integrators with respect to services, coverage, and business models. They can be further subdivided into national players, e.g. Parcelforce, Citylink, and Nightline, and multi-national or regional players, e.g. Hermes, DPD, and Bring.

Couriers provide expedited delivery and guaranteed tracking and security of the items delivered. They usually do so by means of day- and time-certain delivery services, with a focus on same-day and (intercontinental) next-day deliveries of light weights (<10kg). Many couriers operate in urban areas only, although regional and national examples exist.<sup>69</sup> Express operators provide value added, door-to-door transport and next day or time-definite shipments.<sup>70</sup> The items delivered range from documents and small parcels to pallets with larger consignments.

In addition to the types of operators described above, additional market players may be involved in the shipments journey from sender to recipient. Notably, we identify four additional categories of logistics intermediaries that may be involved in the delivery process. These are parcel consolidators, fourth party logistics providers, software solution providers, and drop-shippers, cf. Table 12. For a more detailed description of these market operators, see chapter 1.

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<sup>69</sup> TNT Express 2010 Report Supplement – , p.10; FTI Consulting (2011), p.73

<sup>70</sup> This definition of express delivery is provided by Oxford Economics (2011), in a report sponsored by the European Express Association (The Economic Impact of Express Carriers in Europe). Alternative definitions are provided by individual delivery operators. Definitions provided are “Trackable, guaranteed, same day, overnight and next day shipping service with guaranteed morning delivery times” (Source: UPS (2012), [http://www.ups.com/content/us/en/shipping/time/service/worldwide\\_saver.html?WT.svl=SubNav](http://www.ups.com/content/us/en/shipping/time/service/worldwide_saver.html?WT.svl=SubNav)); “Time-definite delivery, also non-next day” (Source: TNT Express (2012), [http://www.tnt.com/express/da\\_dk/site/home/vores\\_services/Express\\_services/tids\\_og\\_dagsbestemte\\_services.html](http://www.tnt.com/express/da_dk/site/home/vores_services/Express_services/tids_og_dagsbestemte_services.html))

**Table 12 Key delivery operators in the e-commerce value chain**

Operator	Role	Examples
Parcel and courier consolidators	Provide preparation and collection of parcels, which thereafter are injected into the parcel pipeline. Discounts obtained are partially passed on to e-retailers.	Couriers Express, Van-sleen Pakketdienst, Luggex etc.
Fourth party logistics providers (4PL)	Provide full integration (goods intake for e-retailers, pick&pack, shipping as basic services and also Customer Service, Return Management, Goods Sourcing etc.)	PFS Europe, Katoennatie, CEVA Logistics, S&H Product Fulfillment, various NPOs. etc.
Software solution providers	Provide e-retailers and delivery operators with software solutions to support e-logistics and e-fulfilment, e.g. EDI, tracking, labelling, last mile delivery	Metapack, GFS, EDI-soft, Hybris, IBM, DemandWare, Blackbay, etc.
Drop-shippers	Offer e-retailers the ability to market products via their own websites. Sometimes including shipping, where the e-retailer marketing the product has no physical ownership of the product.	Pixmania Pro, Amazon, bol.com, etc.

Source: Copenhagen Economics

The role of the different market players in relation to the delivery of products bought online is further discussed in section 3.3.

### Grouping of countries

In order to shed light on how delivery markets across the EU are performing (and variations within), we will base our analysis on groups of countries which share commonalities in their degree of domestic and cross-border e-commerce maturity.

We group countries so that each group has similar characteristics in terms of both domestic and cross-border e-commerce performance. To maintain the groups broad enough, we divide countries into four groups based on whether they have low or high levels of domestic and cross-border e-commerce. Low and high are defined as relative to the EU-average performance. For domestic e-commerce, we use Eurostat/Eurobarometer data on consumers' e-commerce take-up in 2011. For cross-border e-commerce, we adjust the Eurostat data because a country's size and its openness to foreign imports could be a source of bias, cf. Box 7.

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### Box 7 Avoiding bias in the cross-border e-commerce indicator

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Consider two countries which have a *prima facie* similar level of cross-border e-commerce. In the UK, 12 per cent of internet users shop cross border, while in Estonia the figure is 13 per cent. This would look similar at first glance, and in absolute terms it is. However, the size and composition of the economies is substantially different.

The British economy, which is much larger, is less reliant on imports (17 per cent of GDP) than the Estonian economy, which is more open to foreign goods and services (72 per cent of GDP). British consumers will naturally find a much greater number and range of domestic retailers, compared to what Estonian consumers can find domestically.

The same intuition applies to e-shoppers. British e-shoppers have much wider domestic choice compared to the domestic choice for Estonian e-shoppers, because the British economy is many times bigger than the Estonian economy. Hence, in small countries (with small open economies) both firms and (e-)shoppers will have a structural tendency to engage more in cross-border ecommerce than large countries. So, even if in two countries the share of internet users who shop cross-border is similar, this is not like-for-like.

If we simply were to group the two countries together, our approach would suffer from an omitted variable bias. The grouping would reflect the two countries' differences in the size and ultimately the degree of openness to imports of their economies – rather than anything specific to e-commerce consumer behaviour.

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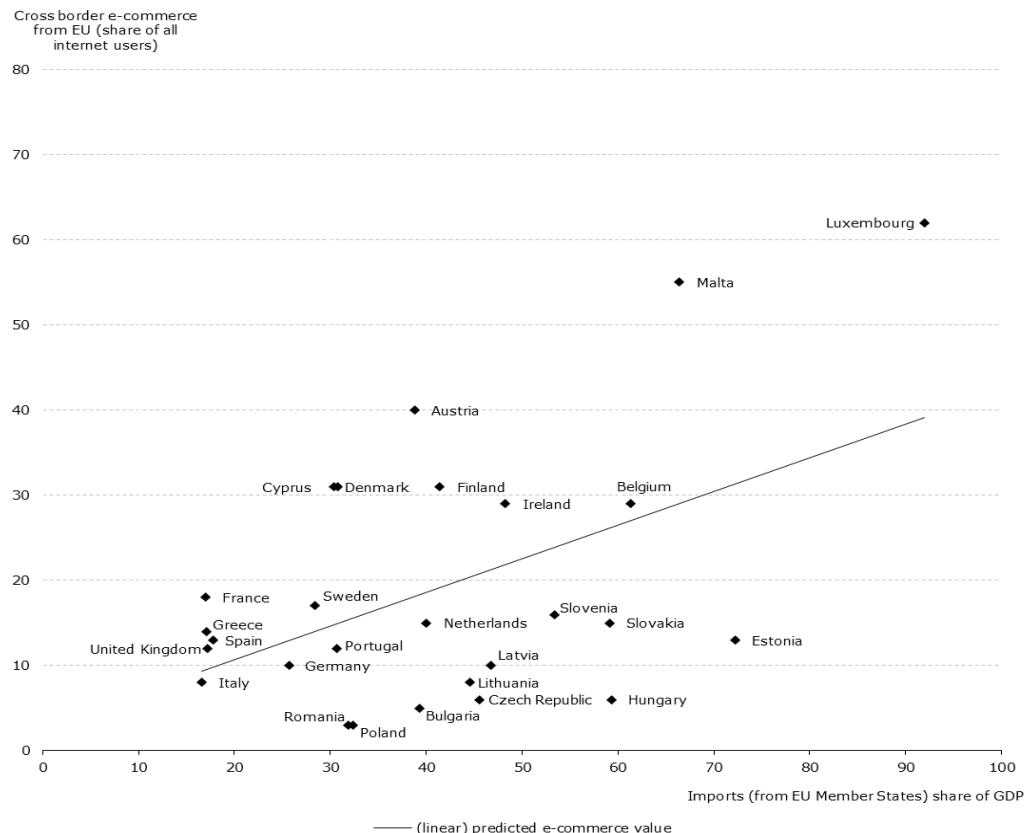
Source: Copenhagen Economics

In order to correct for this potential bias, we adjust the share of internet users that shop cross border for the openness of the economy (measured by the imports share of GDP).<sup>71</sup> A simple regression analysis shows that a country's level of imports is a significant variable (at the 95 per cent confidence interval) to explain cross-border e-commerce. In fact, a 10 per cent relative increase in imports is associated with a 5 per cent relative increase in cross-border e-commerce performance, cf. Figure 40.

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<sup>71</sup> The adjustment is done as follows. We run a linear regression of the share of internet users who shop cross-border, explained as a function of the imports share of GDP.

**Figure 40 Correlation of imports and cross-border e-commerce**



Source: Copenhagen Economics, based on Eurostat (2013a) and Eurostat (2013c)

These (standardised) residual values from the regression are used as our cross-border e-commerce indicator. Thus, any country which has a higher indicator than the EU average is considered as a (relatively) high cross-border e-commerce country. All other countries are considered as having a (relatively) low cross-border performance. The values of the cross-border indicator by country are displayed in Appendix C.

Domestic e-commerce performance is assessed on the basis of the Eurostat data on the share of internet users who during the past 12 months has bought something from domestic e-retailers. Any country with a higher indicator than the EU average is considered as a high domestic e-commerce country. All other countries are considered to have a (relatively) low cross-border performance. Based on a joint assessment of the two indicators, we assign each EU Member State to one out of four groups, cf. Table 13.

**Table 13 Country grouping by consumer e-commerce take-up**

	Low (relative) DOMESTIC e-commerce	High (relative) DOMESTIC e-commerce
<b>High (relative) CROSS-BORDER e-commerce</b>	<b>Group 2 – Key challenge: domestic</b> Austria, Belgium, Cyprus, Greece, Ireland, Italy, Luxembourg*, Malta, Portugal, Spain	<b>Group 1 – Best performers</b> Denmark, Finland, France, Germany, The Netherlands, Sweden, UK  (Comment: these countries may still struggle cross-border)
<b>Low (relative) CROSS-BORDER e-commerce</b>	<b>Group 3 – Domestic &amp; Cross-border challenge</b> Bulgaria, Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Romania, Slovakia, Slovenia	(Comment: no country exhibits these characteristics; however, most countries have low <u>absolute</u> cross-border e-commerce levels)

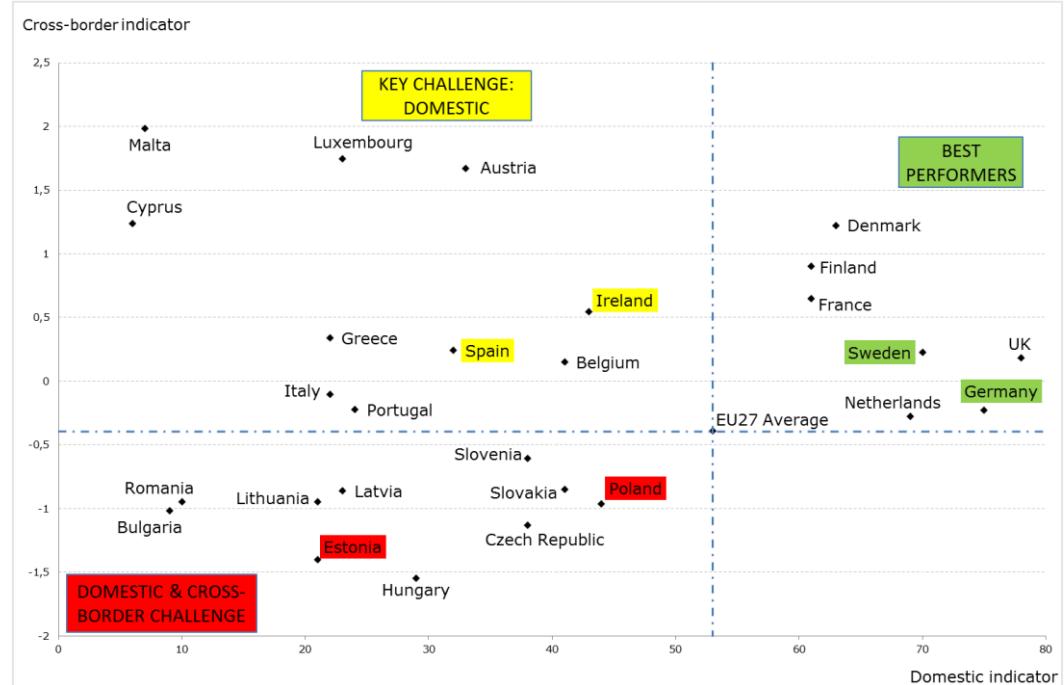
Note: We could not retrieve Eurostat data on all Luxembourg imports (only for imported services). We integrate this via UNCTAD Merchandise trade matrix data on goods imported, at: [www.unctad.org](http://www.unctad.org).

Source: Copenhagen Economics

Figure 41 plots the performance of each Member State with respect to both the domestic and cross-border indicators. The two lines crossing the figure are centred upon the values associated with the EU-27 average. Each group of countries is in a single quadrant.<sup>72</sup>

<sup>72</sup> Even though we have two indicators, each with two categories, based on whether the value of the indicator is low vs. high (vis à vis the EU average), we only obtain three groups of countries – instead of the four groupings that could be expected. This is because 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

**Figure 41 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, based on Eurostat (2013a) and Eurostat (2013c).

Six countries are highlighted in Figure 41: these have been selected as a sample for the purpose of conducting an in depth assessment of e-shoppers preferences. This sample consists of two countries from each of the three country groups; the set of countries reflects both smaller and larger EU member states and includes countries from different geographies within the EU.

We note that in what follows we will not present delivery operators information at the country level, due to the confidentiality of the data provided to us by delivery operators. The confidentiality that we offered to delivery operators was strictly necessary to enable them to provide commercially sensitive data for the purpose of this study. Thus, rather than at country level, where appropriate we will display results at the level of the three country groups identified, since their constituent countries share similarities from an e-commerce perspective.

## Market size and parcel flows

The statistics presented in this section are based on the responses provided to a questionnaire to delivery operators across Europe which was conducted exclusively for the purpose of this study. For a detailed description of our data analysis approach, see Box 8.

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### Box 8 Approach to data analysis

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This chapter is mainly based on results from the questionnaire to delivery operators which was conducted for the purpose of this study and distributed across all EU Member States.<sup>1</sup> We also present a few results based on other data collection exercises conducted during this study. Moreover, we present key results from the extant literature, focusing on the most recent studies.

We appreciate the collaboration of several delivery operators across Europe, who have provided data on their parcels and packets operations, with a specific focus on e-commerce applications. However, even though we have sought the collaboration of a wide and diverse set of delivery operators active in Europe, we are also aware that many operators have not been able to provide any data for the purpose of this study. Thus, the information available to us reflects the range of respondents that have collaborated to this study.

Thanks to the collaboration of delivery operators, we have received questionnaire responses for 61 companies. We note that the response rate for NPOs is higher than for other delivery operators. We address this by presenting, where appropriate, separate results for NPOs vis à vis other delivery operators.

Furthermore, response rates and the completeness of responses are higher in certain countries than in others. Since information on certain countries is more limited, this poses a challenge specifically when estimating the total size of the market for parcels and packets delivery (both in terms of turnover and shipment volumes). However, we have asked operators to assess their share of the country they operate in and use this estimate to quantify the size of the parcels and packets market in each country where this information is available to us. In the few instances where no relevant information is available to estimate directly the size of a country market, we have estimated this on the basis of the average turnover or shipments per capita observed within the country group which that country belongs to.

An important consideration is that the respondents to the questionnaire are delivery operators from the whole of Europe. They naturally differ in terms of their size (as do the countries in which they operate). Where delivery operators are part of a group, we have sought to obtain separate responses to the questionnaire capturing the activities of the different companies (or subsidiaries) within the group. This is also the case for groups which own companies operating in different countries, which we treat separately where we observe data about this.

Given how the companies surveyed differ in terms of size, we do not consider it comprehensive to compute averages exclusively on a simple arithmetic basis, i.e. where all respondents count in the same way. We do compute arithmetic averages as a starting point, however our standard approach when presenting results in this chapter is to rely on the weighted average of the indicator analysed. So, for instance, when assessing the EU-wide value of an indicator like share of express delivery, delivery operators with larger volumes of shipments will inform results proportionally more than delivery operators with smaller shipments.

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Note: The delivery operator questionnaire was sent to 114 companies across all 27 EU Member States, out of which we received responses for 61 companies, equalling a response rate of 54 per cent. The questionnaire responses received covered all EU Member States except two (Bulgaria, Latvia). As answers are also collected from multinational delivery operator groups operating in several countries, our survey results represent 35 delivery operator groups in total. Apart from this EU-wide delivery operators' questionnaire, this report was also based on other primary data, such as the e-shopper online survey, which focused on six countries (Germany, Sweden, Ireland, Spain, Poland, and Estonia) and was conducted among 3,077 e-shoppers. Another online survey was distributed among more than 1,000 e-retailers, with 70 e-retailers in 21 countries responding to this survey. Finally, a questionnaire was distributed to all 27 NRAs, of whom 26 responded, equalling a response rate of 96 per cent. This chapter relies mainly on data from the delivery operator questionnaire. Where possible we integrate and double check findings based on alternative data sources: for instance we will compare the NPO shares established on the basis of the delivery operator questionnaire with the equivalent result from the e-shopper survey.

Source: Copenhagen Economics

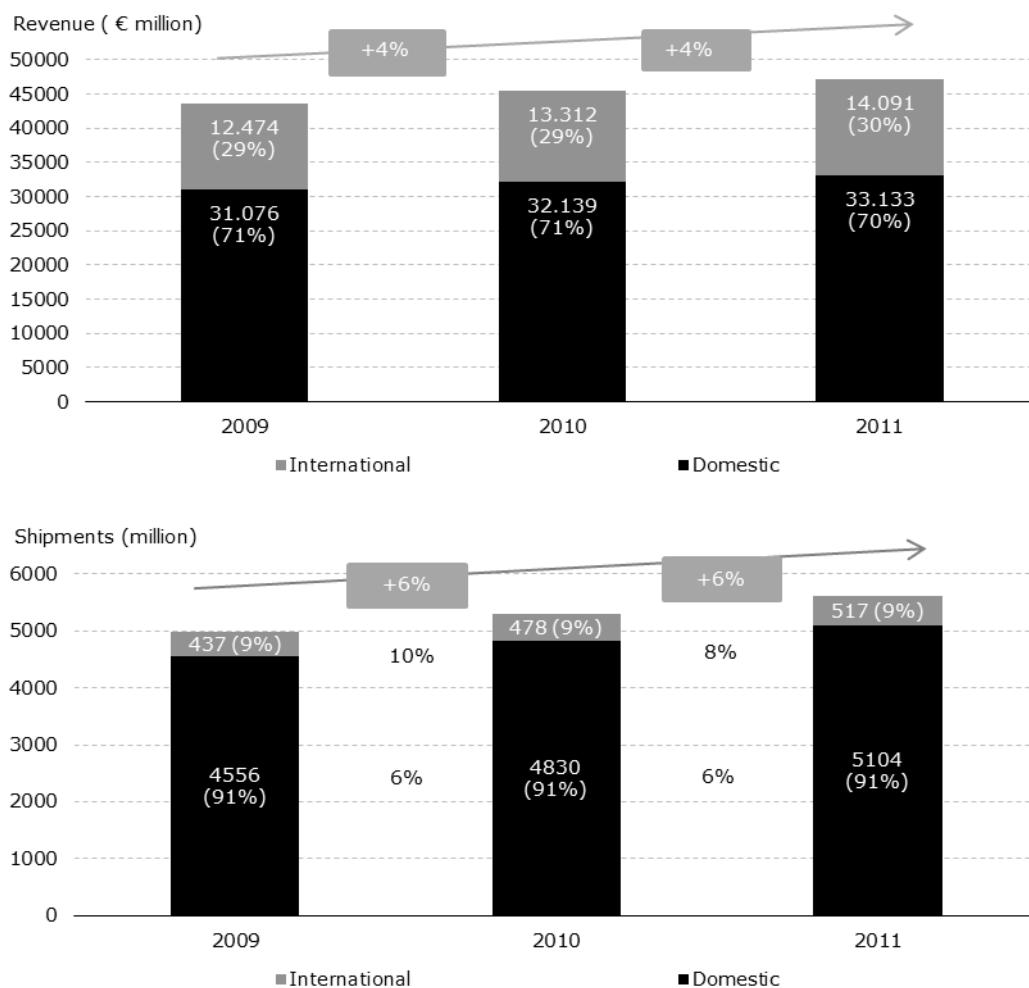
Volume developments for NPOs across Europe show that letters traffic has consistently decreased, whereas parcels, which had dipped for a short period during the 09-10 crisis, have picked up somewhat in recent years.<sup>73</sup>

Evidence from the most recent years shows that the market for CEP shipments in Europe is growing. In the period 2009-2011, CEP shipments and revenues grew by 6 and 4 per cent respectively per year in the EU, cf. Figure 42.

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<sup>73</sup> Copenhagen Economics (2012), Pricing behaviour of postal operators.

**Figure 42 CEP revenues and shipments in Europe (2009-2011)**



Note: Based on 12 EU and 4 non-EU European countries. The source report does not define international traffic explicitly, although it would appear that it includes all cross-border traffic flows involving each of the countries analysed (thus not just flows within the EU).

Source: ATKearney (2012), Figure 1,

Based on the latest available data provided to us by operators (year 2011 or 2012, where available) complemented by desk research, we find that delivery of parcels and packets are worth €46bn in the EU.<sup>74</sup> This corresponds to a delivery turnover per capita of €91<sup>75</sup>

<sup>74</sup> As shown in Table 14, we observe, based on the questionnaire responses received a value just above €35bn. However, we have estimated missing observations (such as the global operators who have not provided turnover information) at €11bn, totalling €46bn for the parcels and packets market in Europe. In doing so, we have relied on publicly available data, including data on shares of supply of parcels in Europe (cf. <http://www.statista.com/statistics/235412/b2c-market-share-of-parcel-services-in-europe/>).

<sup>75</sup> This is calculated by dividing total value of parcel and packets i.e. €46bn by total population of the EU.

Our estimate provides a higher value than previous estimates of the European CEP market. For instance, in 2008, the IPC estimated the European CEP market as worth €37bn. This is natural as the market has grown since 2008 and since our estimate also includes packets.<sup>76</sup> Compared to this estimate, our assessment of total market size also include packets, but generally does not include express items such as urgent documents, medicines, and similar, which do not qualify as parcels or packets and were thus outside the scope of our operators' questionnaire. Cross-border delivery through direct insert made by the e-retailers themselves, or by private transport companies, will be captured by our estimates as part of the domestic shipments. This is because the carrier handling the shipment in the recipient country may not know that it is a cross-border shipment but simply be treating it as domestic. While this does not affect the assessment of total volumes of shipments, this also implies that our analysis will provide a conservative estimate of cross-border shipment volumes.

The estimates of volumes and turnover presented throughout the rest of this chapter do not capture the activities of the global integrators and other players who have not responded to the questionnaire with volume data. Nevertheless, our data still provides some interesting insights into the characteristics of delivery markets and shipments. The delivery operators responding to our questionnaire represent a delivery turnover of approximately 35 billion Euros, cf. Table 14. This is about 76 per cent of the total market value (estimated at 46 billion Euros).

Approximately two thirds of the total turnover is generated by delivery operators in countries with high levels of domestic and cross-border e-commerce. Approximately one third of the total turnover is generated by operators in countries with high levels of cross-border e-commerce, but relatively low levels of domestic e-commerce. Only a small share (about 5 per cent) is generated in countries with low levels of both domestic and cross-border e-commerce.

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**Table 14 Overview of parcels and packets turnover and shipment levels in the EU**

	EU-wide	Group 1	Group 2	Group 3
Turnover (€ million)	34,894	23,847	9,428	1,619
Shipments (in million units) of which:	6,406	4,532	1,347	527
B2C	3,614	2,824	497	293
B2B	1,868	1,125	592	152
Other (C2C & C2B)	923	583	258	82

Note: Group 1: Best performers; Group 2: Key challenge, domestic; Group 3: Domestic & cross-border challenge

Source: Copenhagen Economics, Delivery operator questionnaire and annual reports of delivery operators

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<sup>76</sup> The AT Kearney study includes shipments package weights up to 2500kgs, which is higher than the 30kg upper threshold in the parcel definition applied here; it also does not include any packets shipments. The ITA & WIK study acknowledges that packets should be considered in theory within CEP as they are akin to parcels under the Directive, however that study does not include packets in its CEP estimates (incl. turnover) for practicality reasons. The estimates in the Oxford Economics study includes shipments from express carriers only.

The collected data shows that domestic traffic is an important activity compared to cross-border traffic. This finding holds for all three country groups, cf. Table 15. Turnover per capita from domestic delivery ranges from €80.8 in the group of Best performers (group 1) to €14.8 in the group of counties with a domestic and cross-border challenge (group 3), suggesting that more mature e-commerce markets also are more mature in terms of domestic deliveries in general. The turnover per capita for outbound intra-EU shipments and outbound extra-EU shipments respectively suggests that the best performing countries also perform better in terms of outbound cross-border shipments. Whereas per capita turnover for outbound intra-EU shipments is more than 4 times higher for the best performers than for the other two groups of countries, the corresponding relationship for outbound extra EU shipments is less extreme, approximately 1:2.

**Table 15 Turnover per capita (€): parcels and packets**

	EU-wide	Group 1	Group 2	Group 3
Domestic	58.6	80.8	51.9	14.8
Outbound Intra EU	8.5	13.1	6.6	0.6
Outbound Extra EU	2.2	2.7	2.5	0.5
Total Turnover	69.4	96.6	61.0	15.9

Note: Group 1: Best performers; Group 2: Key challenge, domestic; Group 3: Domestic & cross-border challenge

Source: Copenhagen Economics, Delivery operator questionnaire

Two factors inform these estimates. First, we designed our data collection in such a way so that it focuses on the shipments that each operator picks up directly.<sup>77</sup> In the case of cross-border this results in a focus on outbound cross-border shipments. Thus, the table reports outbound cross-border performance. It is worth noting that our country grouping is based on the cross-border e-commerce consumer indicator from Eurostat. That indicator captures the extent to which consumers in a given country e-shop from abroad – i.e. *inbound* cross-border flows. Second, the data available to us does not include the flows of the global operators.

### Characteristics of shipments

This section provides some descriptive statistics about the characteristics of shipments in the EU.

#### *Express versus standard delivery*

We have asked delivery operators to provide information on the share of their parcels and packets traffic which is express. The data reveals that express services constitute only a minor part (up to 14 per cent) of delivery activities. We also find that NPOs have on average a slightly higher share of express activities compared to Non-NPOs cf. Table 16.

<sup>77</sup>In fact, the turnover reported to us by each operator would capture the value of the entire delivery – i.e. the value paid by the customer sending the parcel – and not just an inbound leg of the delivery.

**Table 16 Share of shipments delivered as express delivery**

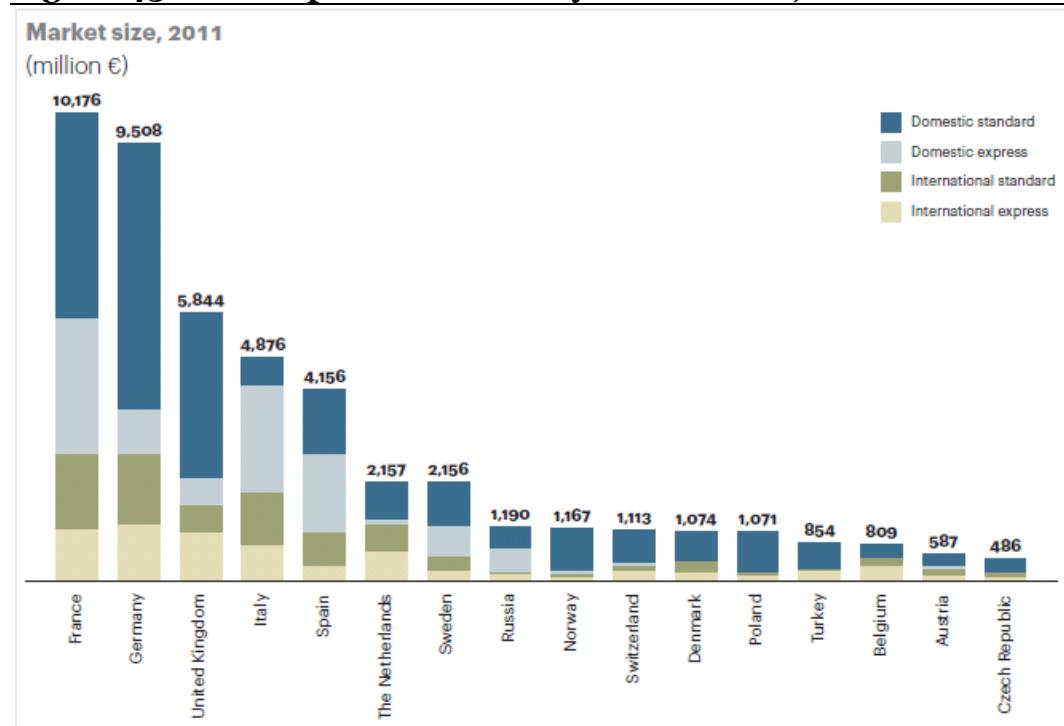
Type of delivery operator	Weighted average
NPO	14%
Non-NPO	12%

Note: No data for express integrators available for this indicator

Source: Copenhagen Economics, Delivery operator questionnaire

Previous studies confirm that standard parcel delivery, rather than express, is the prominent option across key EU markets, cf. Figure 43. The extent of express shipments varies significantly across countries.

**Figure 43 Parcel options across key EU markets, 2011**

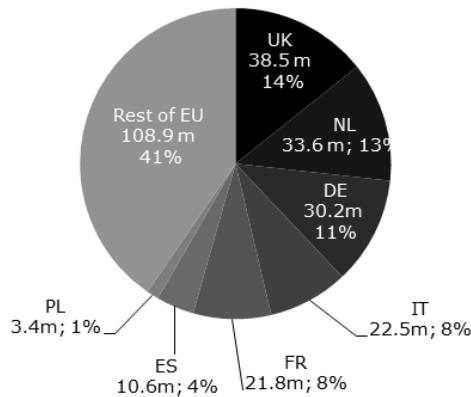


Note: Based on 12 EU and 4 non-EU European countries

Source: ATKearney (2012), Figure 3

Evidence from Oxford Economics (2011) reveals that the main sources of cross-border business in the express market are the key EU delivery markets. In fact, the top 5 markets account for 43 per cent of 2011 cross-border express shipments cf. Figure 44. It is noticeable that The Netherlands stands out as a key performer relative to country size.

**Figure 44 Cross-border express shipments by country of origin**



Note: Shipment volumes are expressed in millions.

Source: Oxford Economics (2011), chart 2.1, p. 12

#### B2B versus B2C, C2B and C2C delivery

Based on delivery operators' response to the questionnaire, we find B2C shipments represent 56 per cent of the total parcels and packets shipments while C2B and C2C shipments together represent 14 per cent of total shipments, Table 17.

**Table 17 B2B, B2C, C2B and C2C shipments: EU-wide**

Total shipments, of which	Shipments, million units	Share of total (%)
<b>Total shipments, of which</b>	<b>6,406</b>	<b>100</b>
B2C	3,614	56
B2B	1,868	29
C2B and C2C	923	14

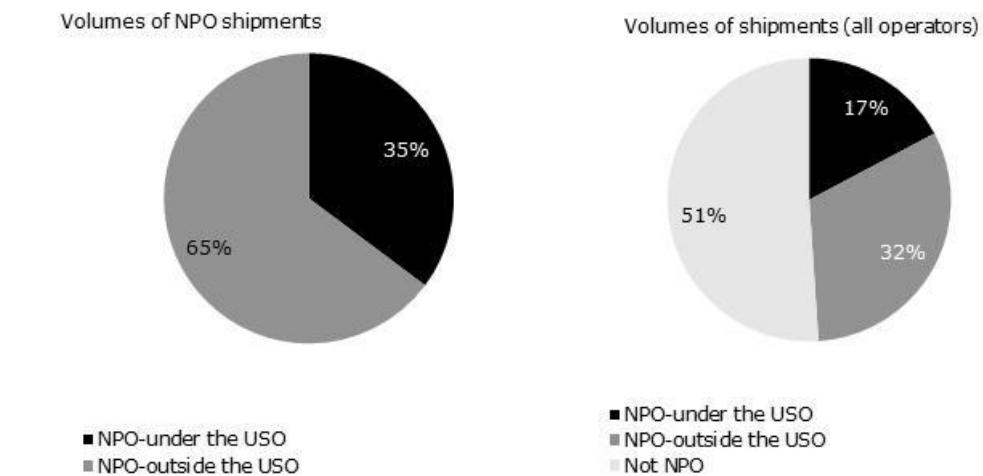
Note: A more granular breakdown of shipments by country groups is displayed in Table 14.

Source: Copenhagen Economics Delivery operator questionnaire

#### Shipments within the scope of the USO

There is variation across countries as to the extent to which parcels and packets shipped fall within the scope of the USO. Some of these variations may be driven by regulation, given that the scope of the USO itself varies across countries. For instance, in some countries bulk parcels (which make up a significant share of parcel and packet volumes) are excluded from the USO. Our data reveals that 35 per cent of NPOs parcels and packets are under USO. When we consider all delivery operators that respond to our questionnaire, this number goes down to 17 per cent, cf. Figure 45.

**Figure 45 USO parcels & packets: EU-wide**



Note: The panel to the right relies on information from both NPOs and other operators. Some NPOs have provided information on their shipment volumes but not the share of USO traffic; in this case we have considered that they hold the same split of USO vs. non USO traffic observed in the remaining NPOs.

Source: Copenhagen Economics, Delivery operator questionnaire

#### *International flows*

We have asked delivery operators to provide information on the top countries of destination and origination for their parcels and packets handled. This allows us to assess what dominant parcel flows are in place, into and out of each EU country. The data collected reveals that 85 per cent of all EU shipments are domestic. For cross-border shipments, we observe that the majority are delivered within the EU (the intra-EU to extra-EU ratio is 80:20), cf. Table 18.

**Table 18 Domestic vs. cross-border shipments: EU-wide**

Total, of which	Shipments, million units	Share of total (%)
<b>Total, of which</b>	<b>6,406</b>	<b>100</b>
Domestic	5,429	85
Intra-EU, cross-border	777	12
Extra-EU, cross-border	199	3

Source: Copenhagen Economics Delivery operator questionnaire

We find that most cross-border deliveries take place between neighbouring countries and with large nations, such as the Germany, France, and the UK. For extra-EU cross-border flows, we note that the primary country for both inbound and outbound deliveries is the United States (mentioned among the top-three inbound/outbound countries by 22 and 21 Member States respectively). Thereafter, we note that China is the main destination for outbound parcel traffic, whereas Switzerland seems to be an important origin for inbound parcel traffic to the EU Member States (mentioned among the top-three inbound coun-

tries by 10 Member States). Detailed results regarding cross-border flows are provided in Appendix C.

### **Delivery operators**

We observe that there is considerable heterogeneity in availability of delivery operators across the three groups of countries. While some countries have a larger number of delivery operators, others have a limited number. However, in all countries there is at least one alternative to the NPO (in addition to the multinational integrators). In general, the number of providers is larger for domestic deliveries than for cross-border deliveries.

#### *Market shares*

We have reviewed the market shares held by NPOs in terms of the shipment of parcels and packets. We observe that the average NPO market share regarding the shipment of all types of parcels and packets is 27 per cent. The shares range from 21 to 36 per cent. It is also important to note that market shares vary within each group of countries. When considering solely B2C shipments, the NPO market share increases slightly, to 35 per cent, on average, cf. Table 19. This is not surprising, since each NPO's delivery network is traditionally focussed on reaching all consumer locations, while this is not always the case for operators other than NPOs, some of which emerged historically as business-only delivery providers.

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**Table 19 NPO market share**

	EU-wide	Group 1	Group 2	Group 3
NPO Market share, relative to:				
All parcels and packets shipments	27 %	36 %	21 %	34 %
B2C parcels and packets shipments	35 %	54 %	31 %	31 %

Note: Group 1: Best performers; Group 2: Key challenge, domestic; Group 3: Domestic & cross-border challenge

Source: Copenhagen Economics, Delivery operator questionnaire

The above table shows that NPOs hold higher market shares in more mature markets (such as best performing countries). A possible explanation for this may be that consumers in Best performing countries have a higher confidence in NPOs, compared to consumers in other countries.

### **Pricing overview**

In this section we will focus mainly on price of parcel and packets of NPOs in the EU. Specifically, we look into movements in prices of single piece parcels of 2kg, discount for bulk parcel purchases, mark ups for parcels (2kg) versus packets (1kg), and domestic versus cross-border prices. Due to the confidential nature of individual price agreements, we base our analysis of prices on list prices. Nevertheless, we are aware of the fact that most e-retailers (also smaller ones) often obtain discounts from the delivery operators.

#### *Price movements*

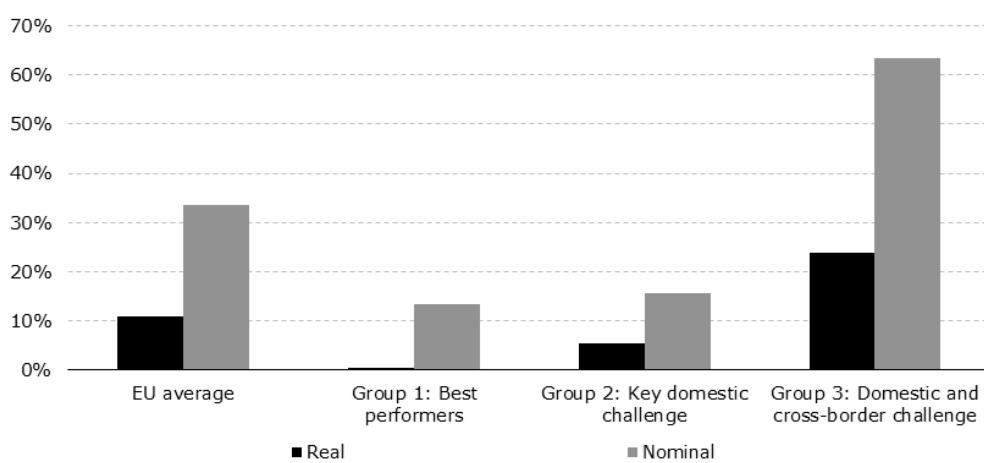
Nominal prices for single 2kg parcels vary across the three country groups. Notably, NPO parcel prices have increased more markedly in the group of countries with a domestic and cross-border challenge (group 3) in the period 2005-2011 compared to other two groups,

cf. Figure 46. The reason for this could be that the prices for single 2kg parcels have been lower in group 3 countries to start with. Looking at real price increases, we note that the growth is smaller. Hence, the significant increases in nominal prices observed can to some extent be explained by inflation. Inflation aside, in real terms we observe thus an increase particularly in group 3 countries but not in group 1. We noted that the starting point for prices in group 3 countries was lower than in the rest of the EU. Moreover, a possible explanation for this pattern could be that group 3 (broadly speaking the set of accession countries) experienced greater economic growth and a greater increase in the demand for delivery services compared to the rest of the EU over the same period.

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**Figure 46 Movement in NPOs' price of single 2kg parcel, domestic, 2005-2011**

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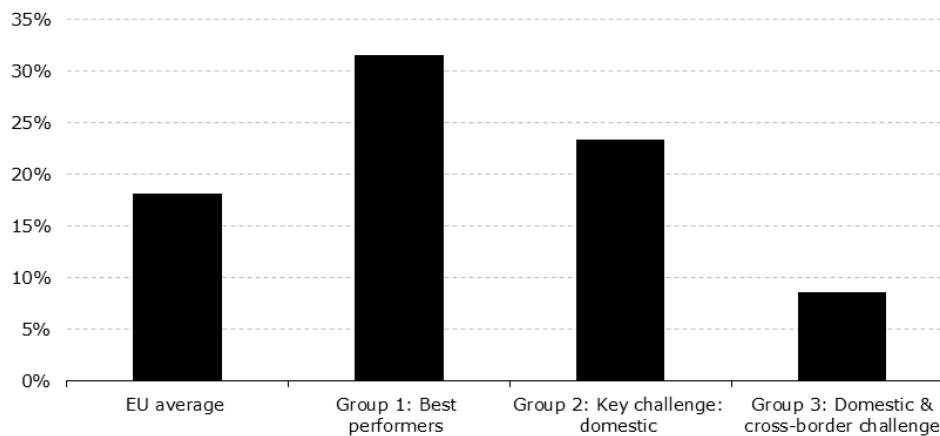
Note: No data was available on Austria, Cyprus, Czech Republic and Greece.

Source: Copenhagen Economics (2012)

#### *Bulk parcel discounts*

As e-retailers often buy shipments in bulk, it is important to distinguish between single piece and bulk parcel prices. Due to the scale economies in parcel delivery, bulk prices are often significantly lower than single piece prices. The domestic prices collected from NPOs across the EU reveal that the price for sending a 2 kg parcel as part of a bulk shipment is, on average, 18 per cent lower than the price for sending the same parcel as a single piece shipment. The bulk discount in the best performing countries (group 1) is, on average, more than 20 percentage points higher than in the group of countries with a domestic and cross-border challenge (group 3), and more than 5 percentage points higher than in the group of countries with a key domestic challenge (group 2), cf. Figure 47. In other words, we find that the more mature the market, the higher the discount offered to domestic bulk purchasers.

**Figure 47 NPOs' discount for bulk purchase (2kg parcel); domestic**



Note: Bulk prices account for the prices that are available to senders of 10,000 items.

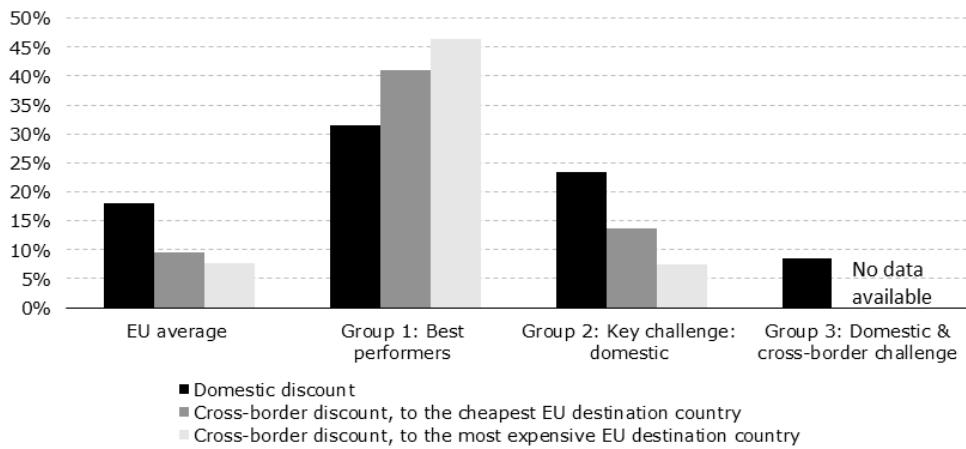
Source: Copenhagen Economics, Delivery operator questionnaire

Our data reveals that bulk discounts vary significantly between countries and country groups. They also vary as to whether the delivery is domestic or cross-border, cf. Figure 48.

In the group of best performing countries, the bulk discount is almost 50 per cent for cross-border shipments to the most expensive countries. Domestic bulk purchasers get lower discount compared to cross-border counterparts from counties in the best performing group. This may signal that NPOs in best performing countries have more incentives to reduce their price-cost margins on bulk services for cross-border shipments than for domestic shipments. This may be because the initial price-cost margin for single-piece shipments could be higher for cross-border than domestic shipments. So this would imply that bulk buyers can extract better conditions on cross-border shipments out of the Group 1 countries due to competitive pressure, while low volume buyers cannot do so in those countries.

The reverse pattern holds instead in Group 2 countries. Large NPO (business) customers therein will secure greater improvements in bulk terms for domestic shipments than for cross-border exports.

**Figure 48 NPOs' discount for bulk purchase (2kg parcel)**

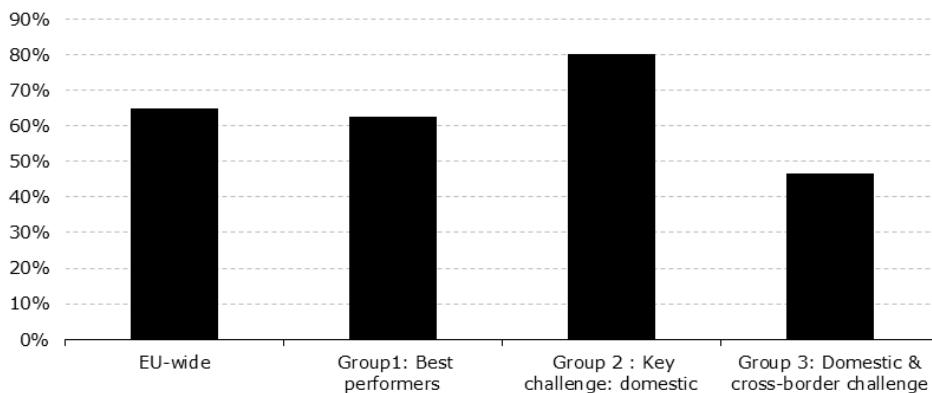


Source: Copenhagen Economics, Delivery operator questionnaire

#### *Parcel premiums*

As many e-commerce driven shipments contain smaller and lighter items, such as books, DVDs or accessories, sending the shipment as a packet instead of a parcel is sometimes a viable alternative for the e-retailers. When assessing the prices for packets and parcels respectively, we note that parcels (2kg) are significantly more expensive than packets (1kg). On average, the EU-wide price difference is 65 per cent, cf. Figure 49. The greatest difference is observed in countries with a key domestic challenge where the difference is 80 per cent, on average. The smallest difference is observed in countries with both a domestic and a cross-border challenge (47 per cent, on average).

**Figure 49 NPOs' mark-up for a parcel (2kg) vs. packet (1kg); domestic**

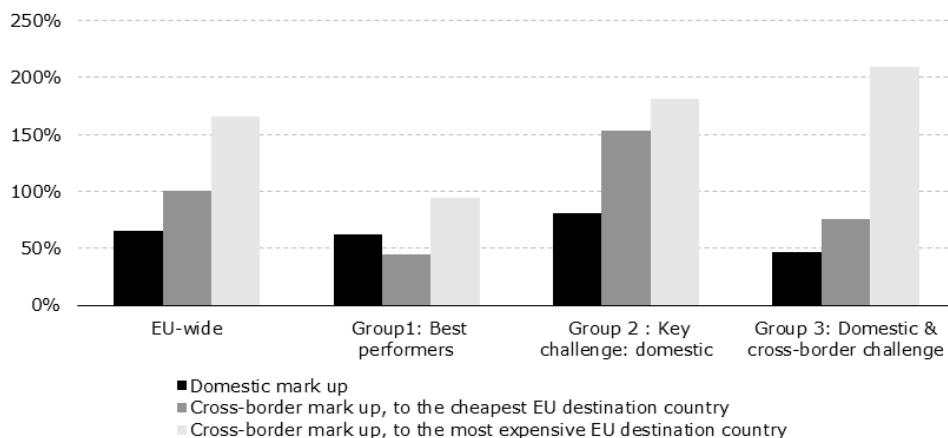


Note: Survey question: "Please indicate your current tariff price for the following products:  
 Single piece letter (also known as packet), 1kg, priority.  
 Single parcel of 2kg  
 Bulk parcels of 2kg, 10.000 items (please provide price per unit)  
 Please state prices in € and provide prices for: i) domestic destination; ii) cross-border to the cheapest EU destination; and iii) cross-border to the most expensive EU destination"

Source: Copenhagen Economics, Delivery operator questionnaire

In general, we observe higher parcel price premiums for cross-border shipments. The highest parcel premiums are observed for shipments sent to the most expensive EU destinations. These premiums are most pronounced in the group of countries with both a domestic and cross-border challenge (group 3). Shipping a parcel of 2kg to one of the most expensive EU destinations is, on average, more than 2.5 times as expensive as sending a packet of 1kg to the same destination. Whereas NPOs in the best performing countries (group 1) and in countries with domestic and cross-border challenges (group 3), charge significantly lower parcel premiums for cross-border deliveries for the cheaper EU destinations (between 44 and 76 per cent), NPOs in the group of countries with a key domestic challenge still charge, on average, 2.5 times more for a parcel compared with a packet, cf. Figure 50.

**Figure 50 NPOs' mark-up for a parcel (2kg) vs. packet (1kg)**



Note: Survey question: "Please indicate your current tariff price for the following products:  
 Single piece letter (also known as packet), 1kg, priority.  
 Single parcel of 2kg  
 Bulk parcels of 2kg, 10.000 items (please provide price per unit)  
 Please state prices in € and provide prices for: i) domestic destination; ii) cross-border to the cheapest EU destination; and iii) cross-border to the most expensive EU destination"

Source: Copenhagen Economics, Delivery operator questionnaire

An interesting finding is that parcel premiums for cross-border delivery are significantly lower in the best performing countries (group 1), compared with the other two groups. This might indicate that buyers of delivery services in these countries are more price sensitive, possibly due to fiercer competition in the delivery market.

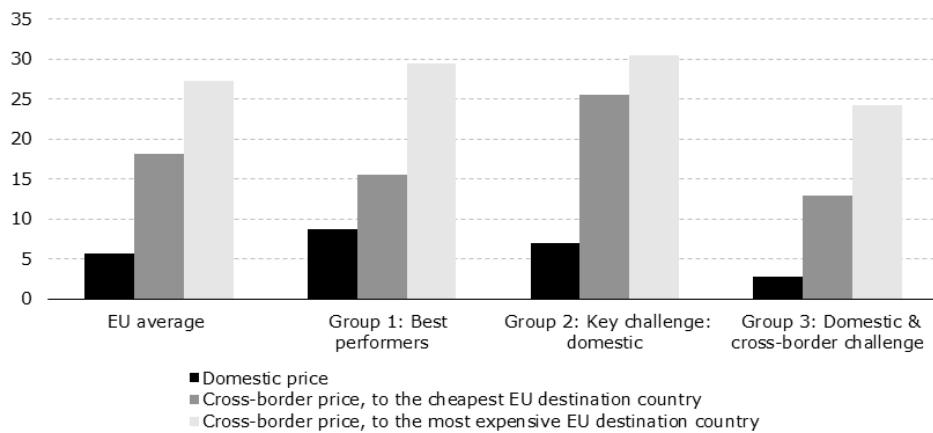
#### *Cross-border premiums*

Cross-border shipping of parcels or packet is normally more expensive than domestic shipping. This is because extra costs are incurred in cross-border shipping, for example in relation to extra transport, sorting and re-labelling. Previous research has suggested that the price premiums paid for cross-border deliveries do not stand in parity to the underlying cost differences. In the following, we investigate domestic and cross-border prices for a set of standard products:

- Single 1 kg mail (letter) priority product
- Single 2 kg parcel
- Bulk parcels of 2kg (10,000 items)

Based on the data, we find that a cross-border shipment of a 1kg single piece packet, depending on the destination country, is three to five times as expensive as the EU average domestic price for the same product cf. Figure 51. This result holds true for NPOs in all three country groups.

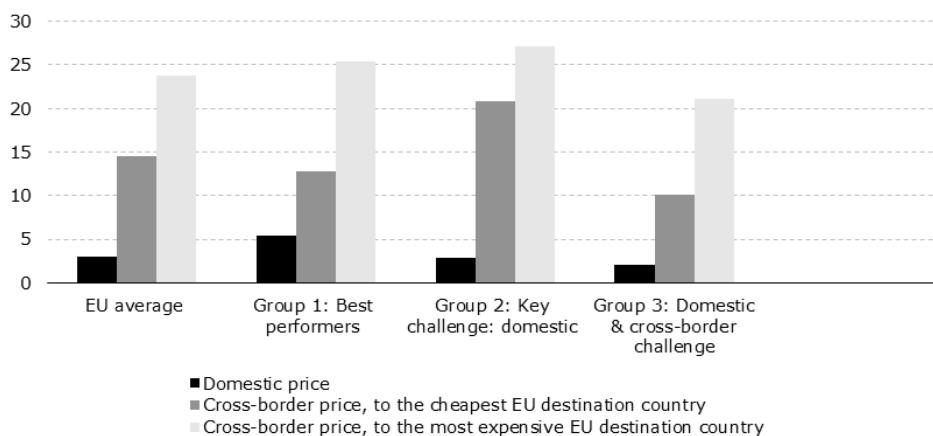
**Figure 51 NPOs' price for sending a 1 kg packet (single piece), (€), 2012**



Source: Copenhagen Economics, Delivery operator questionnaire

We note a similar pattern with respect to parcel products. On average, sending a cross-border shipment of 2kg parcels in bulk, depending on the destination country, is more than three to five times as expensive as the EU average domestic price for the same product cf. Figure 52. The finding is similar for NPOs in all country groups.

**Figure 52 NPOs' price for sending a 2 kg bulk parcel, (€), 2012**

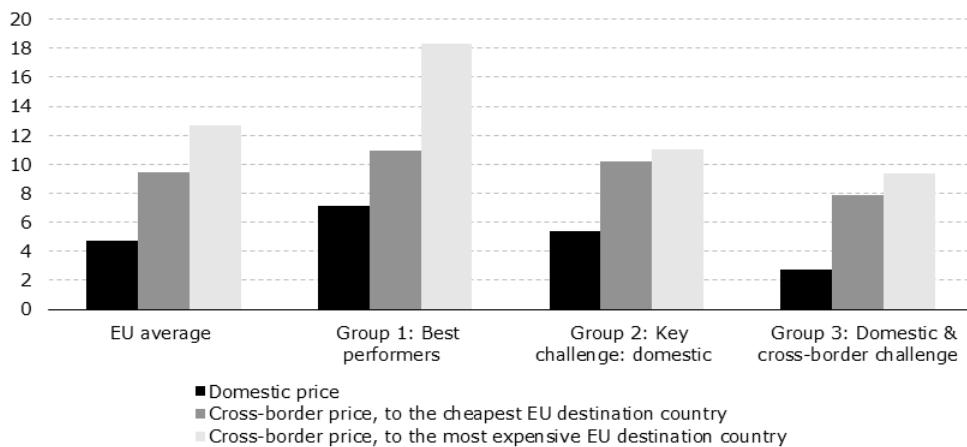


Source: Copenhagen Economics, Delivery operator questionnaire

Cross-border price premiums for single piece parcels of 2 kg are slightly lower – on average two to three times the EU average domestic price for the same product, cf. Figure 53. Whereas NPOs in countries with a key domestic challenge (groups 2) and countries with both a domestic and cross-border challenge (group 3) charge almost the same price for cross-border shipments, irrespective of destination countries, we note that NPOs in the

best performing countries (group 1) charge higher cross-border prices to the most expensive EU destination country.

**Figure 53 NPOs' price for sending a 2kg single piece parcel, (€), 2012**



Source: Copenhagen Economics, Delivery operator questionnaire

We note that the high cross-border premiums observed above most likely cannot (at least not entirely) be explained by underlying differences in costs. In general, the cost for last mile delivery of a cross-border consignment in destination country is similar to the cost of domestic last mile delivery. Although countries differ with respect to topography and the level of automation in the delivery process (suggesting that sparsely populated countries or countries with a lower degree of automation would be more expensive to deliver to), we do not observe such differences in our price data. Cross-border shipments do, however, include some extra cost elements, such as extra transport, additional sorting and re-labelling. There may also be more problems with different address formats in the origination and destination countries causing problems in relation to the printing and scanning of labels. Nevertheless, cross border list prices, as shown in above three figures, are probably well above costs. Further analysis of high cross border prices is provided in chapter 6 on service gaps.

#### *Comparison of NPO prices and prices of integrators and other delivery operators*

To complement the above analysis of NPO prices, we have collected a sample of prices for sending a single piece 2 kg parcel domestically and cross-border by a NPO, integrators, and other carriers. For delivery time we have chosen “standard” services and hence not included express deliveries. The sample is based on price comparison websites and thus restricted to Germany, Sweden, UK, and France.<sup>78</sup>

<sup>78</sup> The sample is created by finding price quotes for a 2 kg single piece parcel with dimensions 25 x 20 x 5 cm, sent nationally as well as internationally (to Belgium) with standard type delivery (not express). We use price comparison websites [www.versandtariff.de](http://www.versandtariff.de), [www.billigerverschicken.de](http://www.billigerverschicken.de), [www.postsitter.de](http://www.postsitter.de), [www.paketda.de](http://www.paketda.de), [www.versandrechner.de](http://www.versandrechner.de), [www.posttip.de](http://www.posttip.de), [www.interparcel.com](http://www.interparcel.com), [www.collectmyparcel.com](http://www.collectmyparcel.com), [www.fraktjakt.se](http://www.fraktjakt.se), [www.postguiden.se](http://www.postguiden.se), [www.tarif-colis.com](http://www.tarif-colis.com), and [www.envoitmoinscher.com](http://www.envoitmoinscher.com). The sample consists of 86 observations. Quotations for B2C delivery is chosen when possible.

We note that the price for sending a 2 kg single piece domestic parcel with the NPO in most cases is higher than the price for sending the same parcel with a competing operator. The exception is Germany where the prices of non-NPOs are higher than the NPO price, cf. Figure 54. However, when we look at the actual levels for comparable delivery services, both NPO and non-NPO prices in Germany are relatively comparable. In particular we observe several different delivery options for a 2 kg parcel in Germany at roughly the same price.

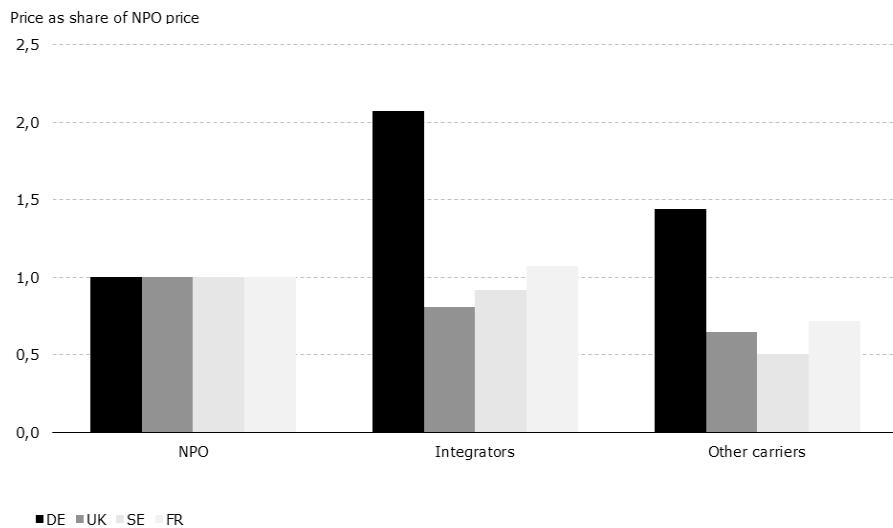
The German integrator price in Figure 54 represents only UPS, which for this particularly product proved to be twice as expensive as the corresponding service of the NPO. The price of other carriers is composite by prices very close to the NPO as well as prices almost an identical to the price of UPS.<sup>79</sup> In addition to integrator UPS both FedEx and TNT are active in the German delivery market but are not included in the sample as no relevant services for these operators showed up at the price comparison websites we visited for this exercise.

For all countries in our sample integrator prices for a 2 kg single piece domestic parcel are higher than the prices of other non-NPOs.

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#### **Figure 54 Price comparison – domestic 2kg single piece parcel**

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Note: Price quotations are for 2 kg, single piece parcel, dimensions 35 x 20 x 5 cm sent from and to address in the same country (DE, SE, UK, FR). NPO price is equal to one, and other prices are calculated relative to the NPO price.

Source: Copenhagen Economics, price comparison websites: [www.versandtariff.de](http://www.versandtariff.de), [www.billigerverschicken.de](http://www.billigerverschicken.de), [www.postsitter.de](http://www.postsitter.de), [www.paketda.de](http://www.paketda.de), [www.versandrechner.de](http://www.versandrechner.de), [www.posttip.de](http://www.posttip.de), [www.interparcel.com](http://www.interparcel.com), [www.collectmyparcel.com](http://www.collectmyparcel.com), [www.fraktjakt.se](http://www.fraktjakt.se), [www.postguiden.se](http://www.postguiden.se), [www.tarif-colis.com](http://www.tarif-colis.com), and [www.envoimoinscher.com](http://www.envoimoinscher.com).

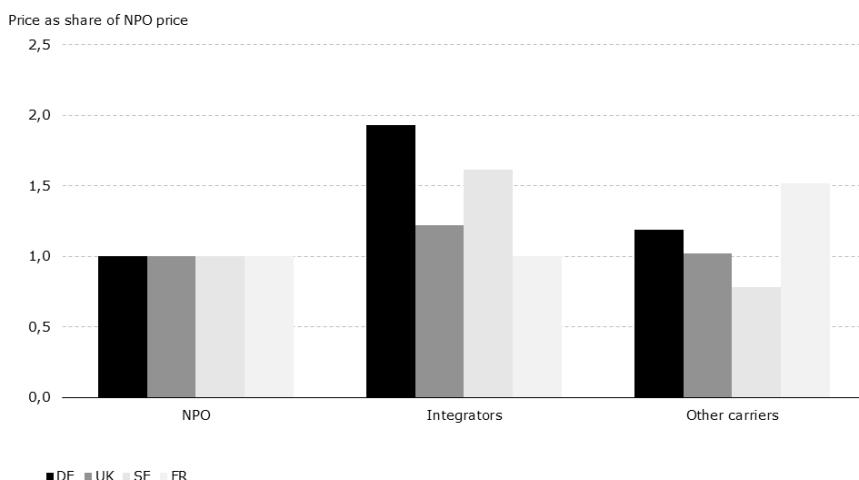
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<sup>79</sup> Hermes and GLS are the cheapest alternatives, while DPD and Der Courier are among the more expensive alternatives.

The comparisons show that prices for NPOs, integrators and other operators are normally comparable. Hence, other operators can offer prices that are competitive to the NPO's prices.

For cross-border deliveries we note a slightly different result, namely that NPO prices for delivery of a 2 kg parcel are lower than non-NPO prices, cf. Figure 55. Sweden departs from the overall picture, as alternative carriers offer cheaper cross-border delivery than the NPO.

**Figure 55 Price comparison - Cross-border 2kg single piece parcel**



Note: Price quotations are for 2 kg, single piece parcel, dimensions 35 x 20 x 5 cm sent from and to address in the same country (DE, SE, UK, FR). NPO price is equal to one, and other prices are calculated relative to the NPO price. The destination of the parcel for cross-border delivery is Belgium/Brussels whilst the origin is Berlin, London, Stockholm, and Paris respectively.

Source: Copenhagen Economics, price comparison websites: [www.versandtariff.de](http://www.versandtariff.de), [www.billigerverschicken.de](http://www.billigerverschicken.de), [www.postsitter.de](http://www.postsitter.de), [www.paketda.de](http://www.paketda.de), [www.versandrechner.de](http://www.versandrechner.de), [www.posttip.de](http://www.posttip.de), [www.interparcel.com](http://www.interparcel.com), [www.collectmyparcel.com](http://www.collectmyparcel.com), [www.fraktjakt.se](http://www.fraktjakt.se), [www.postguiden.se](http://www.postguiden.se), [www.schenker.se](http://www.schenker.se), and [www.bring.se](http://www.bring.se).

The small sample suggests that non-NPOs offer competitive prices relative to the NPO for domestic deliveries, whereas the NPOs are often cheaper on the cross-border deliveries. On average the price differences between NPOs and non-NPOs is in fact not very large.

### 3.3 E-commerce driven delivery markets

Having reviewed the delivery supply side for parcels and packets, we now zoom in to a focused analysis on e-commerce driven delivery. It must be kept in mind that the estimates presented are based on the shipments and market size which we observe from responses to our delivery operator questionnaire, corresponding to €35bn.<sup>80</sup>

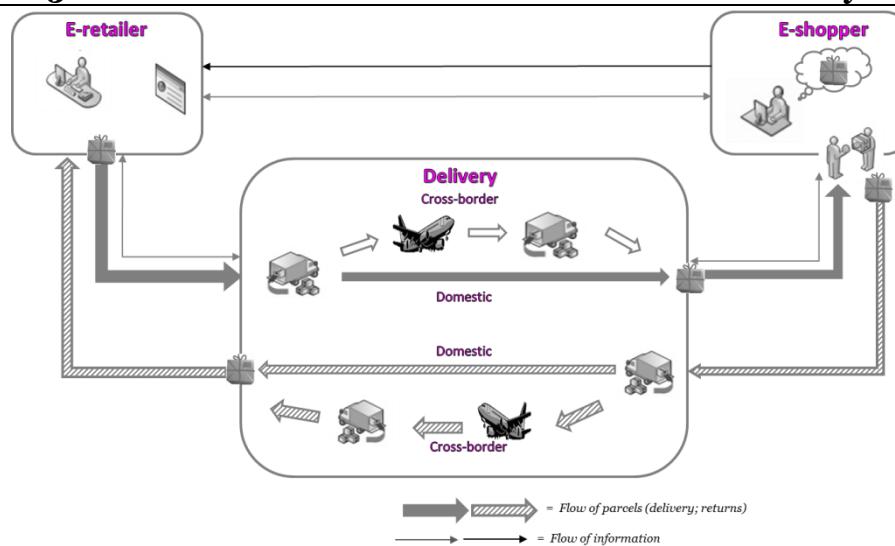
<sup>80</sup> We expect the total market to be approximately €11b larger due to volumes, primarily from global integrators, which have not been made available to us and that are therefore not part of the information gathered by questionnaire, cf. section 3.2.

As explained in chapter 1, we define e-commerce as the “*B2C sale of goods requiring physical delivery to the buyer, conducted via the internet, excluding orders via manually typed e-mails*”. Thus, e-commerce driven delivery requires the delivery of a wide variety of goods from both smaller and larger e-retailers, to a wide variety of destinations and customers with different delivery preferences.

The core elements included in e-commerce driven delivery, cf. Figure 56, are:

- Pick-up of goods at warehouse
- Alternatively, direct insert by e-retailer at service point or sorting centre
- Transport between sorting centres
- Delivery to final consumer
- Pick-up of return goods
- Transportation of returned goods to supplier

**Figure 56 The value chain of e-commerce driven delivery**



Source: Copenhagen Economics

Many delivery operators have traditionally focussed on B2B deliveries. However, B2C delivery imposes new requirements and challenges on these operators. For instance, in contrast to B2B delivery, B2C delivery often requires delivery of many smaller shipments to a large number of recipients (often by means of home delivery). Moreover, e-commerce delivery also includes an important element of reverse logistics, where consignments are shipped from the customer back to the e-retailer (C2B). The specific requirements of e-commerce driven delivery are summarised in Table 20.

**Table 20 E-commerce characteristics - implications on delivery**

Characteristics of E-commerce	Implications for delivery
Large number of small parcels and packets	Demand for warehousing transport and other logistics that can handle larger volumes of small shipments
Large number of online customers	Unpredictable demand for delivery services among e-retailers
Transaction independent of location of buyer and seller	Widely dispersed origins and destinations for delivery
No possibility for customer to try product before purchase	High share of returns
Wide array of customers with different delivery preferences	Demand for customized delivery options + flexible return options
Customers worried about long delivery times and lost items	Demand for end-to-end tracking services
Online environment	Demand for online processing of shipments (e.g. cargo booking, bills, freight payment, rate quotations, landed price calculations, tariff management etc.)

Source: UNCTAD E-commerce and Development Report 2001 and Copenhagen Economics, Delivery operators' interviews

Throughout this section, we will maintain our focus on B2C e-commerce. First we discuss key players and competition; second we display volumes and flows; and third we highlight services offered by different type of delivery operators.

### Key players and competition

Several delivery operators that traditionally have focussed on B2B deliveries (e.g. the global integrators) have over the past few years increased their focus on B2C delivery.<sup>81</sup> This development increases the spectrum of delivery alternatives available to e-retailers.

However, e-retailers have different delivery needs. Whereas some e-retailers require fast and secure delivery of small and valuable products, other e-retailers require cheaper delivery solutions. This implies that the market for e-commerce driven delivery may consist of several sub segments where competition is fierce within, but less so between, segments.

Three important distinctions related to the definition of relevant delivery markets were made by the Commission in its decision to block the proposed merger between UPS and TNT Express.<sup>82</sup>

*First*, the Commission defined separate relevant markets for freight delivery services and small package delivery services. *Second*, the Commission also distinguished between domestic delivery of small packages, intra-EEA delivery of small packages, and extra-EEA delivery of small packages. *Third*, the Commission distinguished express services from slower services, called deferred services.

<sup>81</sup> For instance, TNT Express 2011 Annual Report states that its new strategic agenda is to focus on Europe, where "TNT Express has developed and piloted solutions for the high-end B2C market [...] now available throughout Europe. Solutions for the high-end B2C segment will leverage TNT Express' existing dense depot and operating structure." (p.18) <http://www.tnt.com/corporate/en/site/home/investors/reports.html>. DP DHL's (2012b) Annual report states that "The B2C market is experiencing double-digit growth, particularly due to the rapid rise in digital retail trade. This has created high growth potential for the national and international parcel business, which we intend to tap into by expanding our parcel network." (p.89), [http://www.dp-dhl.com/en/investors/financial\\_reports/annual\\_reports.html](http://www.dp-dhl.com/en/investors/financial_reports/annual_reports.html)

<sup>82</sup> European Commission (2013c)

In a previous merger decision<sup>83</sup>, the Commission also (in addition to the above distinctions) defined separate markets for C2X, B2B and B2C deliveries. The reason for the distinction between B2B and B2C deliveries was the denser network required to reach private consignees.

These distinctions suggest that there is no relevant market for e-commerce driven deliveries. Instead, the competition among delivery operators is decided by the size, speed and destination of the delivery, as well as the type of recipient (business or consumer).

There is a variety of players active in B2C delivery of products bought online. Some countries have many operators of different types, other countries essentially only the NPO and the global integrators, cf. Table 21.

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<sup>83</sup> European Commission (2009), Case No COMP/M.5152 – Posten AB/Post Danmark A/S of 21 April 2009

**Table 21 Main alternative operators active in domestic and cross-border B2C delivery**

Country	Number of operators	Main operators active in domestic B2C delivery except for the NPO and multinational operators	Number of operators	Main operators active in cross-border B2C delivery except for the NPO and multinational operators
AT	4	DPD, GLS, Hermes, Asendia	3	DPD, GLS, Hermes
BE	5	DPD, GLS, PostNL, Kiala, Mondial Relay	6	PostNL, GLS, G3 Worldwide, Swiss Post, Hermes, DPD
BG	6	DPD, Econt Express OOD, Tip Top Courier AD, M&BM Express OOD, GLS	2	GLS, DPD
CY	1	ASC Courier	1	ASC Courier
CZ	2	DPD, GLS	2	GLS, DPD
DK	3	DPD, GLS, Bring	4	DPD, GLS, Bring, DB Schenker
EE	2	DPD, Itella	2	DPD, Itella
FI	3	DB Schenker, Matkahuolto Oy AB, Posten Åland	3	DPD, DB Schenker, GLS
FR	6	Colis Privé, Kiala, Mondial Relay, Relais Colis, Exapaq, Hermes	3	Kiala, Exapaq, Hermes
DE	5	DPD, GLS, GO! General Overnight Service, Hermes, Pin Mail AG	5	DPD, GLS, GO! General Overnight Service, Hermes
EL	5	ACS S.A., TACHYMETAFORES ELTA S.A., GENIKI TACHYDROMIKI, Speedex, ACS Courier	3	World Courier, Speed Air, ACS Courier
HU	3	DPD, SPRINTER Kft., GLS	4	DPD, GLS, SPRINTER Kft., GTR
IR	5	DPD, Nightline, GLS, Citypost, DB Schenker	5	DPD, Nightline, GLS, Citypost, DB Schenker
IT	3	GLS, Hermes, BRT Corriere Espresso	3	GLS, BRT Corriere Espresso, Hermes
LV	3	DPD, Itella, GreenCarrier	2	DPD, Itella
LT	2	DPD, Itella	2	DPD, Itella
LU	4	DPD, Kiala, Hermes, Mondial Relay	3	GLS, DPD, Hermes
MT	3	GLS, Arrow Express, Miles Express	1	GLS
NL	4	DPD, Kiala, GLS, Hermes	3	DPD, GLS, Hermes
PL	3	GLS, Siódemka, InPost, DPD	4	DPD, GLS, Siódemka, Hermes
PT	4	GLS, Nacex, Enviália, MRW, Torrestir	6	Enviália, MRW, Nacex, Chronopost International, Torrestir
RO	7	DPD, Cargus International, GLS, Fan Courier Express, Sprint Curier Express, Urgent Curier	7	DPD, Cargus International, GLS, Fan Courier Express, Sprint Curier Express, Urgent Curier S.R.L.
SK	3	DPD, GLS, ReMax	2	DPD, GLS
SL	3	DPD, GLS, Doortodoor	2	DPD, GLS, Doortodoor
ES	5	Kiala, GLS, Enviália, Tourline Express, Mondial Relay	4	GLS, Enviália, Chronopost International, Tourline Express
SE	3	DB Schenker, Bussgods, Bring	2	DB Schenker, Bring
UK	12	DPD, Hermes, HDNL/Yodel, City Link, UK Mail, Interlink, Nightfreight, APC, DX, City Sprint, XDP	9	DPD, HDNL/Yodel, City Link, UK Mail, Nightfreight, DX, City Sprint, XDP, Hermes (to Austria and Germany)

Note: Only a subset of operators is included in the table. Number of operators in each are potentially larger and/or with limited scope. Multinational operators UPS, DHL, TNT Express, FedEx (Integrators) serve most countries, also for domestic deliveries.

Source: Copenhagen Economics, NRA questionnaire and desk research

We expect that the countries with higher e-commerce maturity (e.g. best performers group) have larger availability of operators present to serve e-retailers' needs. The analyses of data from our survey among e-retailers in the EU as well as data provided by

NRAs suggest that not much difference exists in number of competitors across groups, cf. Table 22.<sup>84</sup>

**Table 22 Availability of delivery operators across the EU**

	EU-wide	Group 1	Group 2	Group 3
<b>Delivery operators which provide domestic shipments</b>				
Average number of which national e-retailers are aware	5	5	5	4
Average number of which NRA is aware	7	9	7	6
<b>Delivery operators which provide cross-border shipments</b>				
Average number of which national e-retailers are aware	5	6	6	2
Average number of which NRA is aware	8	9	8	8

Note: Group 1: Best performers; Group 2: Key challenge, domestic; Group 3: Domestic & cross-border challenge. From the e-retailer survey we have included answers to the question "How many delivery operators are you aware of (not necessarily engage with) delivering products sold online?"

Total number of respondents for domestic shipments are 55 EU-wide, 22 for Group 1, 15 for Group 2, and 18 Group 3, and for cross-border 38 EU-wide, 17 for Group 1, 9 for Group 2, and 12 for Group 3.

From the NRA-Questionnaire we have included answers to the question "Which are (to your knowledge) the main operators active in domestic delivery of products bought online by residents in your country EXCEPT for the national postal operator?" and "To your knowledge, do any other operators than the national postal operator and multinational operators such as UPS, DHL, FedEx and TNT Express provide international outbound delivery of packets and parcels?" Given the difference in wording in the questions, in order to ensure comparability of results in the last two rows, the figures in the last row include the above 4 multinational operators in the counts.

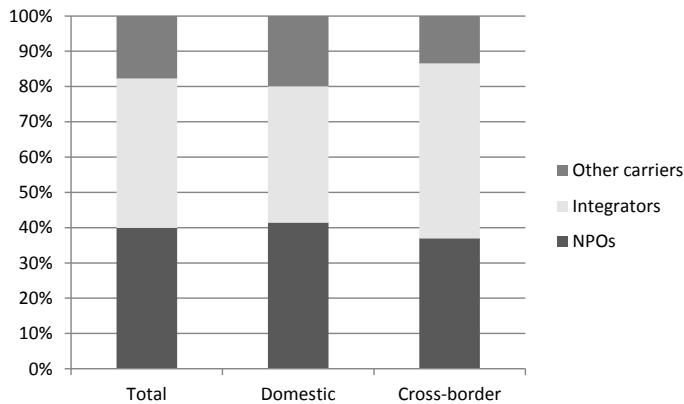
Total number of respondents for domestic shipments is 19 EU-wide, 6 for Group 1, 4 for Group 2, and 9 for Group 3, and for cross-border 14 EU-wide, 3 for Group 1, 4 for Group 2, and 7 for Group 3.

Source: Copenhagen Economics, NRA questionnaire and E-retailer survey

Based on the volume data obtained from delivery operators, we earlier observed that the NPO's market share with respect to delivery of B2C parcels and packets is on average 35 per cent in the EU. The highest market shares held by NPOs are found in the best performing markets (on average 54 per cent of the market volumes shipped by the NPOs). These findings are in line with the results from our survey among e-shoppers in the six Member States researched. The survey results reveal that, on average, 40 per cent of e-commerce shipments are delivered by NPOs. The share is slightly lower for cross-border deliveries, where approximately 37 per cent are delivered by NPOs, cf. Figure 57. The highest share of deliveries generated by e-commerce is held by the global integrators, which deliver 42 per cent of all e-commerce shipments and 50 per cent of all cross-border e-commerce shipments.

<sup>84</sup> Note that the data in Table 22 and Table 19 come from two different sources: unlike Table 19 and most of the tables in this chapter, Table 22 is not based on the delivery operators' questionnaire data.

**Figure 57 Delivery of e-commerce shipments, by operator**



Note: The results are based on answers from 2695 e-shoppers in Estonia, Germany, Ireland, Poland, Spain, and Sweden

Source: Copenhagen Economics, E-shopper survey

In chapter 1 we described the business and co-operation models that e-retailers can use for delivery, cf. Table 23.

**Table 23 Business and co-operation models: Delivery fulfilment**

<u>Value chain business/co-operation model</u>	<u>Examples</u>
Vendor conveyance	Large, multinational e-retailers, e.g. Pixmania, Elgiganten, Bakker group
Direct contract with one delivery partner	Small and new e-retailers + e-retailers without need for differentiated delivery services, e.g. gucca.dk,
Direct contracts with several delivery partners	Small, medium and large e-retailers, e.g. lirumlarumleg.dk , BOL.COM, Bokia.se, Sleepo.se
Use of parcel consolidator	Small and medium sized e-retailers with difficulties to obtain volume discounts on delivery
Use of parcel broker	Small and medium sized e-retailers with difficulties to obtain volume discounts on delivery
Outsourcing of carrier management	Larger e-retailers with need for variety and resources to outsource carrier management, e.g. Marks & Spencers, Asos
Outsourcing of entire supply chain management	Larger e-retailers with need for variety and resources to outsource carrier management. Multi-channel providers or offline retailers often choose this model, as online sales is not their core-business, e.g. ESPRIT, Puma
Drop-shipping	Small e-retailers who wish to avoid warehousing and logistics (product delivered by drop-shipper), e.g. gucca.dk

Source: Copenhagen Economics

We observed that the choice of co-operation model depends on a number of factors, such as the size of the e-retailer and the products sold. However, a decisive factor is the availability of co-operation partners in the domestic market. Our survey among e-retailers reveals that the majority of e-retailers use national postal operators for deliveries of domestic shipments. However, we also observe a significant share of e-retailers engaging with the multinational integrators. The use of consolidators, parcel brokers and other logistic providers is limited, cf. Table 24.

**Table 24 Presence of suppliers serving domestic shipments**

Share of e-retailers which relies on the following type of suppliers	EU-wide
National postal operators	65%
Multinational integrators (UPS, DHL, TNT, FedEx)	44%
National/regional/local delivery operators (other than NPOs or integrators)	27%
Drop shippers	8%
Parcel consolidators / mailing houses	4%
Parcel brokers	4%
Other logistics providers, (e.g. among others freight forwarders), which provide assistance for part or all of the logistics	4%

Note: Answers to the question "Which of the following delivery and logistics operators DO YOU ACTUALLY USE when delivering products to customers WITHIN YOUR OWN COUNTRY?" and "Which of the following delivery and logistics operators DO YOU ACTUALLY USE when distributing products TO OTHER COUNTRIES THAN YOUR OWN?" Total respondents are 52, EU-wide.

Source: Copenhagen Economics, E-retailer survey

### Market size and flows

As e-commerce is growing, a larger share of all B2C shipments contains products bought online. Our research shows that, on average, 60 per cent of all B2C shipments in the EU contain products bought online, cf. Table 25. The share of e-commerce shipments in B2C volumes is highest in best performing countries (68 per cent, on average). For the other two groups of countries, the share of e-commerce driven deliveries is 31 per cent respectively.

**Table 25 E-commerce share of B2C shipments**

	EU-wide	Group 1	Group 2	Group 3
Share of B2C shipments which are e-commerce	60%	68%	31%	31%

Note: Group 1: Best performers; Group 2: Key challenge, domestic; Group 3: Domestic & cross-border challenge

Source: Copenhagen Economics, Delivery operator questionnaire

We observe that the large majority of turnover from e-commerce driven delivery is generated by delivery operators in the best performing countries (group 1). In fact, we note that the turnover in this group is 9 times higher than that in countries with a key domestic challenge, an 36 times higher than that in the group of countries with both a domestic and cross-border challenge, cf. Table 26.

**Table 26 Delivery turnover from B2C e-commerce shipments**

	EU wide	Group 1	Group 2	Group 3
B2C e-commerce delivery turnover (€ millions)	11,506	10,143	1,088	275
B2C e-commerce delivery turnover per capita (€)	22.9	41.1	7.0	2.7

Note: Group 1: Best performers; Group 2: Key challenge, domestic; Group 3: Domestic & cross-border challenge

Source: Copenhagen Economics, Delivery operator questionnaire

The data above can be compared with the B2C online turnover generated in the three country groups. In general, we would expect delivery turnover to mirror the overall online turnover. Based on secondary data from the European e-retailer association EMOTA, we find that B2C online turnover in the best performing group of countries is 5 times higher than in the group of countries with a key domestic challenge, and 23 times higher than in countries with a domestic and cross-border challenge, cf. Table 27. However, the relatively low value of e-commerce driven delivery turnover in group 2: key challenge: Domestic seems to be explained by a relatively low share of e-commerce driven deliveries in Ireland compared to the online turnover generated.

**Table 27 B2C online turnover, 2011**

Country group	Average online B2C turnover per capita as share of GDP per capita	Total B2C online turnover (1,000 Euro)
Group 1: Best performers	2.3%	179,577
Group 2: Key challenge: domestic	1.2%	35,311
Group 3: Domestic & cross-border challenge	0.7%	7,602

Note: For the countries where data on online turnover was unavailable, turnover has been approximated based on the average online B2C turnover per capita as share of GDP per capita.

Source: Copenhagen Economics and EMOTA (2012)

The data above suggests a marked difference in e-commerce market maturity across the three country groups. In other words, if all countries would exhibit the e-commerce performance observed in best performing countries, online turnover would increase substantially. Our estimations show that, if companies and citizens throughout the EU would engage in e-commerce to an extent that equals that observed in the UK (the best-performing e-commerce country in the EU), correcting for differences in GDP, this would imply a total online turnover in the EU of almost 586 billion Euros. This is an increase of the online turnover in 2011 by 2.3 times.<sup>85</sup>

On the basis of our collaboration with delivery operators across the EU, we present below a set of statistics about delivery flows. As discussed in the previous section, the results presented here reflect the characteristics of the sample of delivery operators which responded to the questionnaire.

<sup>85</sup> The online turnover in 2012 has been estimated by EMOTA to €250bn. The increase in online turnover if all companies and citizens throughout the EU engage in e-commerce to the same extent as observed in UK, the online turnover in 2012 would increase by 2.3 times.

Our data reveals that domestic deliveries by far dominate in relation to B2C e-commerce transactions in the EU. On average, 85 per cent of all e-commerce shipments are domestic. This finding is very much in line with the data on user characteristics presented in chapter two, where the share of internet users that shop online in the domestic market is approximately five times higher than the share of internet users shopping online cross-border. Similar to the earlier findings on e-commerce driven delivery turnover, we find that both domestic and cross border B2C e-commerce shipments are primarily driven by the best performers. For cross-border e-commerce, we find that intra-EU deliveries dominate over extra-EU deliveries. In fact, the amount of intra-EU B2C e-commerce shipments is 4-5 times higher than the amount of extra-EU shipments, cf. Table 28.

**Table 28 Shipments of B2C e-commerce parcels & packets**

	EU-wide	Group 1	Group 2	Group 3
Domestic	1,829	1,613	132	83
Intra-EU cross-border	281	261	17	3
Extra-EU cross-border	63	54	6	3
<b>Total</b>	<b>2,172</b>	<b>1,928</b>	<b>155</b>	<b>89</b>

Note: Group 1: Best performers; Group 2: Key challenge, domestic; Group 3: Domestic & cross-border challenge. Totals may reflect rounding and are represented in million items. Data from global integrators not included in this table.

Source: Copenhagen Economics, Delivery operator questionnaire

To provide a benchmark to our results, we refer to earlier top-down estimates of the delivery market for distance sales, cf. Table 29.<sup>86</sup> The estimates show that, in 2010, the total number of items sent in relation to distance sales was approximately 2.3 billion. Our estimates (showing a total number of approximately 2 billion e-commerce shipments) seem well founded.

**Table 29 Estimated volumes from distance sales, 2010**

	Number of items sent domestically	Number of items sent cross-border	Total number of items sent
Small firms	537	56	588
Medium firms	621	85	709
Large firms	909	120	1,032
<b>Total</b>	<b>2,068</b>	<b>262</b>	<b>2,329</b>

Note: Estimates based on turnover figures for distance selling. Unit: million items, annually.  
As per FTI source data, there is a minor gap between the sum of domestic plus cross-border items compared to the totals reported in the last column.

Source: FTI (2011), Table 4.5

### Characteristics of shipments

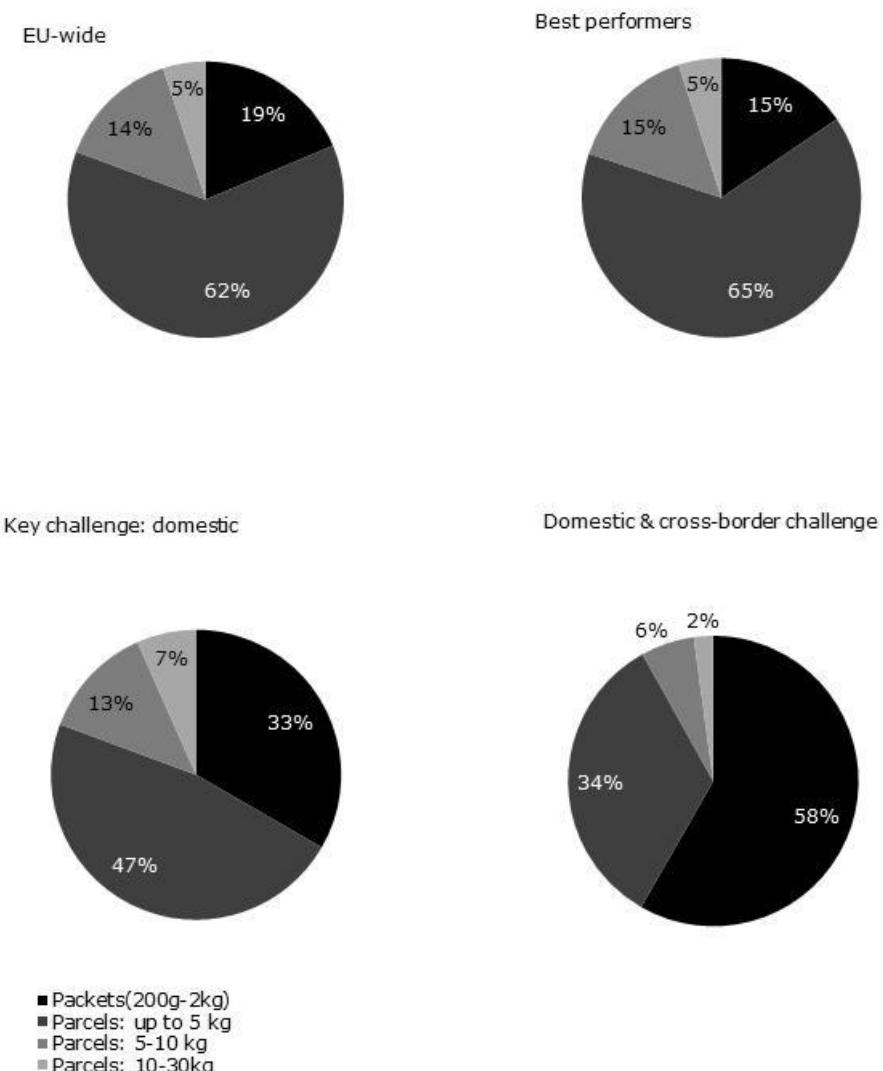
In this section we describe the characteristics of B2C deliveries and how they are divided between weight categories, packets and parcels, and speed of delivery (standard versus express).

<sup>86</sup> FTI Consulting (2011), based on Eurostat data with assumptions.

### *Weight of e-commerce shipments*

We observe that most products bought online (62 per cent, on average) are shipped by means of parcels weighting up to 5 kg. 19 per cent are shipped as packets (200g -2 kg) and a similar share is shipped as heavier parcels (weighting 5-30kg), cf. Figure 58.

**Figure 58 B2C deliveries – by weight**



Source: Copenhagen Economics, Delivery operator questionnaire

We observe that products bought online in countries but the best performing countries to a larger extent are shipped as packets (33 per cent in Group 2 and 58 per cent in Group 3 countries), cf. Figure 58. Hence packets, which are part of the traditional letter flow and are less service oriented products, play a relatively larger role in groups with less developed markets. Notably, we also observe a smaller share of heavier parcels (weighting more than 5 kg) in countries in the group with domestic & cross-border challenge. This is

most likely explained by differences in the mix of products bought online. For example, our interviews with delivery operators witness about a movement towards heavier and more expensive products being bought online as markets mature.

We also find that best performer countries involve more into urban B2C delivery (86 per cent) compared to the other two groups (40 per cent group 2 and 48 per cent group 3), see Appendix C. This might reflect the slightly higher e-commerce penetration observed in urban areas compared with rural ones, cf. chapter 2.

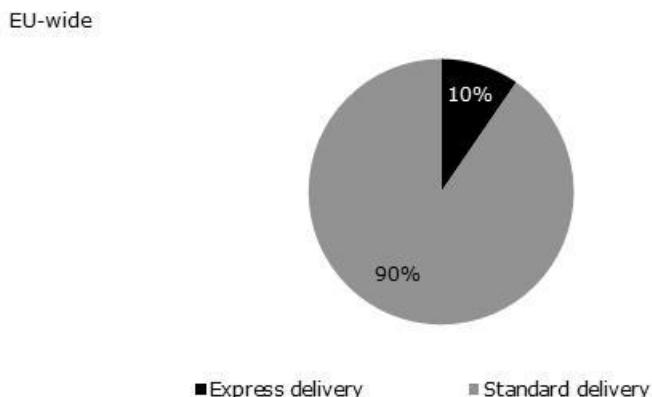
#### *Express versus standard delivery*

Standard delivery is commonly used means of delivery service for B2C shipment in the EU. On average 90 per cent of B2C shipment is delivered through standard delivery services cf. Figure 59.

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**Figure 59 Share of B2C shipments by express vs. standard**

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Source: Copenhagen Economics, Delivery operator questionnaire

#### **Services on offer**

In this section, we discuss about the delivery services available to e-retailers and e-shoppers via global integrators, NPOs and non-NPOs.

##### *Global integrators*

Global integrators offer a wide range of delivery services cross-border with wide geographical coverage. However, services are not always offered to destinations in the entire EU, cf. Table 30. Notably, we observe that the global integrators responding to our survey neither provides evening delivery, nor delivery to post offices or parcel kiosks. If these delivery features are considered important by e-shoppers and e-retailers, this might make global integrators less suitable for delivery of products bought online.

**Table 30 Global integrators: Overview of services**

	Share of global integrators offering the following service (from the main EU market)	Cross border shipments: service offered to destinations in at least part of the EU (%)	Cross border shipments: service offered to destinations in the entire EU (%)
Time	Express delivery: By the end of next day	100	100
	Express delivery: Other time-definite (or day-definite) express delivery	100	33
	Next day delivery [Note: only non-express delivery]	100	0
	Delivery within 2-4 days	100	50
	Delivery at pre-defined time slot	100	50
	Evening delivery	-	-
Point of delivery	Saturday delivery	100	33
	Delivery to the home address	100	100
	Delivery to work address	100	100
	Delivery to post office	-	-
	Delivery to relay point (shop)	100	50
	Delivery to parcel kiosk (automated lock)	-	-
	Delivery to neighbour if customer not at home	100	100
	Delivery to relay point or parcel kiosk	100	50
Value added	Rerouting of parcel when in transit	100	100
	Track & Trace	100	67
	Electronic notification of delivery (e-mail or SMS)	100	67
	Insurance related to delivery	100	100
	Extra service at delivery, e.g. installation of product bought	100	0
Return	Cash on delivery	100	100
	Take it back to a post office/Collection point	100	0
	Organise a specific pick up	100	100
	Track & Trace of returned parcel	100	100
	Return immediately at moment of delivery	100	100

Note: Only responses from three global operators included in this table. The shares are calculated out of total global operators responding to the questionnaire. For some of the questions we only obtained a response from two out of three global operators who responded to the questionnaire, which may lead to shares results such as 50 per cent.

Source: Copenhagen Economics, Delivery operator questionnaire

#### National Postal Operators (NPO)<sup>87</sup>

The seven tables below will focus on the different aspects of delivery services offered by NPOs for domestic and cross-border shipments respectively.

We find that most *time related service features* are offered by NPO in all groups. Yet some services, such as express delivery, next day delivery, evening and Saturday delivery, are better offered by group 3 NPOs, cf. Table 31. This might be due to the fact that there is more reliance on NPOs in those countries. It might also be due to the fact that some NPOs in more mature delivery markets have places their express activities in a separate compa-

<sup>87</sup> In the following analysis, NPOs are defined as the national postal operators that directly fulfil the universal service obligation within a given country. Subsidiaries of NPOs (e.g. DPD, owned by La Poste Group) active in parcel delivery in other countries than the country where the NPO is operating (e.g. La Poste in France) are considered as an alternative operator, other than the NPO. This is the case for instance in the UK (Royal Mail, GLS), France (La Post, DPD) and Germany (Deutsche Post, DHL).

ny. In these cases, a response from NPOs will indicate that a certain service, e.g. express delivery, is unavailable.

**Table 31 NPOs' domestic services: Time and speed of delivery**

Share of National postal operators offering the following service:	Domestic shipments: service offered at least in part of the country				Domestic shipments: service offered throughout the entire country			
	EU-wide average	Group 1	Group 2	Group 3	EU-wide average	Group 1	Group 2	Group 3
Express delivery: By the end of next day	70%	67%	44%	100%	65%	67%	44%	88%
Express delivery: Other time-definite (or day-definite) express delivery	61%	50%	33%	100%	39%	33%	22%	63%
Next day delivery	83%	100%	67%	88%	65%	67%	56%	75%
Delivery within 2-4 days	78%	50%	78%	100%	74%	50%	78%	88%
Delivery at pre-defined time slot	35%	17%	11%	75%	17%	0%	11%	38%
Evening delivery	48%	50%	11%	88%	26%	33%	11%	38%
Saturday delivery	70%	67%	44%	100%	48%	50%	33%	63%

Note: Group 1: Best performers; Group 2: Key challenge, domestic; Group 3: Domestic & cross-border challenge. Next day delivery only includes non-express delivery. The shares are calculated out of total NPOs responding to the questionnaire in each group.

We also note that some services, such as delivery at a pre-defined time slot, evening delivery, or Saturday delivery often are offered only in a part of the country. This indicates that e-shoppers residing in remote or rural areas might not have access to the same services as e-shoppers in urban areas.

Source: Copenhagen Economics, Delivery operator questionnaire

Table 32 provides an overview of services on offer with respect to the *point of delivery*. We observe that delivery service to home is commonly given by all NPOs. Similarly, delivery to the work address and to a post office has almost 100 per cent coverage across all groups. The exception is the group of countries with domestic and cross-border challenge, where not all NPOs provide delivery to a work address and where less than 100 per cent of the NPOs provide country-wide delivery to the home address, to the work address, or to a post office. We note that NPOs in the best performing countries in general have equal or better country wide coverage with respect to almost all types of delivery points.

**Table 32 NPOs' domestic services: Point of delivery**

Share of national postal operators offering the following service:	Domestic shipments: service offered at least in part of the country				Domestic shipments: service offered throughout the entire country			
	EU-wide average	Group 1	Group 2	Group 3	EU-wide average	Group 1	Group 2	Group 3
Delivery to the home address	100%	100%	100%	100%	96%	100%	100%	88%
Delivery to work address	96%	100%	100%	88%	91%	100%	100%	75%
Delivery to post office	100%	100%	100%	100%	91%	100%	100%	75%
Delivery to relay point (shop)	48%	83%	25%	43%	33%	67%	25%	14%

Delivery to parcel kiosk (automated locker)	52%	100%	33%	38%	26%	67%	11%	13%
Delivery to neighbour if customer not at home	30%	33%	0%	63%	26%	33%	0%	50%
Delivery to relay point or parcel kiosk specified by customer	55%	100%	33%	43%	36%	83%	22%	14%
Rerouting of parcel when in transit	78%	83%	56%	100%	65%	83%	44%	75%

Note: Group 1: Best performers; Group 2: Key challenge, domestic; Group 3: Domestic & cross-border challenge. The shares are calculated out of the total number of NPOs in each group responding to the questionnaire.

Source: Copenhagen Economics, Delivery operator questionnaire

Table 33 provides an overview of the value added characteristics provided by NPOs in relation to domestic deliveries. We observe that features such as track and trace and cash on delivery are provided by almost all NPOs throughout the entire country. NPOs in the group of best performing countries more often provide additional services, such as electronic delivery notifications, insurance related to delivery, and extra services (such as installation of the delivered product).

**Table 33 NPOs' domestic services: Value added characteristics**

Share of national postal operators offering the following service:	Domestic shipments: service offered at least in part of the country				Domestic shipments: service offered throughout the entire country			
	EU-wide average	Group 1	Group 2	Group 3	EU-wide average	Group 1	Group 2	Group 3
Track & Trace	100%	100%	100%	100%	96%	100%	100%	88%
Electronic notification of delivery	83%	100%	89%	63%	74%	83%	78%	63%
Insurance related to delivery	78%	100%	67%	75%	78%	100%	67%	75%
Extra service at delivery, e.g. installation of product bought	17%	33%	22%	0%	9%	17%	11%	0%
Cash on delivery	91%	100%	78%	100%	87%	100%	78%	88%

Note: Group 1: Best performers; Group 2: Key challenge, domestic; Group 3: Domestic & cross-border challenge. The shares are calculated out of total NPOs responding to the questionnaire in each group.

Source: Copenhagen Economics, Delivery operator questionnaire

With respect to the provision of *return options*, we observe that almost all NPOs provide track and trace of return parcels. Moreover, almost all NPOs allow e-shoppers to return a parcel by handing it in at a post office or a collection point, whereas only a smaller share allow the e-shopper to arrange for a pick-up of the return parcel, cf. Table 34. Similar to the findings for delivery points and value added services, NPOs in the best performing countries have equal or better service coverage compared to the NPOs in the other groups.

**Table 34 NPOs' domestic services: Return options**

<b>Share of national postal operators offering the following service:</b>	Domestic shipments: service offered at least in part of the country				Domestic shipments: service offered throughout the entire country			
	EU-wide average	Group 1	Group 2	Group 3	EU-wide average	Group 1	Group 2	Group 3
Take to a post office/collection point	87%	100%	78%	88%	83%	100%	78%	75%
Organise a specific pick up	57%	50%	67%	50%	26%	50%	33%	0%
Track & Trace of returned parcel	100%	100%	100%	100%	96%	100%	100%	88%
Return immediately at moment of delivery	77%	100%	56%	86%	73%	100%	56%	71%

Note: Group 1: Best performers; Group 2: Key challenge, domestic; Group 3: Domestic & cross-border challenge. The shares are calculated out of the total number of NPOs in each group responding to the questionnaire.

Source: Copenhagen Economics, Delivery operator questionnaire

For cross-border shipments, we observe a similar pattern where NPOs in best performing countries often provide a wider range of cross-border services than NPOs in poorer performing countries (group 2 and 3).

With respect to time and speed of delivery, we observe that the service offerings for cross-border deliveries are significantly narrower than the domestic service offerings. The only cross-border service that is provided by nearly all operators is the standard delivery option of delivery within 2-4 days, cf. Table 35. This option is often not provided throughout the EU, but only to a limited number of destinations. As a result, e-retailers and e-shoppers may be disappointed if they expect cross-border shipments to be delivered just as fast as domestic deliveries.

**Table 35 NPOs' cross-border services: Time and speed of delivery**

Share of national postal operators offering the following service:	Cross-border shipments: service offered to destinations in at least part of the EU				Cross-border shipments: service offered to destinations throughout the entire EU			
	EU-wide average	Group 1	Group 2	Group 3	EU-wide average	Group 1	Group 2	Group 3
Express delivery: By the end of next day	43%	50%	38%	43%	10%	0%	0%	29%
Express delivery: Other time-definite (or day-definite) express delivery	43%	50%	13%	71%	14%	0%	0%	43%
Next day delivery	38%	67%	25%	29%	10%	0%	0%	29%
Delivery within 2-4 days	90%	100%	100%	71%	57%	67%	75%	29%
Delivery at pre-defined time slot	10%	0%	0%	29%	10%	0%	0%	29%
Evening delivery	15%	0%	43%	0%	0%	0%	0%	0%
Saturday delivery	40%	50%	43%	29%	5%	0%	14%	0%

Note: Group 1: Best performers; Group 2: Key challenge, domestic; Group 3: Domestic & cross-border challenge. Next day delivery only includes non-express delivery. The shares are calculated out of the total number of NPOs in each group responding to the questionnaire.

Source: Copenhagen Economics, Delivery operator questionnaire

With respect to delivery points, Table 36 shows that no services are available everywhere, not even delivery to the home. This is partly because delivery operators in the destination countries have different service levels. For example, an NPO may partner with a delivery operator which does not offer home delivery in the destination market. Moreover, the fact that parcel kiosks (i.e. automated lockers) do not exist in all countries makes it impossible for NPOs to offer this service throughout the entire EU. Even though home delivery is available everywhere in the EU, not all NPOs offer this service in the entire EU. This must be because they partner with non-NPOs in destination country which does not offer the service. Results for cross-border provision of value added features show a similar pattern. Detailed results are therefore displayed in Appendix C.

**Table 36 NPOs' cross-border services: Point of delivery**

<b>Share of national postal operators offering the following service:</b>	Cross-border shipments: service offered to destinations in at least part of the EU				Cross-border shipments: service offered to destinations throughout the entire EU			
	EU-wide average	Group 1	Group 2	Group 3	EU-wide average	Group 1	Group 2	Group 3
Delivery to the home address	95%	100%	100%	86%	68%	67%	83%	57%
Delivery to work address	89%	100%	100%	71%	58%	50%	83%	43%
Delivery to post office	68%	83%	67%	57%	32%	17%	33%	43%
Delivery to relay point (shop)	50%	67%	50%	33%	0%	0%	0%	0%
Delivery to parcel kiosk (automated locker)	45%	67%	43%	29%	0%	0%	0%	0%
Delivery to neighbour if customer not at home	42%	50%	50%	29%	5%	0%	0%	14%
Delivery to relay point or parcel kiosk specified by customer	44%	67%	50%	17%	6%	0%	17%	0%
Rerouting of parcel when in transit	58%	67%	67%	43%	16%	0%	33%	14%

Note: Group 1: Best performers; Group 2: Key challenge, domestic; Group 3: Domestic & cross-border challenge. The shares are calculated out of the total number of NPOs in each group responding to the questionnaire.

Source: Copenhagen Economics, Delivery operator questionnaire

As for cross border return returns, we observe that the availability of return options in general is lower for cross-border deliveries compared with domestic ones. We also note that the share of NPOs offering return options throughout the EU is very low. For example, only 15 per cent of NPOs allow cross-border e-shoppers throughout the EU to return parcels by handing them in at a local post office or collection point. Similarly, only 16 per cent of NPOs allow e-shoppers throughout the EU to return consignments immediately at the moment of delivery, cf. Table 37. This indicates that e-shoppers and e-retailers may lack access to cross-border return solutions when shopping online.

**Table 37 NPOs' cross-border services: Return options**

<b>Share of national postal operators offering the following service:</b>	Cross-border shipments: service offered to destinations in at least part of the EU		Cross-border shipments: service offered to destinations throughout the entire EU	
Take to a post office/collection point	65%		15%	
Organise a specific pick up	26%		0%	
Track & Trace of returned parcel	58%		32%	
Return immediately at moment of delivery	79%		16%	

Note: The shares are calculated out of the total number of NPOs in each group responding to the questionnaire.

Source: Copenhagen Economics, Delivery operator questionnaire

### *Alternative delivery operators*

While the NPOs surveyed have to a very large extent offered broad collaboration to the study, unfortunately, the response rate for alternative operators is particularly low.<sup>88</sup> We acknowledge that this is a limitation, since it reduces the reliability of results. For this reason, we focus on results at the EU-wide level, which provide the most robust indication of the impact of this class of delivery operators on the availability of delivery services in the EU. As discussed previously, we have displayed separately the results from the responses of global integrators. Thus the following tables focus on operators other than NPOs, also excluding the global integrators.

Table 38 below shows that only few non-NPOs provide EU-wide alternatives with respect to the *speed and time of delivery*. Typically, these operators cover only parts of the EU, or even parts of a specific country. This observation may make these operators less attractive partners for e-retailers who want to offer their services to multiple countries and who find it difficult to engage with multiple delivery operators. As to *points of delivery*, we find that non-NPOs provide service offerings similar to those provided by the NPOs. Delivery characteristics for non-NPOs are therefore presented in Appendix C.

**Table 38 Alternative operators: Time and speed of delivery**

EU-wide share of non-NPO delivery operators offering the following service:	Domestic shipments		Cross-border shipments	
	At least part of the country	The entire country	At least part of the EU	The entire EU
Express delivery: By the end of next day	63%	44%	48%	7%
Express delivery: Other time-definite (or day-definite) express delivery	59%	34%	37%	7%
Next day delivery [Note: only non-express delivery]	75%	66%	67%	7%
Delivery within 2-4 days	47%	38%	89%	32%
Delivery at pre-defined time slot	63%	34%	37%	4%
Evening delivery	41%	13%	19%	4%
Saturday delivery	75%	34%	33%	4%

Note: Responses from global operators are not included in this table. The shares are calculated out of the total number of NPOs in each group responding to the questionnaire. The alternative operators' provision of delivery within 2-4 days is larger for cross-border shipments than for domestic shipments. This may reflect the fact that domestic services are normally provided faster than 2-4 days by this type of operators (thus possibly with no 2-4 days option offered domestically). The 89% share for cross-border signals that, at least in some routes, alternative operators are offering services. However, the questionnaire data cannot determine how widespread these routes are, i.e. how large their coverage is. Only 32% of operators offer cross border services destined to the entire EU.

Source: Copenhagen Economics, Delivery operator questionnaire

As to *value added services*, we observe that the non-NPOs in our sample perform equally well as the NPOs. For example, we note that 79 per cent of the non-NPOs provide track and trace and insurance related to delivery throughout the entire EU, cf. Table 39.

<sup>88</sup> Of the 114 delivery operator questionnaires sent, 87 targeted operators other than NPOs, from which responses concerning 35 companies were received.

**Table 39 Alternative operators: Value added services**

EU-wide share of delivery operators offering the following service:	Domestic shipments		Cross-border shipments	
	At least part of the country	The entire country	At least part of the EU	The entire EU
Track & Trace	91%	91%	86%	79%
Electronic notification of delivery (e-mail or SMS)	91%	91%	55%	15%
Insurance related to delivery	84%	84%	79%	68%
Extra service at delivery, e.g. installation of product bought	25%	25%	11%	4%
Cash on delivery	75%	75%	56%	0%

Note: Responses from global operators, which are presented in a dedicated table, are not informing this table. The shares are calculated out of the total number of NPOs in each group responding to the questionnaire. As none of the operators included in this table only provide the value added services in part of the domestic country, the data in the columns of "At least part of the country" and "The entire country" are the same.

Source: Copenhagen Economics, Delivery operator questionnaire

That non-NPOs sometimes provide a wider range of services than the NPOs are also evident when assessing the return options on offer. Table 40 below shows that non-NPOs often provide a wider selection of cross-border return options compared with the NPOs. For example, whereas only 32 per cent of NPOs provide track and trace of return parcels throughout the entire EU, the corresponding figure for non-NPOs is 44 per cent. Similarly, whereas only 16 per cent of NPOs allow cross-border e-shoppers to return a product immediately at the time of delivery, the corresponding figure for non-NPOs is 26 per cent. With respect to domestic returns, we observe that non-NPOs typically allow e-shoppers to arrange for a specific pick-up rather than handing in the return parcel at a collection point.

**Table 40 Alternative operators: Returns options**

EU-wide share of delivery operators offering the following service:	Domestic shipments		Cross-border shipments	
	At least part of the country	The entire country	At least part of the EU	The entire EU
Take to a post office/collection point	47%	38%	37%	11%
Organise a specific pick up	88%	88%	70%	37%
Track & Trace of returned parcel	78%	78%	63%	44%
Return immediately at moment of delivery	59%	56%	44%	26%

Note: Responses from global operators, which are presented in a dedicated table, are not informing this table. The shares are calculated out of the total number of NPOs in each group responding to the questionnaire.

Source: Copenhagen Economics, Delivery operator questionnaire

#### *Key trends in delivery services on offer*

By comparing country groups, we identify trends regarding the provision of key up and coming services. This comparison is particularly relevant to check the pulse of key innovations impacting parcel delivery and thus the evolution of e-commerce. We have identified three service features as important frontrunners in the provision of customer-oriented delivery services:

- Real time tracking technology
- Rerouting of parcels in transit
- Delivery to a relay point or parcel kiosk specified by the e-shopper

With respect to real time tracking, we observe that almost all delivery operators provide this feature to at least some of their shipments today. However, the availability is still higher for domestic deliveries than for cross-border ones. The difference in service levels between domestic and cross-border is most pronounced in the less developed e-commerce markets (i.e. group 2 and 3), cf. Table 41.

Real-time tracking is a step forward, compared with the situation where customers contact the delivery company directly to investigate the status of the shipment. However, it is still a one-way communication from the delivery operator to the e-retailer/e-shopper. In the future, we expect communication between e-shoppers, e-retailers, and delivery operators to become more and more interactive. One indication of this trend is provided by delivery operators that allow the recipient to affect the routing of the parcel while still in transit. For example, if an e-shopper has ordered delivery to the home address, but later realises that she will be visiting a relative at the time when the parcel is delivered, she can log on to the delivery operator's website and change the address of the delivery.

We notice that more than 70 per cent of delivery operators in our sample already offer their customers the ability to re-route parcels in transit. The service is more widespread for domestic deliveries than for cross-border deliveries. There is no significant difference across county groups.

An alternative to re-routing is the ability for consumers to choose a specific relay point of parcel kiosk for delivery at the time of purchase. For example, for e-shoppers that work far away from where they live, the ability to collect the parcel at a collection point close to work might be very valuable. This kind of service is today only offered to a lesser extent than the two previous services. In fact, we observe that only 40 per cent of delivery operators, on average, offer this service for domestic deliveries. The share is even lower for cross-border deliveries. There is a clear tendency for this service to be provided in more mature e-commerce markets (both for domestic and cross-border deliveries). As markets mature, we might thus see the availability increasing, also in countries with mainly a domestic challenge and countries with domestic and cross-border challenge.

**Table 41 Availability of innovative service offerings, NPOs**

	EU-wide average	Group 1	Group 2	Group 3
<b>Track and trace</b>				
Domestic	90%	88%	95%	89%
Cross-border	75%	82%	64%	79%
<b>Ability to re-route parcel in transit</b>				
Domestic	72%	71%	68%	74%
Cross-border	53%	55%	47%	50%
<b>Delivery to relay point or parcel kiosk specified by the customer</b>				
Domestic	40%	64%	41%	16%
Cross-border	32%	45%	35%	12%

Note: Group 1: Best performers; Group 2: Key challenge, domestic; Group 3: Domestic & cross-border challenge. Total number of valid responses to these questions is, for cross-border 27 EU wide (of which 14 in Group 1, 5 in Group 2, and 8 in Group 3); and for domestic 24 EU wide (of which 7 in Group 1, 10 in Group 2, and 9 in Group 3).

Source: Copenhagen Economics, Delivery operator questionnaire

## Chapter 4

# Identifying gaps

If needs of e-shoppers and e-retailers are not met by the services on offer, this mismatch may result in lower satisfaction and less e-commerce. In this chapter, we investigate the existence of such mismatches (so called delivery gaps). In subsequent chapters, we analyse the underlying reasons for the delivery gaps and possible solutions.

### 4.1 Main findings

We take the e-shoppers as point of departure for our analysis of problems with e-commerce driven delivery. We identify delivery gaps for e-shoppers in our sample of 3,000 e-shoppers in Germany, Sweden, Ireland, Poland, Spain, and Estonia by analysing the shopping experience for e-shopper from two angles:

*First*, we analyse why e-shoppers choose not to complete an order (abandoned shopping carts). 65 per cent of e-shoppers have at some point added items to an online shopping cart, which they have abandoned before finalising the order. We note that a large majority of the abandoned shopping carts (68 per cent) are caused by delivery features, primarily late presentation of delivery costs that are considered to be too high and delivery times that are considered too long.

*Second*, we analyse e-shopper satisfaction with different features of delivery. Our e-shopper survey shows that, on average, 38 per cent of e-shoppers are dissatisfied with one or several aspects of delivery. The highest levels of dissatisfaction are observed in relation to complaints (30 per cent), returns (26 per cent), delivery price (21 per cent), delivery speed (16 per cent), and value added delivery features such as track and trace and electronic delivery notifications (16 per cent). For cross-border delivery, the main reason for e-shopper dissatisfaction is speed of delivery.

After our analysis of delivery gaps experienced by e-shoppers, we analyse whether the same delivery gaps exist between e-retailers and delivery operators. Our survey among e-retailers and supplementary interviews show that e-retailers are dissatisfied with, primarily, price of delivery, return options, and speed of delivery.

We use an analytical framework where we group the delivery gaps into three types: information gaps, service gaps, and performance gaps. These gaps exist both between e-shoppers and e-retailers and between e-retailers and delivery operators. We use the e-shopper survey to quantify how often e-shoppers face a certain gap between what they need (or find important) and what they can buy. We stress that a high prevalence of a given problem does not necessarily imply a large impact on the level of e-commerce. Hence, to prioritise the problems we combine our results on how prevalent different problems are with results on what is important for not completing an order or for returning to the same e-retailer again. Our e-shopper survey samples respondents who already engage in e-commerce. Hence, the data does not allow us to draw conclusions about *po-*

*tential* e-shoppers and what might deter them from buying online. Instead, we refer to results from previous studies such as Civic Consulting (2011) on this matter. According to the Civic Consulting study, merely 4 per cent of non-e-shoppers mention inconvenient delivery as being among the three most important reasons for not shopping online.<sup>89</sup> The most common reasons for refraining from e-commerce are that the respondents like shopping in physical stores, have concerns regarding misuse of personal data, or are concerned about how to solve problems if something goes wrong.

*Information gaps* occur when it is difficult for e-retailers or e-shoppers to find customer oriented information about delivery (available options, prices, conditions, quality of service etc.) that can be interpreted without spending too much time. From our survey among 3,000 e-shoppers in six member states of different e-commerce maturity, we observe that, on average, 14 per cent of e-shoppers are unsatisfied with the provision of information about delivery and return policies at the web shop. Moreover, 14 per cent of e-shoppers, who at some point have abandoned a shopping cart, have done so because the information about delivery provided was not clear enough.

*Service gaps* occur when e-retailers or e-shoppers lack access to the delivery services they prefer (service characteristics, destinations, prices). Our analysis reveals that the largest service gaps are experienced with respect to convenient returns, ‘free delivery’, and specific services such as the ability to redirect a parcel in transit or the ability for e-shoppers to make their own choice of delivery point at the time of purchase. Half of the e-shoppers in our survey find these features to be important for their decision to shop online, but yet these services were not available in relation to their most recent online purchase.

E-shoppers experience service gaps if delivery operators do not offer the service features that e-shoppers find important. Thus, an e-retailer service gap will typically lead to an e-shopper service gap. For cross-border e-commerce, we find that lack of services on offer from delivery operators cause service gaps for e-shoppers. This particularly is the case with respect to value added services such as electronic notification of delivery and tracking of parcels, as well as certain return options. The availability of services is in general better for domestic delivery than for cross-border delivery.

E-shoppers also experience service gaps if e-retailers choose to only offer a subset of the delivery services available from delivery operators. This can happen if e-retailers consider the price to be too high, or find it too costly to integrate the service in their logistics solution. For example even though e-retailers can buy convenient delivery modalities such as Saturday or evening delivery, or delivery at a pre-defined timeslot, they may choose not to offer these services.

*Performance gaps* occur when delivery operators and e-retailers fail to perform according to contracted terms (e.g. late delivery, delivery outside agreed timeslot). Our e-shopper survey reveals that 10 per cent of e-shoppers who buy the delivery features that they find important, still are dissatisfied. This dissatisfaction is most likely explained by the performance of e-retailers and/or delivery operators.

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<sup>89</sup> Civic Consulting (2011), p. 32, figure 6.

## 4.2 User satisfaction

Delivery is a key element in the shopping experience and decisive for e-shoppers' decisions to buy online in the first place as well as for the number of repeat purchases.

From the point when an e-shopper enters a web shop until she receives the ordered product, there are a number of potential problems related to delivery that may cause disappointment for both e-shoppers and e-retailers. For example, the e-shopper may not be satisfied with the delivery options offered by the e-retailer in the web shop, she might not find adequate information about delivery provided before and/or after the purchase, or she might be unsatisfied with the quality of the actual delivery performance. We refer to these bad customer experiences as '*delivery gaps*'. Delivery gaps may prevent e-shoppers from buying from the same web shop again.

Our analysis consists of two steps. *First*, we analyse what sometimes make e-shoppers leave a web shop without finalising the order. *Second*, we then analyse the satisfaction of e-shoppers and e-retailers with respect to different features of delivery. These steps are primarily based on our e-shopper survey in six member states and our e-retailer survey across all member states.<sup>90</sup>

Whereas a high level of user satisfaction implies that e-shoppers and e-retailers have access to delivery services that corresponds to their needs and preferences, a low level of user satisfaction indicates that there is room for improvement. We start by looking at the reasons for e-shoppers' decision not to buy from a web shop. Then we analyse the e-shopper and e-retailer satisfaction with delivery services feature by feature.

We have investigated differences across country groups of more and less mature markets and we report differences, when we have found such differences. Contrary to what one might expect, we only find a few differences in preferences and user satisfaction between the more and less mature e-commerce markets investigated.

Our e-shopper survey provides a rather detailed review of satisfaction with different aspects of delivery. In order to ensure statistical validity through a high number of respondents, we have chosen to focus on respondents with actual experience with delivery of e-commerce. For this reason our sample does not contain non-buyers. However, delivery problems that imply that consumers do not engage in e-commerce are also relevant. We use results from a recent study by Civic Consulting to shed light on delivery problems perceived by non-e-shoppers.

### Reasons for abandoning an online shopping cart

A problem for e-retailers across the EU is the rate of abandoned shopping carts (i.e. potential e-shoppers that start an online shopping process, but who do not continue to final check out). In our survey among more than 3,000 e-shoppers in Germany, Sweden, Ireland, Poland, Spain, and Estonia, 65 per cent of respondents state that they at some point have added items to an online shopping cart, but not proceeded to final check out. The

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<sup>90</sup> See section 2.2 for a description of the consumer survey.

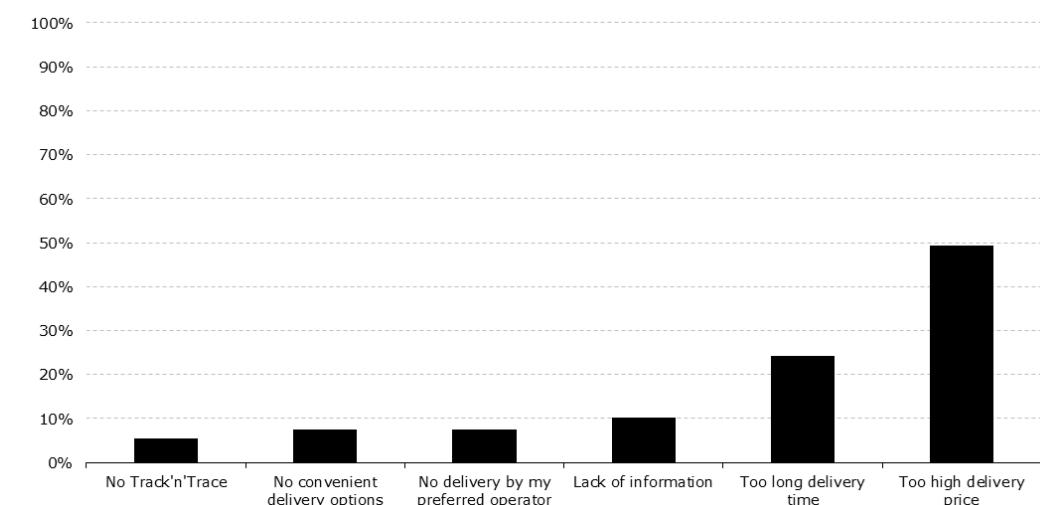
share of abandoned shopping carts differs significantly across countries<sup>91</sup> but seems to be independent of the nation-wide level of e-commerce and how experienced e-shoppers are with online shopping.

Our survey among e-shoppers reveals that a large share of abandoned shopping carts (68 per cent) is due to delivery reasons. In Spain, this share is as high as 85 per cent. The main issues are too high delivery prices and too long delivery times (mentioned by 49 and 24 per cent of respondents respectively), cf. Figure 60.

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**Figure 60 Reasons for not finalising an order**

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Note: The figure shows the share of respondents that have chosen the reason out of the number of respondents that have abandoned an order. Number of respondents: 2010. The category "Lack of information" is the average of all informational issues, i.e. the average of the number of respondents choosing "Lack of information about the delivery operator", "Lack of information about liability and when the risk passes from e-retailer and/or delivery operator to me as consumer", "Lack of information about return conditions and options (incl. cost, Track'n'Trace of return parcel)" or "The information about delivery was not clear enough for me to fully understand what I could expect from delivery". We have discarded the "I cannot recall" observations.

Source: Copenhagen Economics, E-shopper survey

Other delivery-related problems that cause e-shoppers to abandon their shopping carts are lack of information (11 per cent); lack of delivery with the preferred operator (8 per cent); no convenient delivery options (8 per cent); and no track and trace (6 per cent).

These findings compare very well to earlier research, showing that up to 75 per cent of shopping carts are abandoned, and that 56 per cent of consumers regularly drops out of a checkout process, amongst other things due to insufficient information about delivery options/costs early in the buying process.<sup>92</sup>

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<sup>91</sup> It ranges from 42 per cent in Poland to 87 per cent in Sweden.

<sup>92</sup> WorldPay (2012), p. 16

## User dissatisfaction

In the following, we investigate e-shoppers' and e-retailers' satisfaction with the delivery services that they actually have bought. The parameters that we assess are:

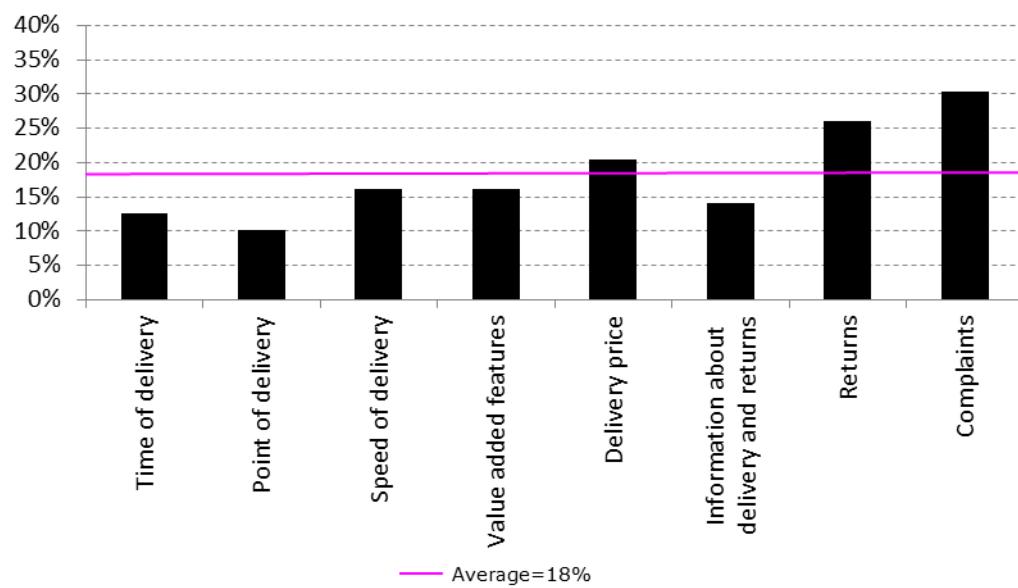
- *Delivery time*
- *Point of delivery*
- *Delivery speed*
- *Value added features*
- *Delivery price*
- *Returns and redress procedures*

We find that 62 per cent of e-shoppers in our survey are satisfied with all aspects of delivery. In other words, 38 per cent are dissatisfied with one or several features of delivery. On average, 18 per cent of e-shoppers are dissatisfied with the different aspects of delivery that we have investigated. The largest level of dissatisfaction is observed with respect to handling of complaints, return options, and the delivery price.<sup>93</sup> The lowest level of dissatisfaction is observed with respect to time and point of delivery, cf. Figure 61.

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**Figure 61 Share of e-shoppers dissatisfied with delivery aspects**

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Note: Horizontal line shows the average level of dissatisfaction (18 per cent).

Source: Copenhagen Economics, E-shopper survey

Results from our e-retailer survey and interviews with e-retailers show that the three main drivers of e-retailer dissatisfaction are price of delivery, return options and speed of delivery.<sup>94</sup> In our interviews with e-retailers and the associations who represent them, price is mentioned as a major challenge and cause of dissatisfaction. In our e-retailer sur-

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<sup>93</sup> Consumer dissatisfaction with complaints we discuss in section 4.6 on performance gaps.

<sup>94</sup> Copenhagen Economics, E-retailer survey, cf. Appendix B.

vey, 42 per cent are dissatisfied with return options and 25 per cent are dissatisfied with speed of delivery.

### **Delivery time**

In this section we analyse e-shoppers and e-retailers satisfaction with time of delivery.

Our analysis of e-shopper dissatisfaction shows that 13 per cent of e-shoppers were unsatisfied with the delivery time (i.e. when the consignment reaches the recipient, such as during daytime, in the evening or on a Saturday). The level of satisfaction differs across countries. The level of dissatisfaction is generally higher in Germany, Ireland and Spain than in Sweden, Poland and Estonia.<sup>95</sup> We also observe a slightly higher level of dissatisfaction among cross-border e-shoppers compared to domestic ones (15 vs. 11 per cent)<sup>96</sup>, and among younger e-shoppers (aged 18-29) compared with older ones (19 vs. 13 per cent). That the level of dissatisfaction is higher among younger e-shoppers is observed across many delivery aspects, cf. Table 42. It might be explained by the fact that younger e-shoppers are less likely to be home to receive day-time deliveries. It might also be explained by a higher demand for flexibility among younger e-shoppers. The level of satisfaction does not differ between e-shoppers residing in rural and urban areas.

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**Table 42 Dissatisfaction among younger and older e-shoppers**

<b>Delivery aspect</b>	<b>18-29 years old</b>	<b>30-45 years old</b>	<b>46-65 years old</b>
Delivery time	17%	13%	8%
Delivery point	18%	11%	7%
Value added features	21%	15%	13%
Delivery price	28%	21%	15%
Returns	32%	25%	23%

Source: Copenhagen Economics, E-shopper survey

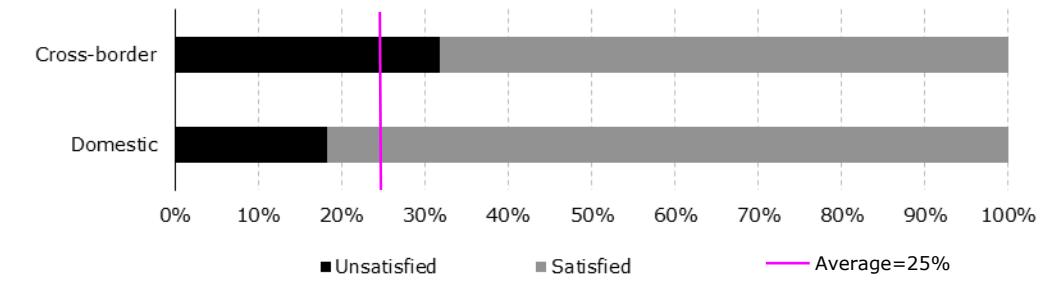
Our survey among e-retailers shows a higher level of dissatisfaction, with the highest level being observed in relation to cross-border trade. Whereas, 18 per cent of domestic e-retailers are unsatisfied with the time of delivery, the corresponding figure for cross-border e-retailers is 32 per cent, cf. Figure 62.

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<sup>95</sup> While less than 10 per cent of e-shoppers in countries like Sweden, Estonia and Poland are unsatisfied with delivery times, the corresponding figures in countries such as Germany, Ireland and Spain are over 15 per cent.

<sup>96</sup> Copenhagen Economics, E-shopper survey. See Appendix B.

**Figure 62 E-retailers' satisfaction with time of delivery**



Note: Answers to the questions "Please indicate your satisfaction with the following features of the CROSS-BORDER delivery services that you offer to your e-commerce customers [Time of delivery (e.g. morning, daytime, evening, Saturday)]" and "Please indicate your satisfaction with the following features of the DOMESTIC delivery services that you offer to your e-commerce customers [Time of delivery (e.g. morning, daytime, evening, Saturday)]". "Unsatisfied" covers the two answer options "Very unsatisfied" and "Slightly unsatisfied", "Satisfied" covers the two answer options "Somewhat satisfied" and "Very satisfied". The total number of respondents is 22 for both cross-border and domestic delivery

Source: Copenhagen Economics, E-retailer survey

### Point of delivery

In this section we analyse e-shoppers and e-retailers satisfaction with point of delivery.

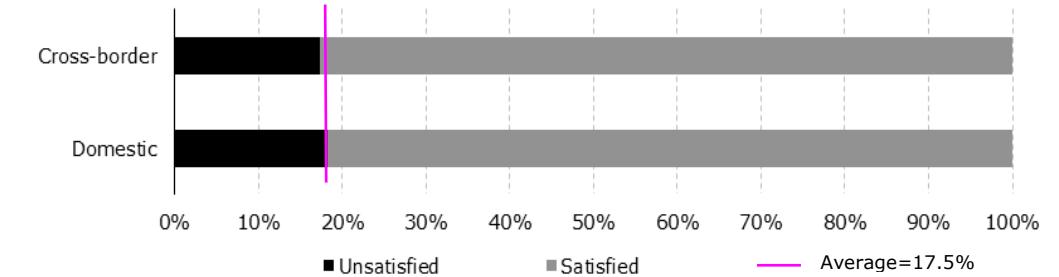
Our e-shopper survey shows that e-shoppers are, on average, rather satisfied with their selection of delivery points. Although there is some variation across countries<sup>97</sup>, the level of dissatisfaction is in general not higher than 10 per cent.

The satisfaction is similar among domestic and cross-border e-shoppers (9 vs. 12 per cent of dissatisfied e-shoppers), as well as among urban and rural e-shoppers (10 vs. 12 per cent of dissatisfied e-shoppers).

From our e-retailer survey, we observe a similar level of dissatisfaction among domestic and cross-border e-retailers, cf. Figure 63. The share of e-retailers that are unsatisfied with the point of delivery is slightly higher than the share of e-shoppers that are unsatisfied with the same feature (17 vs. 10 per cent).

<sup>97</sup> The share of unsatisfied e-shoppers in our sample varies between 4 and 15 per cent across countries, cf. Appendix B. Again more e-shoppers in Germany, Spain, and Ireland are dissatisfied with point of delivery than e-shoppers in Sweden, Poland, and Estonia.

**Figure 63 E-retailers' satisfaction with point of delivery**



Note: Answers to the questions "Please indicate your satisfaction with the following features of the CROSS-BORDER delivery services that you offer to your e-commerce customers [Point of delivery (e.g. home, work, post office, parcel kiosk, shop)]" and "Please indicate your satisfaction with the following features of the DOMESTIC delivery services that you offer to your e-commerce customers [Point of delivery (e.g. home, work, post office, parcel kiosk, shop)]". "Unsatisfied" covers the two answer options "Very unsatisfied" and "Slightly unsatisfied", "Satisfied" covers the two answer options "Somewhat satisfied" and "Very satisfied". Total number of respondents is 23 for cross-border and 22 for domestic.

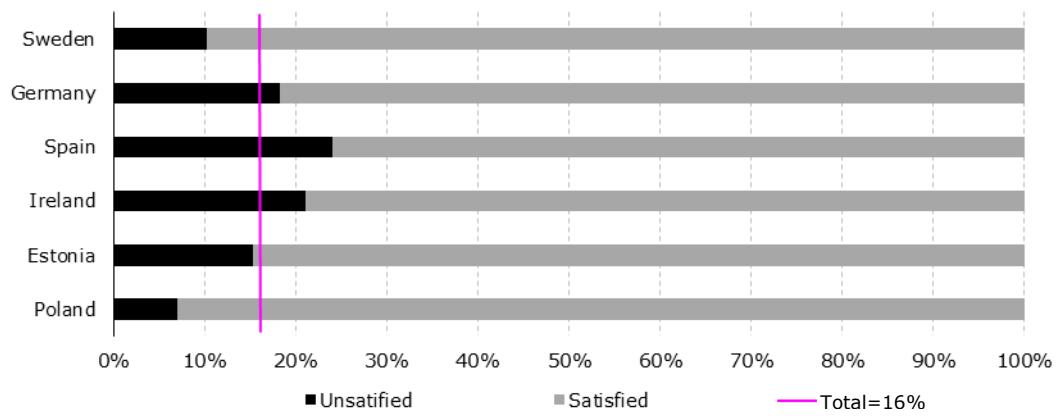
Source: Copenhagen Economics, E-retailer survey

### Speed of delivery

In this section we analyse e-shoppers and e-retailers satisfaction with speed of delivery.

Our analysis of e-shoppers shows that 16 per cent of the e-shoppers are dissatisfied with the speed of delivery. The dissatisfaction with delivery speed is in other words larger than both the dissatisfaction with delivery times (13 per cent) and delivery points (10 per cent). The levels of dissatisfaction differ significantly across countries, but again we note a pattern of higher dissatisfaction in Germany, Spain, and Ireland than in Sweden, Poland and Estonia, cf. Figure 64. For example is the share of unsatisfied e-shoppers in Spain three times higher than in Poland, and more than two times higher than in Sweden.

**Figure 64 E-shoppers' satisfaction with speed of delivery – by country**



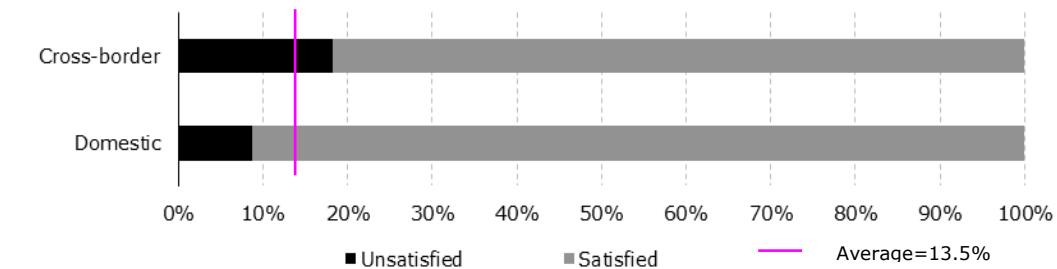
Note: The figure presents the combined answers to the questions "For your most recent purchase from a webshop that required international delivery, please indicate your satisfaction with [Speed of delivery (e.g. next day, within 2-4 days)]" and "For your most recent purchase from a webshop that required physical delivery, please indicate your satisfaction with [Speed of delivery (e.g. next day, within 2-4 days)]". Total number of respondents: 2997. We have discarded the response "I cannot recall".

Source: Copenhagen Economics, E-shopper survey

We observe that dissatisfaction is larger among cross-border e-shoppers compared with domestic e-shoppers (22 vs. 13 per cent). This makes cross-border speed of delivery one of the main causes of dissatisfaction among e-shoppers. This result is intuitive, since cross-border deliveries normally require longer delivery time than domestic deliveries. If users expect products ordered from e-retailers abroad to arrive as fast as products ordered from domestic e-retailers, this can explain part of the experienced dissatisfaction.

Our e-retailer survey reveals a similar level of dissatisfaction. Just as for e-shoppers, dissatisfaction is higher for cross-border deliveries compared with domestic deliveries, cf. Figure 65.

**Figure 65 E-retailers' satisfaction with speed of delivery**



Note: Answers to the questions "Please indicate your satisfaction with the following features of the CROSS-BORDER delivery services that you offer to your e-commerce customers [Speed of delivery (e.g. next day, within 2-4 days)]" and "Please indicate your satisfaction with the following features of the DOMESTIC delivery services that you offer to your e-commerce customers [Speed of delivery (e.g. next day, within 2-4 days)]". "Unsatisfied" covers the two answer options "Very unsatisfied" and "Slightly unsatisfied", "Satisfied" covers the two answer options "Somewhat satisfied" and "Very satisfied". The total number of respondents is 22 for cross-border and 23 for domestic delivery.

Source: Copenhagen Economics, E-retailer survey

### Value added features

In this section, we analyse e-shopper satisfaction with value added features based on our e-shopper survey. As we do not have comparable data for e-retailers, we complement this part of the analysis with existing research.

According to our survey, 6 per cent of e-shoppers are unsatisfied with the value added delivery features offered at their most recent online purchase, cf. Figure 61. The dissatisfaction with value added features is thus at level with the dissatisfaction with delivery speed. The dissatisfaction with value added features is only marginally higher for cross-border e-shoppers compared with domestic e-shoppers (17 vs. 15 per cent).

With respect to e-retailers, previous research indicates a significant dissatisfaction with existing track and trace solutions. For example, in a survey among e-retailers conducted by Accenture in 2011, 42 per cent of e-retailers mention that shipping infrastructure problems such as lack of tracking possibilities have a high or somewhat high impact on their online EU cross-border training.<sup>98</sup>

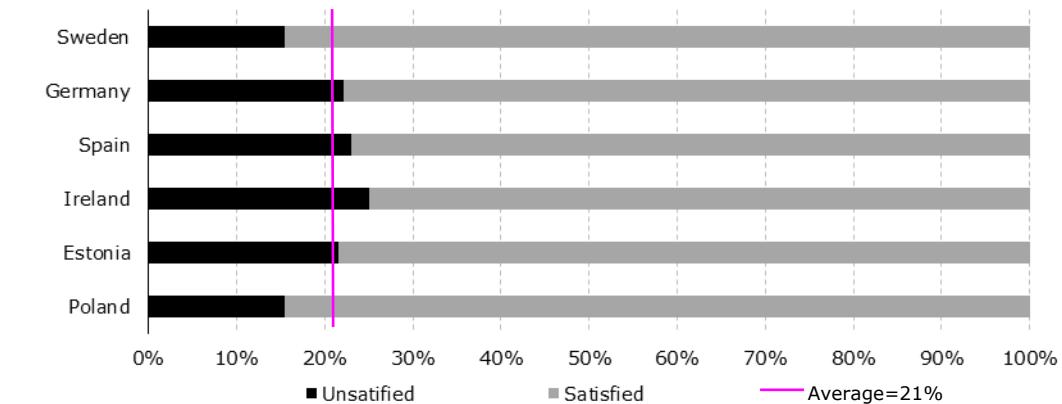
### Delivery price

In this section we analyse e-shoppers and e-retailers satisfaction with price of delivery.

Our e-shopper survey reveals that 21 per cent of e-shoppers were unsatisfied with the delivery price in relation to their most recent purchase. This makes pricing the delivery feature that e-shoppers on average are most dissatisfied with. The levels of dissatisfaction differ across countries. We observe levels of dissatisfaction as high as 25 per cent in Ireland. In Sweden and Poland, the levels are lower (15 per cent), cf. Figure 66.

<sup>98</sup> Accenture (2011), p.13

**Figure 66 E-shoppers' satisfaction with delivery price – by country**



Note: The figure presents the combined answers to the questions "For your most recent purchase from a webshop that required international delivery, please indicate your satisfaction with [Price of delivery]" and "For your most recent purchase from a webshop that required physical delivery, please indicate your satisfaction with [Price of delivery]". Total number of respondents: 2965. We have discarded responses "I cannot recall".

Source: Copenhagen Economics, E-shopper survey

There is no significant difference in e-shopper satisfaction with delivery price between domestic and cross-border e-commerce (20 and 22 per cent of unsatisfied e-shoppers respectively). This result is somewhat surprising since earlier studies as well as our interviews with e-retailers across Europe points to cross-border delivery prices as being disproportionately more expensive than domestic delivery prices, cf. Box 9.

We identify three explanations for why we do not observe that e-shoppers are more dissatisfied with cross-border prices than with domestic delivery prices. *First*, e-retailers are often able to obtain significantly lower cross-border prices than the official list prices. This happens when e-retailers receive individually negotiated prices or when they use direct insert to reduce their costs. *Second*, e-retailers may, for marketing reasons, choose to absorb a part of the higher cross-border price charged by the delivery operator. This means that e-retailers may offer their customers a lower delivery price than what they themselves pay to the delivery operators. *Third*, e-shoppers buying cross-border may expect and be satisfied with paying higher delivery prices for cross-border delivery than for domestic delivery.

There is no significant difference in satisfaction levels between e-shoppers residing in urban areas and e-shoppers residing in rural areas. We do, however, observe that dissatisfaction differ with respect to the age of e-shoppers.<sup>99</sup>

That price is a main concern for e-shoppers is supported by earlier studies. In 2010, IPC found that 50-60 per cent of cross-border e-shoppers considered price as the dominant driver in choosing a delivery option, and too high delivery costs were a key reason for dissatisfaction with shopping online.<sup>100</sup>

<sup>99</sup> Copenhagen Economics, E-shopper survey, cf. Appendix B.

<sup>100</sup> IPC (2010), p. 15 and 27

Our survey among e-retailers and interviews with e-retailers and the associations they belong to, reveal a high level of dissatisfaction with delivery prices, especially for cross-border deliveries, cf. Box 9.

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### Box 9 E-retailers' dissatisfaction with delivery prices

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The e-retailer survey and interviews with e-retailers and e-retailer associations highlight prices as an important point of dissatisfaction:

*"I have just asked my postal agent of a price from DK to Germany 20kg and the price were around 650 DKK [approx. 87 €, red.] and my competitor in Germany offers the opposite way for 48 DKK [approx. 6,5 €, red.]. This competitor are maybe paying a higher rate than he invoice, but it [sic] still a huge difference giving a [D]anish company quite a challenge in the EU community. This is important! Not whether the delivery takes 1 or 2 days"*

*"European cross-border deliveries are too expensive, even to neighbouring countries such as from Belgium to the Netherlands [...] Why is it 3 times cheaper to send from Antwerp to Aarlen (nationwide, 230 km) than from Antwerp to Breda (international, but only 50 km)?"*

We also note that also domestic delivery prices can be a challenge for e-retailers. Weak competition or the fact that e-retailers does not view all delivery operators as relevant alternatives for their business could be a possible explanation for this perception among e-retailers:

*"Prices in Belgium for domestic delivery are higher than in neighbouring countries. Sending a small package within Belgium costs 4-4.5 EUR with bpost. The corresponding delivery with PostNL in the Netherlands cost 1-1.5 EUR. The difference is that competition in Belgium is weaker."*

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Note: The prices have been mentioned in the e-retailer survey and interviews. Copenhagen Economics has not verified the prices.

Source: Copenhagen Economics, E-retailer survey and E-retailer association interviews

A recent Eurobarometer survey reveals that 27 per cent of EU retailers in 2012 considered high costs of cross-border delivery to be hindering cross-border sales to other EU countries. The highest shares of retailers considering cross-border prices an obstacle to trade were observed in Romania (53 per cent), Latvia (47 per cent), and Lithuania (44 per cent).<sup>101</sup>

### Returns

In this section we analyse e-shoppers and e-retailers satisfaction with returns.

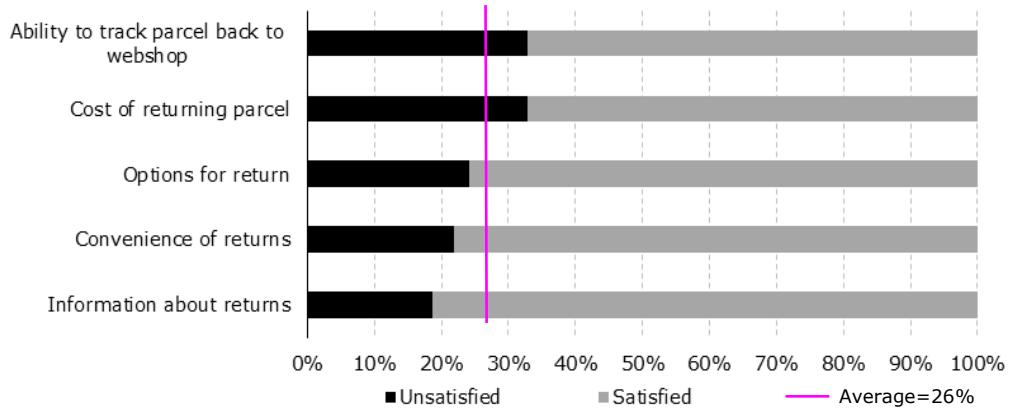
From our survey among e-shoppers, we find that 40 per cent of e-shoppers have at some point returned a product bought online. Dissatisfaction may occur in relation to the search for information about return procedures. It may also occur in relation to the actual return process (e.g. with respect to return options or the cost of returning the product). Our survey reveals that one third of e-shoppers with experience from returning products bought online are unsatisfied with the cost of returns as well as the ability to track return

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<sup>101</sup> European Commission (2012a)

parcels back to the e-retailer. Around one fifth are unsatisfied with the convenience of returns as well as the information about returns provided by the e-retailers, cf. Figure 67.

**Figure 67 E-shoppers' satisfaction with returns**

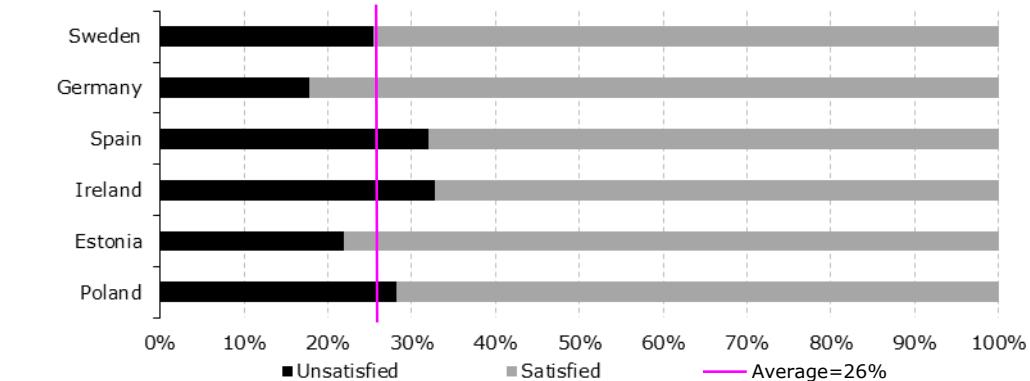


Note: The figure shows the percentage of e-shoppers that have rated each service as "somewhat important" or "very important". Answers to the questions "Have you ever (not only in relation to your most recent purchase) returned a product bought from a webshop?" and "Think about the times when you have returned a product to a webshop. How satisfied were you with the following features". We have discarded responses "I cannot recall". For each of the services the number of respondents is (starting from the top): 962, 1165, 1132, 1185, and 1163.

Source: Copenhagen Economics, E-shopper survey

The share of unsatisfied e-shoppers differs across countries. In Sweden, around 25 per cent of e-shoppers are dissatisfied with return features. These results are driven by high dissatisfaction with the cost of returning parcels and the ability to track the parcel back to the e-retailer. Countries with a higher level of dissatisfaction are Spain and Ireland (more than 30 per cent of e-shoppers unsatisfied with return aspects). Unlike for other delivery features, the country with the overall lowest level of dissatisfaction is Germany, where on average less than 20 per cent of e-shoppers are dissatisfied with return features, cf. Figure 68. This could reflect better functioning return solutions in Germany.

**Figure 68 E-shoppers' satisfaction with returns - by country**



Note: The figure shows the percentage of e-shoppers that have rated each service as "somewhat important" or "very important". Answers to the questions "Have you ever (not only in relation to your most recent purchase) returned a product bought from a webshop?" and "Think about the times when you have returned a product to a webshop. How satisfied were you with the following features". We have discarded responses "I cannot recall". Total number of respondents for each country is on average (starting from the top): 201, 253, 156, 182, 148, and 182. The average number of respondents is based on the five subcategories for satisfaction with returns, cf. Figure 67.

Source: Copenhagen Economics, E-shopper survey

The share of unsatisfied e-shoppers is slightly higher among e-shoppers residing in urban areas.<sup>102</sup> One possible explanation for this finding could be a generally higher level of expectations regarding convenience of delivery and returns among the urban population than people residing in rural areas.

The importance of convenient return procedures for increased e-commerce has been highlighted in previous studies.<sup>103</sup> In 2012, Pitney Bowes found that 29 per cent of consumers are discouraged from completing a purchase due to unattractive return policies.<sup>104</sup> In 2010, the IPC found considerable lower rates of dissatisfaction among e-shoppers. According to the results of IPC, between 4 and 14 per cent of e-shoppers in the UK, Germany, The Netherlands, Belgium, and France were *not at all satisfied* or *rather unsatisfied* with return services.<sup>105</sup>

From the e-retailers' perspective, we observe that 42 per cent of e-retailers are dissatisfied with return services.<sup>106</sup> Furthermore, 44 per cent of e-retailers mention difficulty in handling returns cross-border or in a multi-country set-up as a factor having high or somewhat high impact on their cross-border trading.<sup>107</sup> Even though most e-retailers are interested in smooth returns in order to satisfy consumers and get products back in good shape, we must also recognise the incentive for e-retailers not to support smooth returns in the short run. If products are not easily returned it becomes more complicated for cus-

<sup>102</sup> For all return features, dissatisfaction among e-shoppers residing in urban areas is approximately three percentage points higher than the dissatisfaction among e-shoppers residing in rural areas.

<sup>103</sup> See for example IMRG (2011); Pitney Bowes (2012) and IPC (2010).

<sup>104</sup> Pitney Bowes (2012).

<sup>105</sup> IPC (2010), p. 31. The dissatisfaction rates with return services were found to be; Germany (7 per cent), The Netherlands (4 per cent), UK (6 per cent), Belgium (8 per cent), and France (14 per cent).

<sup>106</sup> Copenhagen Economics e-retailer survey, cf. Appendix B.

<sup>107</sup> Accenture (2012).

tomers to change their mind about a purchase or send back a broken item. In the longer run, however, reducing the rate of return will not increase turnover of the e-retailer as it prevents repeat purchases.

#### *Concerns of potential e-shoppers*

In the e-shopper survey, we survey people who actually buy things online. However, earlier studies, such as Civic Consulting (2011) have shown that the dissatisfaction or overall level of concerns related to e-commerce is lower among frequent e-shoppers than among non e-shoppers.

In the study by Civic Consulting, a sample of frequent, occasional, and non-online shoppers were asked about their concerns about buying online domestically with respect to returns, delivery times, after-sales services, customer service etc. Except for long delivery times and poor customer service, frequent e-shoppers were generally less concerned than the non-online shoppers.<sup>108</sup> With respect to cross-border e-commerce, e-shoppers who already do cross-border e-commerce are slightly less concerned than non-cross-border e-shoppers, except with respect to long delivery times and non-delivery of products.<sup>109</sup> These findings indicate that concerns are reduced with greater e-commerce experience. In other words, all else equal, we would expect the number of frequent e-shoppers to increase as the market matures and more consumers try shopping online.

These results may illustrate a learning effect, and we would expect user satisfaction to increase with experience as more and more shoppers decide to go online. At the same time, the result for cross-border e-commerce suggest that long delivery times are in fact an important concern for e-shoppers, which is also supported by our results, cf. the section on user satisfaction with speed of delivery.

### **4.3 Framework for analysing delivery gaps**

In order to analyse the challenges of e-commerce driven delivery in a systematic way, we have developed an analytical framework. We analyse what challenges e-shoppers and e-retailers face, and we measure how frequent the challenges occur.

We structure our analysis around three types of delivery gaps, occurring at different points in time of the e-commerce value chain: *information gaps*, *service gaps*, and *performance gaps*, cf. Figure 69. We also use the analytical framework to evaluate policy options.

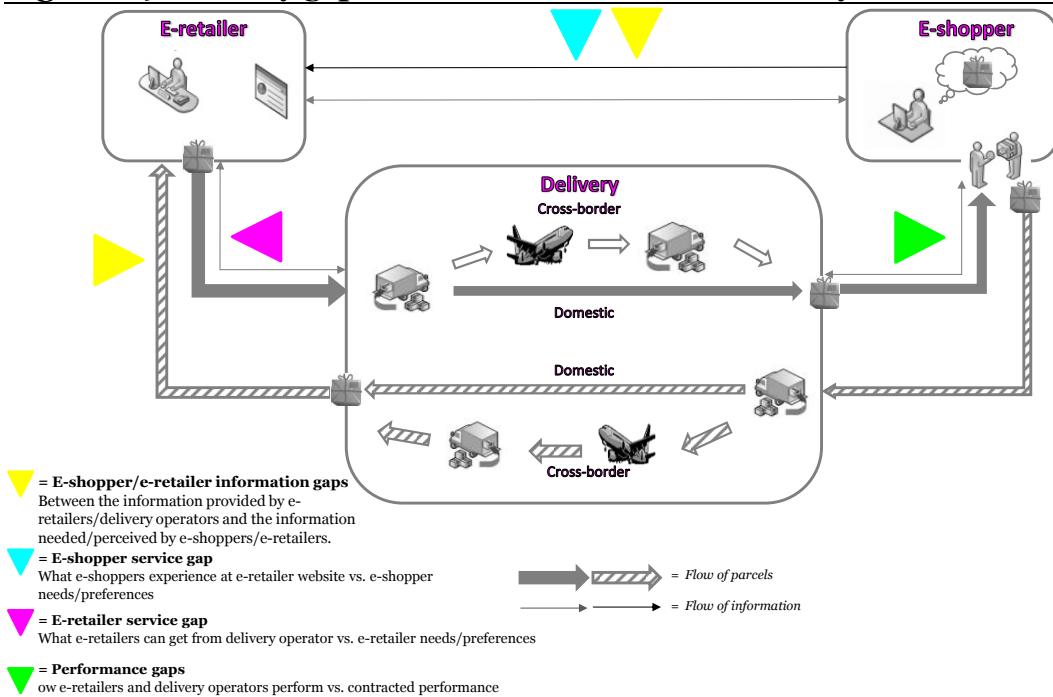
It is important to note that the gaps are highly interlinked and their effects will therefore be overlapping. For example, when e-retailers cannot buy a given service, they will not be able to offer the service to e-shoppers. For simplicity we will however keep the following description of the three gaps separate. In chapter 5-7 we discuss the underlying reasons for the gaps in more detail.

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<sup>108</sup> Civic Consulting (2011). Table 30, p. 131.

<sup>109</sup> Civic Consulting (2011). Table 32, p. 134.

**Figure 69 Delivery gaps in the e-commerce and delivery value chain**



Source: Copenhagen Economics

**Information gaps:** Occur when it is difficult for e-retailers and e-shoppers to find adequate information about delivery or to find information that can be interpreted without spending too much time. As a result, e-retailers and e-shoppers may lack trust in unknown operators, they may not buy the delivery services that best fit their needs, and they may form unrealistic expectations about delivery performance. Examples of questions arising from an information gap are:

- “I wonder when my package will arrive...” (e-shopper)
- “What can I expect from the Express delivery that I just bought from the website?” (e-shopper)
- “Will the delivery operator refund me when a parcel is lost or damaged in transit?” (e-retailer)

**Service gaps:** Occur when e-retailers and e-shoppers do not have access to the delivery services they prefer (service characteristics, destinations, prices). In other words, this is a lack of choice, cf. Figure 70.

## Figure 70 Service gaps



Source: Copenhagen Economics

Examples of dissatisfaction arising from service gaps are statements like:

- “*I would have preferred evening delivery but it is not available on the website...*” (e-shopper)
- “*I wish I could offer tracking for my foreign customers*” (e-retailer)
- “*Why can't I choose another supplier for the delivery service?*” (e-shopper)

*Performance gaps:* Occur when delivery operators and e-retailers fail to perform according to contracted terms (e.g. late delivery, delivery outside agreed timeslot). Examples of dissatisfaction that arise from performance gaps are statements like:

- “*My package is delayed. It should have been here days ago*” (e-shopper)
- “*I waited home all day for my delivery, only to find a slip in my mail box saying that I wasn't home when the package arrived and that I can pick up from the post office.*” (e-shopper)
- “*The delivery operator left a package at the customer's doorstep in the pouring rain, so now I must send a new item.*” (e-retailer)

In the remainder of this chapter, we analyse the existence of delivery gaps experienced by e-shoppers and e-retailers throughout the EU.

For the purpose of the analysis of delivery gaps, we have conducted a focused e-shopper survey among 3,000 e-shoppers in six countries with varying levels of maturity in terms of e-commerce. This gives us a solid basis for analysing the existence of delivery gaps. We complement our data with existing research.

*Information gaps* are identified based on the responses in our survey with respect to information provision by e-retailers. *Service gaps* are identified based on a comparison of user needs and delivery services on offer. For the analysis of the *performance gaps*, we assess e-shoppers' satisfaction with delivery services, given that they bought the type of service that they found important. We will also compare e-shopper satisfaction to the actual performance of delivery operators and e-retailers.

When measuring service gaps, we measure *how often* a given need is not fulfilled. We restrict the analysis to needs that e-shoppers and e-retailers have found to be important

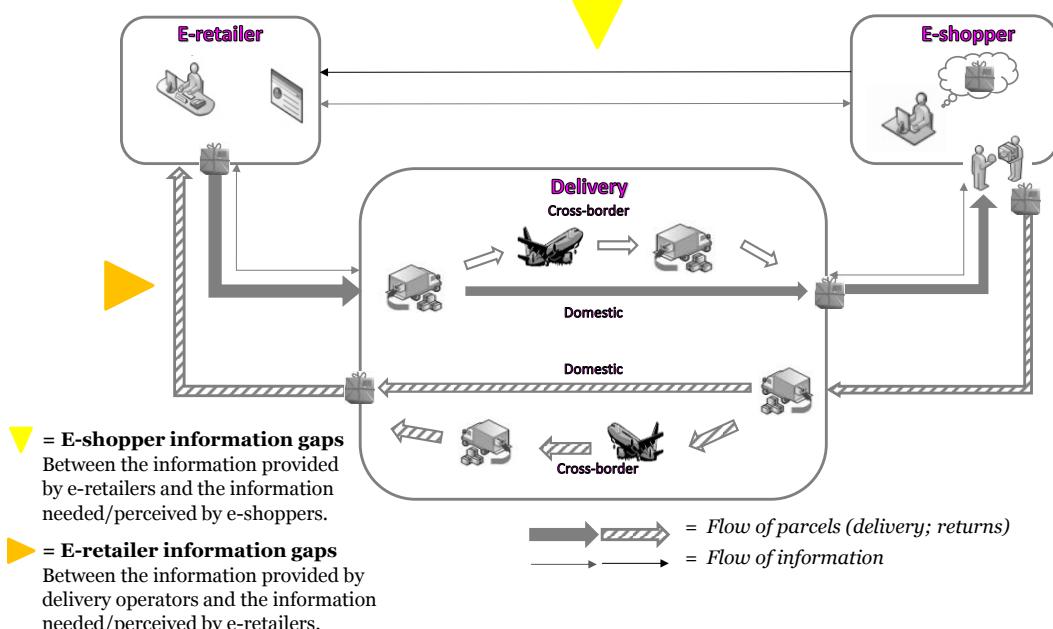
or very important. However, e-shoppers may decide to complete a purchase even though they do not have the optimal choice available. For example an e-shopper may complete an order where only delivery to a relay point is offered even though the e-shopper would have preferred home delivery. Thus, a high frequency of non-fulfilled needs does not necessarily imply that there is a challenge with a severe impact on e-commerce. We therefore combine our measures of frequency with our analysis of user satisfaction (e.g. abandoned shopping carts), cf. section 4.2 above, to identify key challenges.

The underlying reasons for the identified delivery gaps, as well as possible solutions to minimise the gaps, are discussed in subsequent chapters.

#### 4.4 Information gaps

In this section we analyse the delivery gaps that are caused by lack of information. Information gaps occur when it is difficult for e-retailers and e-shoppers to *find adequate and customer-oriented information* about delivery which *can be collected and interpreted* without spending too much time. Information gaps imply that users may lack trust in delivery services, or that they may not buy the services that best fits their needs, and may form erroneous expectations about delivery. Information gaps can arise in the communication between e-shoppers, e-retailers and delivery operators, cf. Figure 71.

**Figure 71 Information gaps in the e-commerce delivery value chain**



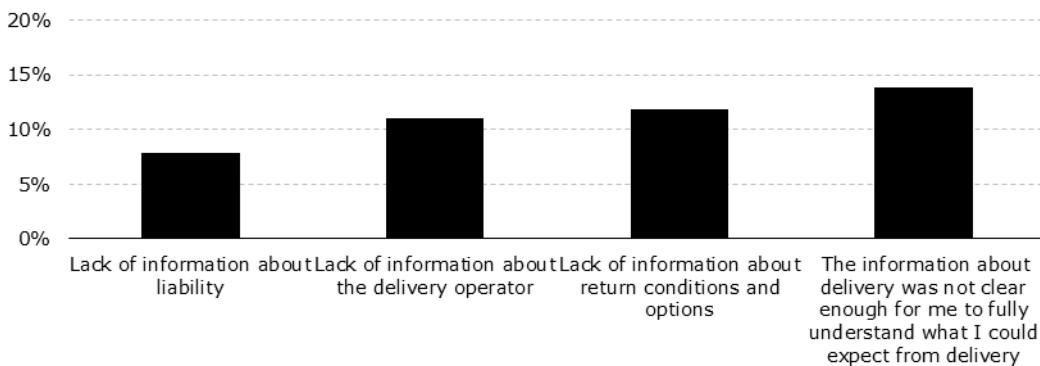
Source: Copenhagen Economics

#### Lack of adequate information

Our survey among e-shoppers shows that information about surprisingly high delivery costs, long delivery times, or return procedures, provided at a late stage (or never) in the

buying process, is responsible for a significant share of abandoned shopping carts, cf. Figure 72.

**Figure 72 Reasons for not finalising an order**



Note: The figure shows the share of respondents that have chosen the reason out of the number of respondents that have abandoned an order. The figure shows the answers to question 18: "If you look back, what were the reasons for not finalising the order?" "Average" shows the average share of respondents choosing a lack of information as the reason for abandoning an order. Number of respondents: 2010.

Source: Copenhagen Economics, E-shopper survey

Another indication of an information gap is the share of e-shoppers that in relation to their last purchase was unsatisfied with the information on delivery and returns provided by e-retailers. In our survey, this share is 14 per cent.

An earlier mystery shopping experiment carried out by the European Consumers' Centres Network shed some light on the reasons for e-shoppers' dissatisfaction. When investigating the websites of European cross-border e-retailers, it was found that only 18 per cent of e-retailers inform their customers about cooling off periods, 74 per cent of e-retailers provide information on delivery time, whilst 93 per cent of e-retailers provide information on delivery costs.<sup>110</sup> Thus, e-shoppers finding this kind of information important might likely experience the e-retailers' provision of information as unsatisfactory.

### Interpreting existing information

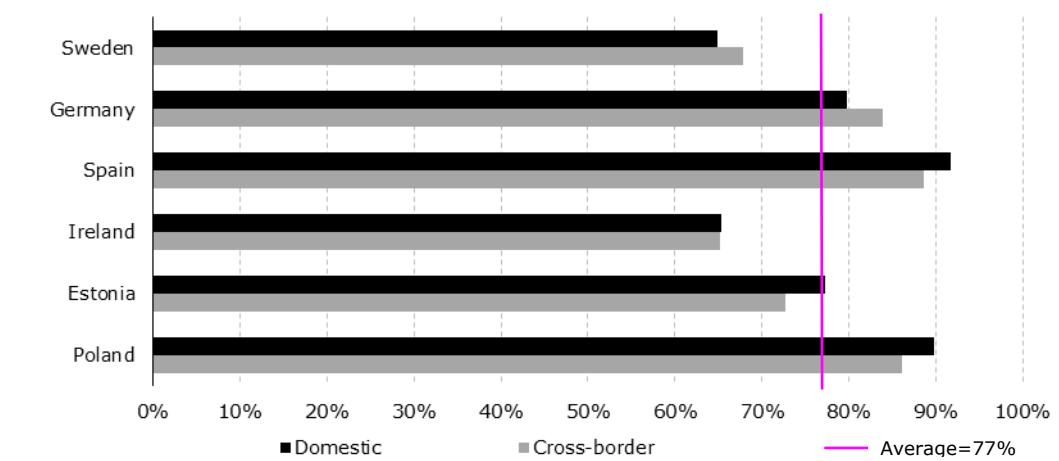
When shopping online, e-shoppers buy both a product and a delivery service. Unless the e-shopper is checking terms and conditions of delivery carefully, she can form a misperception; an idea of the delivery service she thinks she bought (e.g. next day delivery service) different from the delivery service that she actually bought (e.g. delivery within 1-2 days). When the parcel arrives within two days, the e-shopper may feel disappointed that the parcel did not arrive the day before as she had anticipated. This information gap may cause dissatisfaction – even though the e-shopper got exactly what she paid for.

One way of avoiding this kind of misperception is to read the terms and conditions of delivery at the e-retailer's website. In our survey, 20 per cent of e-shoppers did not check

<sup>110</sup> The European Consumer Centres Network, ECCN (2011)

the terms and conditions for delivery for their most recent purchase. E-shoppers in Ireland and Sweden are less likely to check the terms and conditions, both in relation to domestic as well as cross-border purchases, cf. Figure 73. One explanation might be the higher level of e-commerce maturity and hence greater experience from shopping online in Ireland and Sweden – and thus more trust in e-retailer and delivery operators. However, in that case, we would also expect to see a high share of German e-shoppers refraining from reading the terms and conditions. This is, however, not the case.

**Figure 73 E-shoppers checking terms and conditions for delivery**



Note: The figure shows the percentage of e-shoppers that have answered "Yes" to the question: "For your most recent purchase from a webshop that required international delivery, did you check the terms and conditions for delivery?" or "For your most recent purchase from a webshop that required physical delivery, did you check the terms and conditions for delivery?" The number of respondents per country is: SE:459, DE:487, ES:493, IE:480, EE:471, and PL:466.

Source: Copenhagen Economics, E-shopper survey

Another interesting finding is that e-shoppers in Spain, Estonia and Poland (less mature e-commerce markets) check terms and conditions more often for domestic delivery compared with cross-border delivery. This might indicate that e-shoppers in these countries are more wary about the delivery services provided and have less trust in the suppliers; something that in turn could contribute to the lower level of e-commerce in these countries.

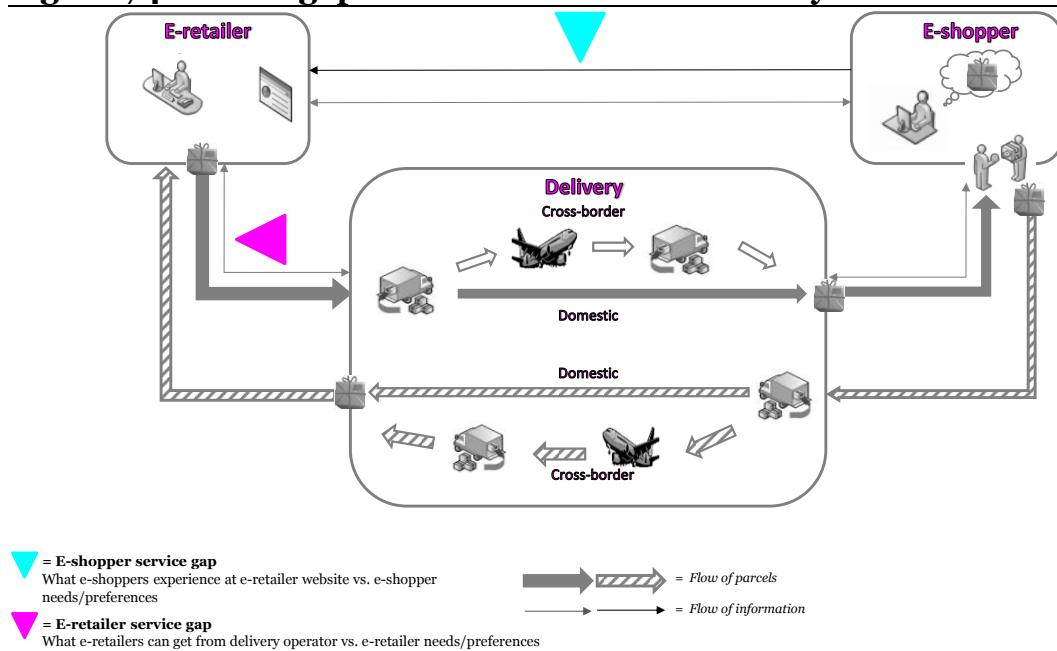
Checking the terms and conditions of delivery might not be sufficient to avoid information gaps. In fact, 15 per cent of e-shoppers in our survey who at some point have abandoned a shopping cart have done so because the information about delivery provided was not clear enough for them to fully understand what to expect from delivery.

In summary, these findings indicate that part of customer dissatisfaction with e-commerce driven delivery derives from information gaps, caused by lack of adequate information and difficulties to interpret available information. The underlying reasons for the observed information gaps are investigated further in chapter 5.

## 4.5 Service gaps

In this section we analyse the delivery gaps that are caused by a lack of services or a lack of choice. Service gaps occur when e-shoppers cannot choose the delivery services that they prefer from the e-retailer's web shop. Gaps can result from the fact that e-retailers do not have access to e-shoppers' preferred services from delivery operators (e-retailer service gap). Gaps can also result from the fact that e-retailers with access to e-shoppers' preferred services do not provide these services to their customers (e-shopper service gap), cf. Figure 74.

**Figure 74 Service gaps in the e-commerce delivery value chain**



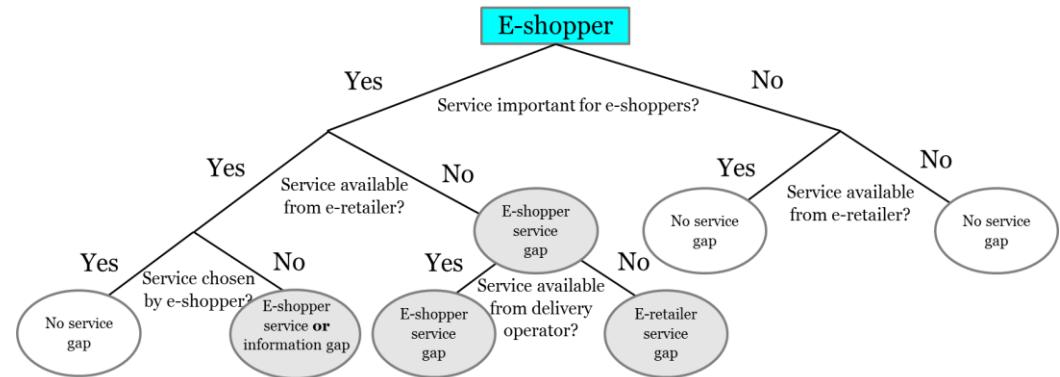
Source: Copenhagen Economics

To investigate the existence of service gaps, we start by comparing user needs (identified in chapter 2) with the delivery services offered by e-retailers and delivery operators, cf. Figure 75. Service gaps exist if

- a service which is considered important by the e-shopper is not offered by the e-retailer,
- a service which is considered important by the e-shopper and which also is provided by the e-retailer, for some reason is not chosen by the e-shopper.

The reason for gaps of type (i) can be twofold; *either* the service is not offered by delivery operators, and hence not by e-retailers, *or* the service is offered by delivery operators but just not made available from the e-retailers. The reason for gaps of type (ii) might be too high prices or too low expected quality of a given service.

**Figure 75 Identifying service gaps**



Note: The first service gap (feature not considered important by users but available by delivery operators) is an example of an excessive service, a service in supply but not in demand.

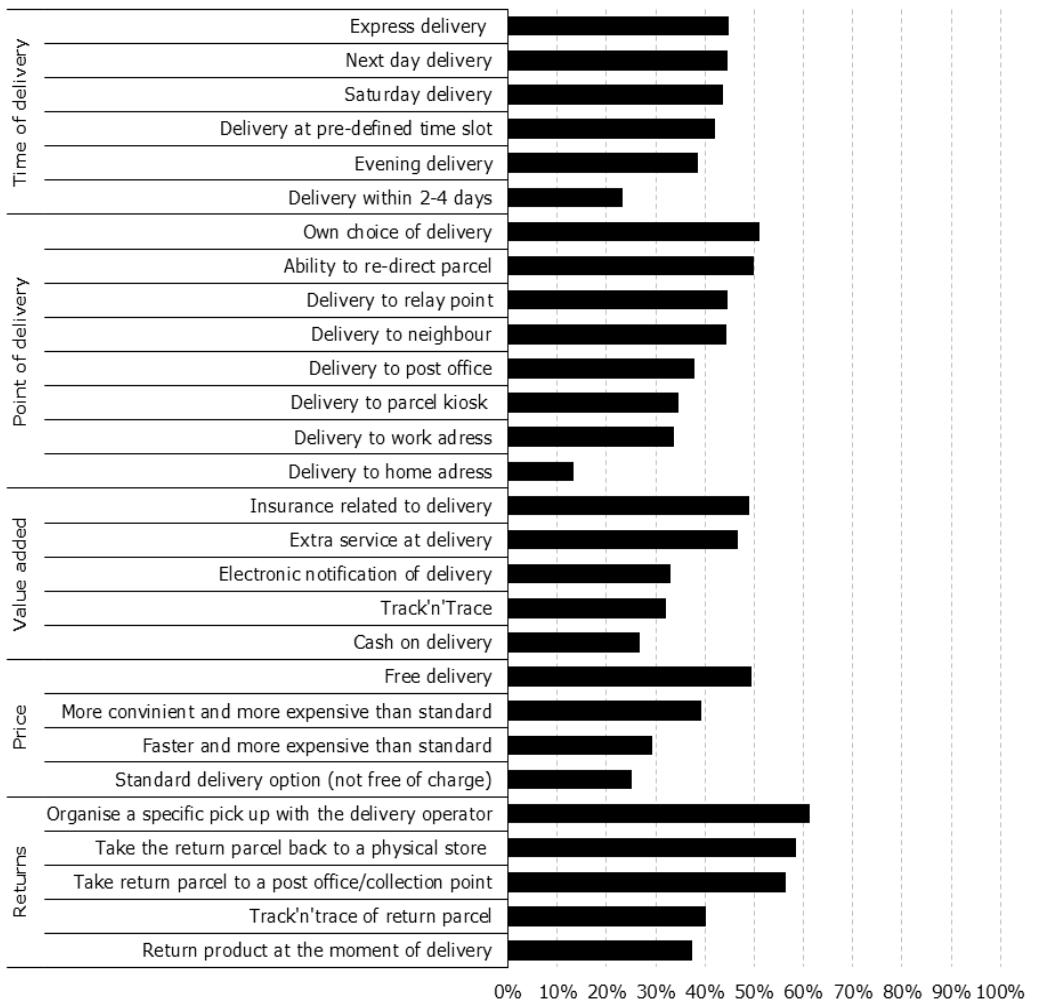
Source: Copenhagen Economics

When analysing the e-shopper service gaps, one must be aware that the size of the gap can be “inflated” by a tendency for e-shoppers to find various delivery features very important when asked in a survey, even though these features are not very common and hence not offered by e-retailers. In particular, e-shoppers have not been asked to rank delivery alternatives according to their relative importance.

We also emphasize the difference between e-shoppers and e-retailers as receivers and senders of e-commerce consignments. Whereas e-shoppers are interested in delivery operators’ cross-border offerings for *inbound* shipments, e-retailers are interested in cross-border offerings for *outbound* shipments. Since we have only asked delivery operators about their domestic and outbound cross-border service offerings, this difference is important when we compare user needs with the services on offer.

Our analysis reveals that the largest service gaps are experienced with respect to convenient returns, ‘free delivery’, and value added features such as the ability to redirect a parcel in transit or the ability for e-shoppers to make their own choice of delivery point at the time of purchase, cf. Figure 76. At least 50 per cent of e-shoppers in our survey do not have access to these features, although they find them to be important for their decision to shop online. Other delivery features where large gaps are observed (between 40 and 50 per cent of users lacking access) are different aspects of delivery time (express, next day, and Saturday delivery, as well as delivery within a predefined time slot), delivery to a neighbour or to a relay point, and extra services provided in relation to delivery (e.g. installation of the product bought).

**Figure 76 E-shopper service gaps**



Source: Copenhagen Economics, E-shopper survey

For domestic delivery, there are only few occasions where services that are considered important by e-shoppers do not seem to be available from delivery operators. This seems for example to be the case with respect to more convenient delivery modalities such as Saturday or evening delivery, or delivery at a pre-defined timeslot. Hence, service gaps are often created by the e-retailer, either because the e-retailer has chosen a narrower offer to keep the logistics simple and to keep costs down, or because the e-retailer considers the prices offered by the delivery operators to be too high.

For cross-border deliveries, we generally find a more narrow set of outbound services offered by delivery operators, and therefore also a narrower set of services offered by e-retailers, cf. Chapter 3. This implies a narrower offer of *inbound* cross-border services available for e-shoppers. For example, very few delivery operators offer evening and Saturday delivery for cross-border destinations throughout the EU. Thus, compared to do-

mestic delivery gaps, the cross-border service gaps that e-shoppers experience seem more often to originate from lack of service offerings from the delivery operators. In other words, e-shoppers experience cross-border service gaps because delivery operators do not offer the services in question.

In what follows, we assess the existence of e-shopper service gaps by analysing the share of e-shoppers that find a given service important but did not have access to this service for their most recent purchase. We then identify the existence of e-retailer service gaps by (i) analysing the share of e-retailers that find a given service important but did not offer this service to their customers and (ii) assessing the service offerings made available by delivery operators.

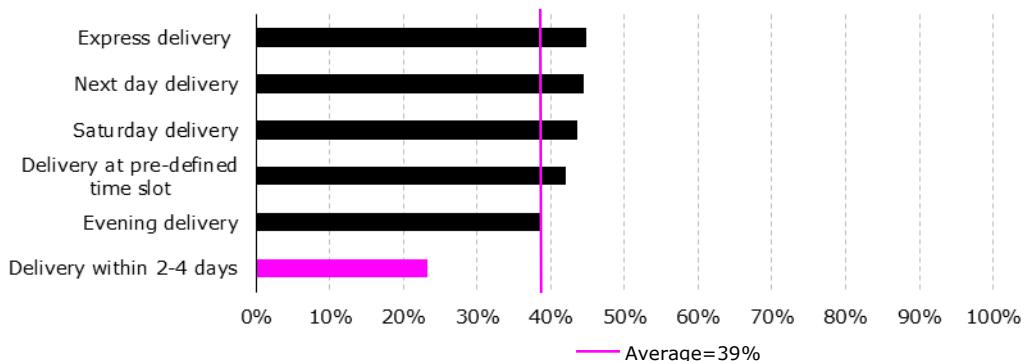
### **Delivery time**

Our research reveals that between 42 and 44 per cent of e-shoppers who find Express, Next day, Saturday delivery and delivery at a pre-defined time slot important, did not have access to these services at their most recent purchase. The gap is almost as wide for evening delivery (38 per cent). We note that the service gap is smallest (23 per cent) for delivery within 2-4 days, which is the most important delivery time characteristic for e-shoppers in general, cf. Figure 77. This result is not surprising, as delivery within 2-4 days likely is a standard delivery option from delivery operators and hence the most widespread in e-retailers' offerings.

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**Figure 77 E-shopper service gap: delivery time**

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Note: The figure shows the number of respondents for which a service is considered important, but not available, as a share of the total number of respondents. Express delivery includes delivery before 10am or 12am the next day. Total number of respondents is 3077.

Source: Copenhagen Economics, E-shopper survey

We note that the service gap for delivery time often is wider for cross-border purchases than for domestic purchases. This holds for Next day delivery (48 vs. 42 per cent), delivery within 2-4 days (31 vs. 19 per cent) and Express delivery (46 vs. 43 per cent).<sup>111</sup> We also find significant differences across countries. For example, whereas 65 per cent of Polish e-shoppers who find express delivery important did not have access to this service,

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<sup>111</sup> Copenhagen Economics, E-shopper survey, cf. Appendix D.

the corresponding figure for German e-shoppers is merely 23 per cent.<sup>112</sup> This may reflect our results from chapter 2, showing that Polish e-shoppers on average have a higher preference for express delivery than e-shoppers in the other countries.

When comparing which services e-retailers find important for their business to the services the same e-retailers actually offer on their webpage, we find that these gaps to a large extent mirror the service gaps experienced by the e-shoppers. For example, the perceived lack of delivery within 2-4 days is significantly lower than the perceived lack of any other delivery time aspect, cf. Figure 78.

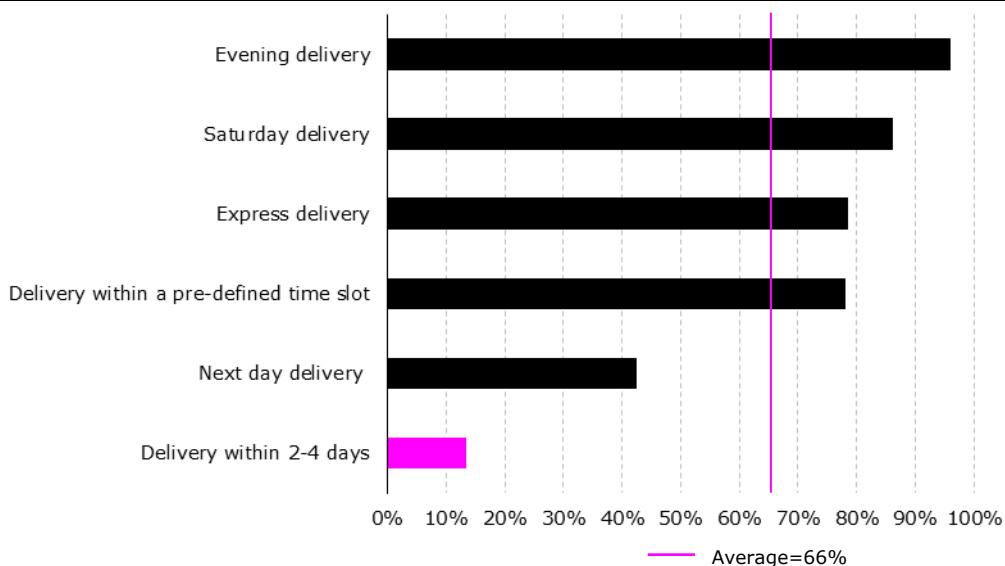
Nevertheless, e-retailers seem to perceive a significant gap with respect to evening and Saturday delivery. In fact, 96 and 86 per cent of e-retailers who find these features important do not offer them to their customers.

From this we conclude that e-retailers would like to offer more services than they do at the moment. The reason for not offering the services for their customers can be either that the services are not available from delivery operators or that the services are only available at too a high price.

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**Figure 78 Important but not offered features: delivery time**

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Note: The figure shows the share of e-retailers for which a service is considered important to their business, but who did not offer the service at their webpage. Total number of respondents is; Evening delivery (25), Saturday (29), Express (28), Delivery at pre-defined time slot (32), Next day (33), Delivery within 2-4 days (37). The vertical line represents the average of 66 per cent.

Source: Copenhagen Economics, E-retailer survey

#### *Delivery time: service gaps originating from delivery operators*

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<sup>112</sup> Copenhagen Economics, E-shopper survey; Spain (66 per cent), Poland (65 per cent), Sweden (30 per cent), and Germany (22 per cent), cf. Appendix D.

In what follows, we investigate if some of the gaps identified above are caused by the behaviour of delivery operators. As our sample of delivery operators is less than complete, the gaps identified below might be overestimated. This means that the lack of services to a larger extent is created by e-retailers, not offering the services that their customers want.

Our analysis indicates that e-retailer service gaps exist for a number of delivery features. For example, for both domestic and cross-border deliveries, lack of access to delivery at a pre-defined time slot, Saturday and evening delivery often seems to be due to the fact that these services are not provided by delivery operators.<sup>113</sup>

Some service gaps, however, are not caused by delivery operators. For instance, lack of access to delivery at a pre-defined time slot and next day delivery in Sweden seem to stem entirely from e-retailers and not from delivery operators. The same is valid for the identified express delivery gaps for domestic deliveries in Spain, Poland and Estonia.

As noted earlier, the mere existence of a service offering for a specific delivery feature does not mean that a service gap does not exist. A service gap may still arise if services are provided, but at a price that is considered too high by e-shoppers or e-retailers. An indication of this is that e-shoppers with access to delivery features they find important do not buy the service.

### **Point of delivery**

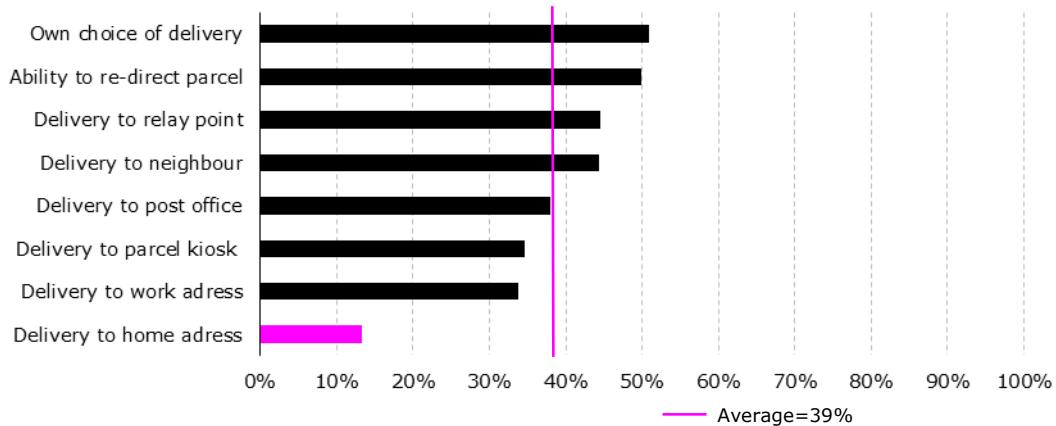
In chapter 2, we found that e-shoppers prefer delivery to the home address. We note that e-retailers seem to adhere to these preferences, making the e-shopper service gap for home delivery small.

Nevertheless, we observe that there are other delivery point features that e-shoppers find important but which are not offered by e-retailers. In particular, we observe a significant service gap with respect to the option to select a specific delivery point and the option to re-direct a parcel in transit. 51 and 50 per cent of e-shoppers finding these features as important were not able to choose them at their most recent purchase. Significant gaps are also observed for delivery to a neighbour and delivery to a relay point, where approximately 45 per cent of e-shoppers did not have access to these features, although they considered them important, cf. Figure 79.

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<sup>113</sup> Lack of access to delivery at a pre-defined time-slot is observed in Germany and Ireland, and also to some extent for Spain, Poland and Estonia. Lack of access to Saturday delivery is observed in Sweden, Ireland, Spain, and Poland. Lack of access to evening delivery is observed in Germany and Spain as well as for Irish e-retailers engaging in cross-border e-commerce. 48 per cent (5 per cent) of NPOs and 34 per cent (4 per cent) of alternative operators in our sample offer Saturday delivery for all domestic (cross-border) addresses, cf. chapter 3.

**Figure 79 E-shopper service gap – point of delivery**

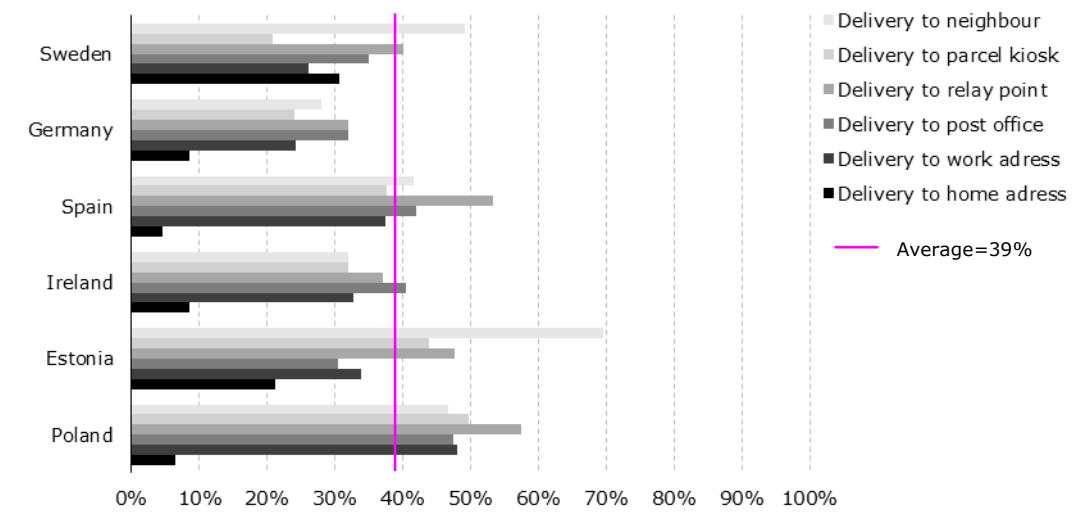


Note: The figure shows the number of respondents for which a service is not available, as a share of the total number of respondents. Total number of respondents is 3077.

Source: Copenhagen Economics, E-shopper survey

Worth noting here is Sweden, where 31 per cent of e-shoppers have indicated that they find home delivery important but could not choose it for the most recent purchase, cf. Figure 80.

**Figure 80 E-shopper service gap - Point of delivery (by country)**



Note: The figure shows the number of respondents for which a service is not available, as a share of the total number of respondents. Total number of respondents for each country is: PL: 504, EE: 505, IE: 525, ES: 515, DE: 524, and SE: 504.

Source: Copenhagen Economics, E-shopper survey

This result reflects the fact that delivery to the home address is rather uncommon and more of a value added delivery service in Sweden. Instead, the standard type of delivery is to a relay point or post-in-shop. Worth noting is also the large gap in Estonia, where 69

per cent of e-shoppers find delivery to a neighbour important, but have no access to this service. The gaps with respect to delivery point are generally smaller in the e-commerce mature German market than in the remaining five countries.

We also observe a relatively large service gap for delivery to parcel kiosks in Poland (50 per cent), Estonia (44 per cent) and Spain (38 per cent). For Spain, this is not surprising as parcel kiosks are not yet introduced. However, in Poland and Estonia, parcel kiosks are provided by the operators Inpost (PL), Eesti Post (EE) and Itella (EE), cf. chapter 2.<sup>114</sup> As e-retailers with growing market maturity become more aware of their users' preferences for this kind of delivery solution, we expect this service gap to decrease in coming years. For all points of delivery, except delivery to a parcel kiosk, the e-shopper service gap for domestic purchases is equal to or wider than the gap for cross-border purchases.<sup>115</sup>

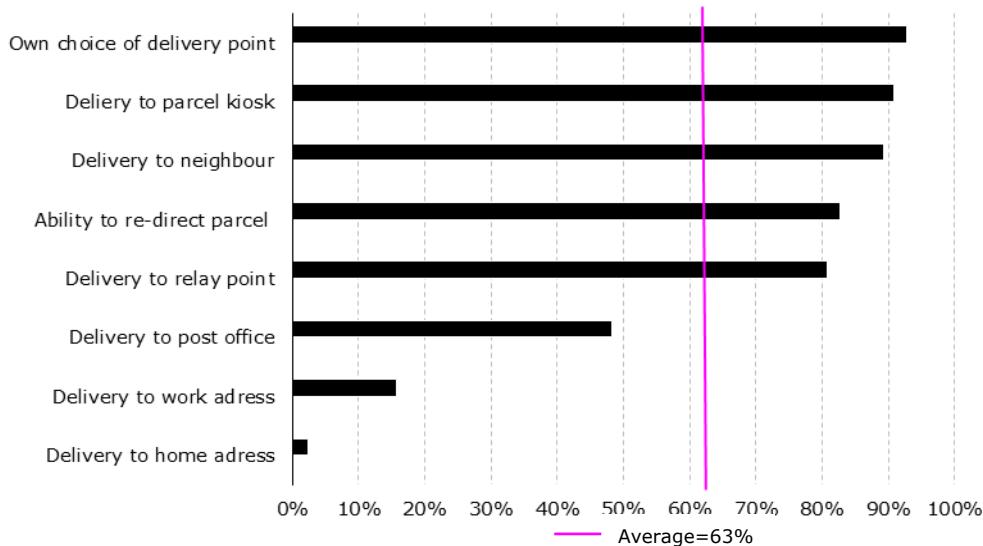
With respect to e-retailers, we find a similar picture as for e-shoppers in terms of delivery points that are considered to be important but are unavailable. 98 per cent of the respondents in our e-retailer survey who find home delivery important offer it to their customers, cf. Figure 81. Besides home delivery and delivery to the work address, the gaps for other delivery point options are rather large. For example, 93 and 91 per cent of e-retailers find delivery to a relay point or parcel kiosk specified by the e-shopper and delivery to parcel kiosks important, but do not offer it in their web shops, cf. Figure 81. These results indicate that e-retailers consider it important to offer more convenient points of delivery to their customers, but often do not do so. Hence, there seems to be a potential for better and more customer-oriented delivery.

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<sup>114</sup> See also Post & Parcel (2013b)

<sup>115</sup> Copenhagen Economics, see Appendix D.

**Figure 81 Important but not offered features: Point of delivery**



Note: The figure shows the share of e-retailers for which a service is considered important to their business, but not offered by e-retailers at their webpage. Total number of respondents is Own choice of delivery point (28), Ability to re-direct parcel (29), Delivery to relay point (26), Delivery to neighbour (28), Delivery to post office (29), Delivery to parcel kiosk (22), Delivery to work address (38), Delivery to home address (43). The vertical line represents the average of 63 per cent.

Source: Copenhagen Economics, E-retailer survey

#### *Point of delivery: service gaps originating from delivery operators*

When taking into account the delivery operators' provision of services, we find that most of the observed domestic service gaps do not seem to derive from a lack of services provided by delivery operators, as the services are provided by at least one operator in the country.<sup>116</sup> However, some delivery features are not offered by delivery operators. This is for instance the case for delivery to relay points in Ireland, Spain, and Estonia, and delivery to a neighbour in Poland, Sweden, Estonia, Spain and Ireland, cf. results in Appendix D. For deliveries to relay points, we note that only few NPOs and alternative delivery operators offer this feature for cross-border deliveries, cf. chapter 3 and Appendix C. In fact, none of the NPOs who responded to our questionnaire offer this option of delivery for all destinations within the EU, while 11 per cent of alternative operators have indicated that they deliver to relay points throughout the EU. The same holds for delivery to parcel kiosks. For integrators we note that cross-border deliveries to relay points are more common as 50 per cent of integrators offer this service.

In conclusion, lack of services offered by delivery operators seem primarily seems to be a problem regarding cross-border delivery, whereas the services are available for domestic deliveries (although perhaps sometimes only offered at high prices).

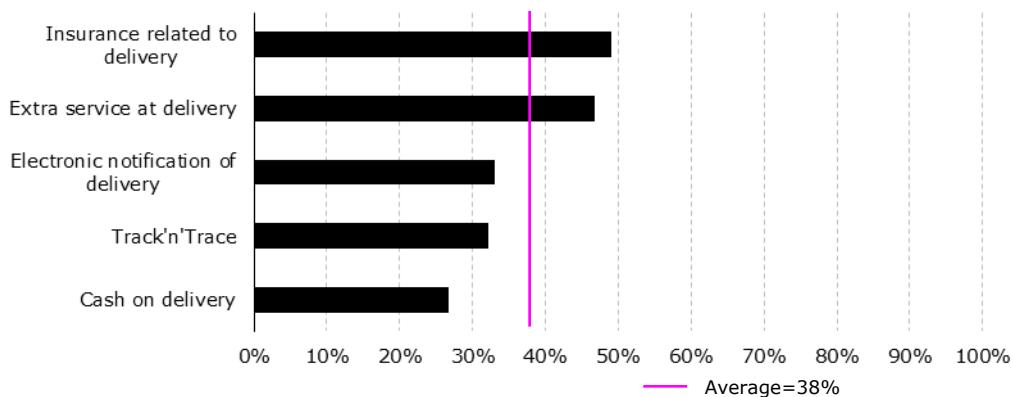
#### **Value added features**

With respect to value added features, we observe that more than 45 per cent of e-shoppers were not able to choose delivery insurance and extra services (e.g. installation of product)

<sup>116</sup> Copenhagen Economics, E-shopper - and E-retailer survey, and Delivery operator questionnaire, cf. Appendix D.

at their most recent purchase, even though they found these features important, cf. Figure 82. These findings are not surprising, as these value added features are only relevant for certain product categories.

**Figure 82 E-shopper service gap: Value added features**



Note: The figure shows the number of respondents for which a service is not available as a share of the total number of respondents. Electronic notification of delivery is e.g. e-mail or SMS. Total number of respondents is 3077.

Source: Copenhagen Economics, E-shopper survey

The smallest gap within value added features is found for cash on delivery (27 per cent). This result is mainly driven by small service gaps for this feature in Germany, Sweden, and Poland<sup>117</sup>, although gaps are larger in Spain, Estonia, and Ireland.<sup>118</sup>

We note that the gaps for delivery insurance, extra services and track and trace are slightly smaller for cross-border purchases compared to domestic purchases.<sup>119</sup> On the contrary, for electronic notifications and cash on delivery, the gap is larger for cross-border purchases than for domestic ones. The latter result is primarily driven by the Irish e-shoppers who to a large extent consider cash on delivery important but did not have access to this type of service for their most recent purchase.

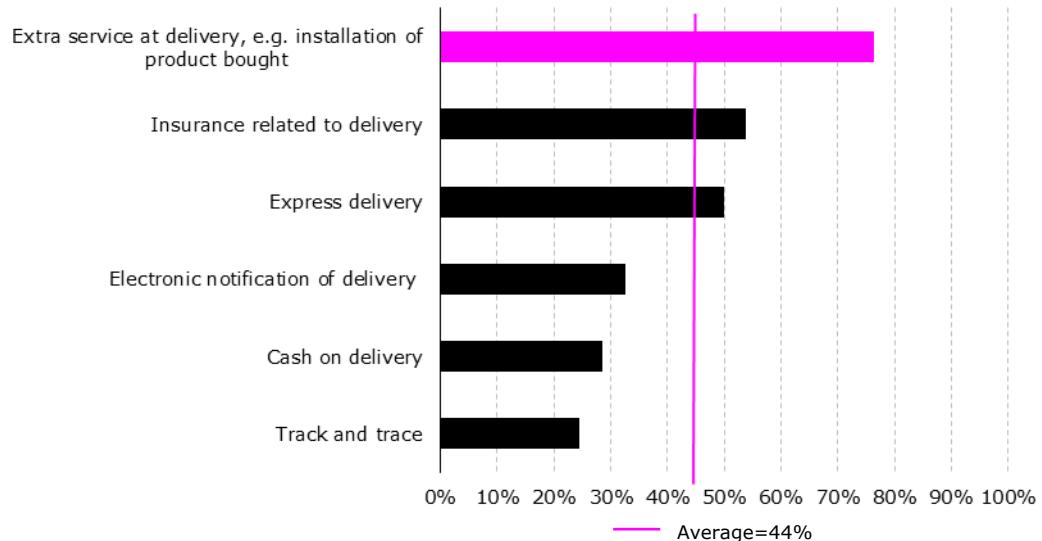
For e-retailers, we observe large service gaps with respect to extra service at delivery and insurance related to delivery. In fact, nearly 76 per cent of e-retailers find extra services at delivery important for their business, but do not offer it to their customers, cf. Figure 83. The smallest gap is found with respect to tracking, where 24 per cent of e-retailers find the feature important but do not offer it to their customers. Besides small differences, the gap experienced by e-shoppers is comparable to that experienced by e-retailers.

<sup>117</sup> In Germany and Sweden very few consumers find cash on delivery important, cf. chapter 2, whereas cash on delivery is an important but also very common feature in Poland, which in turn implies a small gap.

<sup>118</sup> In Spain, Estonia and Ireland, 39, 34, and 33 per cent of e-shoppers respectively did not find cash on delivery for their most recent purchase even though they considered it important

<sup>119</sup> Copenhagen Economics, E-shopper survey, cf. Appendix D.

**Figure 83 Important but not offered features: Value added features**



Note: The figure shows the share of e-retailers for which a service is considered important to their business, but not offered by e-retailers at their webpage. Total number of respondents is; Extra service at delivery (17), Insurance related to delivery (39), Express delivery (50), Electronic notification (40), Cash on delivery (28), Track and trace (41). Vertical line represents average of 44 per cent.

Source: Copenhagen Economics, E-retailer survey

#### *Value added features: service gaps originating from delivery operators*

Investigating the services provided by delivery operators, we conclude that some gaps can be explained by a lack of services offered by delivery operators. This is for example the case for extra services at delivery, delivery insurance, and cash on delivery for cross-border and domestic deliveries respectively. Specifically for cross-border deliveries, our results indicate that the perceived lack of electronic notification can be explained by a lack of provision by delivery operators. 74 and 91 per cent of NPOs and alternative operators respectively offer electronic notification of delivery by either SMS or email for domestic deliveries, while the corresponding figures for cross-border provision is merely 11 and 15 per cent, cf. chapter 3.

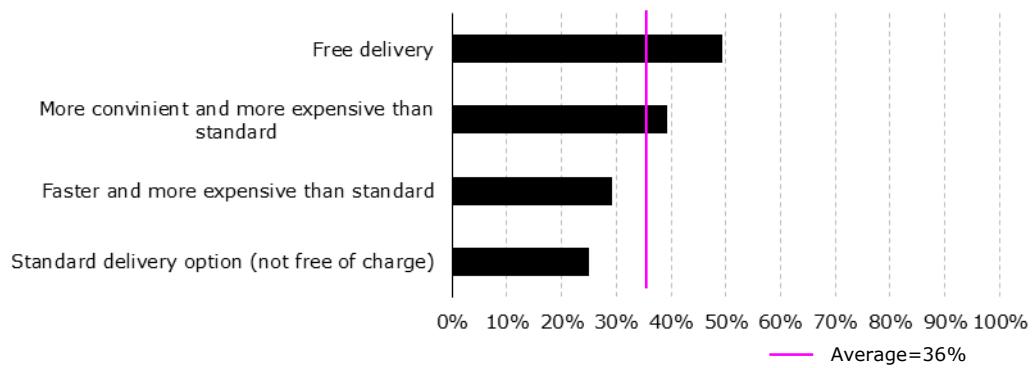
These figures indicate that, for a large share of cross-border purchases made in the EU, the e-retailer will not be able to provide the receiving e-shopper with an electronic notification of delivery. Integrators tend to perform better (67 per cent provided electronic notification of delivery for all destinations within the EU). One possible explanation for this result is lack of interoperability between delivery operators' systems. Clearly this issue is less relevant for integrators.

Again, we conclude that lack of services offered by delivery operators primarily seem to be a problem regarding cross-border delivery. However, for domestic deliveries we also find that delivery operators do not provide delivery insurance and extra services provided at delivery. This creates a service gap for both e-shoppers and e-retailers.

### Delivery price

The largest service gap within pricing of delivery is observed for ‘free delivery’, revealing that almost 50 per cent of e-shoppers are not given the choice of ‘free delivery’ as often as they would like to. The most obvious reason for this is probably that from the e-retailers’ perspective, delivery is never for free. Hence, e-retailers might prefer charge for delivery. The smallest gap within pricing of delivery is found for ‘standard delivery’ (30 per cent), cf. Figure 84. This is not surprising as this could very well be the benchmark or default delivery option at a given e-retailer.

**Figure 84 E-shopper service gap: Price of delivery**



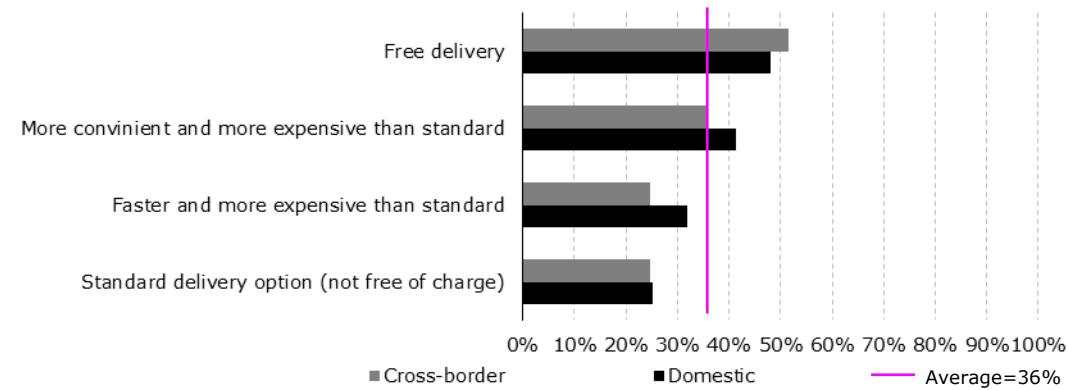
Note: The figure shows the number of respondents for which a service is not available as a share of the total number of respondents. Total number of respondents is 3077.

Source: Copenhagen Economics, E-shopper survey

Germany departs from the overall pattern, as the gap for standard delivery is wider than the gap for ‘free delivery’ (37 vs. 34 per cent).<sup>120</sup> This might reflect a more widespread use of the free delivery notion in Germany than for the other focus countries. The service gaps with respect to price are generally smaller for cross-border purchases. The only exception is ‘free delivery’, where the gap is larger for cross-border purchases, cf. Figure 85.

<sup>120</sup> Copenhagen Economics, see Appendix D.

**Figure 85 E-shopper service gap: Price of delivery across purchases**



Note: The figure shows the number of respondents for which a service is not available as a share of the total number of respondents. Total number of respondents is 1975 for domestic and 1102 for cross-border.

Source: Copenhagen Economics, E-shopper survey

#### *Delivery price: service gaps originating from delivery operators*

Too high delivery prices do not only seem to be a problem for e-shoppers, but also for e-retailers. However, we note that the delivery price charged by the e-retailer not necessarily reflects the delivery price charged by the delivery operator, cf. chapter 1. A high price charged by delivery operators could, but does not necessarily, result in a high delivery price charged to the e-shopper as the final consumer.

For example, when asking e-retailers about the reasons for not engaging with more than one delivery operator to satisfy customers' delivery needs, almost 30 per cent state too high prices offered by alternative operators as the reason. The problem with high prices seems to be larger for small e-retailers (with low volumes) and for cross-border deliveries. In chapter 3, we observed that the list prices for cross-border delivery often are three to five times larger than the list prices for domestic delivery. We also observed that e-retailers that have large enough volumes to send shipments in bulk receive significant discounts off the list prices (on average nearly 20 per cent). In addition to this, larger e-retailers are often able to negotiate individual (and even lower) prices with the delivery operators.

#### **Returns**

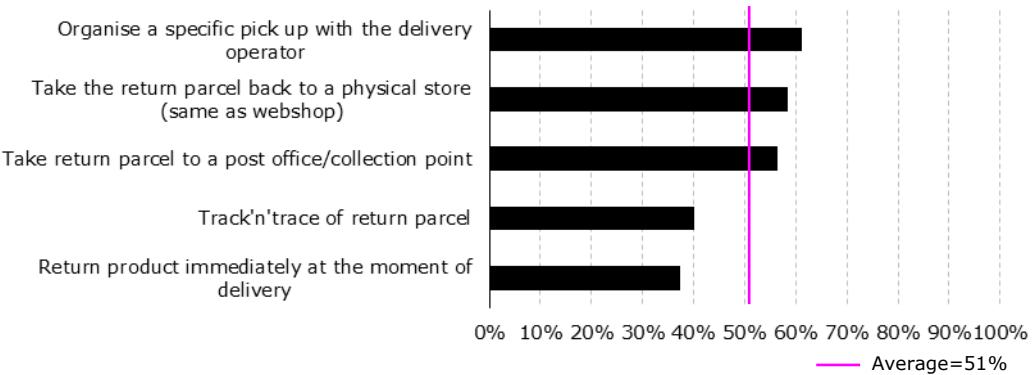
The service gap for returns is larger than any of the previously observed service gaps. The widest gaps with respect to returns are observed for the option to organise a specific pick up, to take the return parcel back to a physical store<sup>121</sup>, or to take the parcel to a post office or collection point. Around 60 cent of e-shoppers have indicated these return options important but were not able to choose them for their most recent purchase, cf. Figure 86.

The large service gaps are supported by recent evidence from the UK, showing that in 2010, 49 per cent of e-retailers offered customers a choice of return method and 46 per cent of e-retailers offered return by post only.<sup>122</sup>

<sup>121</sup> A physical outlet of the e-retailers online store.

<sup>122</sup> Micros (2011), P. 18

**Figure 86 E-shopper service gap: Returns**

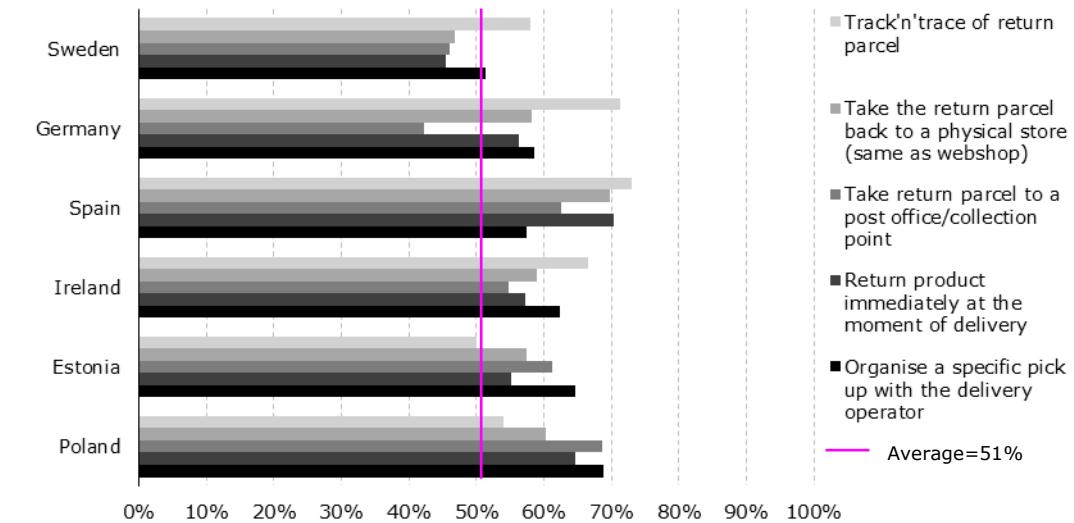


Note: The figure shows the number of respondents for which a service is not available as a share of the total number of respondents. Total number of respondents is 3077.

Source: Copenhagen Economics, E-shopper survey.

We observe some interesting differences across countries. For example, we observe particularly large gaps for tracking return parcels in Spain (73 per cent) and Germany (71 per cent). This is well above the corresponding gap in the other four countries, cf. Figure 87. We also observe particularly large gaps for returns made from post offices or collection points in the less e-commerce mature countries of Poland, Spain, and Estonia. One explanation for this result could be that a large share of deliveries in these countries is made by alternative operators without a network of collection points. This seems to be in accordance with the market shares of NPO's in less mature countries displayed in chapter 3 and e-shoppers choice of delivery operator, cf. Appendix C.

**Figure 87 E-shopper service gap: Returns (by country)**



Note: The figure shows the number of respondents for which a service is not available as a share of the number of respondents that have selected the service as "somewhat important" or "very important".

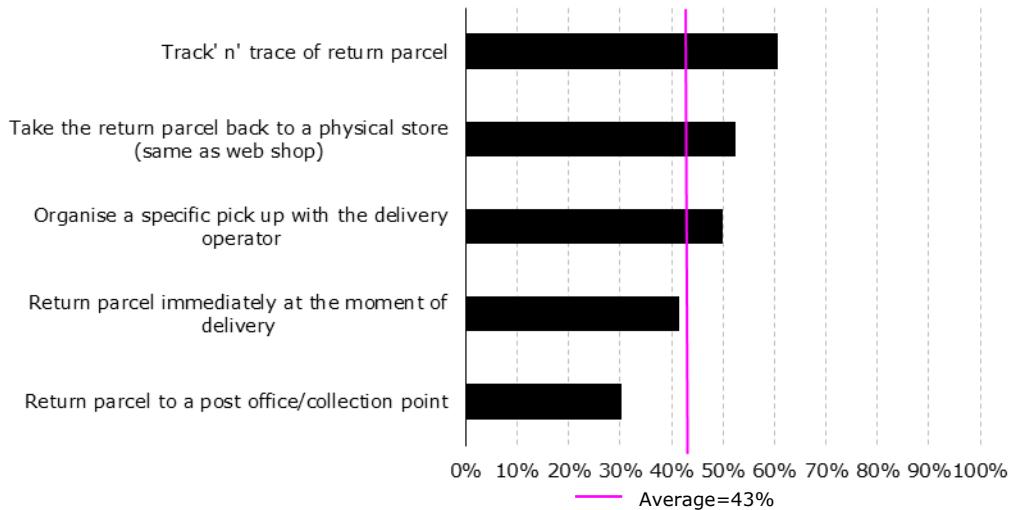
Total number of respondents for each country is: PL: 504, EE: 505, IE: 525, ES: 515, DE: 524, and SE: 504.

Source: Copenhagen Economics, E-shopper survey.

There are no significant differences in the observed e-shopper service gap for returns by origin of purchase (domestic or cross-border). This is a somewhat surprising result as we note a substantially narrower set of return options provided by delivery operators (except for integrators) for cross-border returns compared to domestic returns, cf. chapter 3.

We note that tracking of return parcels represents the largest gap for e-retailers, cf. Figure 88, whereas e-shoppers primarily experience gaps with respect to the convenience of return or return collection points, cf. Figure 86. Nevertheless, we find relatively wide gaps for e-retailers with respect to return solutions on average. In fact, 43 per cent of e-retailers, on average, do not offer their customers return services that they themselves find important. This result indicates a potential for improved return services.

**Figure 88 Important yet not offered features: Returns**



Note: The figure shows the share of e-retailers for which a service is considered important to their business, but not offered by e-retailers at their webpage. Total number of respondents is; Track'n'trace of return parcel (28), Take the returns parcel back to a physical store (21), Organise a specifik pick up with the delivery operator (24), Returns parcel immediately at the moment of delivery (29), Return parcel to a post office/collection point (33). The vertical line represents the average of 43 per cent. .

Source: Copenhagen Economics, E-retailer survey

#### *Returns: service gaps originating from delivery operators*

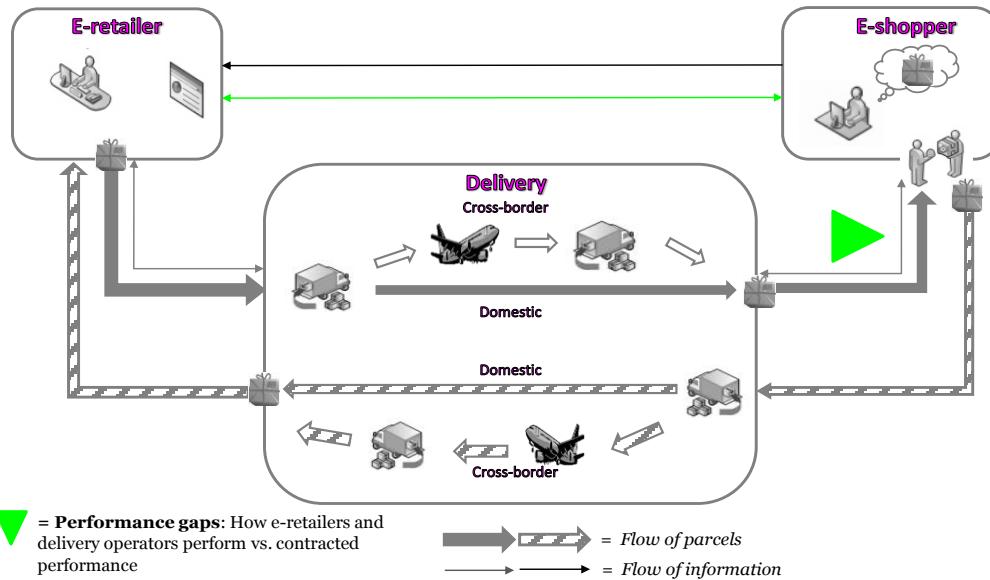
We observe that the domestic return gaps are generally not caused by a lack of services from delivery operators. In fact, we observe that all return services are offered in each country by at least one of the delivery operators who responded to our questionnaire. Thus, the reason for e-shoppers not having access to these services is that e-retailers choose not to provide them (e.g. due to high costs or complexities of engaging with several delivery operators).

For cross-border returns, the e-shopper service gap is likely to be caused by a lack of return services offered by delivery operators, cf. chapter 3. For instance, only between 11 and 15 per cent of national carriers and NPOs offer cross-border returns made from a post office or similar collection points from anywhere in the EU, while no integrators offer returns made from a collection point. E-shoppers who wish to make a return to an e-retailer based in another EU country must then use other return options.

#### **4.6 Performance gaps**

Performance gaps occur when delivery operators fail to perform according to contracted terms (e.g. delayed delivery, delivery outside agreed timeslot, lost or damaged items), cf. Figure 89. Performance gaps may also occur when e-retailers do not follow procedures for handling consumer enquiries and complaints.

**Figure 89 Performance gaps in the e-commerce delivery value chain**

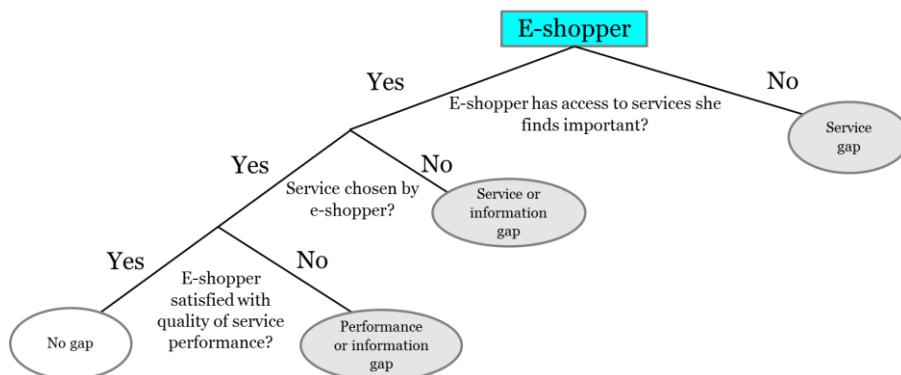


Source: Copenhagen Economics

We identify performance gaps in three ways.

First, we assess user satisfaction for e-shoppers who bought a delivery service that they at the outset found important. If an e-shopper has received a delivery feature that she finds important (e.g. her preferred delivery time option) but still is unsatisfied with the time of delivery, this is interpreted as inferior delivery time performance, cf. Figure 90.

**Figure 90 Identifying performance gaps**



Source: Copenhagen Economics

*Second*, we compare user satisfaction with performance indicators of actual delivery performance.

*Third*, we assess e-shoppers' satisfaction with e-retailers' handling of complaints and dispute resolution and compare this with the systems put in place by e-retailers.

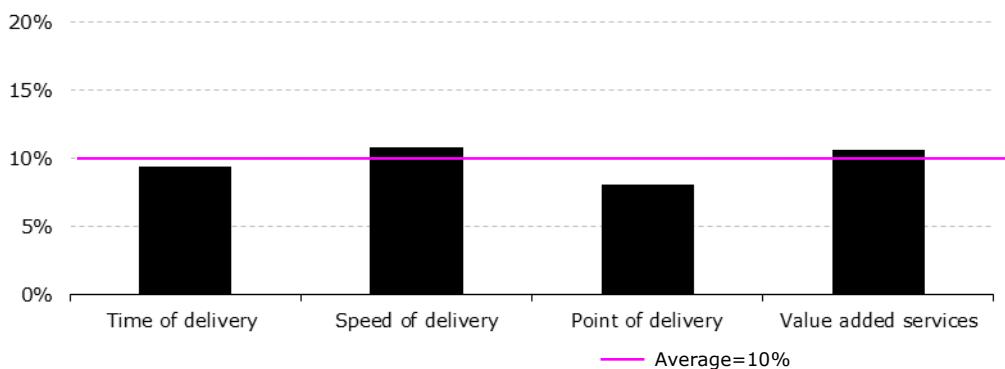
### Delivery operator performance

Performance gaps may arise from the delivery operator's failure to perform. By investigating user dissatisfaction among e-shoppers who bought a delivery service that they found important, we are able to capture dissatisfaction stemming only from inferior performance, and not from the fact that the e-shopper bought something else than she optimally would have done. The identified performance gaps are rather small, between 8 and 11 per cent, cf. Figure 91. Taking into account the fact that some dissatisfaction can be caused by information gaps, the true performance gaps are most likely smaller.

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**Figure 91 Dissatisfaction due to inferior delivery performance**

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Note: The diagram shows the proportion of e-shoppers that were dissatisfied with a given delivery service that they value important and chose for their most recent online purchase. Total number of respondents for each service is Time of delivery: 701, Speed of delivery: 1607, Point of delivery: 2678, and Value added: 2067.

Source: Copenhagen Economics, E-shopper survey.

We notice that performance gaps differ across countries. For example, the shares of unsatisfied customers are often two to three times larger in Ireland, Spain and Germany compared with the shares observed in Sweden, Estonia and Poland. This result follows the same pattern of user satisfaction by the country level as we have seen for other features of delivery.

Inferior delivery performance has been identified in earlier research. For example, a recent delivery performance test conducted by the Austrian consumer association VKI found several reasons for e-shopper frustration originating from inferior delivery performance. One example is e-shoppers who wait at home for a delivery and are left with a note in the mail box stating that no one was at home at the time of delivery. Another example is delivery operators that leave the parcels with a neighbour, at the doorstep, or by the entrance in multi household buildings, without prior consent from the e-shopper. E-

shopper frustration also arise in relation to returns, when e-shoppers wait for an arranged pick up of a return parcel that does not take place on the agreed time.<sup>123</sup>

According to a UK study as well as a study by Consumer Focus Scotland, the main reason for consumer dissatisfaction with delivery is when delivery has been attempted but no one was home to receive it.<sup>124</sup> Parcels that are too big to fit the letter box, or parcels that cannot be left at a safe place or requires signature may also cause inconvenience if the customer needs to arrange for a new delivery, or travel to a collection point to pick-up the consignment.

Performance indicators, such as the share of failed delivery attempts, confirm that delivery to the home seems to cause problems for delivery operators cf. Table 43. The fact that up to 50 per cent of first delivery attempts to consumers fail means that many consumers must either wait for a second delivery or pick up the parcel from a less preferred delivery point.

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**Table 43 Delivery performance indicators**

Share of total B2C shipments	NPOs			Other carriers		
	Min	Average	Max	Min	Average	Max
Delayed items	0,5	2,4	3,0	0,2	2,0	5,9
Damaged and lost items	0,0	0,6	3,0	0,0	0,4	1,0
Failed first delivery attempts	3,0	12,0 <sup>1</sup>	50+	2,5	5,5	30,0

Note: NPOs' response is based on 7 delivery operators. Other carriers' response is based on 7 delivery operators (in 7 EU countries) except for damaged and lost items for which only 6 delivery operators respond to it. Performance indicators is not disclose for integrators due to too few observations

Note 1: The average is weighted by number of B2C parcels and based on a maximum observation of 30 per cent.

Source: Copenhagen Economics, Delivery operator questionnaire

Delays, damage of shipments or shipments being lost do not seem to be a large problem causing user dissatisfaction. From our e-retailer survey we find that 13 per cent of e-retailers are dissatisfied with the quality of delivery services, in terms of lost or damaged items.<sup>125</sup> For NPO's we note a maximum loss or damage of parcels of 3 per cent. The corresponding figure for alternative operators is even lower and around 1 per cent. These figures are similar to those revealed in the test performed by the Austrian consumer association. In this test 3 out of 68 parcels (4 per cent) were damaged.<sup>126</sup>

### E-retailer performance

Delivery-related performance gaps may also occur after the e-shopper has received the products bought. Complaints are rather common among e-shoppers. Around one third of e-shoppers have, at one point in time, complained to an e-retailer, and around 40 per cent have returned a product bought online.<sup>127</sup>

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<sup>123</sup> VKI (2012a)

<sup>124</sup> IMRG (2012a)

<sup>125</sup> Copenhagen Economics, E-retailer survey, cf. Appendix B.

<sup>126</sup> VKI (2012a)

<sup>127</sup> Copenhagen Economics, E-shopper survey, cf. Appendix D.

According to Article 6 of the Distance Selling Directive, consumers are entitled to a cooling-off period of at least seven working days<sup>128</sup> where the consumer can withdraw from the contract and return the product without any justification. The e-retailer must inform the consumer about the cooling off period both before and after the purchase is finalised.<sup>129</sup> If the e-shopper uses the cooling off period to return the product, the product must be sent back to the seller and the seller has to reimburse the full amount that the consumer has paid.<sup>130</sup>

Some products are returned because they are broken either at the time of delivery or after a shorter period of use.<sup>131</sup> If the return takes place after the cooling off period, the e-shopper has to justify the return to get a reimbursement of the money paid.

The responsibility to pay for returns made within and after the cooling off period is regulated in the new Consumer Rights Directive. According to this Directive, e-retailers are only obliged to pay for return delivery as long as they agree to bear the costs for returns or if they fail to inform the consumer with respect to who bears the return costs.

The differences between the current legislation and the new Consumer Rights Directive are described in more detail in Appendix E.

To analyse e-retailers' performance when handling complaints from e-shoppers, we have asked e-shoppers about their satisfaction with the information about complaints procedures, convenience of complaints procedures, and actual handling of complaints. Our research shows that around 30 per cent of e-shoppers are dissatisfied in relation to complaints, c.f. Figure 92.

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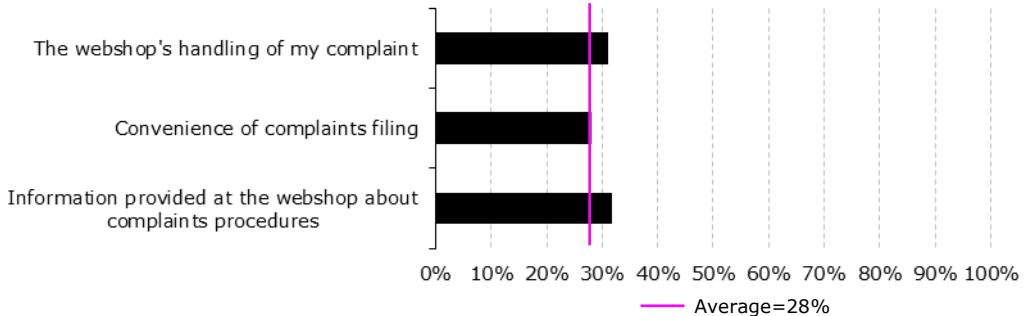
<sup>128</sup> Some Member States offer a longer cooling off period up to 15 working days.

<sup>129</sup> ECCN (2012), p. 24.

<sup>130</sup> Article 6(2) of the Distance Selling Directive

<sup>131</sup> ECCN (2012), p. 29-30. According to Article 3 of Directive 1999/44/EC an e-retailer is liable for any lack of conformity that becomes apparent within two years from the date of delivery, unless under national legislation a longer limitation period applies. According to Article 5(3), if any lack of conformity becomes apparent within six months the non-conformity is presumed to have existed at the time of delivery. The period can be extended beyond six months on the national level. In case the e-retailer does not want to settle this dispute with the customer, the customer can contact the national consumer protection authority (ECC) for assistance.

## Figure 92 E-shoppers' dissatisfaction with handling of complaints



Note: The figure shows the percentage of e-shoppers that have complained and answered "Not satisfied at all" or "Slightly unsatisfied" to the question: *"Think about the times when you have complained about a product bought from a web shop. How satisfied were you with the following features?"* For each of the services the number of respondents is (starting from the top): 827, 834, and 826.

Source: Copenhagen Economics, E-shopper survey

We observe that the dissatisfaction in general is largest in Spain and lowest in Sweden. We also observe that young people are more dissatisfied than older ones and that satisfaction is lower for cross-border purchases than domestic ones with respect to information about complaints procedures.<sup>132</sup> This is not surprising, as e-shoppers may have a harder time finding and digesting information provided in another language than their own, or coping with a different set of rules than in their own country. With respect to the convenience of filing a complaint, the level of satisfaction is similar for cross-border and domestic purchases. No difference can be observed for e-shoppers' dissatisfaction depending on their residential location (urban versus rural).<sup>133</sup>

Earlier research from the European Commission shows that in 2011, 58 per cent of consumers were satisfied with sellers or manufactures handling of their complaint.<sup>134</sup> This is slightly lower than our results from the e-shopper survey.

The observed dissatisfaction may derive from the fact that the e-retailer in question does not have procedures and guidelines for complaints handling, resulting in ad hoc handling of complaints. Another reason might be that the e-shopper is unhappy with the outcome of the complaint. This could indeed be an explanatory factor in the dissatisfaction rates we note from our survey among e-shoppers.

To investigate potential reasons for the observed user dissatisfaction, we have asked e-retailers if they have guidelines or systems in place for the handling of consumer inquiries or complaints in the case of:

- i) Lost or damaged items,
- ii) Customer inquiries about liability (i.e. ownership of/responsibility for product),
- iii) Customer inquiries about compensation,

<sup>132</sup> Copenhagen Economics, E-shopper survey, cf. Appendix B.

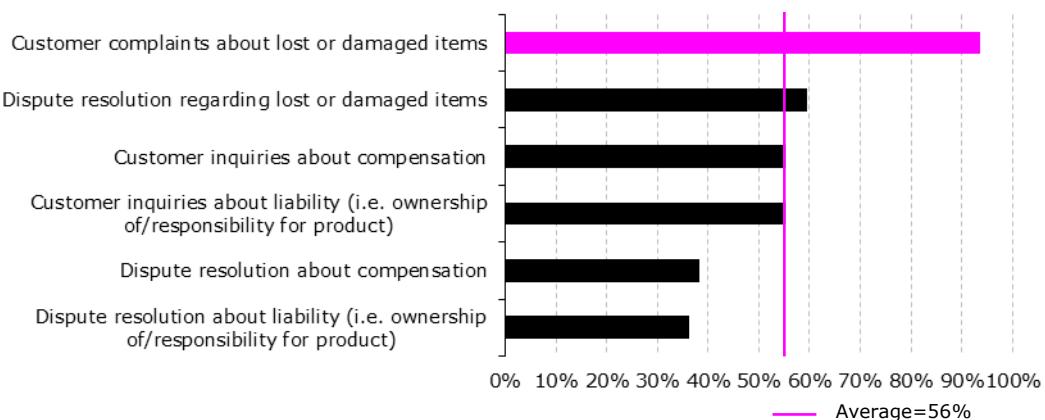
<sup>133</sup> Copenhagen Economics, E-shopper survey, cf. Appendix B.

<sup>134</sup> European Commission (2012a), p. 21.

- iv) Dispute resolution regarding lost or damaged items,
- v) Dispute resolution about liability (i.e. ownership of/responsibility for product),
- vi) Dispute resolution about compensation.

We find that 93 per cent of e-retailers in our survey sample do have procedures for handling customer complaints about lost or damaged items. The share of e-retailers with guidelines is lower with respect to complaints that result in disputes. Nearly 60 per cent of e-retailers have guidelines for resolution of disputes about lost or damaged items, around 50 per cent have guidelines for handling customer inquiries about compensation or liability, and between 36 and 38 per cent have guidelines for resolving disputes about compensation or liability, cf. Figure 93.

**Figure 93 Share of e-retailers with systems for complaints handling**



Note: Answers to the questions "Customer service and handling of complaints in the event of customer inquiries, complaints or conflicts, for which of the following situations do you have procedures or guidelines (multiple answers possible)? Total number of respondents for these questions: 47.

Source: Copenhagen Economics, E-retailer survey

These results indicate a lower certainty as to how e-retailers will handle disputes, which can make the e-shopper reluctant to buy from the e-retailer in the first place.

In case of lost or damaged items, the e-retailer will send an inquiry to the responsible delivery operator(s). According to our survey among delivery operators, most delivery operators have systems or guidelines for complaints handling or dispute resolution in the event of lost or damaged items. Out of the 55 delivery operators asked, 53 replied that they have guidelines for complaints handling in place. 46 replied that they have guidelines for dispute resolution.<sup>135</sup>

In the case of problems related to interoperability between delivery operators, we find that 56 per cent of delivery operators have guidelines for handling of disputes, and 63 per cent have guidelines for handling of complaints. However, we note that the guidelines

<sup>135</sup> Copenhagen Economics, Delivery operator questionnaire. We have received answers from 35 delivery operators, of which some have multinational subsidiaries, who have also replied to the delivery operator questionnaire. The number of responses is therefore larger than 35, namely 55 on the country level and 61 in total, cf. Box 8.

sometimes do not apply to all divisions of the company. This is for instance the case for a NPO with separate divisions for express and standard parcel delivery. Whereas the mother company providing standard parcel delivery has guidelines for dispute handling in case of interoperability issues, the express division may not have.

With respect to compensation, all most all respondents (52 out of 53) have systems or guidelines for the handling of complaints or dispute resolution.

## Chapter 5

# Information gaps

In Chapter 4, we concluded that e-retailers and e-shoppers sometimes *lack adequate information* about delivery, returns, and prices. We also observed that they sometimes *find it difficult to interpret the information available to them*. This results in *information gaps*.<sup>136</sup> Information gaps reduce e-commerce by creating dissatisfied e-shoppers and by causing e-shoppers to abandon their online shopping carts.<sup>137</sup> Information gaps also prevent e-retailers from switching between delivery operators and sourcing the delivery services that best fits their needs. Hence, improving information about delivery is one of the keys to increase e-commerce.

In this chapter we examine the underlying reasons behind the observed information gaps. We use existing studies, results from the surveys conducted among e-shoppers and e-retailers for the purpose of this study, and interviews conducted with e-retailers and delivery operators in the course of the project to identify and analyse information gaps. In particular the interviews have been used to test ideas and assure that our analysis has practical relevance.

### 5.1 Main findings

Information is valuable for e-shoppers and e-retailers when they make decisions about delivery. However, information is often complicated and costly to obtain. As a result, we observe that e-shoppers and e-retailers reduce their time spent on information collection and base their decisions about delivery on imperfect information.

As the quality of delivery cannot be observed until after delivery has taken place, and thus after the purchase decision, delivery has the characteristics of an experience good. This might reduce e-shoppers' and e-retailers' trust in unknown delivery operators. It also highlights the importance of timely, relevant, trustworthy and simple information provided by e-retailers and delivery operators to make users better equipped to make informed decisions about delivery.

The presence of information gaps and their impact on user satisfaction with delivery has been acknowledged by, for example, the European Consumer Centres' Network in their recent publication on consumer complaints in the online marketplace.<sup>138</sup>

<sup>136</sup> We identify information gaps in this chapter as mismatches between e-shoppers' and e-retailers' information needs and the information provided by e-retailers and delivery operators about delivery services prior to the purchase (e.g. via websites and other information material) and after the delivery (e.g. via websites and customer service). Lack of information transmission for consignments in transit (track and trace) is defined as a service gap (lack of functioning track and trace service) and is discussed in chapter 6.

<sup>137</sup> On average, 14 per cent of e-shoppers are unsatisfied with the information provided about delivery in relation to their most recent online purchase, and 15 per cent of the e-shoppers who at some point have abandoned an online shopping cart have done so because the information provided was not clear enough to understand what to expect from delivery.

<sup>138</sup> "It is the experience of ECC-Net that many of the problems associated with delivery can be attributed to miscommunication between the consumer and the trader. The consumer may encounter practical problems, for instance by sending e-mail correspondence to the wrong address of the trader, or when the consumer misunderstands the terms and conditions due to insufficient knowledge of the foreign language." Source: ECCN (2012), p.16

Our surveys and literature review show that e-shoppers today often are presented with new information late in the online buying process. Sometimes, this causes them to abandon the shopping cart and refrain from the purchase. The type of information that seems to have the largest impact on e-shoppers' decision to cancel the buying process<sup>139</sup> is information about delivery prices. Information about delivery operators or the liability for the product during delivery have less impact on e-shoppers' decision to shop online.

Our research also indicates that many e-shoppers find it time consuming and difficult to find and process information about delivery. 14 per cent of e-shoppers are unsatisfied with the information about delivery and returns provided by e-retailers and every fifth e-shopper refrains from reading the terms and conditions about delivery prior to the purchase. This might result in wrong decisions and disproportionate expectations about delivery, i.e. information gaps.

We observe that lack of adequate information and high search costs often cause e-retailers to stay with the same (well known) delivery operator and refrain from investigating alternative possibilities. For example, every fifth e-retailer is aware of only one delivery operator, although the number of alternatives is significantly higher (often 3-4). A similar view is also expressed by eBay in its response to the European Commission's Green Paper on 'An integrated parcel delivery market for the growth of e-commerce in the EU'. According to eBay: '*small customers often do not know what options are available; what are the prices and quality of services; and what to do (in terms of documentation, labelling, and address format) to send a parcel cross-border.*'<sup>140</sup> When e-retailers face difficulties and high cost of collecting and processing information, the result may be that they do not provide user-friendly information to the e-shopper.

## 5.2 Importance of information

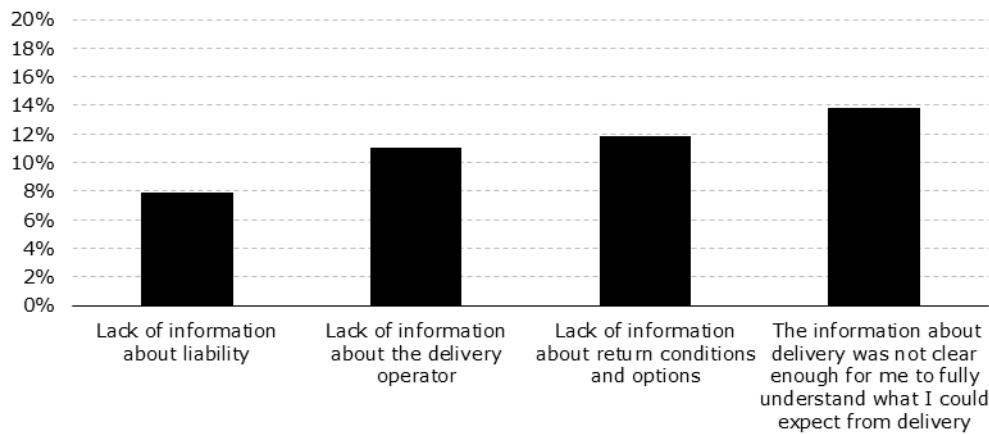
*Access to adequate information* is an important factor affecting e-shoppers' decisions to buy online. In particular, we observe that the *timing of information provision* is essential. This is evident from our survey among 3,000 e-shoppers in the EU. The survey reveals that unclear information or lack of information about the delivery operator, about return conditions and options, and about liability, are the most important reason mentioned behind a significant share of abandoned shopping carts, cf. Figure 94.

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<sup>139</sup> That e-shoppers cancel the buying process does not necessarily imply that they refrain from buying online. Sometimes, the decision not to buy from a specific e-retailer implies that the e-shopper buys from another e-retailer instead.

<sup>140</sup> eBay inc. (2013)

**Figure 94 Reasons for not finalising an order**



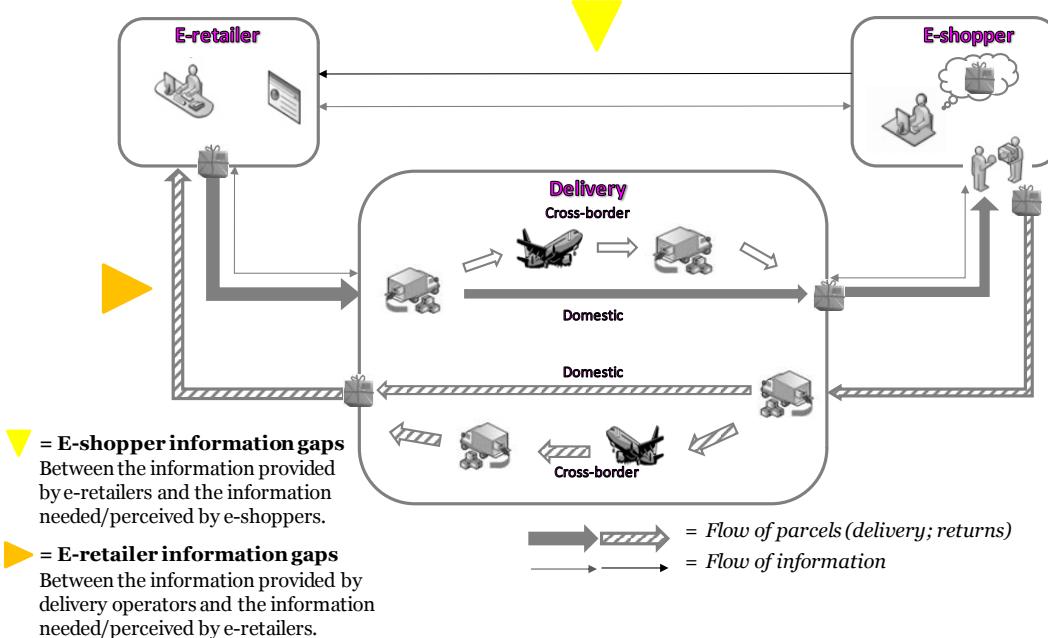
Note: The figure shows the answers to the question: "If you look back, what were the reasons for not finalising the order?" The number of respondents who have answered questions about abandoned shopping carts: 2010.

Source: Copenhagen Economics, E-shopper survey

Our research also shows that access to relevant information about delivery services and prices is important for e-retailers' decisions about which delivery services to provide. Amongst other things, we observe that e-retailers in many cases are unaware of the delivery alternatives available to them. On average, NRAs know about seven or eight delivery operators, whereas e-retailers only are aware of five operators on average, cf. chapter 3.

Information gaps occur when it is difficult for e-retailers and e-shoppers to (i) find adequate information about delivery or (ii) interpret existing information about delivery. Information gaps emerge in the interaction between delivery operator and e-retailer (e-retailer information gap) or in the interaction between e-retailer and e-shopper (e-shopper information gap), cf. Figure 95.

**Figure 95 E-retailer and e-shopper information gaps**



Source: Copenhagen Economics

### 5.3 The economics of information

Our analysis of information gaps is based on the theoretical framework of information economics.<sup>141</sup>

On the one hand, we note that information has economic value because it allows e-shoppers, e-retailers, delivery operators and regulators to make informed and better decisions.

On the other hand, we note that information is costly to obtain. Since both e-shoppers and e-retailers may find it time consuming to collect and process information, the cost of obtaining relevant information may sometimes exceed the value of the information obtained. As a result, e-shoppers and e-retailers may limit the time spent on collecting information. Therefore, decisions about delivery are often based on imperfect information.

With respect to e-shoppers, our survey shows that approximately one in five e-shoppers does not check the terms and conditions of delivery prior to purchasing something online. This may well be a rational strategy to reduce search costs.

<sup>141</sup> Information economics is a branch of microeconomic theory that studies how information economic decisions. The basic pre-condition in information economics is that information is costly and asymmetric, which means that one party to a transaction has more information than the other party. This leads to search costs which create friction in the economy and to inefficiencies because decisions are based on imperfect information and because firms, employees and consumers may use asymmetric information opportunistically.

With respect to e-retailers, the choice of delivery operator(s) and delivery services is based on a combination of several factors where price and quality of service are the two most important parameters. Thus, if e-retailers encounter difficulties to find adequate information about delivery prices and/or the quality of delivery, this may cause them to make suboptimal decisions about delivery. We find that e-retailers sometimes lack adequate information and in many cases are unaware of the delivery alternatives available to them. We also observe that small e-retailers often consider non-NPOs to be less relevant delivery alternatives. Interviews with e-retailer associations witness about this (cf. chapter 6). Interviews with market places also witness about the fact that small e-retailers normally establish a relationship with the NPO when setting up a business. As the business grows, the e-retailers are reluctant to switch to other operators. The reason for this is often the uncertainty of the quality delivered by alternative operators, i.e. an information gap.

The fact that many e-shoppers and e-retailers base their delivery decisions on imperfect information implies that delivery gets the characteristics of an *experience good*. This means that the true quality of the service cannot be observed *before buying*. As a result, e-retailers and e-shoppers may find it difficult to know if delivery operators (especially unknown ones) live up to what they promise. The resulting lack of trust in unknown delivery operators can have four important implications.

*First*, it may make e-retailers and e-shoppers hesitant to switch between delivery operators or use other operators than those already known to them. Interviews with e-retailers and sector experts have confirmed this.

*Second*, it may increase e-retailers' and e-shoppers' willingness to pay for services provided by well-known delivery operators.

*Third*, it may induce e-shoppers and e-retailers to make wrong decisions about delivery, buying services that they would not have bought with perfect information.

*Fourth*, it may prevent e-shoppers from shopping online in the first place (playing safe) due to concerns about unsatisfactory delivery performance. In the extreme case, information asymmetries can lead to a market failure where only low-quality delivery is provided (due to the fact that high-quality delivery operators cannot credibly convey information to e-retailers).<sup>142</sup>

Just as e-shoppers and e-retailers need information about delivery operators and their performance to make informed decisions, delivery operators and e-retailers need information about customer preferences to provide the right delivery services. Throughout this study, we refer to this information as *market knowledge*. Whereas market knowledge about users' need for information is examined in this chapter, market knowledge about users' preferences for other service features (delivery points, delivery speed, and delivery prices) is examined in chapter 6 on service gaps.

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<sup>142</sup> This phenomenon was studied already in 1970 by Akerlof in an analysis of the market for used cars. The fact that car dealers could not successfully distinguish high quality used vehicles from low quality ones (so called 'lemons') was found to effectively eliminate the second hand market for higher quality cars.

Besides the market players' information needs, regulatory authorities and policy makers need information about the delivery market and market performance. Lack of information complicates monitoring and the creation of good policies for the delivery market. We discuss this point further in chapter 8 where we also make recommendations for future policy.

In the following, we analyse how e-retailers and delivery operators contribute to the creation of information gaps. Whereas supply side issues (provision of information) are linked to delivery operators' and e-retailers' *market knowledge*, demand side issues (processing of information) are linked to *imperfect information* and *high search costs*.

Table 44 provides an overview of the underlying factors contributing to the information gaps experienced by e-retailers and e-shoppers.

**Table 44 Challenges causing information gaps**

Supply side		Demand side	
		Imperfect information	Search costs
Market knowledge			
Delivery operators do not understand e-retailers' information needs	E-retailer information gap	E-retailers lack trust in unknown delivery alternatives	E-retailers do not collect and process all available information
E-retailers do not understand e-shoppers' information needs	E-shopper information gap	E-shoppers lack trust in unknown delivery alternatives	E-shoppers cannot collect and process all available information

Source: Copenhagen Economics

#### 5.4 Market knowledge

As providers of information, e-retailers and delivery operators decide what information to disseminate (and in what form). These decisions are affected by the costs of obtaining information, the costs of information dissemination, and the effects that the provision of information is believed to generate in terms of sales and profits. In the cross-border context, information provision is further complicated by language problems. In a mystery shopping experiment, conducted by the European Consumer Centres' Network in 2011, only 21 per cent of the websites examined provided information in at least two languages.<sup>143</sup> Naturally, this can lead to information gaps for cross-border e-shoppers.

Apart from language problems, our survey among e-shoppers reveals that e-retailers not always are able to provide e-shoppers with the information that they need to make informed decisions about delivery. As mentioned, provision of information about delivery at a late stage in the buying process, or not at all, seems to be an important reason for the high share of abandoned shopping carts.

Our findings are supported by previous studies, indicating that e-retailers are not always fully informed about e-shoppers' information needs. In a worldwide survey conducted by Worldpay (2012), 19,000 e-shoppers and 153 e-retailers were asked why online shoppers sometimes leave without paying. According to the e-shoppers themselves, the most com-

<sup>143</sup> ECCN (2012), p.28

mon reason for abandoning an online shopping cart (mentioned by 56 per cent of respondents) was the sudden presentation of unexpected costs (i.e. *unsatisfactory provision of information*). E-retailers, however, believed the most common reason for abandoned shopping carts (mentioned by 45 per cent of respondents) to be the fact that e-shoppers were just browsing without the intention to buy anything. Presentation of unexpected costs was not even among the top-3 answers provided by the e-retailers.

We also observe that delivery operators sometimes contribute to information gaps by providing e-retailers with information that is difficult for the recipients to process. One example of this is the provision of complex and non-transparent price schedules. Delivery operators often base their pricing on several different parameters, such as a combination of volumes, weight, and size of consignments, as well as the degree of work-sharing. As a result, e-retailers find it difficult to compare prices across delivery operators and to make informed decisions about which operator and what service to choose.

## 5.5 Imperfect information

The fact that delivery has the characteristics of an experience good, may make it difficult for e-retailers and e-shoppers to know if delivery operators (especially unknown ones) live up to what they promise. As described above, lack of trust in unknown delivery operators may have a number of unfavourable consequences which may reduce the level of e-commerce or result in a market failure and provision of only low quality delivery services. Our surveys among e-shoppers and e-retailers indicate that imperfect information is not a major problem contributing to the observed service gaps.

From the e-shoppers' perspective, we note that only a small share of abandoned shopping carts (11 per cent) were abandoned due to lack of information about the delivery operator. Moreover, in a recent study conducted by Consumer Focus UK, it was found that information about which company would deliver before completing the order would affect the decision to complete the order for 8 per cent of e-shoppers.<sup>144</sup> Similarly, our survey among e-shoppers reveals that 11 per cent of abandoned online shopping carts were abandoned due to lack of information about the delivery operator.

From the e-retailers' perspective, we find that lack of information about alternative options only to a small extent (8 per cent) can explain why e-retailers engage with only one delivery operator although there are other operators available in the market. More important reasons are the cost and complexity of engaging with multiple operators, as well as the risk of losing volume discounts (mentioned by 35 and 21 per cent of e-retailers respectively). Hence, the information gap between e-retailers and e-shoppers seems to be more severe than the information gap between delivery operators and e-retailers, which is also expected since e-retailers are professional buyers and not private consumers.

## 5.6 Search costs

When adequate information about delivery is difficult to obtain or interpret, e-retailers and e-shoppers experience high search cost. Search costs are influenced by a number of

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<sup>144</sup> Consumer Focus (2013)

factors, e.g. the amount of information available (information overload), time constraints (busy shoppers), and the way information is provided (small text, complicated terminology and definitions, placed at the bottom of website etc.).

If search costs are high, a rational decision for e-retailers and e-shoppers is to minimise costs (even if it means acting uninformed). As a result, e-retailers and e-shoppers may fail to buy the delivery services that best suit their needs. They may also form a misperception about delivery, believing that delivery performance was poor when it in fact was in accordance with the contract. In this way, information gaps may contribute to both service and performance gaps, cf. chapter 6 and chapter 7. This has been acknowledged by the European Consumer Centres' Network in their report on consumer complaints in the online marketplace. European Consumer Centres' Network reports that many of the problems associated with delivery can be attributed to miscommunication between the consumer and the trader, for example consumers misunderstanding the terms and conditions due to insufficient knowledge of the foreign language:

*'It is the experience of ECC-Net that many of the problems associated with delivery can be attributed to miscommunication between the consumer and the trader. The consumer may encounter practical problems, for instance by sending e-mail correspondence to the wrong address of the trader, or when the consumer misunderstands the terms and conditions due to insufficient knowledge of the foreign language.'*<sup>145</sup>

We find several indications of high search costs which may contribute to the observed information gaps. For example, approximately 20 per cent of e-shoppers do not check the terms and conditions of delivery prior to purchasing something online. In addition, 14 per cent of e-shoppers state that they are unsatisfied with the provision of information on the e-retailer's website. We also find that e-retailers in many cases are unaware of the delivery alternatives available to them. In fact, 21 per cent of e-retailers are only aware of one delivery operator although the actual number of delivery operators is larger (often 3-4). A similar view is also expressed by eBay in its response to the European Commission's Green Paper on 'An integrated parcel delivery market for the growth of e-commerce in the EU'. According to eBay: '*small customers often do not know what options are available; what are the prices and quality of services; and what to do (in terms of documentation, labelling, and address format) to send a parcel cross-border.*'<sup>146</sup>

The sometimes limited information about delivery alternatives among e-retailers also becomes evident in the results from our survey and in some of our interviews with e-retailers. For example, only a handful of respondents to our survey (and none of the e-retailers we have interviewed) are aware of logistics intermediaries such as parcel consolidators or parcel brokers. Moreover, several e-retailers express frustration with respect to the difficulties of comparing prices across delivery operators and knowing what it would imply for the quality of delivery if they would switch from one delivery operator to another one. In particular, one e-retailer expressed her initial fear of inferior delivery quality prior to entering into contract with a second delivery operator who only offered delivery through a network of collection point (out of which many were located in supermarkets).

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<sup>145</sup> ECCN (2012)

<sup>146</sup> eBay inc. (2013)

She explains that she was afraid that the image of the delivery point would transfer to her parcels since '*people would pick up their parcels in the same store where they buy their toilet paper, and there might be a risk that the parcels would be placed next to the bananas [...]*'. This fear later turned out to be unfounded.

This evidence indicates that e-retailers experience high search costs. As a result, they might stay with a known delivery operator and not look for alternatives, although other delivery operators could fulfil their delivery needs in a better way.

## Chapter 6

# Service gaps

In Chapter 4, we found that e-retailers and e-shoppers sometimes *lack access to delivery services* that they need or prefer. The largest *service gaps* were observed for convenient return options and for value added services such as the ability for e-shoppers to redirect a parcel in transit or the ability to choose a specific delivery point at the time of purchase. We also observed that both e-retailers and e-shoppers often consider *delivery prices to be too high*. For e-retailers, too high delivery prices set by delivery operators are primarily a problem in relation to small shipment volumes and cross-border delivery. For e-shoppers, satisfaction with delivery prices set by e-retailers is the same for domestic and cross-border delivery and the same for small and large e-retailers.

In chapter 5, we found that information gaps sometimes make e-retailers and e-shoppers imperfectly informed about the services available to them. Bad shopping experiences which at the surface may look like a service gap (e.g. no convenient return options) may in some situations be an information gap (e.g. the e-shopper is unaware of the return options available).

In this chapter, we analyse how delivery operators and e-retailers may contribute to the lack of services and too high prices experienced by e-shoppers and e-retailers. To assure practical relevance, we have interviewed market and supply chain experts from delivery operators and e-retailers. These interviews have been used to focus our analysis on the most relevant issues.

### 6.1 Main findings

Service gaps are created by the behaviour of e-retailers and delivery operators. We find that service gaps are caused by a combination of challenges related to: low volumes, insufficient interoperability, inapt regulation, weak competition, and imperfect market knowledge. *Low volumes* and *interoperability problems* seem to be the two main challenges.

The fact that pick-up and transportation costs are almost the same irrespective of the volume handled means that customers or areas with *low volumes* are more costly to serve than those with high volumes. Hence, *delivery prices* paid by e-retailers (which depend on delivery costs incurred by delivery operators) will be higher for low volume customers/areas than for high volume customers/areas. If the cost of delivery exceeds the willingness to pay, the service in question will not be provided on a commercial basis. This is not a market failure, but instead it is well functioning market forces ensuring an efficient outcome.

Insufficient *interoperability* in terms of lack of access to integrated systems for information exchange (track and trace) or returns sometimes prevent delivery operators from offering these services. The reason is that some delivery operators find it too costly to

integrate solutions on a bilateral basis. Between 25 and 35 per cent of delivery operators find lack of access to integrated systems for tracking or returns problematic. As a result, e-shoppers and e-retailers who find end-to-end tracking or smooth cross-border return services important might face a more narrow selection of relevant delivery operators to engage with.

We also observe interoperability problems for e-retailers who often find it difficult to engage with multiple delivery operators due to the complexity and cost of engaging with multiple operators.

## 6.2 Examining the service gaps

In chapter 4, we identified two types of service gaps causing dissatisfaction with e-commerce driven delivery among e-retailers and e-shoppers: *lack of services* and *too high prices*.

*Lack of services* occurs when services<sup>147</sup> preferred by e-shoppers are not available at the e-retailers' websites. Our survey among more than 3,000 e-shoppers reveals that 40 per cent<sup>148</sup> of e-shoppers at their most recent purchase did not have access to one or several delivery services which they find important. This might be due to the fact that the e-retailer in question has chosen not to provide these services although they are available in the market (e-shopper service gap, but not e-retailer service gap). It might also be due to the fact that the services are not provided by delivery operators (e-retailer service gap).

*Too high prices* occur when the services preferred by e-retailers and e-shoppers are offered at a price that exceeds the e-retailers' or e-shoppers' willingness to pay. High prices paid by e-retailers might be caused by high costs incurred by delivery operators or weak competition in the delivery market. High prices paid by e-shoppers might derive from high prices paid by e-retailers, or from a positive mark-up on delivery made by the e-retailer. We observe that some e-retailers use a strategy with higher product prices and free delivery as a selling argument. Other e-retailers use low product prices as selling point but charge high delivery fees. This commercial behaviour is parallel to what is observed in other industries, e.g. in the airline industry. Some operators advertise flight tickets with no extra fees (e.g. baggage included) while other airlines advertise low flight tickets but have high extra fees for baggage.

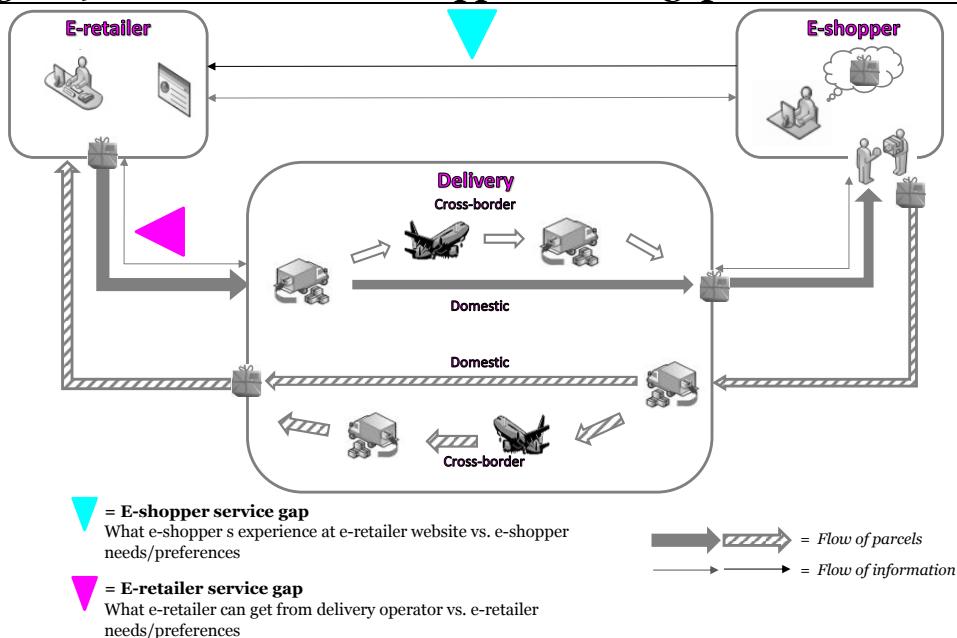
In other words, service gaps may occur in the interaction between delivery operator and e-retailer (e-retailer service gap) or in the interaction between e-retailer and e-shopper (e-shopper service gap), cf. Figure 96.

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<sup>147</sup> Services include, amongst other things, delivery destinations (e.g. cross-border), delivery points, delivery speed, delivery time, and value added features such as track and trace.

<sup>148</sup> On average, 65 per cent of e-shoppers find a given delivery service important. Nearly 60 per cent of these e-shoppers did not have access to the service in question.

**Figure 96 E-retailer and e-shopper service gaps**



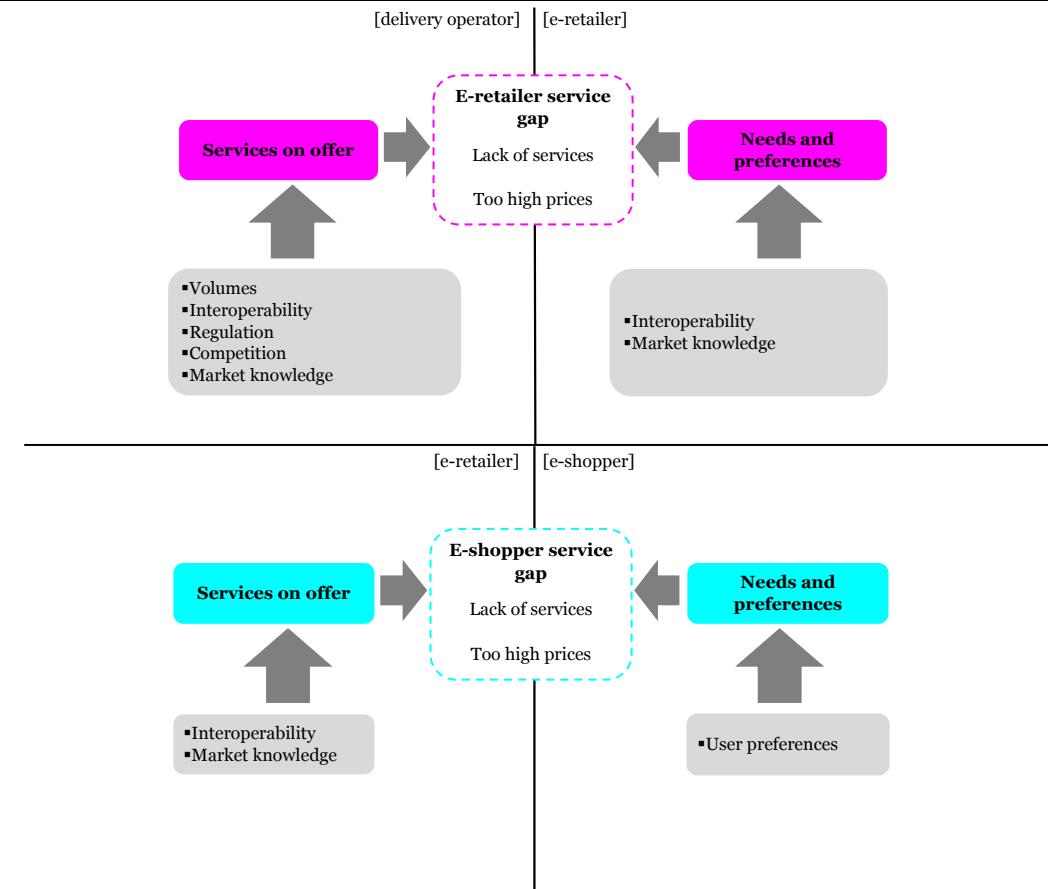
Source: Copenhagen Economics

Our analysis of service gaps is based on information from six sources:

- Desk research and review of existing literature
- A questionnaire distributed to national regulatory authorities in EU27
- A questionnaire distributed to delivery operators in EU27
- An online survey among e-retailers in EU27
- An online survey among e-shoppers in Estonia, Germany, Ireland, Poland, Spain and Sweden
- Interviews with delivery operators, e-retailers and (e-)retailer associations across Europe

Our research reveals that factors causing service gaps from the delivery operators' side are: low volumes, interoperability problems, regulatory challenges, lack of competition, insufficient transparency, as well as delivery operators' market knowledge. Factors causing service gaps from the e-retailers' side are: interoperability problems and e-retailers' market knowledge about e-shoppers' delivery preferences, cf. Figure 97.

**Figure 97 Factors causing service gaps**



Source: Copenhagen Economics

### 6.3 Volumes

Delivery of packets and parcels is a scale intensive business. In practice, this means that the incremental cost of delivering one extra item is low. For example, transporting one extra item in a truck that in any case will drive a specific route hardly implies any extra transport costs for the delivery operator. Thus, high volumes generate low delivery costs per item. Similarly, low volumes generate high costs per item. The relationship between parcel volumes and delivery costs in parcel and small package delivery is discussed in a recent publication about the characteristics of, and developments in, the delivery industry. Amongst other things, the author notices that '*parcel volume is important to carriers because it directly affects their pick up costs*'.<sup>149</sup>

As the cost for picking up parcels and packages from an e-retailer is more or less independent of the number of consignments picked up, the more consignments the delivery operator can pick up at each stop, the lower is the cost per consignment. Thus, if the delivery worker is able to fill his vehicle by visiting only one e-retailer, or visiting only a few

<sup>149</sup> Dennis (2011)

e-retailers located close to each other, this will reduce the cost per consignment. A similar relationship between volumes and costs also exist in delivery. Whereas delivering 50 parcels to a retail outlet or a parcel kiosk with automated lockers implies moderate costs per item delivered, home delivery is significantly more expensive.

The problem of sub-optimal capacity deployment (e.g. half-empty delivery vans) is larger in areas with low population density and in cross-border deliveries (due to low volumes<sup>150</sup>, imbalance in trade flows, and tight delivery deadlines). One example illustrating this is the case of Pixmania's next day deliveries from France to Denmark, cf. Box 10.

### **Box 10 High cross-border delivery cost**

In 2011, Bring Denmark (a subsidiary of Norway Post) was responsible for overnight deliveries from Pixmania's main warehouse outside Paris to customers in Denmark.

Every night, Bring sent an empty truck from Denmark to France to pick up parcels and packets from the warehouse outside Paris. Sending an empty truck cross-border is a good example of sub-optimal capacity deployment, but was still necessary to fulfil the delivery contract and next day delivery to Danish e-shoppers. The reason is the imbalanced trade flows between Denmark and France (far more items being sent from France to Denmark than the other way). Moreover, the next day delivery requirement left no extra time for re-loading goods in transit. This made it impossible for Bring to interact with other delivery operators and/or to consolidate volumes over several days to improve capacity deployment and reduce cross-border delivery costs.



Source: Copenhagen Economics, Delivery operator and E-retailer interviews

If low volumes in the network drive delivery costs to a level exceeding customers' willingness to pay for the service, this may imply that the service is not provided at all, or only at a cost considered too high by the e-retailers and/or e-shoppers.

Low volumes may explain the narrower range of services available for cross-border deliveries compared with domestic deliveries (cf. chapter 3). It may also explain (at least to some extent) high prices for cross-border delivery compared with domestic delivery, and

<sup>150</sup> According to the Delivery operator questionnaire 85 per cent of EU-wide shipment volumes are domestic, while only 15 per cent are cross-border (intra and extra EU).

high price for delivery in remote areas with low population density (e.g. the German islands or the Ardennes).

#### **6.4 Interoperability (delivery operators)**

Insufficient interoperability may become a technical barrier for co-operation between operators in the e-commerce delivery value chain. It may prevent seamless flows of both goods and information, leading to a lack of services or to prices that are considered too high by e-retailers and e-shoppers.

Interoperability problems may arise when delivery operators with national or regional networks co-operate to deliver parcels across national borders. Examples are:

- *Long delivery times caused by national network optimisation,*
- *lack of end-to-end tracking due to insufficient information exchange,*
- *lack of convenient cross-border return procedures due to insufficient ability to procure integrated cross-border return solutions, and*
- *high delivery costs and long delivery times due to diverging addressing and labelling formats*

##### **Long delivery times caused by national network optimisation**

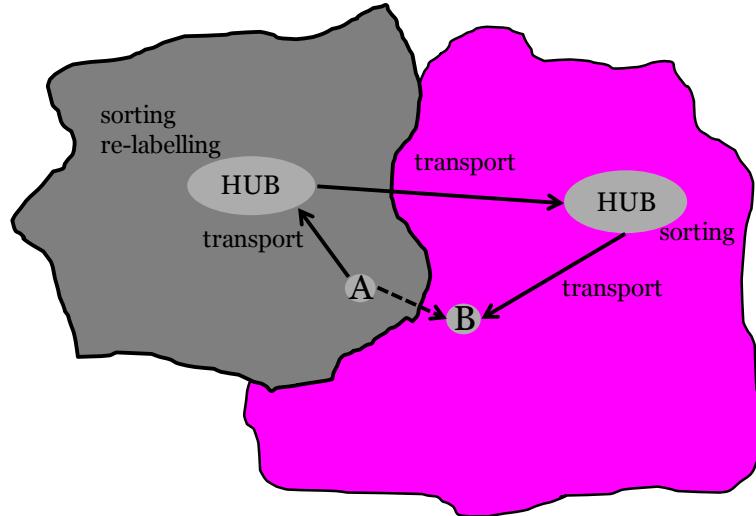
Cross-border delivery often<sup>151</sup> requires integration of two or more national (or regional) delivery networks. These networks are normally optimised for national parcel flows. This is natural since, on average, 85 per cent of the volume is domestic, cf. chapter 3. Integrating two national networks means that not only the flow of consignments *between* countries, but also (and more importantly) the flow of consignments *within* each country, has to be taken into account. As a consequence, delivery between two cities, located close to each other but at different sides of a national border, may not take place along the shortest or fastest route, but along the route that allows each individual network to optimise.

As illustrated in Figure 98 below, a parcel from city A, located close to the national border, may first travel to the national hub, because this is optimal in the national network. Thereafter, the parcel may travel to the foreign hub, because this is optimal in the foreign network. When the parcel finally is transported to the final destination, city B, this has not only required longer time than a direct transport from A to B would have done. It has also required additional costs related to extra handling and administration. This additional cost will be mirrored in the delivery price.

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<sup>151</sup> The exception is cross-border delivery conducted by integrators, whose networks are designed for cross-border delivery.

**Figure 98 Network optimisation and delivery times**



Source: Copenhagen Economics

As consequence of the challenges with integration of national networks, e-retailers sometimes choose to avoid the cross-border delivery via direct insert. Direct insert means that parcels are transported to the destination country by the e-retailer before they are inserted in the delivery operator's parcel flow. Our e-retailer survey shows that 13 per cent of the e-retailers engage in direct insert. 38 per cent of the e-retailers handle part of the transportation themselves by inserting their consignments into the delivery network directly at a (domestic or foreign) sorting centre (i.e. no pick up by the delivery operator).

#### Lack of tracking caused by a lack of cross-border information exchange

Access to end-to-end track and trace is essential for both e-retailers and e-shoppers, cf. chapter 2. However, end-to-end tracking is not always available, e.g. for packets that are part of the NPOs' letter (not parcel) flow, for cross-border consignments that are transported by several different delivery operators, or for consignments that are transported by the e-retailer itself (direct insert). For the two latter examples, tracking may be available for the last mile only and not from the point in time when the goods are actually dispatched from the warehouse.<sup>152</sup> We also observe the opposite, e.g. that the tracking sometimes is disrupted while the consignment is still in transit, leaving the e-retailer and e-shopper without information about the last mile of the delivery process. Our interviews with delivery operators reveal that this loss of tracking sometimes is caused by operational problems (cf. chapter 7), as tight delivery deadlines force delivery workers to skip the extra scanning to allow for timely delivery.

<sup>152</sup> This is due to the fact that dispatch information is not exchanged between the operator carrying the shipment from the warehouse and the operator performing last mile delivery. In this case, the first scanning of the shipment takes place where the shipment is transferred between the operators. This can potentially be several days after dispatch and perhaps only a few hours or days before final delivery (Copenhagen Economics, Delivery operator and e-retailer interviews).

We observe that cross-border end-to-end track and trace of parcels primarily is offered by the global integrators and by the NPOs part of the IPC E-Parcel Group (EPG). In chapter 3, we observed that two out of three multinational integrators in our sample offer cross-border tracking to all destinations within the EU. For NPOs, the corresponding figure is 68 per cent. 95 per cent of NPOs offer cross-border tracking in at least part of the EU. For packets (which are part of letter mail flows), cross-border tracking is provided by all NPOs part of the UPU in terms of registered mail. However, since registered mail requires a signature (proof of receipt) from the recipient at delivery, this service might not be suitable for e-shoppers and e-retailers who want tracking without a signature at delivery. For this reason, the IPC is currently considering a project to extend tracking to low value packets (without proof of delivery).<sup>153</sup>

An interesting observation is that operators other than the NPOs that are part of EPG cannot access the integrated systems for information exchange and thus cannot take part of the solutions developed. If non-NPOs want to offer cross-border track and trace, they have to develop own solutions and integrate systems on a bilateral basis.

Our interviews with both small and large delivery operators reveal that operators in mature delivery markets often invent own solutions (e.g. PostNL) or integrate systems bilaterally on a case-by-case basis (e.g. Bring, UPS). Nevertheless, the lack of access to integrated solutions might discourage smaller operators from offering cross-border tracking at all, or only offer it to destinations with large volume flows (e.g. neighbouring countries).

Access to integrated solutions for track and trace are mentioned as problematic by 25 per cent of the delivery operators in our sample. As a consequence, e-retailers considering tracking essential may have a smaller range of alternative delivery operators to engage with. Similarly, e-shoppers may face a smaller selection of e-retailers offering tracked delivery, or find that tracked services are offered only at a higher price.

### **Lack of convenient cross-border returns**

Interoperability also seems to be a problem with respect to returns (i.e. reverse logistics). In chapter 4 we established that users are not satisfied with the return services on offer today. On average 56 per cent of e-shoppers cannot return parcels or packets via a post office or collection point, although they find this service important. The largest problem is observed in less mature e-commerce and delivery markets. 43 per cent of e-retailers refrain from offering at least one return solution that they find important for their business.<sup>154</sup> Notably, 61 per cent of e-retailers in our survey consider tracking of return parcels important, but do not offer it. Tracking of return parcels is important to e-retailers, because it provides the e-retailer with information about the time and date of the customers' return. This makes it easier for the e-retailer to determine if the customer is eligible for reimbursement.

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<sup>153</sup> Mark Harrison, head of markets, International Post Corporation, Marketforce's 16<sup>th</sup> annual conference, European Postal Services 2013

<sup>154</sup> This is similar to the result found by Snow Valley (2011).

We observe that, delivery operators generally offer return solutions domestically. However, we observe that many e-retailers chose not to offer return solutions to their customers. The reason for e-retailers' dissatisfaction with domestic return solutions might be caused by high prices charged by delivery operators. For cross-border purchases, however, we find that the delivery operators offer much fewer return solutions, cf. chapter 3.<sup>155</sup>

A main challenge for delivery operators when offering returns is high costs caused by low volumes and costly collection.

Low return volumes arise because only a share of deliveries is returned. Hence, the return flow is smaller than the delivery flow, and unit costs of parcels are therefore higher than normal deliveries.

Costly collections arise especially for delivery operators without a network of collection points. These delivery operators can facilitate returns by picking up consignments directly from the customers. Individual pick-ups are, however, an expensive form of collection, because the volume per pick up is very low (normally only one parcel). This adds to the unit cost of a return parcel. Delivery operators without their own collection point network can try to solve this challenge by collaborating with other delivery operators with a network of collection points.

Another challenge is the lack of tracking of cross-border return parcels. This challenge is very similar to the lack of tracking for cross-border deliveries caused primarily by a lack of access to interoperable tracking systems.

### **High delivery costs and long delivery times caused by diverging addressing and labelling formats**

Another challenge in relation to cross-border interoperability (highlighted in previous studies as well as in our feedback from delivery operators and e-retailers) is the *diverging addressing and labelling standards* that currently exist throughout the EU. A recent study conducted by FTI Consult (2011) concluded that:

*"The existence of different addressing standards across the Member States is a problem, especially for small and individual senders. [...] The single addressing standard will reduce parcel labelling costs for all retailers; it will however be especially beneficial for small retailers, which have less knowledge of cross-border markets and higher search costs: not being able to label a parcel properly increases postage costs (because it reduces the ability to work share)."*

The problem with differing addressing and labelling standards is also highlighted by e-retailers and delivery operators. 55 per cent of e-retailers mention diverging addressing and labelling standards as a delivery problem and find it complicated to comply with dif-

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<sup>155</sup> For instance, only 11-15 per cent of non-integrators offer cross-border returns made from a post office or similar collection points from anywhere in the EU, while no integrators offer returns made from a collection point.

ferent label and/or address formats.<sup>156</sup> Out of the delivery operators in our sample, the corresponding figure is 48 per cent.<sup>157</sup>

## 6.5 Regulation

Inappropriate regulation (or lack of appropriate regulation) may contribute to service gaps by (i) reducing the incentives to innovate and provide customer-oriented delivery solutions, and (ii) increasing the costs of providing delivery services, resulting in higher prices.

Delivery of products bought online may be affected by several regulatory frameworks:

- *Postal regulation at EU and Member State level*
- *Access regulation*
- *Provisions affecting transport and logistics*
- *VAT regulation*
- *Standards*

In the following, we shortly introduce the regulatory frameworks one by one and discuss how they might contribute to the service gaps identified in chapter 4.

### Postal regulation

E-commerce driven delivery conducted by postal operators is subject to the EU postal regulatory framework and the postal regulation implemented at national level. The regulation mainly concerns the universal service providers (USPs) and the part of their provision of delivery services falling within the scope of the universal service obligation (USO).

However, most e-commerce shipments fall outside the USO scope and thus outside the regulatory scope for NRAs. Earlier studies have shown that approximately 10 per cent of parcel volumes fall within the scope of the USO.<sup>158</sup> Our data show that around 5-8 per cent of e-commerce shipments fall within the USO. The reason for the low share of deliveries falling within the USO scope is twofold. *First*, a large share of e-commerce shipments (around 60-70 per cent) is delivered by operators other than the USPs. *Second*, in many Member States, the USO does not cover packets and/or parcels sent in bulk, cf. Table 45, and Table 46. As e-retailers, also smaller ones, typically buy bulk services, this implies that only a limited share of the USPs' e-commerce deliveries is within the scope of the USO. In other words, e-retailers prefer to use non-USO services.

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<sup>156</sup> E-retailers that answered "I completely agree" or "I strongly agree" to the question: Complying with different label and/or address formats for cross-border deliveries is complicated. ("I do not understand the question" has been discarded).

If we add the number of e-retailers that answered "I somewhat agree", the percentage becomes 78 per cent.

<sup>157</sup> Out of 62 responses 9 did not answer the questionnaire. Delivery operators which think of addressing standards as a delivery problem either answered with very problematic, challenging or limited challenge.

<sup>158</sup> European Commission (2012b)

**Table 45 Domestic packet and parcel products under USO, 2013**

	Yes	Countries	No	Countries	No answer	Countries
<b>Packets</b>						
Single piece priority	12	BE, BG, DK, EE, DE, EL, MT, LV, RO, ES, SE, UK	3	CZ, LT, NL	10	AT, FI, FR, HU, IE, IT, PL, PT, SK, SI
Single piece non-priority	12	CZ, DK, EE, DE, EL, FI, NL, LV, RO, ES, SE, UK	4	BE, BG, LT, MT	9	AT, FR, HU, IE, IT, PL, PT, SK, SI
Bulk priority	6	DK, EL, LV, MT, ES, SE	8	BG, CZ, EE, FI, DE, LT, NL, UK	11	AT, BE, FR, HU, IE, IT, PL, PT, RO, SK, SI
Bulk non-priority	6	BG, DK, EL, LV, ES, SE	8	CZ, EE, FI, DE, LT, MT, NL, UK	11	AT, BE, FR, HU, IE, IT, PL, PT, RO, SK, SI
<b>Parcels</b>						
Single piece priority	16	AT, BE, BG, DK, EE, DE, EL, HU, IE, LV, LT, MT, PL, SK, ES, SE, UK	5	CZ, FI, FR, RO, SI	3	IT, NL, PT
Single piece non-priority	17	AT, BE, CZ, DK, EE, FI, FR, DE, EL, HU, IE, LT, PL, RO, SK, SI, ES, UK	3	BG, MT, SE	4	IT, LV, NL, PT
Bulk priority	8	AT, DK, EL, HU, IE, LV, MT, SK, ES	10	BG, CZ, EE, FI, FR, DE, LT, PL, SE, UK	6	BE, IT, NL, PT, RO, SI
Bulk non-priority	7	AT, BG, DK, EL, IE, HU, SK, ES	10	CZ, EE, FI, FR, DE, LT, MT, PL, SE, UK	7	BE, IT, LT, NL, PT, RO, SI

Source: Copenhagen Economics, NRA questionnaire and ERGP (2012)

**Table 46 International packet/parcel products under USO, 2013**

	Yes	Countries	No	Countries	No answer	Countries
<b>Packets</b>						
Single piece priority	11	BE, BG, DK, EE, DE, EL, LV, MT, RO, ES, UK	4	CZ, LT, NL, SE	10	AT, FI, FR, HU, IE, IT, PL, PT, SK, SI
Single piece non-priority	11	CZ, DK, EE, FI, DE, EL, LV, NL, RO, ES, UK	5	BE, BG, LT, MT, SE	9	AT, FR, HU, IE, IT, PL, PT, SK, SI
Bulk priority	5	DK, EL, LV, MT, ES	9	BG, CZ, EE, FI, DE, LT, NL, SE, UK	11	AT, BE, FR, HU, IE, IT, RO, PL, PT, SK, SI
Bulk non-priority	6	BG, DK, EL, LV, NL, ES	8	CZ, EE, FI, DE, LT, MT, SE, UK	11	AT, BE, FR, HU, IE, IT, RO, PL, PT, SK, SI
<b>Parcels</b>						
Single piece priority	17	AT, BG, BE, DK, EE, DE, EL, HU, LV, LT, MT, PL, RO, SK, SE, ES, UK	2	CZ, SI	6	FI, FR, IE, IT, NL, PT
Single piece non-priority	15	AT, CZ, DK, EE, FI, FR, DE, EL, HU, LT, PL, RO, SI, SK <sup>1</sup> , ES, UK	3	BG, MT, SE	7	BE, IE, IT, LV, NL, PT, SK
Bulk priority	8	AT, DK, EL, HU, LV, MT, SK, ES	9	BG, CZ, EE, FI, DE, LT, PL, SE, UK	8	IE, IT, NL, BE, FR, PT, RO, SI
Bulk non-priority	7	AT, BG, DK, EL, HU, MT <sup>1</sup> , RO, SK, ES	9	CZ, EE, FI, DE, LT, PL, SE, UK	9	IE, IT, NL, SI, RO, PT, LV, FR, BE

Note: <sup>1</sup> Only outbound parcels

Source: Copenhagen Economics, NRA questionnaire and ERGP (2012)

We observe that some Member States have included specific delivery features preferred by e-retailers and e-shoppers in the USO. This might be due to the fact that these features are not expected to be provided by the market itself. One example is track and trace which is included in the USO in Belgium, Bulgaria, Latvia, Lithuania, Malta, Slovenia and Spain. E-retailers in these countries are thus guaranteed at least one affordable delivery solution that also can be tracked while in transit. We note, however, that tracking of packets and parcels are offered by 26 NPOs for domestic delivery, and by 23 NPOs for cross-border delivery (also where this is not part of the USO), although not always to all destinations, cf. Table 47. This indicates that including tracking in the USO is not necessary for the provision of this delivery feature.

**Table 47 Obligation to provide vs. availability of track and trace**

	Domestic delivery		Cross-border delivery	
	Part of country	Whole country	Part of the EU	Whole EU
NPOs obliged to provide tracking for USO product (packets and/or parcels)	-	6	-	5
Number of NPOs offering track and trace	1 <sup>1</sup>	25	3 <sup>2</sup>	20

Note: No information on domestic delivery by NL. No information on cross-border delivery by CY, GR and LU. <sup>1</sup>RO <sup>2</sup>DK, PT and BE.

Source: Copenhagen Economics, NRA questionnaire and Delivery operator questionnaire

Since the NPOs often offer more value added services than the USO requires, the main challenge does not seem to be the existence of service on offer from delivery operators. Instead, the main challenge seems to be that services are provided at a price which e-retailers consider to be too high. For example, in some countries, tracking without the requirement of a signature at delivery is only available for parcels and not for packets. Hence, e-retailers who are not willing to pay for the (often) more expensive parcel delivery solution might not always have access to tracking.

High prices might in some instances be caused by weak competition in the delivery market. In order to monitor for exploitative and exclusionary conduct, NRAs need access to market data (e.g. volumes, turnovers, prices and costs). However, national authorities might have difficulties to monitor B2C parcel markets in general, as the majority of B2C parcels delivered fall outside the USO area. This means that NRAs cannot collect information from market players based on article 22a in the Postal Directive.

Market data about volumes, turnovers, individually negotiated prices, and costs incurred in parcel delivery is often not publicly available. Moreover, delivery operators are often reluctant to share this type of sensitive information. Moreover market data collected by research institutes are often only published at a very high level of aggregation to reduce risk of collusion. This kind of high level aggregated data, however, is not very useful for regulators. To be able to monitor the competitive situation on the market, authorities need access to more detailed data.

The possibilities to enhance the monitoring powers of NRAs and its potential benefits and drawbacks are further assessed in chapter 8.

Inward termination rates is another area where postal regulation might affect the provision of e-commerce driven delivery services is in relation to cross-border deliveries. Inward termination rates are paid to, when the last mile delivery is carried out by an NPO. According to the Postal Directive, NRAs should ensure cost-orientation and transparency of inward termination rates (i.e. the price paid by a foreign delivery operator for last mile delivery by the domestic NPO).

Cost-orientation of termination rates serves two purposes. First, cost-orientation reduces the risk of excessive cross-border delivery prices. Second, cost-orientation ensures that small delivery operators can compete in cross-border delivery by using the NPO in the destination country for last mile delivery. This is particularly important if the foreign delivery operator does not have access to alternatives. If alternative operators compete about handling the last mile delivery, the delivery operator in the origination country will be able to get a good price. This is confirmed in interviews with delivery operators indicating that termination rates<sup>159</sup> are set at a competitive level when there is competition in the delivery market in the destination country. Hence, in countries where a large part of the market is subject to competition, high cross-border prices to that market seem to be driven by high mark-ups in the origination countries.

An earlier study conducted by FTI Consult in 2011 concluded that NRAs have difficulties to ensure cost-oriented (inward) cross-border prices as these rates often are kept confidential (also towards the NRA). In our questionnaire to NRAs, we asked if and how they ensure cost-orientation of inward termination rates. We also asked them if they experience any difficulties in relation to this task. 44 per cent of the NRAs report difficulties to ensure transparent and cost-oriented termination rates, cf. Table 48.

**Table 48 Ensuring transparent and cost-oriented terminal dues**

How the NRAs ensure the principles are being followed	Percentage of the NRAs (%)
Collecting information about the terminal dues charged by national postal operator for processing and delivery of incoming cross-border LETTERS	36
Collecting information about the terminal dues charged by national postal operator for processing and delivery of incoming cross-border PARCELS	28
Collect information about the costs of processing and delivering incoming cross-border LETTERS and PARCELS	40
Nothing	12
Experience any difficulties in this task	44

Source: Copenhagen Economics, NRA questionnaire

The experienced difficulties are often caused by insufficient cost and price transparency, cf. Box 11.

<sup>159</sup> The termination rate is the price paid by the delivery operator in the origination country for last mile delivery in the termination country in relation to cross-border transactions.

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### Box 11 Problems encountered by NRAs in relation to terminal dues

Comments from NRAs as to the difficulties experienced in ensuring transparent and cost-oriented terminal dues for last mile delivery of packets and parcels reveal that problems often are related to insufficient transparency. Some comments are summarised below:

*"We have only access to the terminal dues agreements of the UPU but we have no access to the multi country agreement as REIMS and neither to the bilateral agreements between [NPO] and other operators."*

*"Information provided at aggregated level, difficult to regulate UPU terminal dues rates."*

*"Whilst information on the terminal dues is collected from the national postal operator it is difficult to have information on the agreements in place between local postal operators and multinational postal operators."*

*"The data regarding the costs is included in the separate financial statements for which the auditor gave a disclaimer of opinion."*

*"It is a problem at the beginning to understand differences between UPU Terminal Dues system and Reims system (in connection to Unex measurement). Especially because you are completely dependent to info from USP."*

*"A more deeper monitorisation [sic] of this issue, with a major level of detail, would be beneficial."*

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Source: Copenhagen Economics, NRA questionnaire

#### Access regulation

Another area where existing regulation might fail to provide for customer-oriented delivery solutions is access to multi-household buildings. Non-NPOs do not always have access to keys for multi-household buildings (thus preventing home delivery). This might prevent non-NPOs from delivering the convenience that e-shoppers prefer. It might also increase the cost of delivery, since non-deliverable items have to be transported to an alternative collection point and the customer has to be informed about the change.

Our research reveals that 47 per cent of delivery operators perceive access to keys as a problem.<sup>160</sup> The problem exist e.g. in Austria, Denmark, Germany, Greece, Hungary, Italy, Lithuania, Malta, Poland, Portugal, Slovakia, and the UK. In four of these countries, disputes related to access to multi-household buildings or letter boxes have been handled by the NRA. This indicates that access problems do not only exist in theory, but also in practice. In addition to letter boxes or multi-household buildings, access issues also seem to be present in relation to address databases and post codes, cf. Table 49.

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<sup>160</sup> Out of 62 delivery operators, 9 did not respond to this question. Delivery operators who think of access to keys a delivery related problem either answered "very challenging", "challenging" or "limited challenging".

**Table 49 Access-related disputes in relation to delivery**

Disputes related to	Countries
Access to the national address database	DK
Access to letter boxes/keys for multi-household buildings	AT, HU, LT, PL
Access to parcel kiosks (automated lockers) owned by universal service provider	-
Access to parcel kiosks (automated lockers) owned by other service providers	-
Access to other delivery points, such as retail outlets	FR*, NO*
Access to post codes	GR

Note: The table shows cases handled by NRAs. \*Cases regarding access to delivery points in France and Norway have been handled by the competition authority.

Source: Copenhagen Economics, NRA questionnaire

The existence of an access problem might be correlated to the way access to multi-household buildings is granted or negotiated. Information from NRAs<sup>161</sup> across the EU reveals that only eight countries (Belgium, Greece, Malta, Netherlands, Poland, Portugal, Romania and Spain) grant access to house keys to all delivery operators. In five countries (Bulgaria, Denmark, France, Germany, and Sweden) express and courier companies lack access to multi-household buildings. We note that several of the countries where delivery operators have mentioned access to house keys as a problem (Greece, Malta, Poland, and Portugal) already have regulation in place that should allow all operators access. Thus, access problems seem to arise *irrespective* of the type of access regulation in place. In other words, the largest challenge does not seem to be the type of regulation imposed, but the weak enforcement of the existing regulation. This example clearly demonstrates that strengthening regulation and extending access to more delivery operators may not have the desired effect, unless the regulation is effectively enforced. The importance of effective enforcement of regulation holds also for other areas where policy intervention might be called for to increase the levels of e-commerce.

### Provisions affecting transport and logistics

International provisions for transports and logistics may increase delivery costs. Our analysis reveals five potential barriers that seem to increase the costs for (primarily multinational) delivery operators:

- *Restrictions on road transport cabotage*
- *Urban freight transport measures*
- *Restrictions on the use of the EMS*
- *Restrictions with respect to ground handling services*
- *Restrictions with respect to night flights*

'Cabotage' is defined by the European Commission as "*the national carriage of goods for hire or reward carried out by non-resident hauliers on a temporary basis in a host Member State*".<sup>162</sup> According to EU's common rules for access to the international road haulage market<sup>163</sup>, cabotage within the EU is restricted by up to three operations within

<sup>161</sup> 24 NRAs responded to the questionnaire. NRAs that did not provide a response were Cyprus, Czech Republic and Luxembourg.

<sup>162</sup> European Commission (2013b)

<sup>163</sup> Regulation (EC) No 1072/2009

seven days after the day of unloading the international transport. In case operations will be performed in another Member State than the one in which the transport was unloaded, only one cabotage operation within three days of the cargo-free entry into the country can be carried out.<sup>164</sup>

Though the regulation was introduced to facilitate efficient use of road freight transport, congestion arising from the rules may affect the cost of distributing parcels and packages negatively. Via inefficient use of trucks, the regulation may lead to inefficient logistic networks and consequentially, to higher costs. Our interviews with cross-border delivery operators have revealed that a relaxation of the cabotage rules might help to increase the efficiency in logistics networks and decrease the amount of empty trucks<sup>165</sup> running on European roads.

*Urban freight transport measures* are mainly employed at a local level. Measures include time windows for freight deliveries, vehicle weight and size restrictions, and low emission zones.<sup>166</sup> In the “freight logistic action plan” implemented by the European Commission in 2007, the Commission, in connection with retailers and delivery operators, identified the need for new delivery solutions and regulations, which are applicable in a wide number of cities.<sup>167</sup> However, notwithstanding the positive overall effect of these kinds of measures, they might at the same time prevent delivery operators to provide customer oriented delivery services (e.g. express delivery) in city centres.

*The European Modular System (EMS)*<sup>168</sup>, defined in the Directive 96/53 EC, is a concept allowing combinations of existing truck loading units (modules) into longer and sometime heavier vehicle combinations than those prescribed by EU standard legislation to be used on some parts of the road network.<sup>169</sup> Today, the EMS is implemented in Sweden and Finland. However, conducting national trials with EMS and implementing the system for hub to hub operations, especially for cross border routes, could potentially increase logistic efficiency, and reduce congestion and fuel use, thereby reducing delivery costs.

*The provision of ground handling services* is regulated by Directive 96/67/EC, and covers technical services at the airport (such as freight handling) as well as services which are essential for the passenger safety (such as surface transport). The Directive stipulates that the market should be free at larger EU airports. However, it also states that each Member State is allowed to limit the number of suppliers, in particular in the freight and mail handling service, to no fewer than two for each category of service. In case restrictions are at place, at least one supplier needs to be independent of the dominant airline of the respective airport and the airport itself.<sup>170</sup>

<sup>164</sup> European Commission (2013b)

<sup>165</sup> According to the response submitted by the European Express Association to the Green Paper on e-commerce and delivery a relaxation of the cabotage rules could potentially increase efficiency in logistic networks by 30 per cent.

<sup>166</sup> MDS Transmodal Limited (2012)

<sup>167</sup> Euro-Lex (2013)

<sup>168</sup> “the Member State which permits transport operations to be carried out in its territory by vehicles or vehicle combinations with dimensions deviating from those laid down in Annex I also permits motor vehicles, trailers and semi trailers which comply with the dimensions laid down in Annex I to be used in such combinations as to achieve at least the loading length authorized in that Member State, so that every operator may benefit from equal condition of competition (modular concept).”

<sup>169</sup> European Modular System (2013)

<sup>170</sup> European Commission (2013a)

Though the directive was implemented to support a market opening, the market is not yet fully accessible for private operators (such as the multinational integrators). In order to improve efficiency and reduce costs, opening the market as a whole and thereby allowing integrators to provide ground handling services themselves, might prove to be more cost efficient.

In order to balance the desired level of *noise protection in relation to night flights* against overall capacity implications, the European Commission has implemented the Directive 2002/30/EC based on the “Balanced Approach”.<sup>171</sup> The Approach comprises four principal elements, such as quieter aeroplanes, reduction of noise impact on ground, sustainable management of the land around the airport, and the possibility of introducing operating restrictions. While the Approach is functioning as a base for the Directive, its application could be improved. For instance, most cross-border next day delivery services are only accomplishable in case of a night transport by airplane. Hence, local night flight restrictions could restrict the provision of next day deliveries throughout the EU.

### VAT regulation

The fact that delivery services provided by national postal operators in their roles as universal service providers sometimes are exempt from VAT could potentially be a problem distorting competition between delivery operators. However, as 92–95 per cent of e-commerce driven delivery services fall outside the scope of the USO, this problem is more of a theoretical nature than a practical one. Moreover, very few e-retailers are VAT exempt.

### Standards

Many items bought online are small (books, DVDs, accessories) and could potentially be delivered directly to the e-shoppers’ letter boxes. For items of lower value, delivering directly to the recipient’s letter box is often advantageous compared to home delivery requiring a signature from the recipient, both for e-shoppers and for delivery operators. For e-shoppers, letter box delivery implies that one does not have to be at home to wait for the delivery to arrive. For delivery operators (provided that they can access the letter box), letter box delivery implies a higher rate of successful first delivery attempts and thereby lower delivery costs.

Successful letter box delivery requires that the letter box (including its opening) is sufficiently large. Today, standard formats for letter boxes vary significantly across countries, cf. Table 50.

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<sup>171</sup> European Commission (2013a)

**Table 50 Standardised format for letter boxes – country overview**

Country	Standard measures in cm (height x width of opening)	Legal basis for the standards
Austria	3-3.5 x 23-28	Standard: EN13724. Only applicable for letterboxes in large buildings with more than 4 addresses.
Belgium	3 x 23	Ministerial decree
Denmark	3.5 x 26 (Type I) 3.5 x 36 (Type II) 3.5 x 30 (Type III) 3.5 x 36 (Type IV)	DS/EN 13274
France	2.6 x 34	Secondary legislation (arrêté du 29 juin 1979). Only applicable for buildings having obtained a construction permit after 13 July 1979.
Greece	3.5 x 23	National Standard
Hungary	3 x 23	Secondary regulation
Lithuania	-	Standard EN 13724:2002 Postal services - Apertures of private letter boxes and letter plates - Requirements and test methods are approved as Lithuanian standard in 2003, but is not mandatory.
Netherlands	3.2 x 26.5	Ministerial Decree: Postregeling 2009
Poland	2 x 23.5	Ordinance of the Minister of Infrastructure of 24 September 2003
Portugal	3.5 x 24	Regulatory Decree no. 21/98, of 4 of September
Slovakia	3 x 23	National standardisations STN (without engagement) for private letter box
Spain	-	There is not a postal regulation but some regional secondary legislation in the construction field that applies to new buildings

Note: The countries in the table are those who in response to our questionnaire have indicated that there is a standardised format for letter boxes in the country

Source: Copenhagen Economics, NRA questionnaire

For many countries, the standardised height of the letter box is no more than 2-3 cm. This might be too small to fit in a packet containing e.g. a book. As a result, the book may be delivered to a post office or collection point for pick-up. Thus, increasing the standard height of letter boxes could allow for more customer-oriented delivery as more items could be delivered directly to the e-shoppers' letter boxes.

A potential problem with larger letter box openings, however, is an increased risk of theft. If the opening is large enough, this could allow packet thieves to steal consignments directly from the letter box. Concerns in this area have been raised by consumers in Austria after the implementation of the new letter box standard implemented in 2011.<sup>172</sup> Thus, any consideration to implement new letter box standards would have to take these two effects into account.

## 6.6 Market knowledge (delivery operators)

As shown in chapter 2, e-shoppers have preferences for a wide variety of delivery services. If delivery operators do not have a sufficiently good understanding of the e-retailers' and e-shoppers' needs and therefore do not provide the right services, this may explain part of the observed service gaps.

<sup>172</sup> VKI (2012b)

During the course of this study, we have experienced that very little information exists on e-retailer needs. There are to date no systematic reviews of e-retailers' delivery needs and preferences, and the willingness among e-retailers to provide data to this study has been limited.<sup>173</sup> The challenge to obtain information from e-retailers is also visible in earlier publications where the sample of e-retailers often is very limited.<sup>174</sup> Information about e-retailers' needs must therefore to a large extent be gathered by delivery operators themselves.

Our research reveals that most delivery operators put effort in understanding user needs. 27 operators in our sample have conducted research about recipients' (i.e. e-shoppers') delivery preferences. For 24 of these operators, the research also implied a change in the delivery operator's behaviour. We also note that 23 delivery operators have a separate department or specific staff dedicated to e-commerce, cf. Table 51.

**Table 51 Market knowledge among delivery operators**

Initiative	NPO [No. of operators]	Alternative operator [No. of operators]
Department/staff for e-commerce	13	10
Research about recipients' delivery preferences	18	9
Changed behaviour after consumer research	15	9

Source: Copenhagen Economics, Delivery operator questionnaire

In general, high consciousness about e-commerce exist both in markets with high and low levels of e-commerce. This is most likely explained by the fact that the take-off of e-commerce has triggered delivery operators in most markets to focus on the benefits that more customer-oriented delivery solutions can bring. In particular, as mail volumes decline, NPOs seek new ways to secure stable revenues. Thus, e-commerce provides a good opportunity to increase volumes in the delivery network and compensate for the decline in letter mail.

In addition to the delivery operators' own collection of data, information about e-shoppers' needs and preferences is also collected and compiled by national and Europe-wide industry organisations, such as BIEK (Germany), the IPC and Post Europe. These organisations also collect (at least to some extent) data about market volumes, flows, and turnovers. However, due to the risk of collusive behaviour caused by too extensive data sharing, market data is often compiled by a third party (e.g. a research institute) and only published in aggregate terms. The information collected by industry organisations is often only available to the organisations' own members. Therefore, small delivery operators without a membership often lack access to this type of data.

The lack of market data can make it more difficult for small delivery operators to make decisions about what products to provide and what investments to make. For example, to

<sup>173</sup> For example, the survey among e-retailers in the EU was sent out to more than 1,000 e-retailers. The final number of respondents was 70. We have also encountered difficulties to obtain help from some e-retailer associations with respect to the facilitation of interviews with their members.

<sup>174</sup> In a global research project out consumer preferences and services offered by e-retailers, WorldPay surveyed 19,000 e-shoppers but only 153 e-retailers. This imbalance between the two samples confirms the difficulty to obtain information from e-retailers.

be able to decide whether to invest in a network of automated parcel kiosks, a delivery operator would need detailed knowledge, not only about e-shoppers' delivery preferences, but also about parcel volumes, parcel flows, and the characteristics of the parcels delivered (size, weight, content).

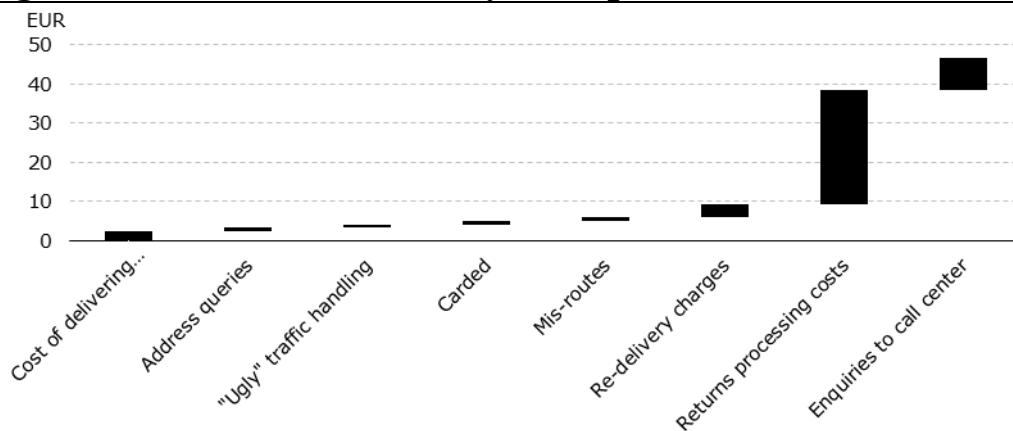
Acknowledging that many delivery operators and industry organisations already collect information about users' delivery needs and preferences, we observe a potential for improvement.

An important challenge for many delivery operators is the rate of failed delivery attempts. A failed delivery attempt incurs an extra cost in terms of extra transport, re-delivery, and/or handling at a collection point. Parcels which are not picked up from a collection point in time are returned to the sender (incurring further costs). In addition, customers calling to ask about the delivery status require extra resources and costs dedicated to customer service. If delivery operators had better knowledge about the recipients and their preferences with respect to home delivery, the share of failed delivery attempts, and thus delivery costs, could be substantially reduced. According to a study conducted by the e-retailer association IMRG, the cost of processing returns might be more than twelve times the cost of delivering the perfect parcel without any incidences, cf. Figure 99. According to research conducted by Blackbay, the cost of failed first delivery attempts in the UK (with an average rate of failed delivery attempts of 12.4 per cent) amounts to 1 billion Euros.<sup>175</sup> These costs may indirectly be passed on to e-shoppers, as these inefficiencies are calculated into overall delivery price.

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**Figure 99 Cost of failed delivery attempts**

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Source: IMRG (2011)

Our research shows that, on average, 17.3 per cent of home deliveries fail at the first attempt due to the fact that the recipient is not at home. The share varies from 2.8 per cent in Poland to above 50 per cent in Cyprus and Portugal. By adhering better to customers' delivery preferences and reducing the share of failed delivery attempts, delivery operators

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<sup>175</sup> Blackbay (2012), p.13

with high rates of failed delivery attempts may thus be able to reduce delivery costs and thereby also delivery prices.

## 6.7 Competition

Weak competition in the delivery market may reduce the pressure on delivery operators to innovate and to offer customer-oriented services. Weak competition could be caused by market failures such as the existence of a natural monopoly or high entry barriers hindering competition to emerge. Weak competition could also be caused by anti-competitive behaviour, preventing smaller delivery operators from competing on equal foot with larger ones. In line with previous case law<sup>176</sup> we distinguish between competition for domestic deliveries and competition for international deliveries.

### Competition in domestic delivery markets

We observe that, in most countries, several alternatives to the NPOs are active in the distribution of products bought online. In all Member States, there are at least one or two alternatives to the NPO providing B2C delivery of parcels and packets. In 11 Member States, there are at least five alternatives to the NPO, cf. chapter 3. Taking into account the presence of multinational integrators (which not only provide express, but also deferred services), the number of alternatives is even larger.

Our survey among e-shoppers shows that the volumes of domestic e-commerce shipments delivered, in general, are rather equally distributed between NPOs and other delivery operators. In the sample, on average 41 per cent of domestic shipments are delivered by the NPO, 39 per cent are delivered by the multinational integrators, and 20 per cent are delivered by other (local or regional) carriers. The countries in our survey with the highest concentration of shipments to one type of delivery operator are Estonia and Poland, i.e. the least developed e-commerce and delivery markets. In fact, Estonia is the only country in our sample where one delivery operator delivers more than 50 per cent of domestic shipments.<sup>177</sup> For Poland, we note that 54 per cent of domestic deliveries are delivered by the multinational integrators.

Although our survey results (as well as the results from the delivery operator questionnaire, cf. chapter 3) show that almost 60 per cent of shipments are delivered by non-NPOs, we also note that e-retailers (especially small ones) not always consider all these delivery operators as relevant to them. This is observed in our online survey among e-retailers, as well as in our interviews with e-retailers and the associations that they belong to. In our survey, 28 per cent<sup>178</sup> of the e-retailers state that the only relevant alternative for delivery is the national postal operator.

Similar results have been found in earlier studies. For example, in a survey conducted by Deutsche Post/DHL, consumers in Austria, Germany and Switzerland were asked about their preferred delivery operator. The results were rather similar across the three coun-

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<sup>176</sup> See for example Case No COMP/M.5152 – Posten AB/Post Danmark A/S of 21 April 2009 and Decision of 30 January 2013 prohibiting the planned acquisition of TNT Express by UPS

<sup>177</sup> According to our survey results, the Estonian NPO delivers 55 per cent of all domestic shipments.

<sup>178</sup> The 28 percentage is the proportion of the e-retailers, that only use one delivery operator (39 in total), which actually use NPO when delivering products to customers (11), i.e. 11/39.

tries. When being asked to choose among five or six alternative delivery operators, between 27 and 29 per cent of e-shoppers selected the NPO as their preferred delivery operator. This might to some extent explain why many e-retailers prefer the NPO. However, our interviews with e-retailers and their associations reveal other reasons why alternative operators sometimes are not considered relevant by e-retailers (particularly small ones). The primary reason seems to be more expensive delivery solutions cf. Box 12.

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### Box 12 Relevance of alternative delivery operators - Belgium

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Looking at the number of delivery operators active in Belgium, competition seems to be fierce. In addition to the national postal operator bpost, alternative operators such as PostNL, Kiala, GLS, DHL, DPD, TNT Express and UPS are also offering B2C distribution of products bought online. Nevertheless, smaller e-retailers do not always consider the alternative operators as *relevant* alternatives.

The reason for this is primarily the higher prices charged by the alternative operators. In fact, smaller e-retailers often perceive operators like DHL and UPS as "too big for the smaller e-retailers". They experience that these operators do not adapt their service offerings to serve the smaller customers and their need for cheaper delivery options. As a result, the spectrum of relevant delivery alternatives is often narrowed down to the national postal operator and the level of competition in the delivery market is perceived as weak.

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Source: Copenhagen Economics, E-retailer association interviews

It is not surprising that non-NPOs consider small e-retailers relatively unattractive as customers compared to larger ones. The rationale behind this has recently been discussed in a book about the small package delivery market:

*"A key process carriers use to divide markets is to look at the attention customers require and the attention they are willing to provide. Parcel volume is important to carriers because it directly affects their pick up costs. Generally, the larger the shipping volume, the more attention customers will receive."*<sup>179</sup>

In other words, just as low volumes make it unattractive for delivery operators to provide certain services, low volumes might also make it less attractive to serve certain customers (as long as these customers are not willing to pay a higher price, corresponding to the higher cost).

According to Dennis (2012), delivery operators divide customers into three groups, depending on their volume and thus how much attention they will receive:

***High touch customers*** have the highest shipping volumes. Large catalog retailers and electronic firms are in this group. High volume customers are likely to seek regular competitive bidding for their delivery needs.

***Medium touch customer*** volume is not enough to justify a dedicated sales staff. The support carriers provide is through their call centers and the internet. These customers are less likely to use a formal bidding process.

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<sup>179</sup> Dennis (2012)

**Low touch customers** have a low shipping volume. These customers often require access to on-demand pick up services instead of daily pick up services. Customers in this group may also use retail access points. Carriers provide customer support through call centers and the Internet, and typically offer small discounts to these customers.”

That small e-retailers do not get as much attention, and as beneficial offers as large e-retailers is thus not due to lack of competition in the delivery market. Instead it is well functioning market forces ensuring that sales resources are allocated based on benefit-cost considerations. The fact that alternative delivery operators devote less attention to smaller e-retailers than to larger e-retailers also implies that the NPOs can charge higher prices.

Our own comparison of prices between NPOs, integrators and other carriers suggests, however, that non-NPOs (with respect to list prices) often offer competitive prices. We also observe that non-NPOs sometimes are the preferred by e-retailers. One example of this is provided by a Romanian e-retailer who sends approximately 200 parcels per day to customers in Romania, Hungary and Bulgaria. Because of reluctance among customers to pay by credit card, cash on delivery is an important delivery feature for the Romanian e-retailer. Cash on delivery is, however, not offered by the NPOs in the relevant countries. For this reason, the e-retailer has chosen to only engage with private companies. Today, the e-retailer engages with four different delivery operators (two in Romania and one in Bulgaria and Hungary respectively).

These findings suggest that the perceived lack of relevant alternatives, at least to some extent, can be caused by lack of adequate information about delivery alternatives available to e-retailers. This, however, is an information gap.

Nevertheless, if some e-retailers do not consider other operators than the NPO as viable alternatives, this could reduce the competitive pressure on the NPOs and thereby lead to lack of services, too high prices, or inferior service quality offered to these e-retailers. This requires, however, that the delivery operators can differentiate between e-retailers with alternatives, and e-retailers without alternatives – which they typically do through volume rebates. Moreover, existing delivery operators that at present do not constitute relevant alternatives to the smaller e-retailers (primarily due to higher prices) put an indirect competitive pressure on the NPOs. If the prices and delivery conditions offered by the NPOs worsen, this will eventually make the services provided by the alternative operators more attractive. Smaller e-retailers might also have the possibility to consolidate their volumes, e.g. by selling via market places that offer delivery or by using the services provided by parcel brokers and consolidators. Our research, however, reveals that most e-retailers are not aware of these alternatives today.

The finding that non-NPOs do not constitute relevant alternatives does not hold for all e-retailers. Our interviews reveal that some non-NPOs already are considered relevant alternatives by the e-retailers (also smaller ones) and that, in some countries, the NPO is not considered a relevant partner to e-retailers because of low quality or high prices.<sup>180</sup> The fact that 60 per cent of domestic e-commerce shipments are delivered by non-NPOs

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<sup>180</sup> Interview with e-retailers; the case of Romania, Hungary, and Bulgaria.

supports this. Interviews with e-retailers witness about the benefits of being able to choose between delivery operators. One illustration of this is the experiences made by an e-retailer active both on the Austrian and on the German market, cf. Box 13.

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### **Box 13 Benefits of competition - Germany vs. Austria**

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An e-retailer based in Austria sells books and media online to customers in Germany, Austria and Switzerland. For the German market, two delivery operators – DHL and Hermes – are used in parallel. For the Austrian market, only one operator – Austria Post – is used.

The opportunity to use two different operators in Germany provides the e-retailer with a better position to negotiate good delivery conditions and to promote innovation. According to the e-retailers' experience, the mere threat of entry of competition may be sufficient to promote innovation among delivery operators. For example, the services provided by the NPO improved significantly after Hermes entered the Austrian market. Although Hermes has almost completely withdrawn from the Austrian market today, the NPO's improved customer-focus has remained.

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Source: Copenhagen Economics, E-retailer interviews

Presence of several delivery operators is, however, no guarantee for efficient provision of customer oriented delivery services. Our interviews with delivery operators, and the input from NRAs, reveal that alternative delivery operators often face challenges when entering the delivery market and trying to compete with the established NPOs. One challenge in this context is lack of access to delivery points. In fact, access to relay points, such as supermarkets, used by other operators seems to be a problem in 40 per cent of the countries, most notably in Greece, Belgium, Denmark, Portugal, France and Slovakia.

We also observe several examples of competition cases where delivery operators have been refused access to delivery points due to *selective agreements* between dominant delivery operators and individual shops or retail chains. One case that has attracted large attention is the one handled by the EFTA Surveillance Authority in 2010. The case concerned the Norwegian market for B2C delivery of packets and parcels, where Norway Post was found to abuse its dominant position by preventing its competitors in the parcel market from using the same delivery points, cf. Box 14.

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### Box 14 Access to collection points – the case of Norway post

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On 14 July 2010, EFTA Surveillance Authority (ESA) took a decision stating that the Norwegian NPO, Norway Post, committed an infringement of Article 54 of the EEA Agreement by abusing its dominant position in the B2C parcel market in Norway between 2000 and 2006. ESA ordered Norway Post to bring the infringement to an end and to refrain from further abusive conduct and imposed a fine of EUR 12.89 million on Norway Post.

The abuse concerned, agreements providing for group and outlet exclusivity with major retail and petrol station chains in Norway, as well as the pursuit of a renegotiation strategy likely to limit the willingness of chains to negotiate and conclude agreements with Norway Post's competitors.

The complaint was initially filed by Prvpak, a competitor to Norway Post in the delivery of B2C parcels.

ESA took the view that Norway Post had abused its dominant position. In doing so, ESA relied on the following three considerations: (1) an agreement or cooperation with one or more of the leading grocery store, kiosk and petrol station chains was of significant importance to new entrants in order to enable them to establish a delivery network capable of competing effectively with that of Norway Post; (2) Norway Post's conduct limited its competitors' access to those chains; and (3) the conduct was capable of restricting competition in the market for B2C parcels with over-the-counter delivery. In addition, ESA considered that (4) Norway Post's conduct likely resulted in actual anticompetitive effects to the detriment of consumers.

Norway Post applied for annulment of the decision at the EFTA court. After investigation, the court did not accept the application in full, but reduced the fine by Norway Post by 20 per cent.

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Source: EFTA Court (2012)

Another case concerned the French market, where the French competition authority in May 2011 took protective measures to suspend a planned partnership between La Poste (The French NPO) and Mondial Relay (an alternative and fast-growing parcel delivery company). The competition authority considered that a contract between the two entities had the potential to strengthen La Poste's dominant position and marginalise actual or potential competition in the parcel delivery market. The competition authority expressed that, even in the absence of an exclusivity clause in the contract between the two entities, the obligations imposed on Mondial Relay by the contract might in practice dissuade it to contract co-operation agreements with other operators and would therefore result in de facto exclusivity.<sup>181</sup>

Together with the sector-specific regulator, ARCEP, the competition authority stated that granting competitors (such as Mondial Relay) access to La Poste's distribution network is a second-best solution that is only to be envisaged in the event that competition is truly lacking on the market. Furthermore, ARCEP pointed out in its opinion that granting competitors access to La Poste's distribution network, including sorting facilities and post offices, would require improved analysis methods and reporting standards of La Poste's actual costs in order to implement cost-oriented pricing for competitors' access to these

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<sup>181</sup> Norton Rose (2011)

facilities. Neither ARCEP, nor the French competition authority, deemed the network of collection points to be an “essential facility” or a “natural monopoly”. Hence, delivery operators in France will have to develop competing networks.<sup>182</sup>

The question about essential facilities and access to infrastructure is also applicable to *new elements of infrastructure* (e.g. networks of parcel kiosks). We observe that several delivery operators across Europe invest in networks of parcel kiosks where e-shoppers can collect their packets and parcels 24/7, cf. chapter 3. The operator investing in the parcel kiosk network often has an exclusivity agreement with the provider of the machines. This implies that other delivery operators cannot use the facilities. Alternatively, access is only granted at a high cost. The reason for this is that the investing operator wants to secure a means to redeem the costs of building the network (by being the only alternative for customers who prefer this delivery mode, or by offering access at a high price to others who wish to use the network). Access to operators’ parcel kiosks seems to be problematic in 48 per cent of the countries, e.g. in Belgium, Denmark, and Germany. In fact, 17 out of 62 respondents assessed the problem of access to parcel kiosks as *very problematic*.

In line with the logic of the Telecommunications Directive<sup>183</sup> we note that non-sharing of elements infrastructure in the delivery markets may become an entry barrier for new delivery operators who will have to invest in own (often costly) infrastructure. It may also prevent efficient provision of delivery services if it creates a situation with two parallel networks with low utilisation of capacity (e.g. two parcel station networks where 50 per cent of the lockers in both networks are empty).

In the telecommunications sector, the Telecommunications Directive highlights the possibility for National regulatory authorities to require “*(...) the holders of the rights to install facilities on, over or under public or private property share such facilities or property (including physical co-location) in order to encourage efficient investment in infrastructure and the promotion of innovation (...)*” To ensure that investment in infrastructure is made and that the investor is rewarded for taking on the risk of the investment, the Directive highlights the importance of designing rules for sharing of costs associated with the facility or property sharing.<sup>184</sup> Thus, assuming that the price for access can be set at a level that does not discourage innovation, facility sharing (and hence avoidance of duplication of networks) could improve the provision of customer-oriented services as well as the level of competition.

In this context, we note that some countries, e.g. Ireland, delivery operators have installed networks of parcel kiosks that are shared between several different operators. This is not

<sup>182</sup> Paiffe, A. (2011)

<sup>183</sup> Directive 2009/140/EC of the European Parliament and of the Council of 25 November 2009 amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, and 2002/20/EC on the authorisation of electronic communications, para. 43, 54.

<sup>184</sup> Directive 2009/140/EC of the European Parliament and of the Council of 25 November 2009 amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, and 2002/20/EC on the authorisation of electronic communications, para. 43, 54.

caused by regulation, but to the fact that the investing operator has too low volumes to make the investment profitable on his own.

In addition to infrastructure barriers, we also observe competition concerns related to abusive pricing behaviour and collusion, cf. Table 52. The striking observation is that there have been very few competition cases in the parcel markets. The reason may be that few operators have dominant position in parcel markets.

**Table 52 Key competition cases in parcel markets across Europe**

Country	Year	Case no.	Competition concern	Relevant product market	Outcome
Estonia	2011	N/A	Abusive rebates	Parcel machines	Pending
Finland	2001	309/V1.6.61/ 2000	Excessive Pricing	Parcels	No breach
France	2011	11-MC-01 Kiala/La Poste et Mondial Relay	Abusive limitation of ac- cess to main retail network chains	Retail Network of Parcel Collection Points	Injunction to change the firm's conduct (to stop a proposed agreement)
Germany	2001	Case COMP/35.141	Predation	Parcel services	Infringement
Norway	2010	EFTA Court, Case E-15/10 (34 250 Privpak/Poste n Norge)	Abusive limitation of ac- cess to main retail network chains (via exclusivity agreements), affecting competing B2C parcel services	Retail Network	Infringement
Switzer- land	2012	N/A	Cartel	International freight forwarding	Infringement

Source: Copenhagen Economics (2012)

### Competition in cross-border delivery markets

The amount of competition in the domestic delivery market might not only affect the delivery prices *within* that market, but also the *cross-border delivery prices* for delivery to that market. When delivery operators buy last mile delivery from another delivery operator, the price is dependent on what alternatives they have. If alternative operators compete about handling the last mile delivery in the destination market, the delivery operator in the origination market will be able to obtain a good price on the last mile delivery. This is confirmed in interviews with delivery operators indicate that termination rates<sup>185</sup> are set at a competitive level as soon as there is competition in the domestic delivery market.

Hence, in countries where a large part of the market is subject to competition, high cross-border prices *to* that market seem to be caused by high mark-ups in the origination countries. High mark-ups in the origination countries might be facilitated if no competition exists for delivery, or if e-retailers are not aware of the alternatives available to them (e.g. alternative delivery operators, parcel consolidators, parcel brokers or direct insert).

We observe that the number of alternative operators active in B2C delivery of packets and parcels is lower for cross-border deliveries compared with domestic ones. Cross-border delivery markets are to a larger extent dominated by the NPOs (some with specialised cross-border subsidiaries) and integrators. However, the *de facto* existence of alternative

<sup>185</sup> The termination rate is the price paid by the delivery operator in the origination country for last mile delivery in the termina-  
tion country in relation to cross-border transactions.

delivery operators in all Member States suggests that e-commerce delivery is not a natural monopoly.

Local or regional delivery operators can enter the cross-border market through co-operation with operators in other countries. For example, a local delivery operator in Germany can provide cross-border delivery to Austria by (i) co-operating with the Austrian NPO for last mile delivery, or (ii) by co-operating with a smaller delivery operator in Austria, which in turn uses the NPO for last mile delivery in some areas without own coverage, or (iii) by making direct insert into any of the national delivery networks in Austria. The fact that delivery operators often compete in several markets (e.g. several NPOs, such as La Poste, Royal Mail, Deutsche Post, Post Nord, PostNL, and CTT Correos, are active in foreign markets) could imply that delivery operators have weak incentives to co-operate with each other. This would not only apply to last mile delivery, but also to other areas, such as the development of common solutions for cross-border deliveries. However, the fact that the majority of NPOs take part in the various projects developed within the IPC, and the fact that we observe bilateral co-operation between delivery operators, indicate that competition does not prevent this kind of customer-oriented co-operation.

Cost-orientation of inward termination rates (in accordance with the Third Postal Directive, see below) should ensure that also small delivery operators can compete in cross-border delivery by using the NPO in the destination country for last mile delivery. However, our interviews reveal that operators can often obtain lower prices for last mile delivery, if they offer significant volumes and if there is competition in the destination market. Hence, the inward rates under the USO often only serve as a fall-back position in the negotiations.

Thus, there is nothing that formally prevents local delivery operators from providing cross-border delivery in co-operation with a foreign delivery operator. In fact our e-shopper survey shows a relatively balanced distribution of cross-border shipments between NPOs, integrators, and other carriers<sup>186</sup> suggest substantial competition for cross-border deliveries. However, speed requirements, imbalance in parcel flows between countries, and customers' requirement of end-to-end track and trace and smooth return procedures (cf. earlier section on interoperability) may limit the scope for co-operation between operators as well as the scope for entry of new cross-border operators.

## 6.8 Interoperability (e-retailers)

Most delivery operators do not provide the full range of services that will cater for all needs and preferences expressed by e-retailers and e-shoppers. In particular, delivery operators often reduce their cross-border service offerings, or offerings provided to remote areas, due to lower volumes or because their delivery partners do not provide the service, cf. Table 53 and Table 54.

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<sup>186</sup> Share of cross-border e-commerce shipments delivered by respective type of delivery operator: NPOs: 37 per cent, Integrators: 50 per cent, Other carriers: 13 per cent.

**Table 53 Delivery point options - domestic vs. cross-border**

	Countries where delivery operators offers more than 50% of delivery options for B2C DOMESTIC delivery	Countries where delivery operators offers more than 50% of delivery options for B2C CROSS-BORDER delivery
NPOs	BE, CY*, CZ, DE, DK, EE, FI*, FR, HU*, LT*, LU, NL, RO*, SK, SE	DK, ES, EE*, FI, FR, IE*, IT, SE, SK, CZ*, PL*
Non-NPOs	AT*, BE, DK, ES, FR, IE, LU, UK*	BE, BG, DK, ES*, LU, SI, SE*, IE

Note: Displays countries for which at least one of the respective delivery operators is offering more than half of the possible delivery point options for cross-border delivery, identified by CE (5 out of 8). \* denotes countries in which the respective delivery operator offers more than half of possible delivery point options to only part of the EU. NPO's in GR, PT, CY and LU and non-NPO's in UK and IT do not provide a response.

Source: Copenhagen Economics, Delivery operator questionnaire

**Table 54 Delivery time options - domestic vs. cross-border**

	Countries where delivery operators offering more than 50% of delivery time option for B2C DOMESTIC delivery	Countries where delivery operators offering more than 50% of delivery time option for B2C CROSS-BORDER delivery
NPOs	CZ, DE, DK*, EE, ES*, FI*, HU, LT, MT, PL, RO*, SI, SE	SK, SI, DK*, LU*, MT*, DE*, SE, IE*, SE*, EE*
Non-NPOs	DE, ES, IE, IT, LT, LU, PL, PT, EE*, FR*, GR*, HU*, IT*, LT*, LV*, NL*, RO*, SK*, SI*	DE*, DK*, ES*, EE*, GR*, IE*, LT*, LU, LV*, NL*, PT*, SK*

Note: Displays countries for which at least one of the respective delivery operators is offering more than half of the delivery time options possible for cross-border delivery, identified by CE (4 out of 7). \* denotes countries in which the respective delivery operator offers more than half of possible delivery point options to only part of the country.

Source: Copenhagen Economics, Delivery operator questionnaire

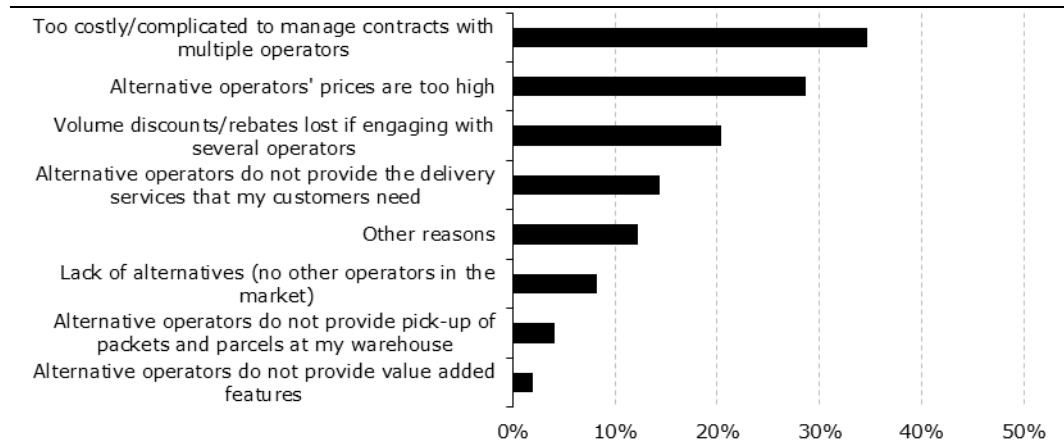
We also observe that delivery operators specialise with respect to delivery speed. For example, e-retailers in the UK sending packets or parcels cross-border can in general choose among more than ten delivery operators. However, depending on the speed requirement (1-2 days, 3-6 days, or 6-14 days), the selection of delivery operators is narrowed down to between three and six.<sup>187</sup>

The fact that delivery operators are specialised does not mean that there will automatically be a service gap, as long as there are a number of complementary delivery operators that for e-retailers to engage with (so called multi-sourcing). However, if e-retailers for some reasons prefer to engage only with one delivery operator, specialisation may explain part of the observed service gap.

Our survey among e-retailers shows that 34 per cent of respondents only use one delivery operator. The share is slightly higher for domestic deliveries (41 per cent) than for domestic ones (26 per cent). The reasons for engaging with only one operator are several, the most common being that it is too costly and/or complicated to manage contracts with several delivery operators. Other common reason are related to delivery prices, e.g. that other operators' prices are too high or that the e-retailer fear to lose volume discounts or rebates if engaging with several operators, cf. Figure 100.

<sup>187</sup> Metapack (2012)

**Figure 100 Reasons for only engaging with one delivery operator**



Note: The figure shows the percentage of e-retailers that have answered the question: "If you, for domestic or cross-border delivery, use only one delivery operator, what are the reasons for this? (multiple answers possible)". The total number of respondents is 49.

Source: Copenhagen Economics, E-retailer survey

Despite of these drawbacks, we observe multi-sourcing taking place among both small and large e-retailers. In fact, 37 per cent of e-retailers in our sample do multisource. The share is larger for domestic deliveries (52 per cent) compared with cross-border ones (22 per cent). Out of the multi-sourcing e-retailers in our survey, 70 per cent are smaller firms (up to 50 employees). The fact that also smaller e-retailers use more than one delivery operator indicates that the volume discounts foregone are outweighed by lower delivery prices offered by alternative operators and/or by more sales through repeat purchases.

Our interviews with e-retailers reveal yet other reasons for only engaging with one delivery operator. For example a Danish e-retailer selling DVD's, books, computer games etc., have chosen only to engage with the NPO in order to provide customers with a simple menu of choices.<sup>188</sup> Another Danish e-retailer, engaging with two different delivery operators (NPO + an alternative operator), was at first reluctant to start up with the second operator because of doubts about quality of the delivery service. As the distribution of the second operator is based on customers picking up their parcels from a relay point, the e-retailer was concerned about the characteristics and atmosphere in shops where the relay points are placed. The retailer did not want negative features of the specific delivery point to influence the customers' perception of her own brand. A large reduction in costs resulting from using an alternative operator supplementary to the NPO ultimately led the e-retailer to start up distribution with two operators. Today, the e-retailer is very satisfied with the solutions provided by the two operators and the increased choice that it provides to the customers.

<sup>188</sup> Copenhagen Economics, E-retailer interviews and Gucca (2013)

## 6.9 Market knowledge (e-retailers)

Another reason for e-retailers not offering a wide variety of delivery solutions to their customers (although these solutions are available from delivery operators) might be that e-retailers fail to fully take into account the needs of their customers and the impact that the provision of customer-oriented delivery services may have on sales.

Our survey among e-retailers indicates that most e-retailers are aware of the importance of meeting their customers' delivery needs, and that many e-retailers actively seek to inform themselves about customer needs. In fact, 98 per cent of e-retailers in our survey strongly or completely agree that successful delivery is important for repeat purchases.<sup>189</sup> Out of these, slightly more than every fourth (27.5 per cent) has asked customers about their delivery needs.<sup>190</sup> Nevertheless, some e-retailers may still fail to offer customer-oriented delivery services since they believe that their customers want something else than they actually do.

Our interviews reveal that this sometimes is the case. One example is provided by a retailer who has made an explicit choice to only offer delivery provided by the NPO. The reason for this choice is, according to the e-retailer, that the customers prefer simplicity (i.e. not too many delivery alternatives) and that delivery to the home address is the preferred delivery option. At the same time, the e-retailer express frustration with the high rate of unsuccessful home deliveries and the high share of parcels that cannot be delivered at the first attempt. Unsuccessful deliveries reflect the fact that customers are not at home at the time of delivery. Hence, the e-retailer's menu of delivery options might *not* be in accordance with the customers' actual needs (e.g. delivery to a parcel kiosk or to a relay point).

Our interviews with e-retailers also reveal that e-retailers may have less knowledge about user preferences in foreign markets compared with domestic ones. This is especially the case for smaller e-retailers with limited financial resources to investigate user needs in other countries. The findings are also supported by the results from the e-retailer survey, showing that e-retailers find it more important to offer a wide variety of delivery options at different prices when selling cross-border, compared with domestic sales.

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<sup>189</sup> Copenhagen Economics, E-retailer survey

<sup>190</sup> Copenhagen Economics, E-retailer survey question: "Customers' preferences for delivery services: Have you within the past three years conducted a survey among your customers asking them about their preferences for delivery services?", the total number of responses is 51.

## Chapter 7

# Performance gaps

When e-shoppers buy products online, they at the same time buy a certain quality of delivery services. Sometimes, the actual delivery performance differs from what the e-shopper can rightfully expect, e.g. in terms of delivery speed, delivery time, or delivery point. This results in a *performance gap*.

In chapter 5, we found that information gaps between delivery operators, e-retailers and e-shoppers sometimes make e-retailers and e-shoppers expect more from delivery than what is actually agreed in the delivery contract (between the delivery operator and the e-retailer, or between the e-retailer and the e-shopper). This may at the surface look like a performance gap (e.g. an e-shopper not receiving her parcel within the expected time frame), but may in reality be an information gap (e.g. the e-shopper not being aware of the actual delivery time in her contract with the e-retailer).

In this chapter we identify and analyse the underlying reasons behind performance gaps. Our analysis is based on desk research and the results from the questionnaires, surveys, and interviews conducted for the purpose of this study. Possible solutions for how to minimise performance gaps are provided in chapter 8.

### 7.1 Main findings

Inferior delivery performance may derive from three factors: *weak competition, access problems and operational problems by delivery operators and e-retailers*.

We observe that inferior delivery performance sometimes is caused by insufficient access to address databases and keys to multi-household buildings. National databases containing addresses and information about change of addresses exist in most Member States. However, they are often managed by the NPOs and other delivery operators often lack access. As a consequence, delivery operators experience problems with wrong or incomplete addresses, which result in the consignments not being delivered on time, or even being returned to the sender.

Alternative operators also often lack access to keys for multi-household buildings. As a consequence, recipients living in buildings with a locked entrance door may have to pick-up their consignments from a collection point, or arrange for a new delivery time, although they ordered home delivery.

In addition to access problems, we observe that most performance gaps seem to derive from operational problems, i.e. delivery workers failing to comply with delivery instructions due to challenges arising in relation to last mile delivery in combination with a lack of training, high work load, or lack of willingness to comply.

As the employment rate among women in the EU increases, so does the share of households without anyone at home during daytime. This development makes it more difficult for delivery operators to provide successful home delivery as no one is at home to receive a parcel which needs to be signed for, or which is too large for the letter box. In combination with social challenges (e.g. stressful working conditions) or principal-agent problems and lack of sufficient monitoring of workers, this might result in actual delivery performance not living up to the standards promised by the delivery operator.<sup>191</sup> For example, parcels might be left at the doorstep or parcels might be left with a neighbour without the agreement from the recipient.

Our research reveals that inferior delivery performance does not seem to be explained by weak competition in the delivery market. Neither user satisfaction, nor delivery performance in terms of delayed, damaged or lost shipments, differ with respect to the level of competition in the delivery market. This result is the same regardless of whether we use the number of delivery operators as indicator for competition, or use e-shoppers ability to choose between delivery operators at the web shop as an indicator for competition. The explanation for this is likely that delivery operators primarily compete on price and service offerings, because customers have difficulties to observe the quality of the service both before and after the delivery. As a consequence, competition alone cannot solve performance problems.

## 7.2 Examining performance gaps

Performance gaps in the understanding of this study occur when there is a mismatch between the contractual and the actual delivery performance, i.e. when e-retailers and e-shoppers do not receive the delivery services that they have ordered. Examples of performance gaps are:

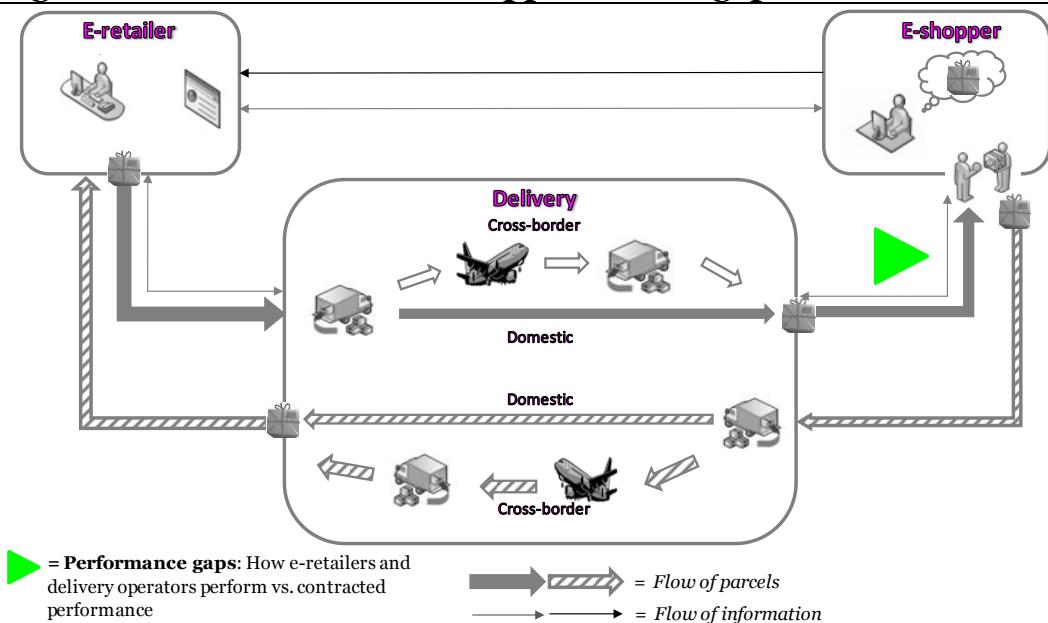
- No delivery at all (items lost or returned to sender)
- No delivery to agreed delivery point (e.g. parcel left with neighbour without prior consent)
- Delayed delivery (e.g. after two weeks instead of one)
- Delivery or pick-up outside agreed time window (e.g. in the afternoon instead of in the morning)
- Damaged items

Performance gaps occur in the interaction between delivery operator/e-retailer and e-shopper, cf. Figure 101.

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<sup>191</sup> This can be a problem both with employed delivery workers and subcontractors (for example self-employed).

**Figure 101 E-retailer and e-shopper service gaps**



Source: Copenhagen Economics

Inferior delivery operator performance may be caused by *access problems or operational failure*. Inferior e-retailer performance may be caused by *operational failure*.

Inferior performance result in unsatisfied e-shoppers. Our survey among e-shoppers shows that approximately 10 per cent of e-shoppers that actually bought the delivery services that were important to them at their most recent purchase, still were dissatisfied with delivery. This dissatisfaction is likely to mirror inferior delivery performance. This finding is in line with the most recent performance data from the European Consumer Centres' Network (ECCN), showing that 6 per cent of online orders were not delivered in 2010-2011.<sup>192</sup> Similar results were also found in the ECCN's Online Cross-border Mystery Shopping Report<sup>193</sup> and in the Consumer conditions scoreboard<sup>194</sup>. According to these publications, non-delivery occurred in about 5 per cent of cross-border cases in about 6 per cent of domestic cases. This is a significant improvement compared with the situation seven years earlier. At that time, 34 per cent of online orders were not delivered.

Despite a higher share of items delivered, complaints about delivery have increased steadily. Whereas 1,258 complaints about delivery were handled by the ECCN in 2008, the corresponding figure for 2011 was 2,918. This most likely reflects the increase in e-commerce that has taken place in the same time. Out of the almost 3,000 complaints, 2,328 (80 per cent) concerned non-delivery. However, according to the ECCN, many complaints are caused by information problems and not performance failures. Common reasons for complaints are, for example, miscommunication between the consumer and

<sup>192</sup> European Consumer Centres' Network, ECCN (2012), p. 10.

<sup>193</sup> European Consumer Centres' Network, ECCN (2011a), p.5

<sup>194</sup> European Consumer Centres' Network, ECCN (2011b). p.15

the trader, or consumers' misunderstanding of the terms and conditions due to insufficient knowledge of the foreign language.<sup>195</sup> Hence, the number of actual performance problems is probably lower than the number of e-shoppers that are dissatisfied with delivery.

Nonetheless, we observe from our research of delivery performance that, on average, 12.5 per cent of NPOs' deliveries fail at the first attempt. For non-NPOs, the corresponding figure is 5.5 per cent. The reason for this difference might be caused by differences in the services provided (e.g. home delivery with and without prior appointment being made). Nevertheless, failed deliveries are likely to cause frustration among e-shoppers, who do not receive the ordered product as anticipated. The problem seems to be smaller with respect to delayed, damaged, or lost items.<sup>196</sup>

### 7.3 Access to infrastructure

An important reason for inferior delivery performance raised by delivery operators in response to our questionnaire and in interviews is access to infrastructure. We observe two important examples where performance gaps are created by access problems. These are (i) *insufficient access to address databases* and (ii) *insufficient access to house keys for multi-household buildings*. These problems can occur when one operator, typically the NPO, has an exclusive right to, or ownership of, elements of infrastructure such as an address database or keys to multi-household buildings.

#### **Address databases**

Sometimes addresses are typed wrong either by the e-shopper or by the e-retailer during the packaging process. For cross-border purchases, online address forms can be different from the typical forms in the e-shopper's home country. This can lead to mistakes. If faulty addresses cannot be corrected for mistakes in an easy and automated way, this might imply a failed delivery and return of the parcel to the sender (i.e. the e-retailer). Although the share of wrong addresses in general is low<sup>197</sup>, there is still a significant amount of deliveries affected.

In order to ensure correct addresses, operators need access to a database of addresses to check addresses against. This activity is called *address cleaning*, cf. Box 15.

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<sup>195</sup> Ibid. p.16

<sup>196</sup> The share of delayed items is maximum 3 per cent for NPOs and 6 per cent for alternative delivery operators, while the share of damaged or lost items is as high as 3 per cent for NPOs and 1 per cent for alternative delivery operators, cf. chapter 4.

<sup>197</sup> For example, in the UK, the percentage of online orders where delivery was affected because of a query on the address provided was 0.15-0.2 per cent in 2011 (IMRG 2012b).

## Box 15 Address cleaning

Address cleaning is a process of converting street addresses to a standardised format. Spelling mistakes are corrected, superfluous punctuation is removed, capitalisation is standardised and addresses are translated into standard abbreviations.

Some private companies specialise in address cleaning in order to standardise and convert information into a single format compatible with the standard of for instance the NPO. Address cleaning is also performed by postal and delivery operators.

In order to perform address cleaning there must be a "masterfile" of correct addresses to check provided addresses against. In some countries, this masterfile is a national address database.

A typical address database, owned and managed by an NPO, is continuously kept a jour with data on residents who are moving and changing addresses, and sometimes updated directly with data from the Civil Registration System on new-borns, deceased, immigrants, and emigrants. In some countries the database also contains information on the households' interest in receiving commercials, direct mail etc. Sometimes the owner of the national address database sells address cleaning services to other delivery operators.

Source: Copenhagen Economics, LinkageWiz Data Matching Software (2013), and VP Securities (2013).

On average, 58 per cent of delivery operators in our sample perceive wrong addresses to be problematic. The problem seems to exist for delivery operators with and without access to a national database with updated address information. Out of the 58 per cent of delivery operators in our sample that find wrong addresses to be a problem, 34 per cent also find access to a national address database challenging or very problematic. Hence, better handling of addresses and better access to accurate address information may reduce the share of failed deliveries and increase user satisfaction.

In this context, we note that access to national address data bases often are managed by the NPO, cf. Table 55. This may be problematic for non-NPOs or non-licensed postal operators (such as express carriers), if they (i) cannot get access to the database or (ii) only can get access at a high cost. Without access to a national address database, the operators will have more failed deliveries.

**Table 55 Managing of national address databases**

Who manages a national address database?	No. of countries	Member States
NPO	17	AT, BE, CZ, DK, EE, FI, FR, DE, MT, NL, PL, PT, RO, SK, SI, SE, UK
Other*	5	HU, LT, LV, ES, SE
No national address database	1	EL
No answer	5	BG, CY, IE, IT, LU

Note: \*HU: Central Office for Administrative and Electronic Public Services; LT: Office of Citizenship and Migration Affairs; Lithuania: State enterprise centre of registers; ES: National Statistics Office. SE: There exist a national register of all Swedish citizens and their addresses, managed by Skatteverket ("Folkbokföringsadress"). There also exists an open change-of-address system provided by Svensk Adressändring AB.

Source: Copenhagen Economics, NRA questionnaire

According to Article 11a of the postal directive, Member States shall ensure that transparent, non-discriminatory access conditions are available to elements of postal infrastructure, such as address databases, whenever necessary to protect the interest of users and/or to promote effective competition.

Our survey among NRAs reveals that operators other than the NPO very often do not have the legal right to access a national address database. In fact, only in eight Member States, courier and express companies have legal right to (upon application) access the national database, cf. Table 56. Moreover, regulated access to the national database do in many instances only relate to the provision of letter mail or products within the postal USO (and thereby often not delivery of parcels).<sup>198</sup>

**Table 56 Access to address databases**

Party with access to national data-base	No. of coun-tries	Countries
NPO	19	AT, BE, CZ, DK, EE, FI, FR, DE, LT, LV, MT, NL, PL, PT, RO, SK <sup>2</sup> , SI <sup>2</sup> , SE, UK
Operators with a license to deliver letters/parcels	13	AT, BE, DK, EE, FI, FR <sup>1</sup> , DE <sup>1</sup> , LT, MT, NL, PL, PT, UK
Operators with general authorisation	10	AT, BE, CZ, DK, LT, LV, NL, PL, PT, UK
Courier and express companies	8	AT, BE, LT, LV, NL, PL, PT, UK

Note: <sup>1</sup>Only letter mail, <sup>2</sup>Any postal operator providing interchangeable postal services to the NPO has the right to request access to the database

Source: Copenhagen Economics, NRA questionnaire

Complaints regarding the (non-) granting of access to the database can be directed to the NRAs. NRA intervention with respect to database access has, however, so far only taken place in Denmark.

In order to ensure all delivery operators access to updated and correct address information, new access regulation or better enforcement of existing regulation would have to be put in place, cf. chapter 8.

### Keys and access to buildings

A related issue that might reduce delivery performance is *insufficient access to multi-household buildings*. As already discussed in chapter 6, non-NPO delivery operators often experience lack of access to keys for multi-household buildings. This results in a higher share of failed first delivery attempts. Our interviews with delivery operators reveals that delivery workers sometimes arrive to the building where the recipient lives to detect that the entrance door is locked. In this case, the delivery worker will return to the sorting centre and send a notice to the recipient (by mail or sms) who has to arrange for a new delivery or pick up the parcel herself. As a result, an e-shopper who ordered home delivery might not receive this service.

51 per cent of the delivery operators in our sample find it difficult to access letter boxes due to problems with access to house keys for multi-household buildings. Disputes related to access to letter boxes or keys for multi-household buildings have been handled by

<sup>198</sup> In the Czech Republic, access to the database is only granted for services within the scope of the USO. In France and Germany, access to the database is restricted to the letter segment, not for parcels.

NRAs in Austria, Hungary, Lithuania and Poland. Better access to keys would thus improve delivery performance for those delivery operators that today have difficulties to provide home delivery to some households.

## 7.4 Competition

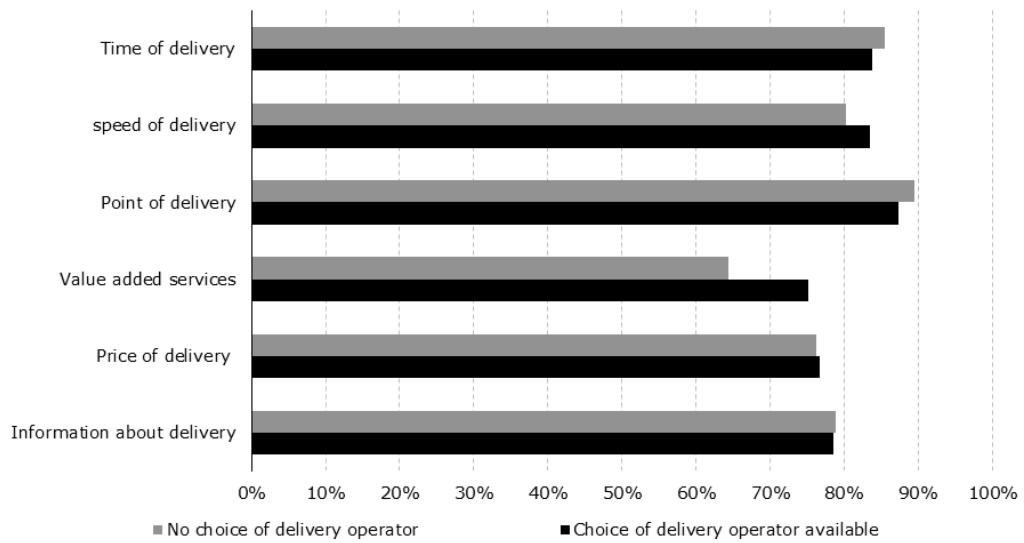
The effectiveness of competition in the delivery market may affect the pressure on delivery operators to provide high quality services. Weak competition may thus result in a low quality of delivery, e.g. a high share of delayed, damaged or lost items.

Contrary to what we might expect, our survey among e-shoppers does not show that e-shoppers in countries with more delivery operators active in domestic and/or cross-border delivery are more satisfied with delivery performance. On the contrary, we observe that the least satisfied e-shoppers are those in the countries with the largest number of alternative delivery operators (Germany, Ireland, and Spain). The reason for this finding might be that e-shoppers in more mature e-commerce and delivery markets have higher expectations about delivery performance compared with e-shoppers in less mature delivery markets. This might also explain why we do not observe a marked difference in user satisfaction between e-shoppers who at their most recent online purchase had/had not the possibility to choose among several delivery operators, cf. Figure 102.

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**Figure 102 Share of e-shoppers satisfied with delivery**

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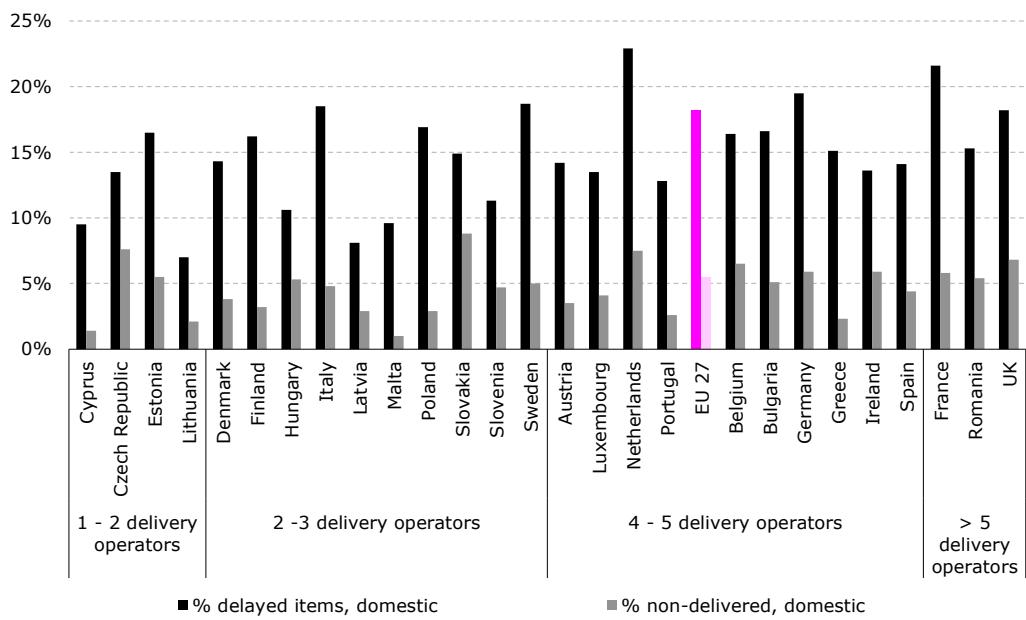
Note: The figure shows the share of e-shoppers that were satisfied with various delivery aspects.

Source: Copenhagen Economics, E-shopper survey

If more competition results in better delivery performance, we would also expect to see a lower share of delayed or non-delivered items in countries with intense competition in the delivery market. However, our data from delivery operators does not show a systematic difference across countries with respect to the share of delayed, damaged, or lost items. This finding is also consistent with the findings presented by Eurobarometer in 2011.

According to Eurobarometer data, the share of delayed or non-delivered items in relation to distance selling varies across countries. However, there is no correlation with the intensity of competition in the delivery market, cf. Figure 103

**Figure 103 Share of delayed and non-delivered items**



Note: Flash Eurobarometer 299 includes data on the respondents experience with delays and non-deliveries from distance selling (by internet, phone, or post).

Source: Copenhagen Economics, based on European Commission (2011), Flash Eurobarometer 299, Delivery operator questionnaire and own desk research

As visible from Figure 103 above, the countries with the highest shares of delayed items in domestic delivery are France, the Netherlands, and Sweden – all countries with significant competition in the domestic delivery markets. The Netherlands is also among the three countries with the highest shares of non-delivered items. Other countries with high shares of non-delivered items are Slovakia and the Czech Republic. Although the number of local delivery operators is smaller than in most other countries, global players such as GLS, DPD, UPS and DHL are competing for deliveries of products sold online.

These results might to some extent be explained by larger shipping volumes in mature delivery markets with competition among delivery operators. With more packets and parcels in the delivery network, there is a higher risk of delays and other operational problems. Obviously, fierce competition between delivery operators is not sufficient to bring down the rate of delayed and non-delivered shipments.

We also observe that customers in countries with strong competition among delivery operators often complain about inferior delivery performance in relation to home delivery.

For example, we observe that consumers in both Germany<sup>199</sup> and the UK<sup>200</sup> (two countries with many delivery operators active in e-commerce driven delivery) often complain about parcels being left at the wrong places, or notes of unsuccessful delivery being left although the recipient was at home at the agreed time.

All these results indicate that the quality of delivery performance is not strongly linked to the level of competition in the national delivery market. The explanation for this is likely that delivery operators primarily compete on price and services on offer, because customers have difficulties to observe the quality of the service both before and after the delivery (cf. chapter 5). Before delivery, the problem is that it is difficult to find and compare information about actual delivery performance across delivery operators. After delivery, the problem is that there are many elements that can cause dissatisfaction (e.g. too high expectations about the delivery performance). Hence, it is difficult to know exactly when there is a performance problem caused by the delivery operator or e-retailer, and when the reported problem is caused by unjustified expectations about delivery caused by information problems. An additional challenge in this respect is that individual consumers may lack incentive to report problems.

Nevertheless, we observe that e-retailers sometimes vote with their feet and switch delivery operators due to inferior delivery performance. This was for instance the case in the UK, where a number of retailers left the delivery operator Yodel after a longer time of customer complaints.<sup>201</sup>

Our interviews with both e-retailers and delivery operators also witness about the importance of competition for a well-functioning delivery market. The main benefits of more competition, however, seem to occur in terms of larger buyer power and lower delivery prices. Thus, competition between delivery operators seems to take place primarily on prices. This is not a surprising outcome, given that it is difficult to convey credible information about delivery performance prior to the actual delivery (cf. chapter 5).

## 7.5 Operational problems (delivery operators)

Last mile delivery of parcels and packages to the recipients' home address poses a number of challenges on delivery operators and their work force. One main challenge is the large share of households that are unoccupied during daytime (when delivery traditionally takes place). Another challenge is the limited capacity for delivery men on bikes or mopeds to carry a large number of bulky packages or parcels on the delivery route. In combination with social challenges (e.g. stressful working conditions) or principal-agent problems and lack of sufficient monitoring of workers, this might result in actual delivery performance not living up to the standards promised by the delivery operator. For example, parcels might be left at the doorstep or with a neighbour without the agreement from the recipient. E-shoppers might also receive delivery notifications telling them to pick up the consignment at a post office or arrange for a new delivery, although they were at home at the time of the initial delivery attempt.

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<sup>199</sup> ReclaBox (2013)

<sup>200</sup> Mesure, S. (2013), Which? ( 2013), the Guardian (2012)

<sup>201</sup> The Guardian (2012)

We find that the largest share of unsatisfactory delivery performance most likely is caused by this type of operational problems. Evidence from consumer surveys indicates that operational problems cause frustration among e-shoppers throughout the EU.

For example, a recent survey conducted by Consumer Focus Scotland revealed that over 40 per cent of respondents had received a card from the NPO, telling them that their item had been returned to the delivery office when they were *actually at home* to receive the item. 15 per cent had experienced this at more than one occasion. Similar delivery problems are reported by consumers in Austria<sup>202</sup>, Germany<sup>203</sup>, UK<sup>204</sup> etc.

Other examples of inferior delivery performance caused by operational problems are, for example, inaccurate tracking information, damaged consignments, delayed deliveries, delivery outside the agreed time window, or delivery workers leaving parcels at the respondents door in case no one is at home (although this has not been agreed with the recipient). In the UK, media has also reported about customers' complains about poor customer service and phone calls and emails to delivery operators that go unanswered.<sup>205</sup>

These types of failures may derive from social challenges, such as lack of training<sup>206</sup> or too high work load (insufficient time to provide good quality), and motivational problems between management and delivery workers.

In Austria, consumers witness about social challenges with respect to delivery workers' employment conditions, resulting in delivery workers under significant time pressure. Recipients of parcels meet statements from deliver workers on their routes such as: '*very hard work*', '*many, many hours per day*', '*the pressure is increasing continuously*' and '*I won't stand it much longer*'.<sup>207</sup> Delays and failures are often documented and reported to the management of the delivery operators, something that increases the pressure on delivery workers to work fast to meet the time schedule.

The fact that delivery operators often outsource delivery work to subcontractors<sup>208</sup> (and in some cases even sub-subcontractors) might contribute to the increased working pressure since there is only a weak link between the delivery operator and its workers. As collective bargaining agreements can only safeguard regular working hours, occupational health and safety where parcel companies operate services directly, self-employed delivery workers may not engage in training and may be forced to work long hours. This might thus contribute to inferior delivery performance.

According to a study conducted by the Austrian consumer organisation, VKI, the competitive pressure and the large share of self-employed delivery workers can to a large extent

<sup>202</sup> VKI (2012a)

<sup>203</sup> ReclaBox (2013)

<sup>204</sup> Mesure, S. (2013), Which? ( 2013), the Guardian (2012)

<sup>205</sup> See for example the Guardian (2012).

<sup>206</sup> Lack of training seems to be a problem, especially in relation to peak periods, such as Christmas, when delivery operators hire additional (often inexperienced) workers to cope with the higher volumes. See for example Mesure, S. (2013)

<sup>207</sup> VKI (2012a)

<sup>208</sup> In Germany, Hermes, DPD and GLS work almost exclusively with subcontractor couriers. UPS uses 40 per cent subcontracted couriers for delivery. DHL Express Germany also work with subcontractors (Post & Parcel, 2013c).

explain the poor delivery performance observed in Austria. In times of hard time pressure, delivery workers do not have the time to handle the consignments with care, to ring the bell of every household, or to conduct a second delivery attempt.<sup>209</sup>

We also find evidence that, despite good social conditions, some delivery operators find it hard to keep up high quality performance at peak seasons, such as Christmas, where the pressure on capacity is maximised and the workforce is extended with additional workers with less experience<sup>210</sup>. This may lead to low performance and disappointment for e-shoppers who do not receive their presents in time for the holidays. According to a study by UK e-retailer association IMRG, 48 per cent of e-shoppers are willing to pay extra for a guaranteed Christmas delivery. More specifically, 54 per cent of e-shoppers name the 18<sup>th</sup> of December as the last day they would like to order online with a guarantee for the consignment to arrive before Christmas. These results show that e-shoppers expect unaltered performance of delivery operators, also at peak loads.<sup>211</sup> This might create additional challenges for delivery operators to ensure high quality delivery performance.

Last, but not least, performance problems might also be caused by motivational problems (i.e. delivery workers choosing not to comply with instructions). *Principal-agent problems*<sup>212</sup> can make it difficult for the delivery operators (principals) to motivate the delivery workers (agents) to comply with delivery instructions and act in the best interest of the delivery operator rather than following own interests. As a result, delivery workers may not live up to the standards promised by the delivery operator.<sup>213</sup>

## 7.6 Operational problems (e-retailers)

Unsatisfactory delivery performance can also be created by e-retailers. For example, e-retailers may not dispatch the product within the agreed timeframe (resulting in delayed delivery). In chapter 4, we observed that the share of delayed items from delivery operator side is relatively low (maximum share of 3 per cent for NPOs and 6 per cent for alternative delivery operators). Compared with the share of e-shoppers in our survey that were dissatisfied with the speed of delivery (16 per cent) and the average share of delayed items in the EU in 2010 (16-18 per cent), this indicates that operational failure on part of the e-retailer might explain part of the delays and the resulting user dissatisfaction.

E-retailers may also fail to handle complaints, enquiries, and disputes in a satisfactory manner. One reason for this may be that e-retailers lack procedures and guidelines for handling of consumer inquiries and complaints. 94 per cent of the e-retailers who have responded to our survey indicate that they have procedures for handling of complaints about lost or damaged items. The share is smaller for other types of enquiries. As a result, e-retailers may handle complaints in an ad hoc manner which results in consumer dissatisfaction. In chapter 4, we noted that 31 per cent of e-shoppers are dissatisfied with e-

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<sup>209</sup> VKI (2012a)

<sup>210</sup> Mesure, S. (2013)

<sup>211</sup> IMRG (2012c)

<sup>212</sup> Principal-agent problems are problems of asymmetric information between management and workers, arising when the management cannot monitor what the workers are doing.

<sup>213</sup> This can be a problem both with employed delivery workers and subcontractors (for example self-employed).

retailers' handling of complaints. This could indicate that there is room for improvement in the operations of e-retailers throughout EU.

In order to increase performance of delivery services in general, not only delivery operators but also e-retailers can improve procedures and handling of products. In chapter 8 we discuss possible solutions for these problems and what can be done policy wise to support better performance of both e-retailers and delivery operators.

## Chapter 8

# Minimising delivery gaps

In this chapter, we analyse how the delivery gaps identified and analysed in previous chapters can be minimised. We also provide examples of good practice showing how operators along the e-commerce value chain and policy makers have managed to minimise delivery gaps to the benefit of increased e-commerce.

### 8.1 Main findings

Delivery gaps are caused by a variety of reasons, ranging from structural problems, such as information asymmetries and principal-agent problems between delivery staff and their management, to interoperability problems and imperfect market knowledge. The solutions proposed to minimise the service gaps must be designed to tackle the underlying problems. This can be done through market solutions or through policy intervention.

Our analysis shows that market solutions can address most delivery gaps. However, sometimes, policy intervention can serve as a useful complement.

Market solutions include for example innovation of delivery solutions provided by delivery operators and logistics intermediaries, information initiatives undertaken by e-retailer associations, bilateral integration of systems for track and trace and other cross-border data flows, and online reputation mechanisms via social media and rating sites. Such market solutions serve as means to minimise existing delivery gaps today. Whereas most of these solutions have started off in the more mature e-commerce markets, we observe that they are spreading also to less developed markets as these mature.

Policy intervention could also play a role to speed up the development process and to solve market failures. We observe that policy solutions can be implemented to improve the existing market performance and minimise information, service and performance gaps. In particular, intervention may be warranted to solve information problems, interoperability problems, and competition problems.

We identify 20 examples of market solutions and 17 policy initiatives that could contribute to minimising the identified delivery gaps. We highlight eight policy initiatives, which we believe would make a difference and promote increased use of e-commerce:

- *Regulation of e-retailers' information provision*
- *European trust marks for delivery*
- *Consumer and supplier education and awareness*
- *Facilitation of further industry collaboration regarding cross-border tracking*
- *Introduction of EU-wide labelling standards*
- *Continued development of initiatives to increase interoperability*
- *Introduction of SMP regulation*

- *Access to national address databases for the purpose of parcel delivery*

A complete overview of problems causing delivery gaps, and possible solutions, are provided in the below table 1.

**Table 57 Summary of challenges, solutions, and recommendations for policy**

Gaps	Challenge	Market solution	Possible policy intervention	Prioritised policy actions
Information gaps	Search costs	✓	Regulation of information provision EU-wide trust mark for delivery	✓
	Asymmetric information	✓	Consumer and supplier education and awareness	✓
	Market knowledge	✓	-	✓
Service gap – Lack of services	Volumes	✓	-	
	Interoperability	✓	General requirement to base tracking systems on open APIs Standardisation of tracking systems Facilitation of further industry collaboration	✓
	Competition & Regulation		Effective enforcement of competition law Policies to reduce structural entry barriers	
Service gap – Too high prices	Market knowledge	✓	-	
	Volumes	✓	-	
	Interoperability	✓	Introduction of EU-wide addressing and labelling standards Introduction of a EU-wide e-commerce friendly letter box standard Continued development of initiatives to increase interoperability	✓
Performance gaps	Competition and Regulation	✓	Effective enforcement of competition law Extension of the postal USO to more parcel/packet products Introduction of SMP regulation Introduction of price regulation on cross-border shipments	✓
	Market knowledge	✓	-	
	Operational problems	✓	EU-wide trust mark for delivery	✓
Interoperability	Access to national address databases for the purpose of parcel delivery			✓

Source: Copenhagen Economics

## 8.2 Framework for analysis

In this chapter, we discuss market solutions and policy options for the delivery gaps identified in the three preceding chapters. Based on case studies<sup>214</sup>, we identify existing market solutions and provide examples of good practice in resolving challenges related to delivery gaps and improving the functioning of e-commerce driven delivery services. Where a market solution is found, this reveals that the market itself, *de facto*, can find a solution to a structural problem. This does, however, not imply that a market solution exists in all markets. This is, however, not to be expected since market solutions by nature are demand driven. Hence, as demand increases and volumes increase, more and more market

<sup>214</sup>The usefulness of case study research to build theories have for instance been acknowledged and discussed by Eisenhardt (1989) and Odell (2001).

solutions will become economically viable. Consequently, examples of good practice and successful market solutions are more likely to emerge in mature markets with high shipment volumes. For the solutions to spread to markets with lower volumes, this may require other structural problems related to e-commerce (but not to delivery) to be solved first. Whereas our study is focussed on delivery of e-commerce, other studies, such as Civic Consulting (2011), IMRG, Snow Valley (2011) and others, have investigated the broader e-commerce picture beyond the scope of delivery. Hence, the solutions we suggest relate specifically to delivery, but will not solve other problems related to e-commerce.

### The rationale for policy intervention

The usual starting point in economic theory is that a free market without regulation gives the best economic solutions with optimal allocation of resources and the correct combination of price and quality, cf. Box 16.

### **Box 16 Market dynamics**

The dynamics of a free market will tend to find a balance between supply and demand. On the supply side, sellers strive to offer their services at the highest price possible. On the demand side, buyers want to buy services at the lowest price possible. The market will clear at a market price where buyers are willing to buy the quantity offered by sellers at the given price.<sup>1</sup> If the demand for a product suddenly rises, the market price rises as well in order to clear the market and equate supply and demand. In the long run, a high market price (price above marginal costs) will attract new suppliers. As a result, the price will tend towards a level close to the marginal production cost.<sup>2</sup>

Market dynamics also ensure that services are provided efficiently. Competition works as a disciplining factor, such that companies that offer too high prices or too poor quality lose market shares and eventually are replaced by companies with better offerings.<sup>3</sup>

Source: <sup>1</sup>Varian, Hal R. (2006), p. 7-8; <sup>2</sup>Ibid., p. 407-408; <sup>3</sup>Ibid, p. 578 and Motta (2004), p. 18-19, p. 40-41.

However, there are three reasons why markets may not perform optimally and where policy intervention may lead to better outcomes.

*First*, market failures, such as (abuse of) monopoly power, externalities, and information asymmetries may prevent the disciplinary market forces from working effectively. For instance, if buyers lack access to alternative suppliers (monopoly power) the market will not discipline the dominant supplier's behaviour. Similarly, when buyers are not able to tell "good sellers" from "bad sellers" (information asymmetries), incentives for sellers to perform well will be reduced.<sup>215</sup>

*Second*, in the absence of market failures, a more desirable outcome than that achieved by the market might exist. A desirable outcome can be defined by political goals, public interests etc. For example, sellers that want to sell only at a very high price, and buyers that want to buy only at a very low price, will not be trading at the going market price. From an

<sup>215</sup> In the extreme case, only "bad" sellers will remain in the market, cf. Akerlof, G. (1970).

economic perspective, this is an efficient outcome.<sup>216</sup> From a social perspective, however, this outcome might not be desirable.

*Third*, from a political point of view, a more desirable outcome can also require a faster development of the market, higher productivity, more innovation etc.

To improve market performance and achieve a more desirable outcome, policy intervention might be warranted. In this case, regulators and policy makers have different remedies at hand. They are typically divided into four groups, cf. Box 17.

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### **Box 17 Remedies to achieve better market outcomes**

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There are four groups of remedies available to regulators and policy makers to cope with undesirable market outcomes: *command-and-control policies*, *market-based policies*, *co-regulation*, and *industrial policies*.

*Command-and-control policies* (ex-ante or ex-post regulation, e.g. competition law) influence the supply side of the market directly and are traditional remedies in case of market failures.

However, a challenge in relation to government intervention is to ensure that public objectives are reached in an effective and efficient way. According to OECD (2009) alternatives to traditional regulation should therefore be considered when the case for regulation is less clear cut than strictly market failure. Three alternatives are provided by market-based policies, co-regulation and industrial policies.

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

*Co-regulation* supports initiatives already taken by the market, for example 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.

*Industrial policies* (e.g. facilitation of education, basic R&D, technology spill-overs, or knowledge sharing) can be implemented to stimulate faster development of the market and increase growth and productivity. Industrial policies can be targeted the supply or demand side of the market, or even both.

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Source: OECD (2009), p. 9 and p.16

As evident from Box 17, the type of remedy most suitable to deal with an undesirable market outcome depends on the specific situation and the underlying problem (market failure, social objectives, or slow market development). In this context, there are three considerations that are important to acknowledge.

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<sup>216</sup> Varian, Hal R. (2006), p. 15.

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

The risk of regulatory failure is large if policy makers fail to take into account market place 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 – but include its attributes, performance, qualities, etc. If the ultimate goal of public policy is another than lower (short-term) prices, policy makers must to a larger extent take into account dynamic factors, such as innovation, economic growth, and the magnitude and quality of investment over the long run.<sup>217</sup>

*Second*, the development of e-commerce is on-going and rapid. 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*, it should also be kept in mind that delivery markets that today are considered mature (in terms of e-commerce levels and shipment volumes) have developed from being less mature without policy intervention to force this development. For example, many of the problems regarding cross-border returns are similar to the problems in the domestic markets five years ago.<sup>218</sup>

In total, these considerations call for thorough and dynamic evaluation of policy initiatives and their foreseen benefits and potential drawbacks prior to implementation.

### **8.3 Minimising information gaps**

In chapter 5, we identified three main reasons for information gaps: *High search costs and imperfect information* creating information gaps for e-shoppers and e-retailers (as recipients of information) and *imperfect market knowledge* causing information gaps for delivery operators and e-retailers (as providers of information). Table 58 provides an overview of the challenges contributing to information gaps, as well as possible market and policy solutions that may help to minimise the gaps.

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<sup>217</sup> See for example Ellig (2001) and Alleman and Rappoport (2005)

<sup>218</sup> Snow Valley (2011) page 7.

**Table 58 Information gaps – challenges and possible solutions**

	Supply side	Demand side	
	<b>Market knowledge</b>	<b>Imperfect information</b>	<b>Search costs</b>
Challenges	Delivery operators do not understand e-retailers' and e-shoppers' information needs	E-retailers cannot observe the quality of delivery prior to purchase	E-retailers do not collect and process all available information
	E-retailers do not understand e-shoppers' information needs	E-shoppers cannot observe the quality of delivery prior to purchase	E-shoppers do not collect and process all available information
<b>Market solution</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
<b>Policy solution</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>
Examples of good practice	Acsel, Royal Mail, PostNL, Post Denmark, UPS etc.	Rating sites, e.g. rejta.se, reviewcenter.com	Rating sites, e.g. rejta.se, reviewcenter.com Postme.com, Canada Post

Source: Copenhagen Economics

### Market solutions

Although good information provision may be challenging, our research has revealed many good examples of delivery operators and e-retailers that provide customer-oriented information. We also find several examples of third-party intermediaries that reduce search costs and thereby contribute to minimising information gaps without intervention from public authorities.

#### *Search costs and imperfect information*

High search costs imply that e-shoppers and e-retailers have difficulties to easily find adequate information about delivery (such as the delivery price, delivery time, delivery point, contractual terms, or delivery performance) when they need it, cf. chapter 5.

There are several examples of market solutions that help minimise the search costs and imperfect information for e-retailers, e-shoppers and delivery operators. In the following we point to five market solutions that reduce search costs:

- *Social media and online rating sites*
- *Price comparison engines, parcel brokers, and software solution providers*
- *User-friendly and adequate information provision by e-retailers*
- *User-friendly and adequate information provision by delivery operators*
- *Codes of conduct*

#### Market solution 1: Social media and online rating sites

The first solution is social media and online rating sites. These sites are particularly important for e-shoppers, but also for e-retailers. Online reputation mechanisms have emerged as a viable alternative to more established institutions (such as formal contracts) for building trust in electronic environments where the quality of the purchased good cannot be observed in advance (imperfect information). On eBay, for instance, an online feedback mechanism that encourages buyers and sellers to rate one another seems to have succeeded in encouraging cooperative behaviour and avoiding fraud in terms of non-delivery of the product bought or delivery of a product that does not live up to the expected quality.

Similar reputation mechanisms are also at play in social media (e.g. Facebook or Twitter) and on rating sites (e.g. reviewcentre.com or rejta.se). By informing each other about delivery performance, cf. Figure 104, e-shoppers and e-retailers in both more and less mature delivery markets become better informed to make efficient decisions about delivery.

### Figure 104 Reputation mechanisms – social media and rating sites

Rank	Service	Rating	Reviews
1.	Expert Logistics Delivery	4.5	1712
2.	Interparcel	4.5	1584
3.	Parcel2ship	4.5	557
4.	Montway Auto Transport	4.5	307
5.	Ipost Parcels	4.5	180

Source: Blackbay (2012) and Reviewcentre (2013)

One way of extending the reach of reputation mechanisms and making them more accessible for both e-shoppers and e-retailers could be to include links to existing rating sites at the e-retailers' websites. Since the amount of feedback related to delivery performance is linked to the volume of parcels delivered, there is naturally more feedback available to e-

shoppers and e-retailers in more mature e-commerce and delivery markets. To encourage e-shoppers and e-retailers in less mature markets to provide feedback about delivery, another solution could be for national consumer authorities or the ECCN to provide for a common platform for rating delivery performance. A common platform managed by the ECCN could also provide for a systematic overview of cross-border ratings. The challenge with such a platform, however, would be to make customers across the EU aware of the platform and incentivise them to provide feedback.

*Market solution 2: Price comparison engines, parcel brokers, and software providers*

The *second solution* that reduces search costs (primarily for e-retailers, but also for e-shoppers) is online price comparison engines, parcel brokers and software solution providers, such as MyShip, Versandbroker, Metapack and EDI-soft. By allowing e-retailers and e-shoppers to compare the offerings of several different delivery providers, these intermediaries empower users of delivery services to make more informed decisions. At present, the presence of these kinds of logistics intermediaries is focussed to (although not exclusively present in) the more developed e-commerce markets, such as the Scandinavian countries, Germany, France and the UK. However, as the less mature e-commerce and delivery markets show a clear tendency of catching up (cf. chapter 2), we expect these solutions to gain foot in additional markets in the future. A more in-depth description of these intermediaries is provided in section 1.3.

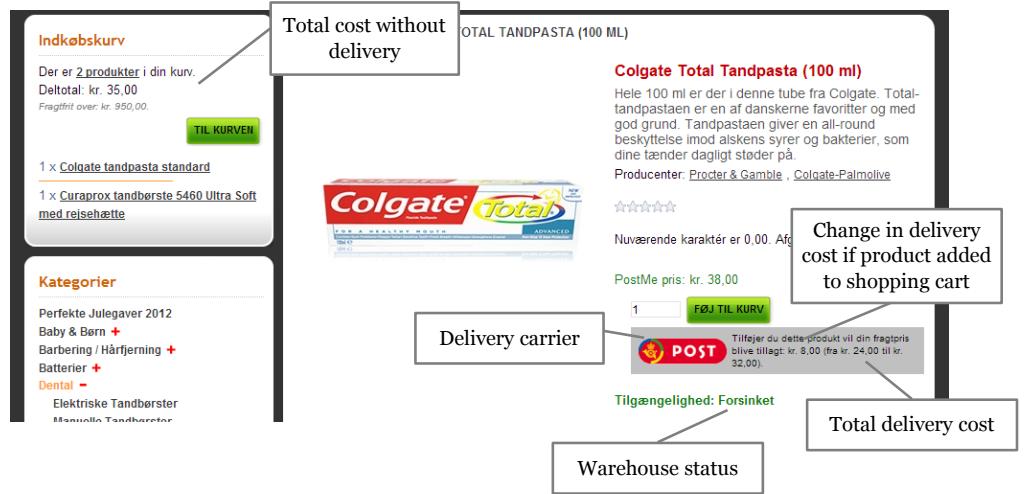
*Market solution 3: User-friendly and adequate information provision by e-retailers*

The *third solution* for minimising search costs is improved web shops where information on delivery is presented early in the shopping phase in a user friendly manner. In chapter 5, we observed that unforeseen information about delivery, presented at a late stage in the buying process, is responsible for a significant share of abandoned shopping carts. Nevertheless, we observe several examples where e-retailers put large effort in minimising the search costs for their customers to reduce the rate of abandoned shopping carts.

This is not surprising as the provision of user friendly and adequate information is a competition parameter both for e-retailers and delivery operators. E-retailers or delivery operators that provide user friendly and adequate (timely, relevant, accessible, trustworthy etc.) information about delivery to their customers will have a competitive advantage in comparison to those that do not understand the importance of information. The provision of user-friendly information to e-shoppers at the e-retailers' websites is, however, contingent on good provision of information to the e-retailers from delivery operators, cf. market solution 4 below.

One example of good practice is provided by the Danish e-retailer Postme.com, cf. Figure 105. When shopping at Postme.com, the e-shopper can always see (i) the name and logo of the delivery operator, (ii) the total cost with/without delivery, (iii) the increase in delivery costs when adding one more product to the shopping cart, and (iv) the warehouse status, indicating whether the products will be shipped immediately after the order placement.

**Figure 105 Customer-oriented information – Postme.com**



Source: PostMe (2013)

Although it ultimately is for the individual e-retailer to decide upon the design of its website, we observe that e-retailer associations across the EU (e.g. EMOTA at EU-wide level) already try to enforce good practice by advising their members on how to design the website and how to provide information in a user-friendly way. In addition to this, delivery operators also have a role in helping their customers to provide user-friendly websites. Several delivery operators, such as Royal Mail, PostNL, PostNord, and bpost provide e-retailers with integrated web shop solutions.

#### Market solution 4: User-friendly and adequate information provision by delivery operators

The *fourth solution* to reduce search costs (for e-retailers and e-shoppers) is improved information provision from delivery operators. In chapter 5, we observed that high search costs make e-retailers reluctant to switch between delivery operators, for example due to complex product offerings and non-transparent pricing models. Some delivery operators respond to this by putting large emphasis on making the spectrum of delivery services easy to understand for its customers. One example is Canada Post. On the operator's website, customers get basic information about the features to consider when choosing a particular parcel delivery service as well as information about what features the different parcel services include, cf. Figure 106. Increased simplicity of price structures is also being discussed within the IPC as a new initiative to provide e-retailers and e-shoppers with more customer-oriented delivery solutions.

**Figure 106 Customer-oriented information – Canada Post**

**Send Parcels**  
Shipping services for sending parcels and time-sensitive documents within Canada and around the world.

**Contents**

- Parcel services—speed, features, options
- Rates & prices
- Prepaid envelopes—buy now, ship anytime
- Preparing your parcel
- After you send your parcel
- Support

**Related**

- Send Letters & Documents

**Resources**

- > Parcel service details
- > ABCs of Mailing
- > Find customs information
- > Prohibited and controlled items
- > Services and import restrictions by country

**Factors to consider when shipping:**

- Does your item need to get there in a rush?
- Are the contents valuable? Get insurance coverage.
- Need delivery confirmation? Choose a trackable service.

**Parcel services—speed, features, options**

**Within Canada**

Service	Speed *	On-time Delivery Guarantee *	Tracking and Delivery Confirmation	\$100 Liability Coverage *	Signature
<b>Priority™</b> Our fastest service	Next Day.	✓	✓	✓	+
<b>Xpresspost™</b> Fast and cost-effective	Next day and 2 days	✓	✓	✓	\$
<b>Regular</b>	2 up to 9 days	-	✓	✓ **	\$
<b>Parcel™</b> Economical ground service					

\* Business days, between major urban centres. Some exceptions apply.  
+ Additional coverage up to \$5,000 available for a fee.  
\$ Available as a no-charge option.  
\*\* Available for a fee or FREE if purchased online.  
\$ Available for a fee.

Source: Post Canada (2013)

In addition to general information about delivery processes and prices provided at their websites, delivery operators often provide e-shoppers with real-time information about delivery via e-mail or sms. In fact, 74 per cent of NPOs responding to our questionnaire provide electronic notifications of delivery to the recipients in relation to domestic deliveries. The corresponding figure for cross-border deliveries is 58 per cent. With respect to alternative delivery operators, 91 per cent provide electronic delivery notifications for domestic deliveries and 55 per cent provide notifications for cross-border deliveries at least in some countries, cf. chapter 3.

Finally, we observe that delivery operators sometimes actively help e-retailers in providing user friendly information about delivery to their customers. PostNL, Deutsche Post, and PostNord are three examples of delivery operators who have developed software solutions that e-retailers can integrate into their web shops in order to ensure that e-shoppers have easy access to the relevant delivery information.

One way to spread this kind of good practice to other delivery operators could be through seminars and workshops, informing delivery operators about the advantages of providing user-friendly information to e-retailers and e-shoppers. The events could be arranged either by national associations for delivery operators, by organisations at European level, or by the Commission.

#### Market solution 5: Codes of conduct

The fifth solution to improve information provision by e-retailers and delivery operators is by developing *codes of conducts*. Codes of conduct (e.g. developed by consumer or industry organisations) can guide delivery operators and e-retailers in their behaviour to-

wards their customers. E-retailer associations in e.g. France, Greece and Hungary have developed codes of conduct which are not accompanied by a trust mark. Other e-retailer associations have combined code of conduct rules with a trust mark. The role of trust marks is discussed separately below.

When developing codes of conduct, it is important to first assess the impact of the codes. For example, will it help customers to evaluate the quality of delivery services? Will it help them to identify the best supplier? Will it help them to secure redress or empower them when filing complaints about delivery? If the answer is yes, codes of conduct will provide benefits. Challenges related to the introduction of codes of conduct are e.g. administrative burdens and costs incurred and the difficulty of obtaining a critical mass of proponents.

If these challenges are overcome, codes of conduct could provide guidance to e-retailers and delivery operators on when, and how, to inform customers about delivery features and prices in a way that is transparent and easy to comprehend.

#### *Market knowledge*

As e-commerce is still a rather new way of doing business in many countries, delivery of products bought online is still a young industry under rapid development. It is therefore natural that many market players (both e-retailers and delivery operators) still are in a learning process, where they gradually build up their understanding about how the market works and what the customers need and prefer.

We observe several market solutions put in place to help e-retailers to gain a better understanding of delivery. Two important examples are:

- *Research and information provision by e-retailer associations*
- *Research and information provision by delivery operators*

#### *Market solution 1: Research and information provision by e-retailer associations*

First, active e-retailer associations across Europe are informing e-retailers about delivery alternatives and are helping them to understand their customers and their needs. Many associations act as intermediaries and arrange seminars and workshops where e-retailers can meet and discuss challenges and experiences (both amongst them and with other stakeholders, such as delivery operators and logistics intermediaries). Several associations conduct market research on behalf of their members, e.g. regarding e-shoppers' needs and preferences. There are also examples of international co-operation where e-retailers from one Member State visit colleagues in another Member State to learn about the country specific challenges and opportunities experienced there. Some of the European e-retailer associations (e.g. Acsel in France) even provide small e-retailers with information for free.

The initiatives are very important and allow e-retailers to both provide their customers with better information, and make informed decisions themselves and offer better shopping experiences.

#### *Market solution 2: Research and information provision by delivery operators*

Second, we observe that some delivery operators (primarily in more mature markets) play a similar role as e-retailer associations, e.g. by conducting market research and providing information and advice to e-retailers. This is natural because delivery operators have an incentive to help e-retailers to run their business better as this will stimulate e-commerce and increase the demand for e-commerce driven delivery.

As an example, Royal Mail has developed a website with information and advice to e-retailers who consider expanding cross-border. The website is supported by case studies of real experiences by UK online e-retailers who are already selling cross-border, cf. Box 18. This helps to inform e-retailers and hence minimise the information gap.

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### Box 18 Sharing experiences on cross-border e-commerce

On the information web portal *Royal Mail Export*, Royal Mail provides information for e-retailers that intent to expand overseas. While providing information on delivery services and pricing, they further make available export facts, about for instance best e-commerce strategies and country-by-country postal regulations and costs. A list of Royal Mail partners is published and expert advice, case studies and special information on distribution is made available on the web portal. Communication between e-retailers and Royal Mail is enhanced as the possibility of individual email communication is provided.

Royal Mail provides easy information about 6 delivery options, covering everything from next day delivery to bulk distribution of packages to business and private addresses across Europe and North America. They further elaborate on cross border return and provide options of such delivery. An effective feature is the analysis of several case studies, in which Royal Mail points out problems of e-commerce and offers delivery solutions to those common problems.

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Source: Royal Mail (2013a)

To facilitate learning among delivery operators and e-retailers (also in less mature markets), information about the benefits from facilitating e-commerce could be shared at conferences and workshops arranged by industry organisations or e-commerce associations. This is already happening today. As it is in the delivery operators' interest to increase the parcel traffic, both domestic and cross-border, we thus expect to see more delivery operators follow Royal Mail's example in the near future.

#### Policy solutions

The market solutions identified above can be supported and reinforced by policy initiatives. For instance, gaps derived from information failures or consumer behaviour could be accommodated by consumer policy. In what follows, we focus on policy solutions for resolving problems related to asymmetric information and search costs.

##### *Search costs and imperfect information*

Examples of policy instruments that can be implemented to address imperfect information and high search cost are:

- *Regulation of information provision*
- *Trust marks and codes of conduct*
- *Consumer and supplier education and awareness*

### Policy solution 1: Regulation of information provision

The solution to reduce information gaps may not be to provide users with *more* information. In fact, information which is not user friendly can even be counterproductive. For example, in 2007, the Executive and National Consumer Council in the UK found that information that was required to be supplied to customers was rejected by the customers because it was too voluminous and was often presented in an unappealing or complex manner. This might explain why every fifth e-shopper refrain from reading the terms and conditions of delivery prior to the purchase.

To minimise information gaps, it is instead important that consumers receive *adequate* and *user friendly* information that is directly relevant to their immediate decisions, rather than information which is provided simply for the sake of full disclosure.

One policy solution that already has been put in place in order to improve the information provided to consumers and reduce search costs for e-shoppers is revised regulation of consumer rights. In fact, the new Consumer Rights Directive 2011/83/EU (hereafter ‘Directive’), to be transposed by the Member States into national law by 13 December 2013 and applicable as from 13 June 2014, is designed to reduce the information gaps in online transactions by regulating e.g. the information that e-retailers have to provide, cf. Box 19.

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### **Box 19 Information provision – Consumer Rights Directive**

The new Consumer Rights Directive 2011/83/EU merges and consolidates (without materially changing the substance) the following four existing Directives:

- The Doorstep Selling Directive 85/577/EC;
- The Unfair Contract Terms Directive 93/13/EC;
- The Distance Selling Directive 97/7/EC; and
- The Consumer Sales and Guarantees Directive 99/44/EC.

It creates a set of common rules for distance and off-premises contracts and regulates contracts between e-retailers and e-shoppers. The common rules aim to create a level playing field for the distance selling sector and reduce transaction (search) costs.

On the one hand, the Directive foresees core information (see Chapter II of the Directive) to be provided by traders/e-retailers prior to the conclusion of a consumer contract - which may be complemented by further national information requirements. On the other hand, it provides for specific information requirements (see Chapter III of the Directive).

More specifically, *before* the order is placed, the e-retailer must provide information to consumers on:

- Total price, taxes and delivery costs
- Payment, time and delivery options
- Right of withdrawal (with standard form)
- Cost of returning goods

If sellers fail to inform about delivery and return costs, the sellers bear all additional delivery charges as well as the costs of return.

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Source: Copenhagen Economics

A more comprehensive description of the provisions contained in the Directive, including an assessment of (i) the improvements made in relation to existing regulation and (ii) further scope for improvement, is provided in Appendix D to this report.

While the Directive will help to reduce information gaps, there still seems to be room for improvement, cf. Table 59. For example, requirements on *what* information should be provided and *when*<sup>219</sup> it should be provided are still rather vague.<sup>220</sup> To reduce the share of online shopping carts abandoned due to late provision of information about delivery, the Directive would have to require earlier provision of information, e.g. at the time the first item is browsed or put in the shopping cart. The fact that many e-shoppers abandon their online shopping carts due to late provision of information indicates that earlier presentation of delivery-related information could be favourable<sup>221</sup>.

**Table 59 EU Consumer Rights Directive 2011/83**

Topic	Issue	Recommendation
Information on delivery	Current wording 'arrangements for delivery' allows e-retailer to determine at its own discretion which delivery information is provided.	Specified and harmonised delivery information obligation - <i>inter alia</i> - information regarding the delivery operators, delivery options, quality of delivery options and available complaint procedure.
	Current wording 'before ordering is made' allows e-retailer to determine with large discretion when delivery information is provided.	Specified and harmonised obligation on when to provide delivery-related information, e.g. at the time the consumer puts the first item in the online shopping cart.
Information on prices and return charges	The information obligation (in distance contracts) of the e-retailer vis-à-vis the consumer in the event the purchased good cannot be returned by mail may not be far-reaching enough.	Broaden the information obligation by imposing upon the e-retailer not to mention one but mention at least two carriers and their corresponding return costs so as to better inform the consumer and leave the consumer with the possibility to choose.

Source: Copenhagen Economics

As changing a Directive which is yet to be implemented would be difficult, a better way of solving the remaining information problems identified above could for example be the introduction of trust marks requiring compliance with a predefined code of conduct including rules on information provision.

#### Policy solution 2: Trust marks

As a complement to the Consumer Rights Directive, a possible solution could be to develop trust marks for delivery at national or EU-wide level. This would allow consumer protection authorities to create best-practice standards for e-retailers and delivery operators and ensuring compliance with such standards. Trust marks could thus reduce search costs and information asymmetries and thereby improve the confidence in delivery services.

<sup>219</sup> Current wording 'before order is placed is made' allows e-retailer to determine at its own discretion when delivery information is provided.

<sup>220</sup> Current wording 'arrangements for delivery' allows e-retailer to determine at its own discretion which delivery information is provided.

<sup>221</sup> This requires, however, that the information provided is adequate and user friendly. Provision of inadequate information early in the buying process will not solve information problems.

Trust marks have been considered by the European Commission as a tool to promote e-commerce and online service, cf. Box 20. These initiatives could thus be extended or complemented to also take into account the delivery aspect in terms of information provision by e-retailers and delivery operators.

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### **Box 20 Trust marks to promote trust in online services**

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The European Commission's Communication of 11 January 2012 – 'A coherent framework for building trust in the Digital Single Market for e-commerce and online services' – highlighted the importance of trust for reaching the potential of Digital Single Market, and identified trust marks as one of the ways to improve consumer information.<sup>222</sup>

Previously, in 'A Digital Agenda for Europe'<sup>223</sup> the EC envisaged pursuing the idea of building "confidence by creating EU online trust marks for retail websites", and committed to creating a corresponding stakeholder platform by 2012.<sup>224</sup> The main subsequent developments have been a workshop dedicated to trust marks at the first Digital Agenda Assembly (held in June 2011) and the commissioning of studies on online trust marks in the EU by DG INFSO and the European Parliament.

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Source: Copenhagen Economics

National trust marks for e-retailers already exist in a number of EU Member States. Examples include Confianza Online (ES), e-mærket (DK), Thuiswinkel Waarborg (NL), Trygg e-handel (SE), and Trusted Shops (DE, UK), cf. Table 6o. To our knowledge, so far no trust marks exist for delivery operators.

Existing trust marks are typically launched and administered by private actors. These can be commercial entities (i.e. profit-oriented) or not-for-profit. The latter group primarily consists of e-retailer associations but there are also examples of trust marks administered by consumers' associations and by foundations which involve different stakeholders. Sometimes, public authorities are involved or even administer the trust mark. This is the case in Malta where the trust mark (launched in 2011) is administered by the national regulator. Most of the trust marks existing today contain a code of conduct which has been developed in co-operation with, or endorsed by, the national consumer organisation.<sup>225</sup>

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<sup>222</sup> European Commission (2012c)

<sup>223</sup> European Commission (2010)

<sup>224</sup> Ibid., p. 13

<sup>225</sup> Civic Consulting (2012), p. 42

**Table 6o National e-retailer trust marks**

Country	Trust mark	Administrator
Austria	Österreichisches e-commerce Gütezeichen	Wirtschaftskammer Österreich, Bundesministerium für Wirtschaft, Familie und Jugend, Bundesarbeitskammer Handelsverband
Austria	Sicher einkaufen	
Belgium	BeCommerce	BeCommerce (e-retailer association)
Bulgaria	-	
Czech Republic	Certified Shops SOAP	APEK (e-retailer association)
Cyprus	-	
Denmark	e-mærket	Forbrugerrådet tænk, Dansk IT, FDIH, DI, Dank Erhverv, HK, Finansrådet
Estonia	-	
Finland	Reilun Pelin Jäsen Trusted Shops Safer shopping	ASML (e-retailer association) Trusted Shops (private company) TÜV SÜD
Germany	EHI Geprüfter Online Shop/Euro label European Privacy Seal	EHI Retail Institut EuroPrise (Private company)
Ireland	Segala	Segala (Private company)
Italy	-	
Latvia	-	
Lithuania	E-shops	E-shops (private company)
Luxem-bourg	-	
Malta	eShops/eInfo Thuiswinkel Waarborg	Malta Communications Authority Thuiswinkel (e-retailer association)
Nether-lands	Q-shops MKB OK Webshop Keurmerk	Qshops (private company) CDG Certificatiebureau Foundation Webshop Trustmark
Poland	ILim Certyfikat Trusted Store	Institute of Logistics and warehousing Sklepy24 (private company)
Portugal	Confianza Online	Acepi (e-retailer association)
Romania	Euro-label Romania Trusted.ro	Romanian Consumer Protection Authority Romanian Consumer Protection Authority
Slovakia	-	
Slovenia	-	
Spain	Confianza Online	Adigital and Asociación para la Autorregulación de la Comunicación Comercial
Sweden	Trygg e-handel Certifierad e-handel	Svensk Distanshandel (e-retailer association) Rådet för e-handelscertifiering (non-profit association)
UK	SafeBuy ISIS	SafeBuy (private company) + Trading Standards Institute (non-profit association); initially endorsed by the OFT IMRG (e-retailer association)

Source: Copenhagen Economics and Civic Consulting (2012)

We note that there is a potential for improving the use of trust marks that exists today. The reason for this is twofold.

First, there is a cross-border challenge since consumers in one country often are unaware of the national trust marks and their meaning in other countries. National trust marks also provide different levels of guarantees and protection to consumers. Such differences make it difficult for e-shoppers to assess the value of the different trust marks (especially

in case of cross-border purchases). The coverage of existing cross-border trust mark schemes (Euro-label and Trusted Shops) is still limited.<sup>226</sup>

*Second*, most trust marks today do *not* include detailed provisions about delivery (information provision, quality of performance etc.).<sup>227</sup> This also applies to the cross-border trust mark schemes that exist today.

One way to solve these challenges would be to introduce an EU-wide delivery-focused trust mark.

The potential implementation of an EU-wide trust mark for e-retailers has recently been assessed by Civic Consulting<sup>228</sup> and the European Commission is currently investigating this possibility further. There are a number of potential advantages and disadvantages connected with the development of a European trust mark (and dependent upon its design), cf. Table 61.

**Table 61 Trust marks – main advantages and disadvantages**

Main advantages	Main disadvantages
Support for SMEs with limited resources to investigate delivery options	Administration costs
Enhanced cross-border coordination of trust marks and exchange of best practices	Administrative burdens for businesses
Overcoming language barriers	Potential confusion among consumers
Increased legal certainty	Interference with existing trust marks
Increased credibility of accredited trust marks	Difficulty ensuring consistency across the EU
Broad cross-border recognition among consumers	Gaps in coverage in case of an accreditation scheme for existing trust marks
Increase in online shopping trust/cross-border trade	

Source: Civic Consulting (2012), p. 51 and 53

In addition to the advantages and disadvantages mentioned above, when deciding on whether to intervene in the market or not, attention needs to be paid to how firms will react to regulation and enforcement actions. This is to avoid unintended or unforeseen costs for both firms and consumers. For example, firms seeking to avoid violating regulations may overreact by becoming overly cautious. In the extreme case, they might even exit the market altogether, leaving negative impacts on markets and consumers.<sup>229</sup>

<sup>226</sup> The Euro-label scheme currently only covers six European countries (Germany, Austria, Poland, Italy, France and Spain) with the majority of registered shops in Austria and Germany (Source: Euro-label (2013)). The Trusted Shops scheme covers the entire EU with approximately 15,000 registered shops (out of around 550,000 B2C e-commerce websites in the EU) (Source: Trusted Shops (2013b) and E-commerce Europe (2013b)).

<sup>227</sup> For example, the Swedish trust mark 'Trygg e-handel' only requires the e-retailer to publish total price (including delivery) and to inform the e-shopper about the minimum delivery time. Similar requirements are also included in other trust marks, e.g. Denmark, and Malta. The trust mark 'Trusted Shops', available in Germany and in the UK, requires e-retailers (in accordance with the consumer rights directive) to specify delivery costs prior to the purchase, and to inform the customer about the expected time for dispatch of the item bought. Similarly so, the UK SafeBuy scheme's code of practice requires e-retailers to display the total price consumers must pay for goods including delivery costs and provide a clear explanation of the delivery procedures. The Austrian Gütezeichen scheme requires e-retailers to provide complete information about delivery. In Belgium, signatories to BeCommerce's code of conduct commit to provide information on the delivery time. The Confianza Online scheme instead requires e-retailers to provide information on the different delivery modes available. The EuroLabel code of conduct specifies that e-retailers will provide information on the exact amount of delivery costs (if applicable) prior to the contract (and when acknowledging order receipt), as well as conditions, means of delivery and an indication of the agreed time-span.

<sup>228</sup> Civic Consulting (2012)

<sup>229</sup> See for example OECD (2010).

In other words, the introduction of an EU-wide trust mark for delivery should only be undertaken if the benefits outweigh the costs. Such evaluation is outside the scope of this report. Nevertheless, taking into account that trust has been identified as a major obstacle to increased e-commerce, there seems to be good reasons for believing that a an EU-wide trust mark for delivery could increase confidence in e-commerce among both e-retailers and e-shoppers, leading to higher levels of e-commerce (especially cross-border).

Depending on the institutional set-up (statutory regulation, co-regulation or self-regulation), EU-level institutions could have more or less significant roles in the establishment and administration of an EU wide trust mark for delivery, cf. Box 21.

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### **Box 21 Institutional set-up of EU wide trust mark for delivery**

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Depending on the purpose and nature of the trust mark scheme, responsibility for developing, administering and enforcing compliance with it can rest on:

- statutory regulation: administration rests with the government alone (through regulators or consumer authorities, for example);
- co-regulation, e.g. with European associations for e-retailers and delivery operators accountable for the administration of the scheme; or
- self-regulation, where the public sector is not involved, market players may freely choose to implement a code that is developed and administered exclusively by the industry.

*Statutory regulation* where EU institutions develop and administer a trust mark will probably face challenges with creating consumer awareness and acceptance among delivery operators and e-retailers. Therefore, solutions involving the industry seem more relevant.

*Self-regulatory schemes* will generate more acceptance among market players and can build on existing trust marks. However, self-regulation may fail to materialise or remain limited to national boundaries. Moreover, self-regulatory schemes may take too long time to implement or to reach adoption levels such that they cover a number of traders or share of transactions sufficient to make a determinant positive impact on market outcomes.

*Co-regulatory solutions* provide a middle ground option to balance the advantages of close industry involvement on the issue, while at the same time leveraging the public mandate to promote adherence to the code (e.g. as a qualification criterion for a government-backed trust mark). In fact, in self-regulatory schemes, adherence to the code is by definition voluntary, which makes adoption prone to be partial and take-up slow.

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Source: Copenhagen Economics

To ensure a broad coverage and timely adoption of the EU-wide trust mark scheme, while at the same maximising the acceptance among market players, we propose a scheme based on co-regulation where the trust-mark and its requirements are developed in co-operation between European institutions (e.g. European Consumer Centres Network,) and the industry (e.g. e-retailer associations and delivery operators and their associations).

After implementation of an EU-wide trust mark, it is of outmost importance that the scheme administrator regularly monitors the compliance with identified requirements. Monitoring, e.g. mystery shopping, could be done by national regulators or consumer organisations in co-operation with EU organisations such as the European Consumer Centres Network.

An EU-wide trust mark for delivery should not necessarily replace existing trust marks in various jurisdictions but could instead work with them (as umbrella organisation) by enabling them to become partner schemes. In this way, e-shoppers in countries with one or several already established trust marks would not have to memorise yet another trust mark, but only be informed about the (new) delivery-related aspects. However, to ensure cross-border recognition, the use of a new (EU-wide) symbol in addition to the national trust mark would most likely be necessary.

Similarly, the EU-wide trust mark for delivery could either be separately administered or included in a wider scheme where delivery aspects were added to a broader EU-wide trust mark scheme, covering also other aspects such as payments, security, and general information provisions. This would require, however, that delivery operators are included as members in the scheme and that compliance with their performance is monitored by the administering organisation.

The inclusion of delivery operators also implies an extra source of funding for the trust mark administration. Whereas delivery operators could be eligible as full members of the scheme in return for payment of a standard membership fee, e-retailers could be eligible as associate members, in return for a nominal fee. The scheme administrator would have to verify that the member e-retailers offer delivery services only from delivery operators which are part of the scheme.

The main characteristics of the proposed EU wide trust mark scheme are summarised in Box 22.

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## Box 22 EU wide trust mark for delivery – main features

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### Scope

- Requirements on delivery operators regarding information provision, delivery performance, return possibilities, complaints handling etc.
- Requirements on e-retailers to use accredited delivery operators

### Institutional set-up

- Co-regulation where European associations for consumer organisations, e-retailers and delivery operators are accountable for the administration of the scheme

### Main benefits

- Provision of a single logo that can be recognised across the EU-27 and beyond;
- Guarantee that any partner schemes are consistent with the delivery-specific conditions defined

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Source: Copenhagen Economics

### *Policy solution 3: Raising awareness among consumers and suppliers*

The public sector can play an important role in intervening by way of industrial policy-type initiatives. These can take the form of demand-side and supply-side support. In what follows, we provide an example of each kind.

Initiatives to increase consumers' awareness about e-commerce and its rules (and policies in place) may accompany the initiatives mentioned earlier on. None of the policy initiatives in place will have their intended effect if consumers are not aware of their existence and their implications. For example, trust marks will not be very useful if customers do not know how to interpret them.<sup>230</sup> Education can be performed by national or EU-wide consumer authorities. We observe that consumer authorities throughout the EU provide consumers with information about their rights and obligations in relation to e-commerce.

One example of good practice is provided by the Dutch government. The Dutch e-commerce market is considered as one of the more mature e-commerce markets within the EU. This is partly due to historical reasons, as the Netherlands have always had a large variety of mail ordering service providers. In addition thereto, a number of national initiatives have been developed so as to inform consumers on their rights in an e-commerce environment, and to guide them along their online shopping journey. More in particular, the government has established a consumer website ([www.consuwijzer.nl](http://www.consuwijzer.nl)) which provides for a number of tools to inform e-shoppers about their rights, cf. Box 23.

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<sup>230</sup> The awareness of online trust marks differs across countries. For example, research conducted in Germany in 2010 showed that 59.5 per cent of participating internet users knew the trust mark Trusted Shops (see <http://www.trustedshops.de/shop-info/gfk-umfrage-2010-guetesiegel-trusted-shops-kennen-60-prozent/>). Similarly, in 2011, 84 per cent of Dutch computer owners recognised the Thuiswinkel trust mark created by the national e-retailer association (See 'Thuiswinkel Trustmark Familiarity', <http://www.thuiswinkel.org/english/aboutthuiswinkel/trustmarkfamiliarity>). In Sweden, only 50 per cent of consumers are familiar with the e-retailer trust mark 'trygg e-handel' and what it represents.

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### **Box 23 Consumer information – ConsuWijzer.nl**

On the website ConsuWijzer.nl, Dutch e-shoppers can find practical information aimed to assist them during the online purchasing process. More in particular, the website foresees information on complaint mechanisms and directs the consumer to the different committees who are authorised to deal with such complaints; information on delivery charges and secure payment options online, and the general information to be provided by the e-retailer.

The 'Online Shop Scan' foresees an easily accessible tool for e-shoppers to verify reviews and evaluations of and complaints against e-retailers (who sell goods, not services) from e-shoppers who previously purchased a certain good with the e-retailer. The Online Shop Scan aims to better inform e-shoppers regarding the quality of service to be expected from the e-retailer of their choice.

Template letters are also foreseen on ConsuWijzer.nl. These letters are drafted in such way that they can easily be used by e-shoppers who wish to notify the e-retailer of a particular action. Template letters are for instance foreseen for e-shoppers who want to annul their purchase due to lack of clarity of the purchasing process, e-shoppers who have decided to withdraw from their purchase within the withdrawal term, e-shoppers who have not been refunded yet and request reimbursement of the purchase price, etc.

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Source: Copenhagen Economics

In the UK, the Get Safe Online information portal empowers consumers to make safe choices while e-shopping. This portal is a jointly-funded initiative between several Government departments and a number of private sector businesses.

In Belgium, the Flanders administration has chosen to support a scheme which fosters close cooperation between a variety of industry partners and other relevant stakeholders, with the aim of improving the logistics performance (cf. Box 24). The public-sector support enables this scheme to make the logistic function more productive and attuned to the needs of players such as e-retailers, which ultimately is beneficial to consumer and overall welfare.

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## Box 24 Supply chains – The Flanders Institute for Logistics

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In Belgium, the Flemish administration has backed a scheme aimed at facilitating logistics/delivery and e-commerce. The Flemish government has chosen to part-fund the Flanders Institute for Logistics, where logistic companies and e-retailers cooperate and jointly start-up pilot projects.

As part of the Institute's activities, e-retailers and delivery operators work together so to launch pilot projects which involve enhancing and redesigning supply chains. The overarching goal of this initiative is to foster collaborative working so to leverage Flanders as a sustainable and innovative key logistics region in Europe. Thus, the public sector support helps promote industry and promote the further development of logistics activities in the Flanders.

The work of the Institute involves the participation, beyond its core members, of also a set of associate and supporting members, such as professional service companies and academic institutions. The Institute carries out joint research projects in order to increase the competitiveness of Flemish logistics companies. All projects depend on multiple companies supporting the concept and implementation.

The identification, design and implementation of projects is based on the following structure:

- i. The topic of the research project is provided by the companies themselves, which enables a bottom-up approach: identifying the trends and demands within the market. Support is sought amongst companies for each project.
- ii. Research is carried out, in partnership with an academic institution or other knowledge institute.
- iii. Once the research results are established, participating companies start the implementation process through case studies or pilot projects. The participating companies together form the user commission.
- iv. Research results and case study results are disseminated via various communication channels (e.g. newsletters, press releases, events, etc.).
- v. A follow-up is performed to assess the implementation impact experienced by the participating companies

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Source: Flanders Institute for Logistics (2013)

### 8.4 Minimising service gaps - lack of services

In this section, we analyse how markets and policy makers can act to minimise lack of services. We discuss means to tackle service gaps caused by high prices in section 8.5.

Table 62 provides an overview of the challenges creating *lack of delivery services*, and possible solutions.

**Table 62 Lack of services – challenges and possible solutions**

	Supply side [delivery operator]				Demand side [e-retailer]	
	Volumes	Interoperability	Competition	Market knowledge	Interoperability	Market knowledge
Challenge	Costly provision of delivery services	Lack of common systems for end-to-end tracking  Lack of access to integrated cross-border return networks	Weak competition  Insufficient access to delivery points	Delivery operators do not understand e-retailers' and e-shoppers' needs	Costly for e-retailers to engage with several delivery operators	E-retailers do not understand e-shoppers' needs
Market solution	Yes	Yes	No	Yes	Yes	Yes
Policy solution	No	Yes	Yes	No	No	No
Examples of good practice	Fraktjakt.se, spedire.com	Cycleon, DHL, Royal Mail, PostNL, Bring etc.		Blackbay, etc.  Receiver flex; Mijn Pakket; My choice	EDI-soft, MetaPack	Acsel, PostNL, Post Denmark, UPS etc.

Source: Copenhagen Economics

### Market solutions

For several of the challenges, we note that market solutions exist. This is the case for challenges related to low volumes, lacking interoperability, weak competition and insufficient market knowledge.

#### Volumes

The more parcels in the delivery network, the lower the cost per parcel, and vice versa. Thus, delivery of low volumes (e.g. from small e-retailers, to remote areas, or cross-border) generate high costs and is therefore often provided at a higher price.<sup>231</sup> Competition in the delivery market implies that many delivery operators serve the same areas and routes. As a result, operators often experience sub-optimal capacity deployment, resulting in higher costs per shipped consignment. In this context, we observe that delivery operators often co-operate to bring down delivery costs.

#### Market solution: Co-operation amongst delivery operators

One way to optimize capacity deployment is for delivery operators to co-operate and eliminate duplication. Some delivery operators already do so. For example, many non-NPO delivery operators use the NPO for delivery in remote areas with low volumes. This is for instance the case for UPS, DPD, and Bring. This cooperation is beneficial as new delivery operators can offer large coverage without having to establish their own networks. It is also beneficial for the established operator (here the NPO) who gain additional volumes in its network. Pooling of volumes thus brings down costs for both operators and makes it easier for operators to profitably offer a larger variety of services.

Our analysis of delivery operators and their offered services in chapter 3 reveals that co-operation to increase geographical coverage is widespread. For example, 97 per cent of

<sup>231</sup> Our findings in chapter 3, however, indicate that the price difference between domestic and cross-border prices cannot entirely be explained by differences in underlying costs.

non-NPOs responding to our questionnaire provide home delivery throughout the entire country. However, most of these delivery operators do not have nationwide coverage themselves, but have to co-operate with other carriers to serve customers in remote areas.

### *Interoperability*

In chapter 6, we found that lack of access to integrated systems for tracking and difficulties to procure international return solutions without having to negotiate bilateral contracts might prevent smaller delivery operators from providing these services. As a result, e-retailers and e-shoppers may face a smaller sample of delivery operators that fulfil their delivery needs.

Another interoperability problem is the difficulty for e-retailers to engage with multiple delivery operators, experienced by e-retailers. In chapter 6, we found that 35 per cent of e-retailers who engage with only one delivery operator do so because it is too costly or complicated to manage contracts with multiple operators. As different delivery operators often provide different delivery solutions (e.g. in terms of delivery points, delivery times etc.) this limits the choice of services available to e-shoppers.

We observe that market forces often solve these problems without policy intervention. In particular, we observe three market initiatives that help minimising the observed service gaps:

- *Bilateral integration of tracking systems*
- *Provision of stand-alone return solutions*
- *Logistics intermediaries providing multi-sourcing solutions*

#### *Market solution 1: Bilateral integration of tracking systems*

A number of delivery operators offer end-to-end tracking via bilaterally negotiated agreements (i.e. without the need to integrate with established solutions provided by e.g. the UPU or IPC). The bilateral agreements ensure that the IT systems of the two delivery operators have interfaces that integrate the two systems. Many operators (e.g. UPS) have systems with open database connectivity (ODBC) compatibility and open application programming interfaces (APIs). This means that applications (e.g. for transmission of delivery status data) can be ported to other platforms with few changes in the data access code. In this way, delivery data can be transferred between delivery operators without even having to use common database and operating systems. Open APIs, however, is only a necessary, but not sufficient means to ensure interoperability of tracking systems. The extent of adjustments necessary to make two systems interoperable will depend on how different the systems are at the outset.

As markets develop and e-shoppers become more and more demanding with respect to the provision of end-to-end tracking, we expect to see more delivery operators providing these services, also for cross-border deliveries. The current situation in the UK, which is one of the most mature e-commerce and delivery markets in the EU witness about this. According to logistics experts in the UK, only a few years ago, track and trace was the preserve of high-end carriers. Now, it is merely “a ticket to the game”.<sup>232</sup> Thus, as markets

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<sup>232</sup> Post & Parcel (2013d)

develop, we expect customer-oriented delivery solutions to follow. Similarly, as more e-shoppers engage in cross-border e-commerce and as delivery operators acknowledge the importance of providing the same quality of service cross-border as for domestic deliveries, we expect to observe more delivery operators providing end-to-end tracking for cross-border deliveries.

#### *Market solution 2: Provision of stand-alone return solutions*

We observe that a significant number of delivery operators and logistics intermediaries increase their focus on international return services. This is not surprising as the existing return solutions have been pointed out as inferior, both by e-retailers and e-shoppers. We point to three market examples that provide for more user-friendly return solutions by solving problems related to tracking and high costs related to cross-border returns.

*One example* is the Easy Return Solution (ERS) developed by the IPC for seamless cross-border returns among national postal operators, cf. Box 25. 20 of the European NPOs are already part of the initiative. By co-operating through the ERS, NPOs gain access to a cross-border network of collection points and cross-border tracking. In addition, the solution involves a prepaid return label that the customer can apply to the consignment. This makes the return very convenient for the customers.

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### **Box 25 Easy returns through the ERS**

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20 NPOs in Europe are currently part of the IPC initiative Easy Return Solution (ERS). The solution is a priority postage-paid product with tracking and tracing capability that allows e-shoppers in country B to return goods to e-retailers in country A free of charge. In practice, the e-shopper who wants to return the product bought will print and stick a standard ERS label to the consignment. Thereafter, she will hand in the parcel or packet at her nearest post office. The consignment is then handled in the parcel network of the IPC members (EPG). In this way, the returned item benefits from the EPG operational frame, performance reports and the dedicated customer service module. It also uses the same agreed barcode ranges.

ERS involves unique characteristics in postal operations: the use of the two postal operators' barcodes (outbound and inbound) on the parcel label, and payments made by the post authorising or receiving the returned item. The label request and provision is handled by IPC: the ERS label is electronically created by the IPC ERS database and IPC provides ERS labels to the authorising post, which makes them available to their e-retailers for provision to their customers.

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The IPC's aim is to have the ERS rolled out to the current 27 EPG operators in Europe and the US by 2014. The solution is not available to non-NPOs.

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Source: IPC (2013)

For e-retailers who do *not* engage with the NPO, a *second option* is provided by stand-alone return solutions provided by delivery operators across the EU. However, the availability of stand-alone returns has (at least until now) been larger in more mature e-commerce and delivery markets. Two examples are provided by DHL and Royal Mail. The two operators provide cross-border return solutions, specifically targeted at e-retailers in Europe. The return services can be bought separately and thus do not require that the delivery to the e-shopper is conducted by either of the two operators, cf. Box 26.

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### **Box 26 Convenient cross-border returns –DHL and Royal Mail**

*DHL easy return* allows e-retailers across Europe to ship goods with any delivery operator, while at the same time providing a Europe-wide return solution. By attaching the DHL return label to the order, or allowing the customers to print it online, e-retailers allow their customers to return products by dropping them off at more than 80,000 drop-off points within Europe. By the end of 2012, the easy return solution by DHL covered 20 EU countries. Extension to all EU countries is expected in 2013.

Royal Mail's *international stamped response* option is another type of international return solution. Currently, the service provides e-shoppers in 12 EU countries\* with a local PO box return address where they can send products bought from e-retailers in the UK. Although the consignment is eventually shipped cross-border to the e-retailer in the UK, the e-shoppers only pay the domestic postage price. For e-retailers, the service is cost-efficient and more effective, as all mail is automatically forwarded to the e-retailers UK business address.

In January 2013, Royal Mail announced that it is about to extend its international return service, offering customers in 26 countries the ability to return their items for free by means of the pre-paid solution. The cost for e-retailers will start at £5.59 plus VAT for items below 500g and rise to £9.05 plus VAT for items up to 2kg. E-retailers will also need to hold an International Response Services licence costing £140 plus VAT per year.

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Note: \*Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Luxembourg, the Netherlands, Portugal, Spain and Sweden

Source: DHL Global Mail (2012), DHL Global Mail (2013), Royal Mail (2013b), and Royal Mail (2013c)

The return solution offered by DHL offers networks of collection points through the ERS system which reduces the costs of collecting return parcels and is convenient to customers. The return solution offered by Royal Mail provides a local return address for customers, who only pay domestic postage for a cross-border return. By collecting return parcels at the same local address, Royal Mail effectively consolidates volumes and reduces the cost per return. This allows for a lower price of the return solution offered to e-retailers.

A *third example* is provided by logistics intermediaries specialising in reverse logistics, i.e. return solutions. The most well known operator in Europe is Cycleon, cf. Box 27. The business model of Cycleon is somewhat similar to that of Royal Mail's *international stamped response* by providing a local return address and consolidating volumes.

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### Box 27 Facilitating returns – the case of Cycleon

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Cycleon is a Dutch based firm providing customised reverse-logistics management solutions in 27 countries utilising 18 local hubs. Since 2005 Cycleon has provided IT systems combining multi-vender networks of distribution and return options for overstock returns, part returns, commercial returns, end-of-life returns and product recalls.

With respect to commercial returns which are particularly relevant for the case of e-commerce, Cycleon offers a cost-efficient and at the same time customer-friendly return solution. From the customer perspective the return parcel can be sent to a local hub or domestic address, irrespectively of the recipient address being domestic or cross-border. Parcels are then collected at the hub and shipped to the relevant recipient. In this way Cycleon "copies" the business model of a consolidator and thereby offers a cost-efficient take-back solution. From the customer perspective this is a transparent and convenient way of returning a product to the e-retailer. For cross-border returns the Cycleon return model is also relatively cheap, as the consumer price of sending a single piece cross-border parcel are often more expensive than sending a parcel domestically.

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Source: Cycleon (2013) and Post & Parcel (2013a)

Our interviews also show that e-retailers find own solutions to facilitate cross-border returns. For example, a Romanian e-retailer selling clothes, shoes and perfume cross-border to Hungary and Bulgaria has agreed on special arrangements with local carriers for managing returns. The reason is high prices for existing return solutions provided by integrators and NPOs.

These examples illustrate how market solutions emerge where there is potential to profitably fill a gap in the market. As several of the identified solutions are under development at the time of writing, we thus expect more solutions like these to develop hand in hand with the increased demand for convenient return solutions.

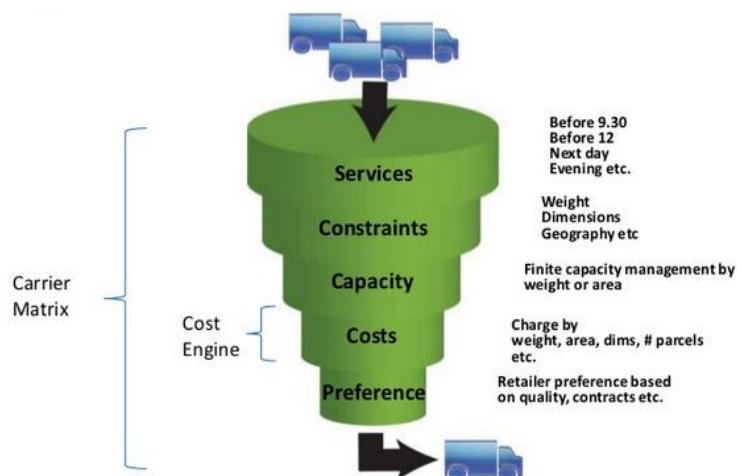
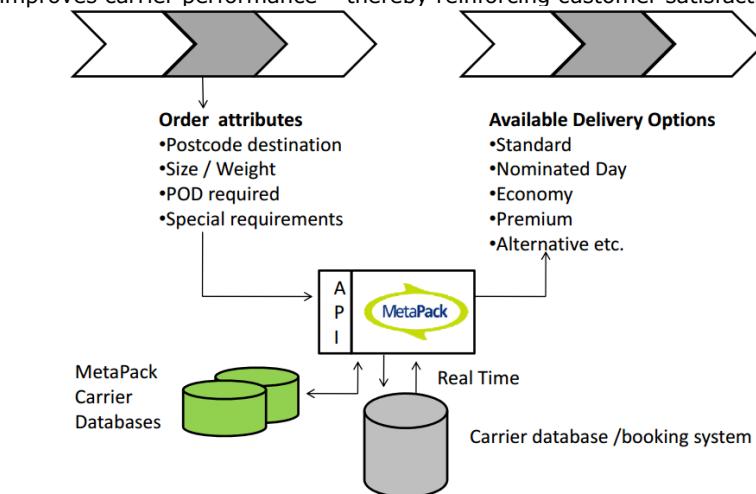
#### *Market solution 3: Logistic intermediaries providing multi-sourcing solutions*

To solve the problem with complicated multi-sourcing, a range of different logistics intermediaries have developed in more mature e-commerce and delivery markets. Examples are software solution providers such as Netrada, Axida, GFS, Logwin, Black bay, Metapack, EDI-soft, etc. which allow e-retailers to outsource (in whole or in parts) their logistics management or to engage in multi-sourcing, cf. Box 28.

### Box 28 Allowing e-retailers to multi-source – MetaPack

MetaPack, a company based in the UK, provides e-retailers with software solutions for carrier management. The solutions allow the e-retailer to integrate several delivery operators in its carrier management system and thereby offer its customers a wider choice of delivery services.

The software solution lets e-shoppers enter information about preferred delivery characteristics (time, place, price etc.) at the e-retailer's website. Thereafter, it chooses the most suitable operator/service. Letting e-shoppers decide when and how to receive the product they bought increases consumer satisfaction. However, selecting the right delivery operator to deliver the right product to the right place at the right time also improves carrier performance – thereby reinforcing customer satisfaction.



MetaPack also provides international solutions for e-retailers selling cross-border. These services include, amongst other things, label printing, direct injection of shipments into local delivery operators' networks, and end-to-end tracking of shipments.

Source: MetaPack (2013)

The presence of logistics intermediaries has so far been concentrated to the more mature e-commerce and delivery markets. This is most likely due to the larger business potential (due to higher shipping volumes) in these markets.

We do observe, however, that several intermediaries that previously have focused on domestic deliveries in their home country or core markets now are extending their offers to cross-border services and additional markets. Examples are provided by Metapack, Netrada, and EDI soft. These observations seem to reflect the increased demand for convenient B2C delivery services. Due to low shipment volumes in some Member States, a plausible scenario is, however, that these types of delivery-facilitating logistics solutions will not develop immediately throughout the entire EU. This will most likely not prevent the development of e-commerce. As noted previously, e-commerce has developed successfully in many markets without these solutions at hand. Only at a later stage in the e-commerce maturity cycle have this kind of solutions emerged. The same development is expected to follow throughout the EU when more basic problems, related to trust and payment security, are solved.

#### *Market knowledge*

Imperfect knowledge about user preferences or other market data (e.g. shipment volumes, turnover) might prevent e-retailers and delivery operators from providing customer-oriented delivery services. We observe two types of market solutions that help minimising these problems:

- *Market-based research and information provision*
- *Services provided by logistic intermediaries*

#### *Market solution 1: Market-based research and information provision*

In the section on information gaps, we noted that e-retailer associations and delivery operators often conduct market research regarding e-shoppers' needs and preferences and make this information available to e-retailers. This information may contribute to minimising the service gaps *indirectly* by allowing e-retailers to make more informed decisions about delivery. However, it may also contribute to minimising the service gaps *directly* by inducing delivery operators to change their service offerings.

In chapter 6, we observed that more than 20 delivery operators across the EU changed their behaviour as a result of conducted market research about consumer needs. We also observed that several delivery operators in mature delivery and e-commerce markets<sup>233</sup> actively monitor user preferences by allowing recipients to register in a database where they sign up for a range of different delivery options.

If the information about consumer needs would be shared among delivery operators, this could reduce delivery costs and logistical work for delivery operators. However, if information collected by one delivery operator would have to be shared with others, this might reduce the incentive for collecting the information in the first place. Hence, whereas mandatory access to databases with information about consumer preferences has the potential to increase the quality of delivery, it could also undermine incentives to collect information in the first place.

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<sup>233</sup> E.g. Post Denmark, PostNL, DHL, and UPS

For delivery operators, relevant information about markets (in terms of volumes and turnover) can be obtained from both industry organisations and private research institutes. For example, we observe that e-retailer associations such as the IMRG in the UK and Acsel in France regularly publish information about the national e-commerce and delivery markets in terms of shipments, turnover, largest e-retailers, and characteristics of the products sold online. The information is usually only available to the members of the association. Market information (in a multi-national context) is also provided by associations of delivery operators, such as the IPC. We also observe that private market analysis institutes, such as Datamonitor, publish reports on B2C parcel delivery in Europe on a regular basis. These kinds of reports can be accessed against a fee.

Although the large delivery operators have access to relevant market data, smaller delivery operators without membership in an industry association, or with limited financial resources<sup>234</sup>, might have difficulties to collect information themselves or to access information gathered by competitors. This means, that smaller delivery operators know less about the market and the preferences of the demand side (e.g. e-retailers), than larger operators. This potentially makes it harder for small operators to compete.

In this context, we note that accessing market information is not a unique challenge for e-commerce driven delivery. The challenge is the same in many other markets. We also note that there is a trade-off between more information and transparency on the one hand, and efficient competition in the delivery market on the other, cf. Box 29.

### **Box 29 Transparency and competition**

Typically, information on the demand side of the market will enhance competition as information enables consumers to buy from the suppliers who offer the best prices and quality. Hence, more information available to e-retailers and e-shoppers will lower search costs and increases the competitive pressure on delivery operators. However, more information on the supply side makes it easier for delivery operators to decide on pricing and investments, it might also hurt competition. In fact, together with certain structural factors<sup>235</sup>, high transparency can help facilitate anticompetitive conduct such as collusion. Thus, increased transparency may not be preferable from a policy point of view.

Source: Konkurrensverket (2006), p. 88, 102-103.

#### *Market solution 2: Services provided by logistics intermediaries*

Several delivery operators, especially in more developed e-commerce and delivery markets, also make use of the services provided by software solution providers and other logistics intermediaries. One example is provided by Axida, a software solution provider in the UK which allows delivery operators to provide time-definite delivery solutions and integrate these offerings directly into the e-retailers websites, cf. Box 30.

<sup>234</sup> Market reports often cost 10.000 Euro or more to acquire.

<sup>235</sup> Market characteristics under which collusion is more likely to occur is high concentration and symmetrical market shares, high entry barriers, low buyer power, regular and frequent orders, homogenous products/services and access to credible punishments, cf. Motta (2004).

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### Box 30 Time-definite delivery solutions – the case of Axida

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Axida is a software provider operating in the UK. The solutions provided allow e-shoppers to decide upon specific delivery date (or time slot) already at the time of purchase. By means of after sales interaction between the delivery operator and the e-shopper, for instance per SMS, the e-shopper can confirm or reschedule the delivery time. In this way, the e-shopper knows beforehand when to expect the delivery and can ensure that he/she is at home at the time of delivery.

Time-definite deliveries increase user satisfaction. For example, if the e-shopper knows with certainty that the delivery will arrive in the morning, this gives him or her the ability to schedule other activities (e.g. a business meeting) in the afternoon. The success rate of first time deliveries for Axida's customers is 97.8 per cent, compared with an industry average of 87 per cent in the UK.

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Source: Presentation "Going the Extra Mile" by Wayne Holgate – Commercial Director in Axida and IMRG (2012d)

As noted previously, this kind of delivery solutions might spread to additional markets as they develop, shipment volumes increases, and e-shoppers begin to demand more advanced delivery solutions.

#### Policy solutions

Sometimes, service gaps are created by *market failures*. In these situations, policy solutions may be necessary to minimise the gaps. Our analysis indicates two areas where policy intervention might be warranted to reduce the lack of services observed today: *competition, regulation, and interoperability*.

##### *Competition and regulation*

As noted in chapter 3, the number of delivery operators, and the spectrum of delivery services available, is narrower for cross-border deliveries than for domestic deliveries. There are often one or two delivery operators fewer active in cross-border delivery compared number of domestic delivery operators. This might prevent e-retailers from offering customer-oriented delivery services for their cross-border transactions, and it might even prevent them from selling cross-border. As noted in chapter 6, nothing formally prevents local or national delivery operators from engaging in cross-border delivery.

Nevertheless, policy intervention might be called for to stimulate and facilitate growth in the market. Policy intervention is also called for when the lack of services is caused by a *market failure*, e.g. high entry barriers or the abuse of dominance where a dominant operator use price strategies or other tools (e.g. exclusive distribution agreements) to foreclose the market from competitors. In the following, we focus on two types of policy interventions specifically aimed at addressing market failures leading to a lack of services (we discuss problems solutions to remedy high prices in section 8.5):

- *Effective enforcement of competition law*
- *Policies to reduce structural entry barriers*

##### *Policy solution 1: Effective enforcement of competition law*

To ensure that lack of services is not caused by anti-competitive conduct, it is fundamental to first ensure effective enforcement of existing competition law. Our review of existing case law, responses provided by delivery operators and regulators to our questionnaires, and interviews with delivery operators across Europe indicate that competition problems are most likely to arise regarding access to delivery points<sup>236</sup>, access to address databases, and in relation to anti-competitive pricing. To tackle these challenges, it is important that national competition authorities have sufficient resources and competences to monitor and investigate anti-competitive behaviour, for example by analysing delivery costs and prices.

Despite the risk of anti-competitive conduct in relation to the delivery of packets and parcels we observe three indicators that suggest that weak competition is not a major problem causing a lack of delivery services available to e-retailers and e-shoppers, cf. Box 31.

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<sup>236</sup> e.g. related to access to essential facilities and exclusive agreements (two problems highlighted by delivery operators in interviews and by competition cases in e.g. Norway, cf. EFTA Court (2012), and France, cf. Autorité de la concurrence (2011))

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## Box 31 Indications of competitive delivery markets

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*Indicator 1: Few competition cases*

We observe that there have been very few competition cases in parcel markets. Since year 2000, there has been only six cases concerning the delivery of parcels or packets, cf. chapter 6.

*Indicator 2: Postal infrastructure not essential facility*

Second, we observe that postal infrastructure has not been considered to be essential facilities in case law from e.g. Denmark<sup>1</sup> and France<sup>2</sup>. Instead authorities have argued that competitors can (i) negotiate access with NPOs on market-based terms, (ii) compete without access to the postal infrastructure or (iii) build their own infrastructure instead of relying on access from the NPOs. If this result is general, the implication is that regulation of access to infrastructure in order to ensure competition in at least a part of the delivery value chain will result in less competition.

*Indicator 3: De facto existence of alternative delivery operators*

Third, we observe that there is de facto existence of alternative delivery operators in almost all Member States and that non-NPOs have relatively high share of shipments (both for domestic and cross-border deliveries).

With respect to cross-border delivery, local or regional delivery operators can enter the cross-border market through co-operation with operators in other countries. For example, a local delivery operator in Germany can provide cross-border delivery to Austria by (i) co-operating with the Austrian NPO for last mile delivery, (ii) co-operating with a smaller delivery operator in Austria, which in turn uses the NPO for last mile delivery in some areas without own coverage, or (iii) making direct insert into any of the national delivery networks in Austria. In chapter 3, we observed that the non-NPO's market share with respect to delivery of B2C parcels and packets is on average 65 per cent in the EU. Similar results are derived from our e-shopper survey, showing that, on average, 60 per cent of e-commerce shipments are delivered by non-NPOs. The share is slightly higher for cross-border deliveries, where approximately 63 per cent are delivered by non-NPOs.

This suggests that delivery of products bought online is not a natural monopoly (neither on the domestic markets, nor cross-border).

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Source: <sup>1</sup>Konkurrence- og Forbrugerstyrelsen (2007), <sup>2</sup>Autorité de la concurrence (2011)

*Policy solution 2: Policies to reduce structural entry barriers*

Enforcement of existing competition law will, however, only solve issues related to anti-competitive conduct. If lack of services in the delivery market is due to structural barriers, such as high investment costs and large economies of scale (creating a natural monopoly), the competitive pressure may be insufficient. In this case, regulatory intervention might be warranted. One Member State where regulatory intervention has been considered in order to reduce structural entry barriers is Ireland, cf. Box 32.

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## Box 32 The process of introducing postcodes in Ireland

Addresses in Ireland have traditionally been based on town lands, streets and postal districts. In contrast to most other countries, there is no system of post codes in place (except for Dublin where postal districts are in place).

In August 2011, legislation was enacted to provide for the establishment, operation and maintenance of a system of postcodes, as part of the Communications Regulation (Postal Services) Bill 2010.

A main advantage of the introduction of post codes is increased competition in the delivery market. The reason is that new operators might have difficulties to enter the market due to the time and resources required to set up a sorting and delivery system that works without a post code system.

At the time of writing this report, the Irish government has sought tender for the procurement of national postcodes, but the process is still pending.

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Source: AddressIreland (2013)

### *Interoperability*

As discussed earlier, lack of access to integrated solutions for cross-border tracking and lack of a cross-border network of collection point for returns might discourage non-NPOs (primarily small ones) from providing these services because it is considered too costly. This reduces the spectrum of delivery services (and relevant delivery operators) for e-retailers.

Integration of track and trace systems between delivery operators and improved cross-border return solutions can be facilitated in at least three ways:

- *General requirement to base tracking systems on open APIs*
- *Standardisation of tracking systems*
- *Facilitation of further industry collaboration*

#### *Policy solution 1: General requirement to base tracking systems on open APIs*

A general requirement for delivery operators to base their tracking systems on open application programming interfaces (APIs) would enable interoperability between vastly different IT systems.<sup>237</sup> There are, however, two challenges with this solution.

*On the one hand*, mandatory use of APIs would add costs to the delivery operators, especially for delivery operators that have long standing systems in place that are not based on open APIs, or in cases where much adjustment has to be made in order to ensure compatibility. *On the other hand*, open APIs are only a necessary, but not sufficient means for integration. As individual systems still need to be made compatible with each other, open APIs do not guarantee seamless integration in a multi-national context.

#### *Policy solution 2: Standardisation of tracking systems*

Standardisation of tracking systems used by delivery operators could ensure full system integration. However, implementing a European standard for tracking and information

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<sup>237</sup> See for example Tech Target (2013)

exchange (e.g. via one of the European standards organisations) implies a number of challenges that have to be considered. The consequences of such regulation in terms of costs and effect on competition should be carefully considered before a European standard is introduced.<sup>238</sup> For example: What standard should be used (existing or new)? Will the choice of standard system provide some operators with a competitive advantage? What is the cost of developing and implementing the standard? How will innovation be affected?

*Policy solution 3: Facilitation of further industry collaboration*

An alternative to standardisation and general requirements could be to facilitate further collaboration among operators via conferences and studies. This approach has already been implemented by the IPC which facilitates the development of common delivery and return solutions among NPOs in its various working groups. Nevertheless, by applying this approach to a wider audience, the European Commission might be able to expand this kind of knowledge sharing and development of common solutions to non-NPOs.

## **8.5 Minimising service gaps - high prices**

In previous chapters, we observed that e-shoppers and e-retailers often consider delivery prices to be too high. The problem prevails primarily in relation to small e-retailers and in relation to cross-border delivery. In this section we focus on the prices paid by e-retailers to delivery operators. These prices may or may not correspond to the delivery prices paid by e-shoppers to e-retailers. Sometimes, however, the delivery price paid by the e-shopper is exclusively the result of the e-retailers marketing strategy, cf. chapter 6.

Table 63 provides an overview of the challenges causing high delivery prices and possible solutions.

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<sup>238</sup> Or a discussion on the benefits and drawbacks of standardisation, see for example Schellinghout (2011).

**Table 63 Too high prices – challenges and possible solutions**

	Volumes	Interoperability	Regulation	Competition	Market knowledge
Challenge	Low volumes increase delivery costs	Diverging addressing/labelling standards Insufficient access to delivery points Different letter box formats Un-harmonised rules on cross-border & inter-modal transport	Costly transport regulation High share of e-commerce shipments outside USO	Lack of competition in delivery market Complex & non-transparent pricing models	High share of failed delivery attempts
<b>Market solution</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>
<b>Policy solution</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>
Examples of good practice	Consolidators	DiscWise, e-Freight Bpost-LaPoste E-commerce friendly standard for new letter boxes in Sweden			

Source: Copenhagen Economics

### Market solutions

For many of the challenges contributing to high delivery prices, a market solution can be found. In most cases a market solution can be supported by carefully designed policy activities.

#### Volumes

In previous chapters, we noticed that smaller e-retailers often pay significantly higher prices for delivery than larger ones. We found that the average difference in list price between a single piece parcel and a parcel sent as part of a bulk shipment is 18 per cent. However, as large senders often receive individually negotiated discounts, thus the price difference is even larger. This will put smaller e-retailers at a competitive disadvantage compared to the larger e-retailers.

We observe that a range of different logistics intermediaries that reduce delivery costs for smaller e-retailers with low volumes have emerged in more mature e-commerce and delivery markets. We highlight two market solutions:

- *Services provided by parcel brokers and consolidators*
- *Services provided by market places*

#### Market solution 1: Services provided by parcel brokers and consolidators

Parcel brokers and parcel consolidators allow smaller e-retailers to enjoy larger volume discounts than they would have been able to achieve on their own. Whereas some brokers and consolidators provide services in relation to both domestic and cross-border deliveries, other focus mainly on the domestic market. Two companies that offer discounted delivery prices to small e-retailers are the Swedish parcel broker Fraktjakt.se and the Italian consolidator Spedire.com, cf. Box 33 and Box 34.

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### Box 33 Fraktjakt.se

The Swedish parcel broker Fraktjakt.se is an online service portal that offers private and business customers a range of different services related to delivery of packets and parcels. The services offered by the online broker to e-retailers are, amongst others:

- Comparison of different delivery options (prices, carriers, and delivery times)
- Comparison of own delivery agreements with those negotiated by Fraktjakt
- Administrative services, such as booking of deliveries with different carriers, printing of labels, customs clearance, tracking etc.
- Direct integration with web shop to allow e-shoppers a wider selection of carriers

By acquiring a customer account with delivery operators via Fraktjakt, e-retailers with low volumes can enjoy significant price discounts. By integrating their web shops directly with Fraktjakt, e-retailers can offer their customers a wide number of delivery options without having to comply and integrate with several delivery operators' technical specifications. All payment and monitoring of deliveries can be done via the system of Fraktjakt.se which simplifies the handling of logistics for especially smaller e-retailers.

Fraktjakt.se primarily serves smaller e-retailers. One of these is the Swedish e-retailer Doft & Smink.se. This small e-retailer sells perfume and make-up to private consumers located in Sweden and ships around 10 parcels per day. By using Fraktjakt, Doft & Smink.se has simplified its logistics management in terms of payment, monitoring, and compliance with different labels and specifications of delivery operators.

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Source: Copenhagen Economics, E-retailer and parcel broker interviews

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### Box 34 Italian parcel consolidator Spedire.com

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The Italian parcel consolidator Spedire.com and its sister company myship.it are part of the ESITE S.R.L. group. The company started as an e-retailer selling electronics good e-shop which initially opened its business to third-party drop shippers. Today, Spedire.com is an online service portal that offers business (as well as private customers) an easy interface to procure express delivery services, which include:

- i. Domestic delivery
- ii. Outbound cross-border (e.g. for e-retailers exporting)
- iii. Inbound cross-border (e.g. following a purchase from a foreign seller)

Spedire maintains a commercial relationship with two delivery operators, SDA (only for domestic shipments) and UPS. Based on its two agreements, Spedire resells tracked domestic and cross-border delivery to its customer base. The sister company myship.it has agreements with Bartolini and FedEx, respectively for domestic and cross-border delivery.

Spedire targets the needs of the e-retailers which are falling through the cracks of existing offers on the market. These are customers whose delivery needs cannot be satisfied by the NPO and whose delivery purchase volumes are too small to be suitable direct customers of integrators and local express companies. This because these operators find that small customers cost relatively much money and time to serve.

Specifically, Spedire serves small e-retailers, many of which are one-person or family firms. The customers range from those who send a parcel on a one-off basis, to those which send up to 50 parcel shipments a month. One customer is ilmalteselab.com, a niche e-retailer of own-crafted garments and footwear, with a growing customer base across Europe and beyond.

Spedire's business model is to provide four key benefits to e-retailers:

- i. Lower per-shipment prices, e.g. 6.99€ for a single parcel up to 1 kg (compared to a non-consolidator price of 8-9€). Moreover, a discount scheme rewarding even relatively small volumes: a 5 per cent discount for those with 20-50 deliveries / month; 10 per cent off for 50-100 deliveries and 15 per cent for 100+.
- ii. A simple online delivery purchase process. This is attractive to many e-retailers which do not have the resources to handle an account and contracting with express couriers and can be exposed to terms in the small print. When dealing with spedire.com, the delivery users are safeguarded by the consolidator's intermediation which simplifies procuring delivery.
- iii. The e-retailer can arrange pick-up from a warehouse or third-party location, while the delivery note for the recipient will show the e-retailer's address as sender. This enables e-retailers to preserve the e-shopping customer relationship even where the good delivered is sourced from a third party.
- iv. Delivery orders can be placed automatically, based on an electronic data interchange (with CSV or XML interfaces). Spedire's services can thus be integrated in the e-retailer's supply chain, which automates, speeds up and simplifies delivery procurement – in real time response to an e-shopping order received. E-retailers can provide pre-paid credit to enable this service.

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Source: Copenhagen Economics, Parcel consolidator interviews

Even though brokers and consolidators offer advantages to e-retailers, our e-retailer survey and interviews indicate that many e-retailers are not aware of parcel brokers, consolidators and other intermediate providers of logistic services. This is mainly a question about market knowledge (information gap) that could be addressed e.g. by information

campaigns. We note that several parcel consolidators (such as Spedire in Italy and Luggex in Sweden) have developed from existing retailers that made their internal logistics services available to other retailers in order to take advantage of the larger scale. This clearly illustrates that market players can facilitate the development of such solutions on their own.

#### *Market solution 2: Services provided by market places*

Other solutions are provided by market places such as Amazon and Pixmania that, in addition to providing a marketing platform, offer logistics services for third party e-retailers (drop shippers). In this case, the market place works as a consolidator and the third party e-retailer can benefit from lower costs of shipping. The market places also provide outsourcing of the logistics management (at a cost).

Finally, another way for e-retailers with low volumes to create volume is by reducing the frequency of pick-up. However, this solution implies a trade-off since it also means that some e-shoppers would have to wait longer for their parcels.

#### *Interoperability*

In chapter 6, we observed that interoperability challenges, e.g. in terms of diverging address or labelling standards, diverging letter box formats, or lack of access to house keys, increase delivery costs. These challenges are addressed by both delivery operators and e-retailers. Below we give three examples of how delivery operators work to reduce interoperability problems:

- *Customised delivery solutions provided by delivery operators*
- *Co-operation among delivery operators on common labels*
- *Market initiatives on e-commerce friendly letter box formats*

#### *Market solution 1: Customised delivery solutions provided by delivery operators*

The first market solution is provided by delivery operators<sup>239</sup> that strive to reduce the rate of failed first delivery attempts by customising home delivery to user needs. In practice, the customisation often means that the e-shopper can register his or her delivery preferences at the delivery operator's website. For example, PostNL's website MijnPakket allows the e-shopper to redirect the parcel in transit to another delivery point. In this way, failed delivery attempts can be omitted.

#### *Market solution 2: Co-operation among delivery operators on common labels*

The second market solution is provided by co-operation among delivery operators with respect to common labels, cf. Box 35.

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<sup>239</sup> For example Post Denmark, PostNL, UPS, Royal Mail, and DHL.

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### Box 35 Reducing labelling costs – the case of bPost-La Poste

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As from September 2012, shippers that use Coliposte (part of the group La Poste (NPO) in France for shipments to Belgium have been gradually migrated towards a new cross-border shipping solution. The solution, developed in co-operation between bpost and Coliposte, implies that a dual label with specifications for the routing and invoicing in France as well as the routing and delivery information Belgium is stuck to the consignment at the time of dispatch in France.

The dual labels imply the elimination of the re-labelling process that otherwise takes place in relation to cross-border delivery. They also facilitate that La Poste can inject cross-border items directly into bpost's domestic sorting centres. This reduces handling costs in bpost's network and reduces delivery time by one day.

Last, but not least, the solution implies that business users in France get access to bpost's domestic delivery solutions such as pickup-points or delivery without signature for less expensive items.

According to bpost, the solution can be re-used for interaction with other designated postal operators.

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Source: Copenhagen Economics, Delivery operator interviews

This example shows that a common label format is a viable solution with the potential of reducing costs as well as improving the service level available to e-retailers and e-shoppers. This kind of co-operation could be extended to include also other countries. However, sufficiently large flows of parcels and packets between the countries are necessary to make the investments in dual labels desirable. In other words, the introduction of dual labels between large trading partners such as France, Germany, Belgium and the Netherlands, or between Spain and Portugal would most likely be more viable than the introduction of a dual label between Finland and Malta. Thus, the introduction of a common labelling format for the entire EU, or the introduction of dual labels for all combinations of trade flows would require policy intervention as it would not be provided by the market on commercial terms.

*Market solution 3: Market initiatives on e-commerce friendly letter box formats*

The third example of a market initiative is the 'e-commerce friendly' letter box standard implemented in Sweden by delivery operators, cf. Box 36.

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### Box 36 ‘E-commerce friendly’ letter boxes in Sweden

In Sweden, postal and delivery operators (Posten AB, Bring Citymail and the association of independent postal operators<sup>240</sup>) have jointly developed guidelines to allow for easy delivery of e-commerce packets directly to the e-shopper’s letter box.

The guidelines stipulate that letter boxes installed in multi-household buildings shall have the following features:

- Each individual letter box unit shall be no smaller than 260mm x 105mm x 370mm
- The collection of letter boxes shall have a central opening/lock to help the distribution of mail items, cf. picture below.

According to a representative for the joint partnership, tenants in Sweden are in general happy with the new letter boxes: *‘Most people have realised that the letter boxes increase the quality of living. And those who shop online can get more consignments all the way home via the mail man.’*



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Source: Forum för fastighetsboxar (2011)

This example of e-commerce friendly letter boxes shows that delivery operators as well as e-shoppers and e-retailers have an incentive to provide for e-commerce friendly letter boxes. Initiatives similar to that in Sweden could be adopted by delivery operators also in other countries. If delivery operators do not have the incentive to invest in, or co-finance, new letter boxes, policy intervention in terms of a standardised letter box format could be considered, cf. section on policy intervention.

#### *Competition*

If markets function well, a persistently high price level will in the longer run attract entry from new market players. This will in turn increase competition and ultimately drive down prices. This might, however, take time and effective enforcement of competition law is important as a supplement to the market outcome to ensure that no abuse of dominance prevents effective competition. We discuss how regulators can address problems of weak competition in relation to the suggested policy solutions.

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<sup>240</sup> Fria postoperatörers förbund

### *Market knowledge (information about user needs)*

Delivery operators with effective and customer-oriented distribution can keep costs and prices down. Accordingly, delivery operators that do not understand the needs and preferences of e-shoppers and e-retailers might end up with a high rate of failed first delivery attempts and high costs. If there is competition between delivery operators, these unsuccessful operators will lose market shares.

### **Policy solutions**

To reduce the risk of too high prices, the identified market solutions might need to be supplemented by policy solutions. Our analysis reveals that policy solutions primarily are warranted within the areas of competition, regulation, and interoperability.

#### *Competition and regulation*

In chapter 6, we observed that the number of delivery operators active in cross-border delivery is smaller than the number of delivery operators active in domestic delivery. We also observed that non-NPOs often do not pay as much attention to smaller e-retailers as to larger ones. This may explain the higher prices paid for cross-border delivery and by small e-retailers with low volumes.

To facilitate efficient competition in delivery markets, different remedies can be used. Three important remedies that could be used to reduce delivery prices are:

- *Effective enforcement of competition law*
- *Extension of the postal USO to more parcel/packet products*
- *Introduction of SMP regulation*
- *Introduction of price regulation on cross-border shipments*

#### *Policy solution 1: Effective enforcement of competition law*

The first remedy is effective enforcement of existing competition law. The main competition concerns identified relate to access (to delivery points in the retail network or to address databases) and pricing. As previously discussed, it is thus important that national competition authorities have sufficient resources and competences to monitor for anti-competitive behaviour and to investigate any potential infringements of competition law. Over the past few years, both national and agencies and European international competition enforcers (EC and ESA) have investigated cases related to parcel markets. However, as discussed in chapter 6, these have been relatively few and most of the cases where there has been a breach of competition law have dealt with access to the retail network. This suggests that a natural focus point for competition authorities would be to monitor conditions for access to retail network.

#### *Policy solution 2: Extension of the postal USO to more parcel/packet products*

The USO plays a central role in postal regulation, but only a small part of the delivery sector falls under the USO.

Extending the scope of the USO will have important consequences in two ways. First the USO ensures a basic service level available to all consumers, hence extending the USO

could provide a broader safety net by ensuring provision of delivery services that are currently not available. Second, the USO also defines the scope for most regulatory powers of the national regulatory authority. Hence, extending the scope of the USO could be used to extend the regulatory scope for NRAs.

The question of whether the USO should be extended to cover more parcel and package services thus lead to two questions:

1. Is there a need for a broader safety net?
2. Is there a need for ensuring NRAs regulatory powers outside the current USO?

The postal USO is a safety net for providing basic delivery services which would not be provided by the market (at least not at a sufficiently high quality or to a sufficiently low price). The fact that only 5-8 per cent of ecommerce driven deliveries fall under the USO indicates that this safety net is not used by e-retailers and e-shoppers and that non-USO products better suit their needs and preferences. The reason for this could either be that consumers find non-USO services to be more attractive than USO services – or it could be that there are no services that meet consumers' demand.

Our survey of delivery services on offer and our interviews with e-retailers and delivery operators all indicate that there is not a lack of services per se. The services requested by e-retailers and e-shoppers are mostly provided by one or several delivery operators. Thus extending the USO is not likely to bring entirely new services to the market. The question is rather if extension of the USO could ensure *lower prices for existing services* than whether it can ensure *new services*. However, prices will not decline by themselves just because a given service changes status from non-universal to universal service. A price change will require a form of regulatory intervention. This suggests that the real impact from extending the USO comes from the regulatory tools that become available for currently non-USO products.

An extension of the USO to more products would increase the mandate of NRAs, but the question remains whether this is the right avenue to tackle possible need for regulatory oversight in view of a possible market dominance. Importantly, an increased USO scope, while having in mind the focus of the current postal regulatory framework, would allow NRAs to collect more information about parcel markets and increase the scope for monitoring to prevent excessive pricing. The NRA could also impose different types of quality standards and price regulation (e.g. cost-orientation, non-discrimination, transparency, and price caps).

However, cost-orientation and non-discrimination requirements will most likely not tackle high cross-border prices. The reason for this is twofold. First, cost-orientation is typically enforced on a basket of services. Hence, this instrument is not precise enough to tackle cross-border prices specifically. Second, non-discrimination itself does not apply since domestic and cross-border deliveries are considered to be two different markets, though the issue could be potentially addressed through cost-orientation regulation if effectively applied also in cross-border context.

If more products are included in the USO, NRAs would have the possibility to ensure lower prices through ex-ante regulation of prices. Information collected from the NRAs across the EU shows that approximately 50 per cent of NRAs regulate the price of USO parcel and/or packets products ex ante, cf. Table 64 and Table 65.

**Table 64 Type of price regulation for packets (within USO)**

Country	Domestic	International outbound	International inbound
<b>Belgium</b>	Price cap on basket of products	Price cap on basket of products	Price cap on basket of products
<b>Estonia</b>	Price cap on specific product	Price cap on specific product	Price cap on specific product
<b>Germany</b>	Ex post price regulation in case of SMP	Ex post price regulation in case of SMP	-
<b>Ireland</b>	USO Only Price Cap (in 2013)	USO Only Price Cap (in 2013)	-
<b>Latvia</b>	Price cap on basket of products	Not specified	Not specified
<b>Malta</b>	Ex-ante price regulation subject to finding of SMP	Ex-ante price regulation subject to finding of SMP	Ex-ante price regulation subject to finding of SMP
<b>Nether-lands</b>	Price cap on basket of products	Price cap on basket of products	Price cap on basket of products
<b>Spain</b>	Price cap on basket of products	Price cap on basket of products	Price cap on basket of products
<b>UK</b>	Price cap on specific products	-	-

Note: SMP: Significant market power. UPU: Universal Postal Union.

Source: Copenhagen Economics, NRA questionnaire

**Table 65 Type of price regulation for Postal Parcels**

Country	Domestic	International outbound	International inbound
Austria	Ex ante (cost orientation, affordability)	Ex ante (cost orientation, affordability)	Ex ante (cost orientation, affordability)
Belgium	Price cap on basket of products	Price cap on basket of products	Price cap on basket of products
Estonia	Price cap on specific product	Price cap on specific product	Price cap on specific product
France	Global price cap No distinction of priority and non-priority shipments. Ex post price regulation in case of SMP.	Not specified	Not specified
Germany		Not specified	-
Ireland	USO Only Price Cap (from 2013)	USO Only Price Cap (from 2013)	-
Latvia	Price cap on basket of products	Not specified	Not specified
Lithuania	Tariff ceiling	Tariff ceiling	-
Malta	Ex-ante price regulation subject to finding of SMP	Ex-ante price regulation subject to finding of SMP	Ex-ante price regulation subject to finding of SMP
Poland	Price cap regulation (from 2013)	Price cap regulation (from 2013)	Price cap regulation (from 2013)
Portugal	Ex ante approval of prices**	Not specified	-
Slovakia	Maximal price	Maximal price	-
Slovenia	Single price	Single price	Single price
Spain	Price cap on basket of products	Price cap on basket of products	Price cap on basket of products

Note:

\*prices must be: affordable; accessible to all users; cost-oriented; encourage efficient provision of a universal service; and non-discriminatory

\*\* For private users the conditions of \* applies. Services for businesses, bulk mailers or consolidators of mail from different users, shall also: a) Take account of the avoided costs, as compared to the standard service covering the four operations integrated in the postal service; b) Be applied equally, regardless of the type of beneficiary; c) Be available to users who post under similar conditions, in particular individual users and small and medium-sized enterprises.

Source: Copenhagen Economics, NRA questionnaire

The effect of ex ante price regulation for products within the USO depends on the level of competition in the market. If competition in the delivery market is weak, or if there is an operator with significant market power, extended regulation (e.g. in terms of cost-orientation, non-discrimintaion, or transparency requirements) would imply a more level playing field and better conditions for the users of delivery services. If, however, there is well functioning competition already, extended regulation would imply additional constraints faced by the universal service provider (but not by other operators). This could result in a more unlevelled playing field.

Moreover, extending the USO has several other implications. First it will impose distortions due to VAT exemption on USO services. Second, it may affect the net costs of the USO and cause higher compensation claims.<sup>241</sup>

#### Policy solution 3: Introduction of SMP regulation

The third remedy that could be put in place in order to prevent too high delivery prices is the introduction of ex ante regulation for those product segments where an operator is found to have significant market power (SMP). Similar to an extension of the postal USO,

<sup>241</sup> See for example Copenhagen Economics (2010).

an ex-ante framework for SMP regulation (e.g. of cross-border termination rates) would enhance NRAs' monitoring and regulation abilities. Furthermore, the risk of distorting competition by imposing disproportionate obligations on the universal service provider would be reduced as regulation is targeted at those market segments where competition is weak.

This type of regulation is already to a certain degree in place in Germany<sup>242</sup> and is proposed to be implemented in the Netherlands, cf. Box 37.

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### Box 37 Dutch proposal on SMP regulation

In December 2012, the Ministry of Economic Affairs in the Netherlands published a proposal for amendment of the postal act introducing ex ante regulation of market players with Significant Market Power (SMP). According to the proposal, SMP status can be imposed on a market player who, because of its market power, is able to unilaterally prevent the maintenance and development of competitions in the market.

According to the proposal, special requirements can be imposed on a market player with significant market power. These requirements are not limited to products within the scope of the USO, but can apply to all products and services. The proposal will thus provide the regulator with regulatory powers outside the USO (e.g. bulk parcels) to prevent an operator with significant market power to use this position to exclude competitors or exploit customers. The proposed ex ante control of a postal operators with SMP status include, among other things, (preventive) price regulation, cost-orientation, access price regulation, and a transparency obligation.

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Source: Copenhagen Economics, based on Proposal of Law: Amendments to the Postal Act 2009 to introduce ex ante monitoring a post carrier with significant market power

In sectors with ex-ante frameworks based on significant market power, regulators can: i) obtain information from all market players for the purpose of conducting market reviews; and ii) if an operator is found to have significant market power on the relevant market defined, impose transparency obligation on this operator as one of the possible remedies envisaged in advance.<sup>243</sup> By doing so, the regulators gather and publishes (with limitations where required) information that allows both the regulator and all market players to monitor the conduct of operators with significant market power.

The provisions in the current Postal Directive does not allow for the collection of information necessary in relation to SMP regulation. Notably, Article 22(a) of the Postal Directive provides postal regulators with the powers to collect market data from postal operators (a) in order to ensure conformity with the provisions of, or decisions made in accordance with the Directive and (b) for clearly defines statistical purposes. Consequently, in order to collect data useful in relation to SMP regulation (which lies outside the

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<sup>242</sup> The German regulator includes the market dominance criteria in its assessment of the need to regulate the incumbent postal operator. However, as market data is only available for USO services and products, the regulation is in practice still only applied to the USO. To fully apply SMP regulation, the data provision obligation would have to be extended to additional (non-USO) products and services.

<sup>243</sup> "National regulatory authorities may, in accordance with the provisions of Article 8, impose obligations for transparency in relation to interconnection and/or access, requiring operators to make public specified information, such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use, including any conditions limiting access to and/or use of services and applications where such conditions are allowed by Member States in conformity with Community law, and prices". Access Directive, Art. 9.1 (Directive 2002/19/EC, as amended by Directive 2009/140/EC).

scope of the Directive and which also lacks the linkage to a statistical purpose), the NRA's mandate would have to be extended.

The rationale for information disclosure obligations where an operator is found to have significant market power is to promote a level-playing field by monitoring the conduct of dominant operators in order to prevent them from abusing their market power. Nevertheless, to comply with the principle of proportionate regulation, NRAs must continuously manage the trade-off between the benefits of gathering information (to underpin SMP regulation) and its drawbacks, such as the burden imposed on firms (including all firms without significant market power) and the risk of potentially facilitating collusion.

The introduction of a framework based on SMP should, however, *only* be considered in the case where structural entry barriers and/or insufficient capabilities of the existing competition law framework are preventing efficient competition from developing. If the entry of competition is viable but does yet not happen (perhaps because prices already are close to marginal costs) regulation based on SMP will not be an appropriate remedy.

Before ex ante regulation is imposed, the regulator should thus perform a market review in order to ensure that the regulation imposed is necessary and appropriate. In the telecom sector, a market review under an SMP framework consists of a three criteria test where the regulator should (i) define relevant markets, (ii) assess the existence of significant market power, and (iii) evaluate if there are any competition concerns and what would be the appropriate remedies, cf. Box 38. A similar review could also be applied in the postal context, although some adjustments might be necessary to take into account differences between the two sectors.

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## Box 38 Market review under SMP regulation

The three steps included in the market review are:

1. Definition of relevant markets
2. Assessment of significant market power
3. Evaluation of competition concerns and appropriate remedies

*In the first step*, the NRA should define the relevant market(s) for delivery of products bought online. In this context, three interesting observations from recent Commission decisions<sup>1</sup> provide some insight into the relevant markets for e-commerce deliveries.

First, we note that the Commission in previous decisions have distinguished between domestic and cross-border deliveries. The reason for this has been that these categories were found to satisfy different needs and require different networks.

Second, we note that the Commission also has distinguished between express services and slower services, so called “deferred” deliveries. The reason for this is that some users need to be sure that certain items (for instance spare parts) are delivered within one day. Such users would thus not be able to switch to deferred services as a result of a price increase.<sup>2</sup>

Third, we note that the Commission also has defined separate markets for C2X, B2B and B2C deliveries. The reason for the distinction between B2B and B2C deliveries has been the denser network required to reach private consignees.

So far, in neither of these decisions did the Commission define a relevant market for small senders.

*In the second step*, the NRA should assess the existence of significant market power, i.e. if any operator(s) can act independently of the market. In this context, we note that e-retailers often have different possibilities for sending products bought online. For example, large e-retailers can (and do) engage in direct insert where they bypass the cross-border delivery element and insert product directly into the destination country's domestic delivery network. Similarly, small e-retailers can use parcel brokers or different types of parcel consolidators to bypass the direct relationship with the delivery operator. Examples the latter are provided by Amazon and Pixmania, taking the role of consolidators for smaller e-retailers that use them for drop-shipping. The possibility also exists for small e-retailers to join forces and consolidate volumes on their own.

*In the third step*, the NRA should conduct a market-based analysis to define the competition concerns and the suitable remedies to handle the concerns. When deciding upon remedies, it is important to analyse potential regulation from a dynamic perspective. As ecommerce will increase in the coming years, there will be room for more operators and more competition in the delivery market. However, the incentive to enter the market and expand delivery networks depends on the price level. Therefore, regulators will face a trade-off between, on the one hand, stimulating entry and network expansions and, on the other hand, ensuring low prices in the short term.

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Source: <sup>1</sup>Case No COMP/M.5152 – Posten AB/Post Danmark A/S of 21 April 2009, Commission Decisions 2010/142/EC (OJ L 56, 6.3.2010), 2007/564/EC (OJ L 215, 18.8.2007) and 2009/46/EC (OJ L 19, 23.1.2009), Decision of 30 January 2013 prohibiting the planned acquisition of TNT Express by UPS, Commission Implementing Decision of 22 march 2013 exempting certain services in the postal sector in Hungary from the application of Directive 2004/17/EC of the European Parliament and of the Council coordinating the procurement procedures of entities operating in the water, energy, transport and postal services, <sup>2</sup>European Commission (2013c)

In earlier chapters, we identified a problem for NRAs to monitor inward cross-border termination rates for universal service products. We noted that this primarily is problematic in countries where the competitive pressure is too weak to ensure for competitive rates (e.g. due to the fact that non-NPOs only cover a small part of the domestic delivery market). A possible way of increasing the price transparency of inward cross-border termination rates without effective competition in the domestic delivery market could thus be to disclose more information to the NRAs. For example, service providers with significant market power could be obliged to provide the NRAs with information about the prices charged from foreign delivery operators for last mile delivery, as well as a detailed presentation of underlying costs. This kind of policy initiative would allow the NRAs to more efficiently monitor the prices for inward cross-border parcels and packets and ensure that no excessive mark-ups arise due to weak competition in last mile delivery.

*Policy solution 4: Introduction of price cap on cross-border shipments*

The situation with high cross-border prices that do not seem to reflect underlying costs appears, at least on the surface, similar to the situation in the European roaming market before the introduction of price regulation on roaming prices. Until 2007, mobile roaming markets in Europe were characterised by prices considerably higher than domestic mobile prices. Moreover, roaming prices were out of line with the underlying costs. The economic concerns descend from both the roaming market value chain and the nature of mobile contracts. These usually lead to concerns of: i) double marginalisation; and ii) mobile consumers' inability to constrain (retail) roaming tariffs, cf. Box 39.

### **Box 39 The economics of high roaming prices**

According to economic theory, double marginalisation can arise in a value chain context, when both upstream and downstream markets are not fully competitive – this is a necessary condition. Mobile markets are often denoted as oligopolies, due to limited number of spectrum licences that can be issued by the State.<sup>244</sup> Thus, double marginalisation is a clear concern. In a nutshell, both the foreign operator (charging the domestic operator) and the domestic operator (charging the domestic user) charge more than a single integrated company would do. The too high price results in lower consumption of the service and thus reduces social welfare.

Furthermore, mobile users selecting a provider face a menu of prices and options, which cover the cost of using the mobile at home (voice, SMS, data; bundles and costs beyond the allowance, etc.) and abroad. The vast majority of consumers use their mobile much more in their home country than abroad and are therefore more sensitive to domestic usage prices. Mobile network operators thus generally compete by presenting the most attractive tariffs for domestic use.

Besides, mobile users may have different preferences for where they want to use their phone. Anecdotal evidence also suggests that mobile users face roaming bill shock, i.e. they use their mobile abroad more than they wished for; in other words, they respond less to the roaming tariff. As a result, for each domestic operator, negotiating a better roaming deal with foreign operators is not going to yield a clear competitive advantage vis à vis other domestic operators. In conclusion, any mobile users who switch provider on the basis of lower roaming tariffs do not create material pressure on operators to chase their customers by lowering roaming tariffs: the locus of retail competition are the domestic tariffs.

Thus, at the wholesale level, the domestic operator has limited incentive or leverage to negotiate a better deal on the wholesale roaming input that it purchases from a foreign operator. At the same time, the foreign operator – due to double marginalisation – will also have an incentive to sustain higher wholesale prices when dealing with other operators. The combined effect of weak consumer pressure on retail roaming tariffs and double marginalisation at the wholesale level could explain the high roaming prices persisting throughout Europe.

Source: Copenhagen Economics

In the end, EU institutions became concerned that excessive mobile roaming prices affected the internal market. Regulation (EC) No 717/2007 introduced a retail price cap (the so-called Eurotariff) on mobile roaming calls, alongside a wholesale cap. The scope of the regulation has since been extended to SMS and data roaming, while the caps on calls have also been tightened. Roaming prices today are much closer to both domestic mobile prices and to their costs.

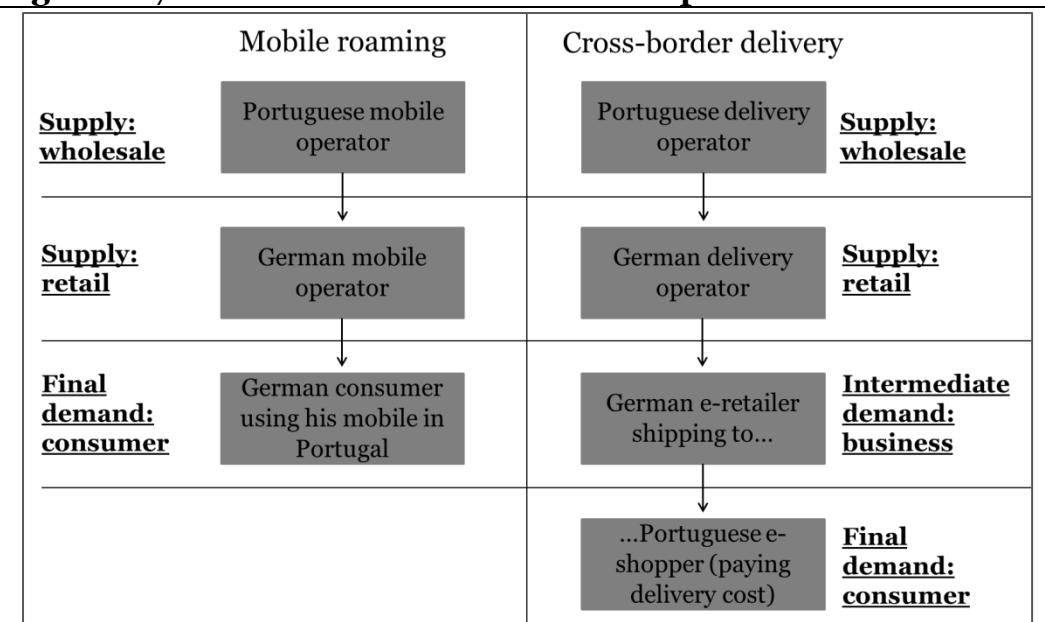
An initial comparison of the context of cross-border parcel delivery with that of mobile roaming may intuitively suggest a degree of likeness. However, while the two contexts present a few similarities in theory, in practice the correspondence is also limited. We have identified a set of crucial differences between the two contexts, relative to the four following key domains:

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<sup>244</sup> Many European markets have MVNOs also competing for business, on the basis of wholesale access deals with an MNO. However, each MVNO's roaming tariff depends directly on the roaming deals secured by its partner MNO.

- 1) *Value chain structure, cf. Figure 107:* In the case of cross-border delivery, the e-retailer is the buyer of delivery services but e-shoppers also play a role in selecting amongst e-retailers (on the basis of the delivery service provided) and also, when buying from a given e-retailer, choosing from a menu of delivery options where this is possible. Contrary to mobile roaming, however, information about the delivery operator is not always clearly presented to the final consumer prior to consumption of the service.

**Figure 107 Value chains: a schematic comparison**



Source: Copenhagen Economics

- 2) *Demand side:* E-retailers are business entities and are considerably more heterogeneous and price sensitive than mobile consumers. Large e-retailers are able to procure their own haulage (direct insert) to inject parcels into foreign delivery networks. E-retailers can also negotiate lower, even individual delivery prices, to an extent that large business users of roaming cannot. Moreover, the last link in the transaction chain (e-shoppers) adds price sensitivity. When shipping charges are displayed only at the end of the e-shopping process, this may create not a bill shock but instead a “quote shock”, which we have seen can lead to abandoned shopping carts. Mobile consumers, on the other hand, did not see the prices before they received their bill.

- 3) *Supply side:* The high number of (even local) courier and express operators suggests that there are generally low barriers to operate a parcel delivery business. This is different to the mobile market.<sup>245</sup> Another significant difference is cost structure. In reality, marginal roaming costs are close to zero once the network operators' digital gateways are interconnected. In parcel delivery, marginal costs remain significant even after operators achieve interoperability. Moreover, unlike telecommunications equipment and capital costs, the inputs in parcel delivery exhibit greater variations across delivery operators and not all delivery networks are interconnected with each other. Thus the costs of both the inward and outward legs of cross-border delivery will exhibit greater variations across EU countries than roaming input costs do.
- 4) *Regulatory scope and incentives:* According to article 13 of the postal directive, NRAs have a duty to monitor parcel inward land rates.<sup>246</sup> The motivation behind this is to avoid excessive prices for last mile delivery resulting from a national postal operator with significant market power on the domestic delivery market. Unlike in roaming, inward parcels termination prices in country Y directly affect consumers in Y which could make it a higher priority for the NRA in country Y.

In conclusion, both the interplay of supply and demand on the market and the incentive and regulatory framework for NRAs intervention should be markedly more conducive to efficient outcomes in the context of cross-border parcel delivery than what they were in the case of roaming. For this reason, a price-cap type intervention on (wholesale) termination rates for inward parcels and (retail) cross-border delivery prices has a significant risk of leading to under compensation – which was not a concern in the case of roaming. As a result, both market forces and policy pressure may be unable to achieve the same outcomes in cross-border delivery as in roaming. At the same time, the question and assessment on what the sectors can learn from each other will certainly remain an issue in the future.

#### *Interoperability*

Interoperability problems in terms of a multitude of addressing and labelling standards, diverging letter box formats , and insufficient interoperability of information systems increase delivery costs and thereby delivery prices paid by e-retailers. We have identified three policy solutions that could cope with these challenges:

- *Introduction of EU-wide addressing and labelling standards*
- *Introduction of a EU-wide e-commerce friendly letter box standard*
- *Continued development of initiatives to increase interoperability*

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<sup>245</sup> Cf. footnote 244 above on the difference between mobile virtual network operators and fully fledged mobile operators.

<sup>246</sup> According to Article 13(1) of directive 97/67/EC, in order to ensure the cross-border provision of the universal service, Member States shall encourage their universal service providers to arrange their agreements on terminal dues for intra-Community crossborder mail, such that terminal dues are: (i) fixed in relation to the costs of processing and delivering incoming cross-border mail, (ii) related to the quality of service achieved, and (iii) transparent and non-discriminatory. However, due to lack of transparency of data on cross-border termination rates (cf. chapter 6), many Member States do no apply article 13 in practice.

*Policy solution 1: Introduction of EU-wide addressing and labelling standards*

A European addressing and labelling standard could reduce delivery costs (and possibly spill over in lower delivery prices) by (i) reducing parcel labelling costs for delivery operators (no double labelling), (ii) reducing delivery time for delivery operators (no re-labelling), (iii) reducing search costs for e-retailers engaging in direct insert (no uncertainty as to which label to stick onto the package), and (iv) reducing the postage costs for small e-retailers (increased ability to work share).

However, introducing common standards for addressing and labelling also has some disadvantages. For example, harmonising address formats that have been developed over centuries will be difficult. The same is, at least to some extent, true for labelling where each delivery operator has developed its own format.

Our interviews with delivery operators across Europe reveal that development of new technology can help solve the problem. Many of the larger delivery operators are used to handle different address formats and have developed solutions for this. We also see that some delivery operators have developed compatible label formats on a bilateral basis. One example of this is provided by bpost and la Poste. As discussed previously, this kind of solution could (at least in theory) also be extended to more countries.

*Policy solution 2: Introduction of a EU-wide e-commerce friendly letter box standard*

A European letter box standard could reduce the number of (costly) failed home delivery attempts, while at the same time improving the delivery experience for e-shoppers who receive the parcel at home while at work. However, standardising the format of letter boxes throughout Europe will be very challenging in practice.

First of all, reaching a common agreement on the ‘standard’ measurements will most likely be difficult. According to our interviews with sector experts, the existing CEN standards for letter boxes took eight years to develop. Moreover, the actual implementation of the new standard will most likely be both time consuming and expensive, taking into account that there are around 200 million households in the EU (out of which approximately 40 per cent reside in multi-household buildings). Furthermore, implementing a common letter box standard will not solve the problem if certain delivery operators still experience problem with access to letter boxes (e.g. because they do not have house keys).

*Policy solution 3: Continued development of initiatives to increase interoperability*

Last, but not least, potential to reduce delivery costs also exist in relation to cross-border and inter-modal transport, where administrative procedures and sub-optimal capacity deployment of the infrastructure in place result in inefficient and costly delivery processes. Here, we observe that on-going initiatives at EU level could be further developed to help reduce delivery costs (and thereby prices). Two examples of such initiatives are DiSCwise and eFreight, cf. Box 40.

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## Box 40 Increasing interoperability – DiSCwise and eFreight

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To improve homogeneity of cross-border rules, the **eFreight** initiative was introduced in 2010 by 30 partners from 14 Member States to address inefficiencies in horizontal freight transport information exchange in the context of multimodal transport. The project is an integrated part of the EU's 7<sup>th</sup> framework programme. The inefficiencies the initiative identifies and addresses are created by the following drivers: The lack of interoperability of information systems, the duplication of information submission, the lack of multimodal information on transport services and booking tools and the lack of integration of information from tracking and tracing technologies into freight transport information systems.

As a result, the initiative, based on the White Paper on Transport – "Roadmap to a Single Transport Area – towards a competitive and resource efficient transport system", published in March 2011 aims at developing interoperability between freight transport information systems, booking tools, allowing operators to enter information only once in the multimodal supply chain and develop structures for the use of information of tracking and tracing technologies. Currently the following policy option is considered: Establishing a reference framework for ICT in transport logistics, which might be used for the service of a Single Transport Document (STD), a Transport Service Description (TSD), a Transport Execution Plan (TEP) and a Single Window (SW), which assesses the need for developing this concept further.

The **DiSCwise** initiative focuses on improving the competitiveness of the transport & logistics sector in Europe, through the smart use of ICT, by providing a digital supply chain for European SMEs based on the Freightwise Framework. The DiSCwise project makes use of a Common Framework for ICT in Transport & Logistics, which enables companies to exchange data and share processes with other companies as it is a set of specifications and guidelines that allow interaction between the different data exchange systems used by clients and providers of transport & logistic services.

The initiative also allows users to use alternative transport services more easily as it makes these services available at sometimes low costs via a web interface. The interoperability standards hold the necessary information to agree on the planning, booking and execution of transport & logistics services, whereas the collaboration platform makes it possible to connect clients and providers, in particular SMEs, with minimal integration effort. Finally, for those that have insufficient ICT capabilities, DiSCwise will provide two applications, one for users and one for providers. In case the installed ICT capabilities are efficient, the program introduces connectors. By doing so, prices, processes and information gets widely available to all sizes of companies and competition and efficiency is enhanced. The DiSCwise project is funded by the European Commission DG Enterprise and supports the European Union's Freight Transport Logistics Action Plan.

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Source: European Commission (2013d) and DiSCWise (2013)

### 8.6 Minimising performance gaps

In earlier chapters, we found that inferior delivery performance primarily can be explained by two factors: insufficient access to infrastructure and operational failure by delivery operators and e-retailers. Table 66 provides an overview of the challenges and possible solutions.

**Table 66 Delivery performance – challenges and possible solutions**

	Delivery operator [Supply side]	E-retailer [Supply side]	
	<b>Access to infrastructure</b>	<b>Operational problems</b>	<b>Operational problems</b>
Challenge	Insufficient access to address database Insufficient access to multi-household buildings	Delivery workers fail to comply with instructions	E-retailers do not dispatch product within agreed time frame Unsatisfactory handling of complaints
<b>Market solution</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
<b>Policy solution</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
Examples of good practice	bpost	Social media	Trust marks and social media

Source: Copenhagen Economics

We find that market solutions exist for most of the identified performance gaps. Complementary policy solutions could further promote better delivery performance. For example, the introduction of trust marks for delivery operators and e-retailers, accompanied by continuous monitoring activities, could incentivize delivery operators and e-retailers to improve their performance.

### Market solutions

There are several examples of good market solutions that deserve to be highlighted here.

#### *Access to infrastructure*

In order to ensure correct addresses and avoid delivery failure in case of wrong addresses, delivery operators need access to a database for so called address cleaning, cf. chapter 7. In some markets, however, we observe examples of good practice in terms of access to infrastructure provided also for the purpose of e-commerce delivery.

#### Market solution: Market-based provision of access to address database

One example of market-based provision of access to the national address database managed by the NPO is provided by bpost and Amazon, cf. Box 41.

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### **Box 41 Access to address data – the case of Amazon and bpost**

bpost maintains a national database with address information for households in Belgium. The database is continuously updated with new information about people's change of address. Access to this database is provided to third parties, e.g. e-retailers and other delivery operators, at a fee. One of the shippers buying access to the database is Amazon.

Due to a problem with wrong address information, approximately 0.6 per cent of Amazon's parcels (approximately 200 per day) came back to the sorting centre. By buying access to the national address database managed by bpost, Amazon could check the addresses against the database to find out if the address could be improved. In this way, 80 per cent of all address issues could be solved.

Source: Copenhagen Economics, Delivery operator interviews

#### *Operational problems*

Operational problems in terms of e.g. parcels left outside the recipient's door or in the garden or notifications of failed delivery attempts left at households with recipients actually at home is a major cause of frustration among e-shoppers. Since these kinds of problems are caused by the performance of individuals (i.e. delivery workers), changes at management level (e.g. in terms of new delivery instructions) might not have the intended effect. Nevertheless, if a good reputation is important for delivery operators and their workers, market solutions that facilitate the sharing of information between e-shoppers and between e-retailers might have a disciplining effect on the delivery operator. In particular, we observe that social media and rating sites might incentivise better performance among delivery operators.

#### Market solution: Social media and rating sites

As already noted, social media and rating sites may provide for better information flows between stakeholders in the e-commerce and delivery markets. When e-shoppers complain about delivery performance in the public (online) domain, operational problems are made apparent to both delivery operators and e-retailers. At the management level of delivery operators, the bad publicity from social media and press can be a fire starter for policies or measures taken to improve efficiency of distribution networks and performance. Whether this pro-activeness of managers follow through the entire delivery value chain to the individual delivery worker and improve performance is however less evident. An example of how social media may impact e-retailer and delivery operator's performance is provided in Box 42.

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#### **Box 42 Dissatisfaction shared in the Social Media**

Medias such as Facebook, Twitter or even forums within the webpages of e-retailers have for some e-shoppers become a place to share bad delivery experiences and to build a community with other people similarly exposed to unsatisfying delivery experiences.

A recent example can be taken from the UK, where e-shoppers in an attempt to convince large e-retailer Amazon to stop using delivery operator Yodel, have started a forum on the Amazon webpage where Amazon users share their stories of failed delivery, poor customer service of the delivery operator, etc. Similar postings and groupings exist on Facebook and twitter.

The Social Media give e-shoppers, spending even a relatively small amount on e-commerce, a loud (global) voice making it very apparent to both delivery operators and e-retailers, when delivery fails. This has direct implications for delivery operators who get an immediate measure of customer satisfaction. On the less favourable side, some customers may choose not to buy a product from a given e-retailer because delivery is performed by say Yodel or the customer may choose other carriers for delivery if possible, simply because of reviews in Social Media. Either way, some delivery operators may be disciplined by this trend of immediate measurement of user satisfaction, especially if e-retailers listen to the cry outs of their customers.

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Source: The Guardian (2012)

## Policy solutions

Sometimes, market solutions are not enough. In these situations, policy solutions may be necessary, e.g. to cope with weak competition and interoperability.

### *Operational problems*

As a complement to market solutions such as social media and rating sites, we observe that trust marks for delivery operators (discussed earlier in relation to information gaps) could serve to increase transparency and might thus have a disciplining effect on inferior delivery performance.

#### *Policy solution: Trust marks on delivery*

A trust mark that only is granted to delivery operators who adhere to identified codes of conduct with respect to training and working conditions might incentivise delivery operators to perform well. Monitoring of delivery performance could be done through mystery shopping. As the choice of delivery operator often is made by e-retailers, a trust mark would first and foremost help e-retailers tell apart the best performing delivery operators from the less good performers. Objective measures from mystery shopping would also allow e-retailers to use more effective incentive contracts where the payment for delivery depends on delivery performance.

As for e-retailer performance, we observed in chapter 7 that e-shoppers often are unsatisfied with e-retailers' handling of complaints. As far as the dissatisfaction is caused by the procedures for handling complaints in place (and not by the source for the complaint), trust marks (as discussed earlier) could serve to incentivise good performance. A trust mark for e-retailers could, for instance, include requirements with respect to procedures for complaints handling and dispute resolution developed in cooperation with national consumer authorities.

To reduce the share of delivery delays caused by e-retailers (another performance problem highlighted in chapter 7), trust marks could also require the provision of timely notifications of product dispatch. Monitoring of compliance with the trust mark policy could be facilitated through mystery shopping – to be carried out in compliance with applicable law.

### *Access to infrastructure*

As previously discussed, access to address databases can be problematic for non-NPOs or non-licensed postal operators (such as express carriers) that cannot get access to address information, or only can do so at a very high cost.

#### *Policy solution: Access to national address databases for the purpose of parcel delivery*

To ensure that access is granted to all delivery operators at transparent and non-discriminatory conditions, one suggestion for policy intervention could be to grant access to all operators active in parcel delivery.

In this context, the management of the database for address changes in Sweden provides a good example. The database is managed by a company which is co-owned by the two largest postal operators (Posten AB and Bring Citymail). All information about changes of

addresses are reported to the company, which distributes this information to the two postal operators, approximately 20 smaller postal service providers, the Swedish tax authority, and the Swedish statistics office.<sup>247</sup> Improvements can still be done, however, since parcel operators like DHL and UPS do not have access to the database.

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<sup>247</sup> Svensk adressändring (2013)

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