



Bundesnetzagentur

Report

2021 Parcels Market Report



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**Bundesnetzagentur für Elektrizität, Gas,
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1 Introduction

An essential component of the Bundesnetzagentur's market monitoring in the postal sector is the annual market survey. By completing a questionnaire, companies active in postal services provide information about their economic situation, including their revenue and sales figures. The companies' obligation to furnish information is set out in section 45 Postal Act (PostG) and Article 4 of the EU Regulation on cross-border parcel delivery services (Regulation (EU) 2018/644) of 18 April 2018.

The results of the annual survey are regularly included in the activity reports¹ and annual reports of the Bundesnetzagentur.

The following report contains updated parcels market data. After the 2020/2021 activity report (www.bundesnetzagentur.de/TaetigkeitsberichtPost2021) was published in December 2021, the Bundesnetzagentur received more up to date data, which is why the data in this report differs from the data in the 2020/2021 activity report.

This report provides and analyses detailed and updated market figures. It also contains information about market structure and market concentration in the parcels market.

Further, more detailed postal market data is available in the Bundesnetzagentur's 2021 Annual Report and online at www.bundesnetzagentur.de/Post-Marktdaten.

¹ Only available in German.

2 Parcel services definitions

Parcel services are characterised by a very high degree of standardisation and automation. For market monitoring purposes the Bundesnetzagentur uses a maximum weight of 31.5 kilograms per parcel even though maximum weights vary among the parcel service providers and in one case can be up to 70 kilograms per parcel. The Bundesnetzagentur's approach takes international regulations into account and makes clearer distinction between the postal market and the freight and logistics markets. Parcel transit times are normally between 24 and 72 hours but they are not guaranteed.

3 Market trends

Economic developments in the parcels market are being driven by a flourishing e-commerce and the resulting increase in parcel volumes, and growth has been further accelerated by the coronavirus pandemic. The enormous overall growth in the parcels market is mainly due to the sharp rise in parcel volumes within Germany.



The absolute figures below have been rounded. The percentages have been calculated using non-rounded revenue and volume figures for reasons of accuracy. The figures in the text, charts and tables may therefore differ slightly. The revenue and volume figures for 2021 are based on estimates that were derived from the 2021 forecast figures that the companies reported.

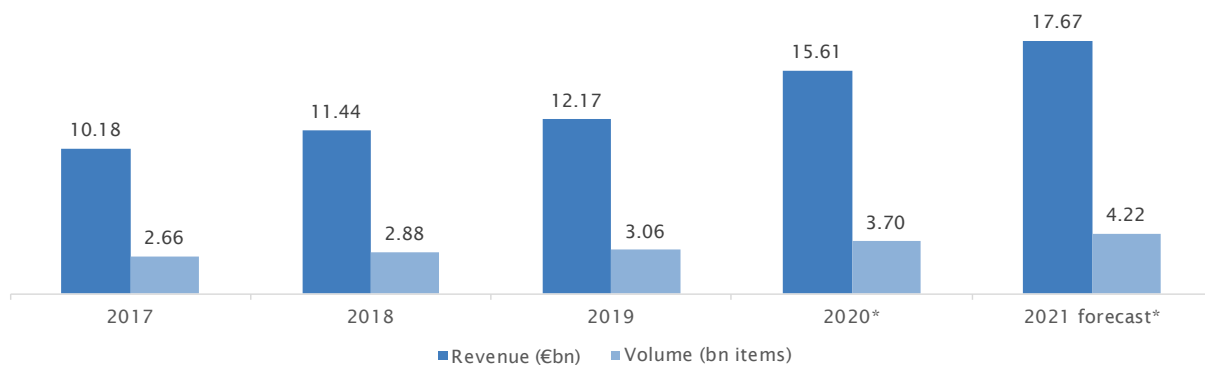
3.1 Overall revenues and volumes

In 2020 total revenues in the parcels market (domestic and international parcels) amounted to €15.61bn, an increase of around 28.23% from the previous year (2019: €12.17bn).

Total parcel volumes increased by 20.89% year-on-year from 3.06bn items in 2019 to 3.70bn items in 2020.

Total revenues across the parcels market have been forecast to grow substantially in 2021 by around 13% to nearly €17.67bn.

Parcels market revenues and volumes 2017-2021 (forecast)



*Updated figures based on new market data

Figure 1: Parcels market revenues and volumes from 2017 to (forecasted) 2021

3.2 Domestic and international parcels

Since 2018 the Bundesnetzagentur has asked market participants separately about the volumes of and the revenue from international parcels, ie parcels that are sent abroad and parcels that are delivered to Germany from abroad.

International parcels made up 20% of total parcel revenues in 2020 and domestic parcels made up 80% of revenues.

International outbound parcels represented 17% of revenues in the period under review. Most of these revenues were from parcels to EEA (European Economic Area) countries. International inbound parcels made up 3% of total revenues and the majority of these parcels came from EEA countries.

Domestic parcel revenues rose about 32.62% year-on-year from €9.4bn in 2019 to €12.4bn in 2020. Revenues for 2021 are expected to rise by another 14.54% to €14.2bn.

International parcel revenues increased year-on-year by around 13.47% from €2.8bn in 2019 to €3.2bn in 2020. Revenues for 2021 are expected to continue rising by around 7.91% to €3.4bn.

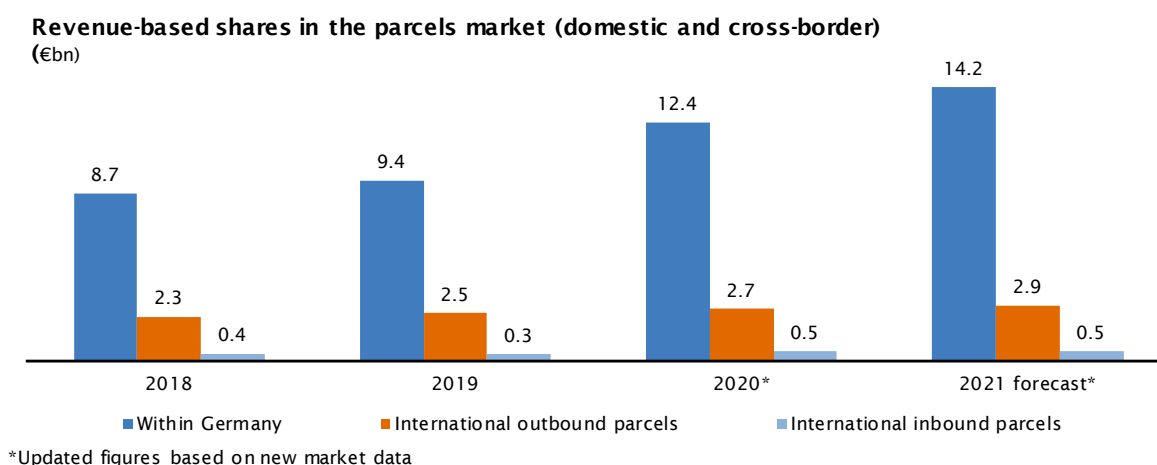


Figure 2: Revenue-based shares in the parcels market (domestic/cross-border)

Parcel volumes in 2020 were very similar (see Figure 3).

Whereas 90% of all parcels were sent and delivered within Germany, the share of parcels sent to destinations outside Germany comprised 7%, and 3% of parcels came to Germany from abroad. The majority of these parcels were sent to and from EEA countries.

International parcels have a significantly higher revenue-based share (20%) and a relatively low volume-based share (10%) due to their high unit revenue in this market.

As was the case with revenue, domestic parcels saw higher levels of growth than international parcels compared with 2019. The number of domestic parcels increased by around 22.47% from 2.7bn in 2019 to 3.3bn in 2020, and that figure is expected to rise by another 14.43% to 3.8bn parcels in 2021.

Mail volumes in the international parcels market increased year-on-year by around 9.05% from 0.36bn parcels in 2019 to 0.39bn parcels in 2020. Volumes for 2021 are expected to continue rising by around 10.50% to 0.43bn parcels.

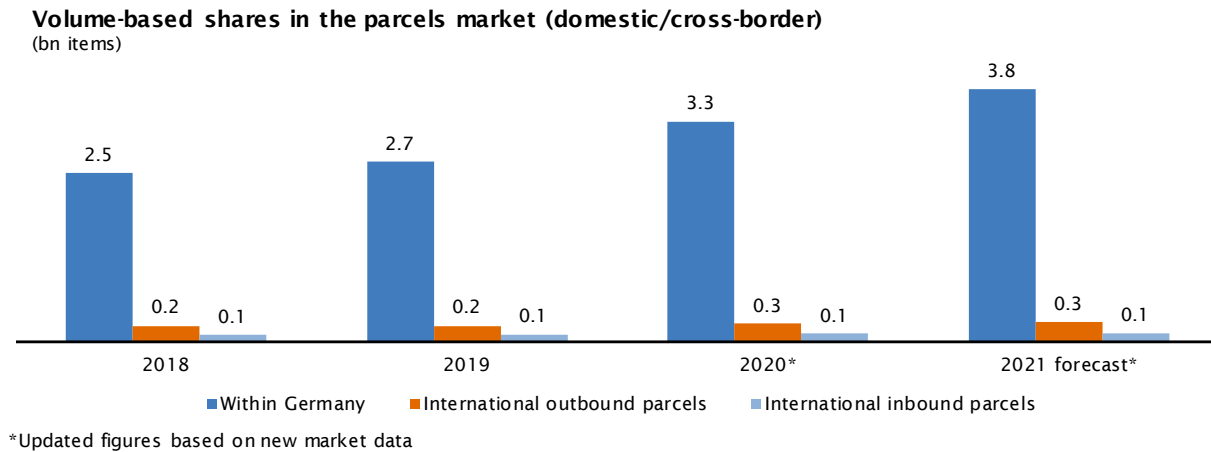


Figure 3: Volume-based shares in the parcels market (domestic/cross-border)

3.3 Parcels by price conditions

Since 2018 the Bundesnetzagentur has asked market participants about the volumes and the revenue of domestic parcels, categorised by the market participants' price conditions. Here a distinction is to be made between parcels that were posted at the postal service providers' single piece tariffs and those that were posted on the basis of negotiated conditions.

In 2020 a total of 6% of domestic parcels were posted at the providers' single piece tariffs. These mailpieces typically include parcels from private individuals (excluding returns of online purchases) and single B2B shipments.

Conversely, 94% of all parcels were posted on the basis of negotiated conditions with the providers. These include parcels that online traders such as Amazon or Zalando send to their buyers. A comparison of the unit revenues shows that in 2020 the revenue per parcel sent at single piece tariff averaged €5.69 and was thus slightly less than the average price from 2018 (€5.76). By contrast the unit revenue of domestic parcels that were sent on the basis of special conditions averaged €3.65, which was an increase of around 12% compared with 2018 (€3.27). This was probably due to parcel service providers' price increases on B2C parcels.

General cost increases are expected to cause further price increases of parcels sent on the basis of special conditions. The major parcel operators have already made public announcements along those lines.



The reason for the price difference between parcels that are posted at a single piece tariff and those that are sent on the basis of negotiated conditions is that the latter results in significantly lower costs per parcel when, for instance, a sender ships large volumes.

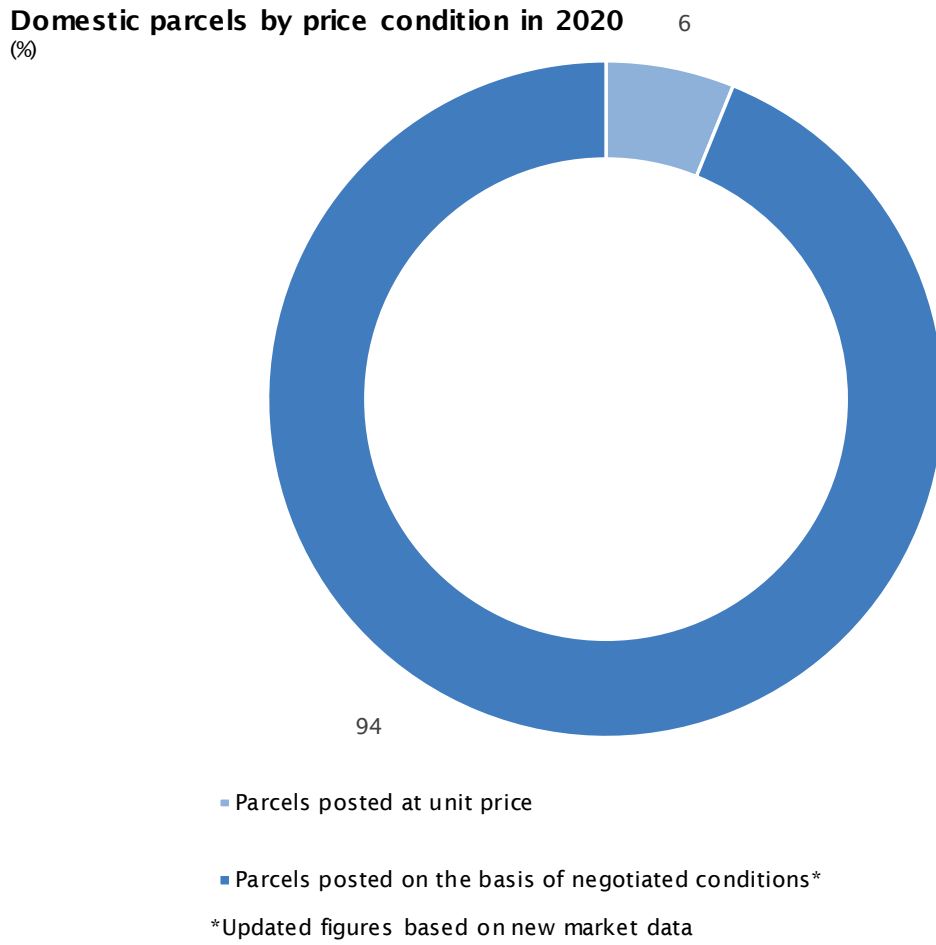


Figure 4: Domestic parcels by price conditions in 2020

4 Infrastructure

4.1 Access and delivery points

The parcel operators provide their customers with numerous access and delivery points, which include postal retail outlets/parcel shops, parcel stations and parcel boxes. Parcel boxes are single or multiple metal lockers for receipt of parcels at family homes, apartment buildings and business premises.

The chart shows that the 8,454 parcel stations of all the providers in 2020 had overall just over 750,000 compartments for sending and receiving parcels. The rising volume of postal items, especially in the parcels market, is expected to cause additional growth in the coming years. Thus Deutsche Post Group for example has announced it will increase the number of its parcel lockers from around 7,000 in 2021 to 15,000 by 2023.²

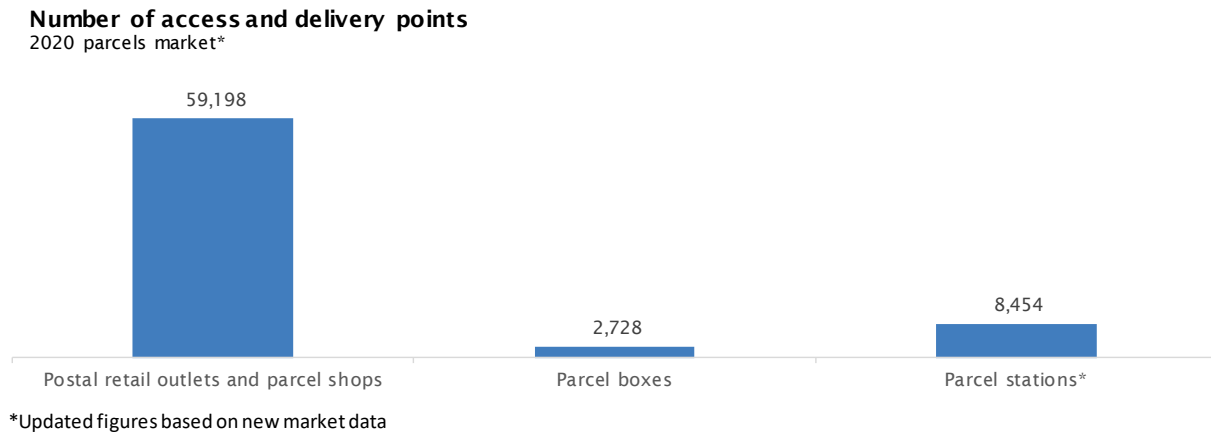


Figure 5: Number of access and delivery points in the 2020 parcels market

² See <https://www.dpdhl.com/de/presse/pressemitteilungen/2021/dhl-baut-packstationen-weiter-aus-15000-bis-2023.html>, accessed on 11 April 2022.

4.2 Network structure

One of the Bundesnetzagentur's tasks involves assessing the features of parcel service providers' network infrastructure. This work helps the Bundesnetzagentur to gain knowledge about the general provision of parcel services and the quality of services throughout all of Germany, and to analyse, for example, the differences between urban and rural areas. The presentation and comparative analysis of the network infrastructure can then be included in the assessment of the competitive situation.



Source: Bundesnetzagentur's own research and information provided by the companies

Figure 6: The major parcel service providers' parcel centres in Germany

When looking at the logistics structures it is noticeable that all providers have distributed their locations similarly throughout Germany and that the structures are geared mostly towards already-existing infrastructure. This is why parcel centres are almost without exception in direct proximity to motorways. Other influencing factors are customer density in the metropolitan areas and coverage of the sparsely populated areas.

5 Competitive conditions

Compared with the letters market, largely competitive structures prevail in the parcels market. There are a total of six major parcel service providers in Germany, which will be looked at more closely below. In alphabetical order, the providers are Amazon, DPD, Deutsche Post DHL (DPDHL), GLS, Hermes and UPS. These six companies convey 98% of all domestic and international parcels, which means that the market is highly concentrated (see below).

DPDHL currently has a market share of more than 40% and thus has a significant lead over its competitors, each of which have a market share in the 5% to 15% range in terms of volume. Since 2017 Amazon has been active in the market as a new provider of parcel services with its own parcel delivery structures.



Figure 7: Parcel service providers' volume-based shares of the market in 2020

Overall it remains clear that parcel volumes and parcel revenues grew significantly in the period from 2017 up to 2021 (including the forecasted figures for 2021), by an average of 14.8% in terms of revenue and by 12.2% in terms of volume (see above). However, a closer analysis shows that the individual providers have profited differently from this development. This has led to slight shifts in market share, particularly among the companies in the 5% to 15% range. The market growth outlined could also change competition structures profoundly in future, especially in light of a new provider (Amazon). This will be discussed in the following chapter.

6 Market concentration

6.1 Theoretical foundations

Market concentration describes the distribution of the volume or revenue shares of a certain market among the companies that are active in that market (statistical units). A distinction is made between absolute and relative concentration.

Absolute concentration describes how the shares are distributed among a certain absolute number of statistical units. High absolute concentration is present when a large portion of the statistical sum consists of a small number of the statistical units. Typical concentration indices here are the concentration ratio as the sum of the n largest statistical units and the Herfindahl-Hirschmann Index, which is defined as the sum of the shares squared.



Herfindahl-Hirschman Index (HHI)

The HHI is normally used to assess market concentration as a part of merger control procedures. The European Commission's Guidelines on the assessment of horizontal mergers provide orientation for interpreting the HHI. Points 19 and 20 of those guidelines state that horizontal competition concerns are unlikely in a market with a post-merger HHI below 1,000. The same applies to markets with a post-merger HHI between 1,000 and 2,000 and a delta below 250, or a merger with a post-merger HHI above 2000 and a delta below 150.³ Based on these guidelines the following ranges are used for interpreting the HHI.

Interpretation of the HHI

HHI < 1000	low concentration
1000 < HHI < 2000	moderate concentration
HHI > 2000	high concentration

Table 1: Interpretation of the HHI.

When there is relative concentration, the number of statistical units is correlated with the total number of statistical units. High relative concentration exists when a large portion of the statistical sum comes from a small number of the statistical units (eg 5% of a market's companies have a combined total of 95% of the market's revenues). The Lorenz curve and the Gini coefficient that is derived from it are often used to describe relative concentration. The Lorenz curve correlates the cumulative statistical shares with the cumulative shares of the statistical units and forms a sagging curve (convex). The further the curve sags downward, the

³ See Official Journal of the European Union, Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, points 19-20, accessed on 10 January 2022 at <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2004:031:0005:0018:DE:PDF>.

higher the level of concentration on the market.⁴ The Lorenz curve corresponds to the angle bisector when market distribution is uniform. The Gini coefficient describes the curvature of the Lorenz curve and thus provides a gauge for the relative concentration. The Gini coefficient is defined as twice the area between the Lorenz curve and the angle bisector. It takes values between 0 and $1-1/n$, whereby n denotes the number of companies.

To understand the structure of a market it is useful to consider both concepts. High absolute concentration can be accompanied by low relative concentration and vice versa.

The market shares and the concentration measurement linked to them are important indicators but they alone cannot provide a complete picture of a market's actual competitive conditions. For more detailed analyses, additional criteria must be taken into account that include legal and de facto market access barriers, alternatives available to parcels market consumers, flexibility with regard to production rearrangement, access to the procurement and sales markets as well as corporate interlinkage.

6.2 Results for the parcels market

In the observation period from 2017 to 2021 the HHI for both revenues and volume was around 3,000 and thus far above the threshold value of 2,000. This means the parcels market is to be considered highly concentrated (see Table 2). However, a comparison of the parcels market HHI with the letters market HHI from 2020 (around 7,000)⁵ shows that the parcels market, in spite of its highly concentrated volume and revenue, has mostly competitive structures among the top six companies (see Table 1). The Gini coefficients also decreased slightly from 2017 to 2021, which is illustrated by the slightly inward shift of the Lorenz curves.

Concentration indices in the parcels market from 2017 to (forecasted) 2021

Year	CR6 revenue	CR6 volume	HHI revenue	HHI volume	Gini coefficient revenue	Gini coefficient volume
2017	96	98	2,905	3,217	0.97	0.98
2018	94	97	2,731	3,181	0.97	0.97
2019	96	97	2,867	3,152	0.96	0.96
2020	96	98	2,651	2,970	0.96	0.96
2021 (forecasted)	99	99	2,650	2,889	0.96	0.96

Table 2: Parcels market concentration indices from 2017 to (forecasted) 2021

In terms of a concentration measurement, both the absolute and the relative concentration dropped slightly in the period observed. This can be interpreted to mean that the number of top companies is increasing (absolute concentration) and the top companies' share of all the companies active in the parcels market is also increasing (relative concentration). The overall conclusion can be drawn that revenue and volume shares are

⁴ See <https://www.bpb.de/nachschlagen/lexika/lexikon-der-wirtschaft/20031/lorenzkurve>, accessed on 26 August 2021.

⁵ See ERGP PL II (21) 25 report on core indicators 2020 for monitoring the European postal market, accessed on 30 March 2022 at DocsRoom - European Commission (europa.eu).

distributed more evenly among the top companies. While the majority of revenues and volumes were previously (before 2017) distributed among five major providers, Amazon's market entry means there are now six companies essentially shaping the market.

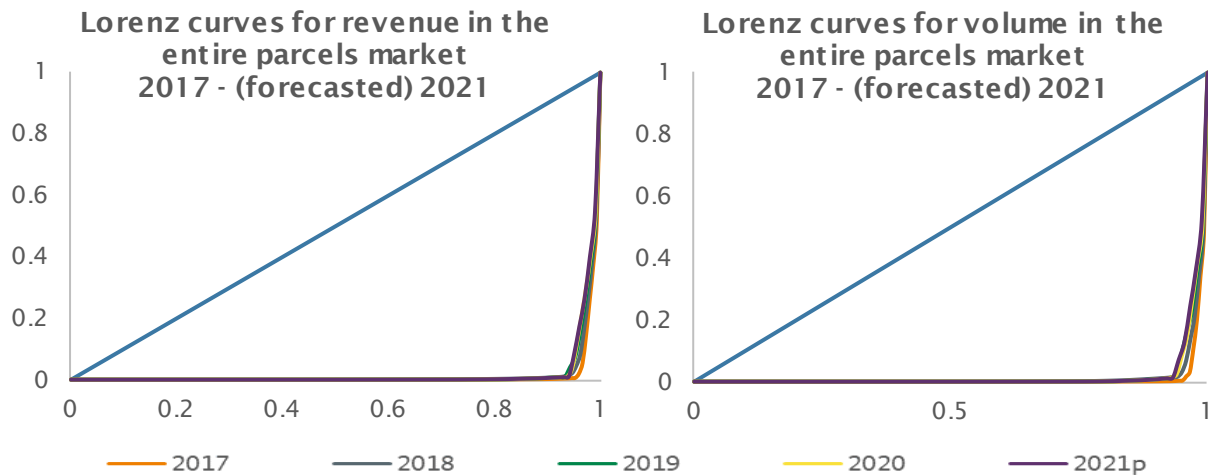


Figure 8: Lorenz curves revenue and volumes in the parcels market from 2017 to (forecasted) 2021

The market shares and concentration indices presented in this report show that Amazon's development of its own delivery structures has generally led to more competition in the parcels market. For now DPDHL will, however, maintain its strong market position. It remains to be seen if this trend will continue in the coming years.

DPDHL could lose its position as the market leader if the share of parcels that are sent via the delivery network that Amazon operates itself continues to grow at the same pace as in recent years. Whether and to what extent this will be the case may well depend on the parcel volumes that Amazon will be sending as a DPDHL customer via the DPDHL delivery network. It can be assumed that Amazon will also draw volumes from other established parcel service providers to the same extent to which its own delivery networks are expanded. To what extent the established parcel services will lose market shares depends among other things on general market developments over the next few years.

7 Summary

The parcels market figures published in this report show that revenues and volumes have increased significantly in 2020 and 2021. A key reason for this is e-commerce growth, which has been boosted by the coronavirus pandemic. It remains to be seen if the trend will continue in 2022. Initial market assessments indicate that revenues and volumes will remain at high levels but there may not be as much growth.

At the same time it can be said that Amazon's market entry has stimulated competition in the parcels market without significantly weakening DPDHL's market position. This observation has been confirmed by the slight decline of the concentration indices, which could possibly change more significantly over the next few years.

The Bundesnetzagentur will therefore continue carrying out this form of competition analysis regularly and incorporating the results in its assessments of competition structures.

It also remains to be seen whether more players will become active in the German market and build new delivery structures like the Chinese company Alibaba has done with its logistics subsidiary Cainiao. The company now has a presence in the European market with a transshipment centre in Liège.⁶

The publication of final data for 2021 and forecast data for the current year (2022) is planned for the beginning of 2023.

⁶ See CEP reports (available in German), "Cainiao drängt mit Macht nach Europa", calendar week 43/21.

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List of abbreviations

B2B	Business-to-business
B2C	Business-to-consumer
bn	billion
DPD	Deutscher Paket Dienst
DP DHL	Deutsche Post DHL
EEA	European Economic Area
GLS	General Logistics Systems
HHI	Herfindahl-Hirschmann Index
UPS	United Parcel Service

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