2019

ECONOMIC REPORT

Evolution of
the European graphic industry

INTERGRAF

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Introduction

PRESENTATION OF INTERGRAF

Intergraf is the European Federation for Print and Digital Communication. It represents 21 national printing federations in 20 countries in Europe. Intergraf's main task is to promote and protect the interests of the graphic industry and to enhance the sector's competitiveness through lobbying, informing and networking.

Intergraf covers a wide range of European policies related to the graphic industry and interacts with the European institutions. Moreover, Intergraf is the source of information for its members regarding the different policies of the European Union affecting the graphic industry. Intergraf provides its members with contacts to other federations across Europe through meetings and conferences as well as expert working groups which ensure a close participation of its members in the process of European policy making and on market issues. Intergraf has also a comprehensive network at European level covering the entire print value chain as well as at international level. It is active on several platforms and represented in different bodies in order to defend the interests of the graphic industry.

For more information on Intergraf and its member federations, please visit the Intergraf website: www.intergraf.eu

PRESENTATION OF THE REPORT

This report provides an overview of available data on the European graphic industry, as well as highlights about the economic development of sectors which are relevant to the graphic industry, including supplying industries and print buyers. Data cover the European Union and when available Norway and Switzerland.

For the general economic situation (chapter 1), the report is based on information from the OECD and the European Commission (DG Economic and Financial Affairs). The descriptions, economic data and forecasts are from both institutions.

Official statistics made available by Eurostat are the main source of information for the chapter on the European graphic industry (chapter 2). Data have been processed by Intergraf. Data are collected from a very large base, which includes all sizes of companies including one-person companies. Since 2008, the key indicators extracted from the structural business statistics of the Eurostat database are being compiled on the new classification, NACE Rev. 2. Comparisons with older figures can still highlight significant breaks in some historical series. Classifications (NACE Rev. 2, PRODCOM and Combined Nomenclature) applicable to the data provided in the reported are explained at the beginning of each relevant chapter.

Smithers Pira provided the contribution in chapter 3.

Information in the market reports (chapter 4) is from Eurostat and from recognised European trade associations (CEPI, EUROGRAPH, EUPIA, FEP) and from WAN-IFRA.

Intergraf's member federations contributed with qualitative and quantitative data to the country reports (chapter 5).

Annexes (chapter 6) includes the supporting data used in the different chapters.

1.

GENERAL ECONOMIC SITUATION

Sources

1.1:
Economic outlook, OECD annual projections, March 2019
Interim economic assessment, OECD, March 2019

1.2:
OECD database
Winter forecast 2019, European Commission, Economic and Financial Affairs, February 2019

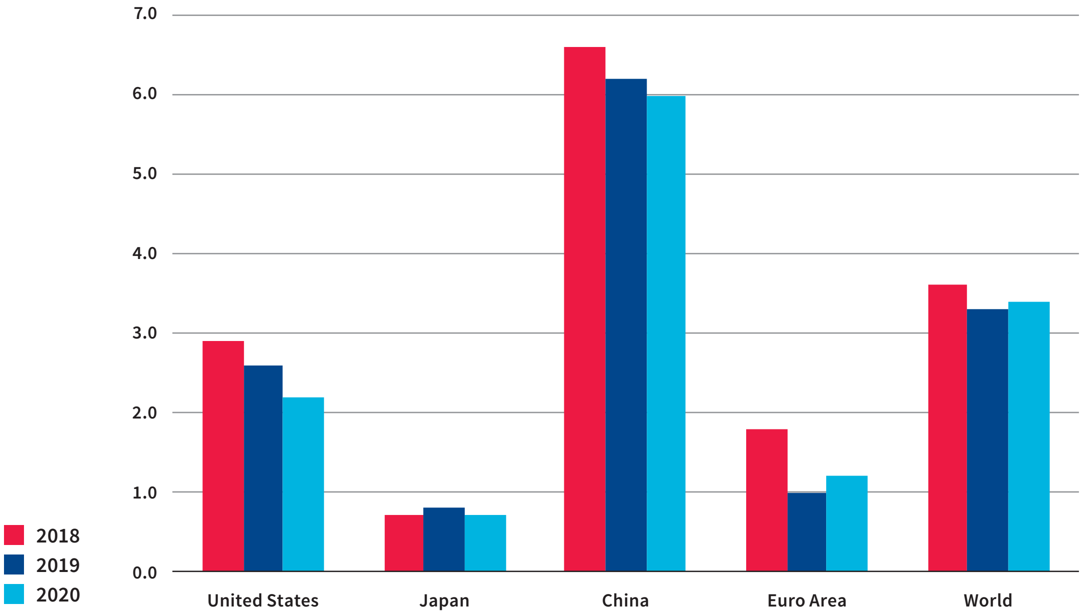
1.3:
DG Economic and Financial Affairs

Note

: = data not available

1.1 Global economic situation

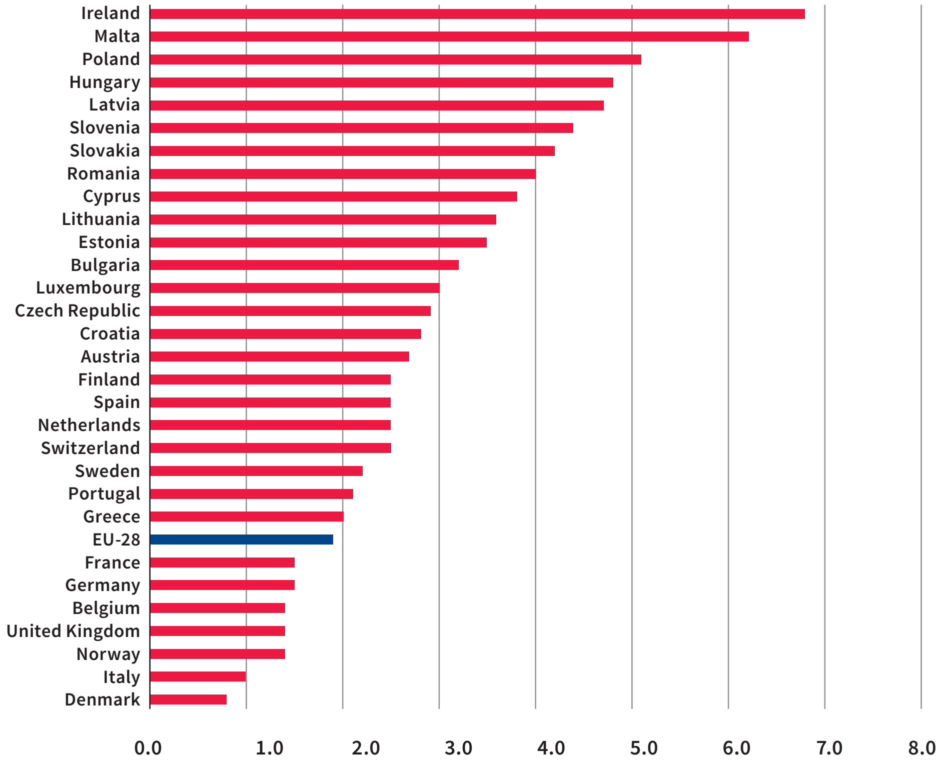
Projections in real GDP growth, OECD Economic Outlook, March 2019



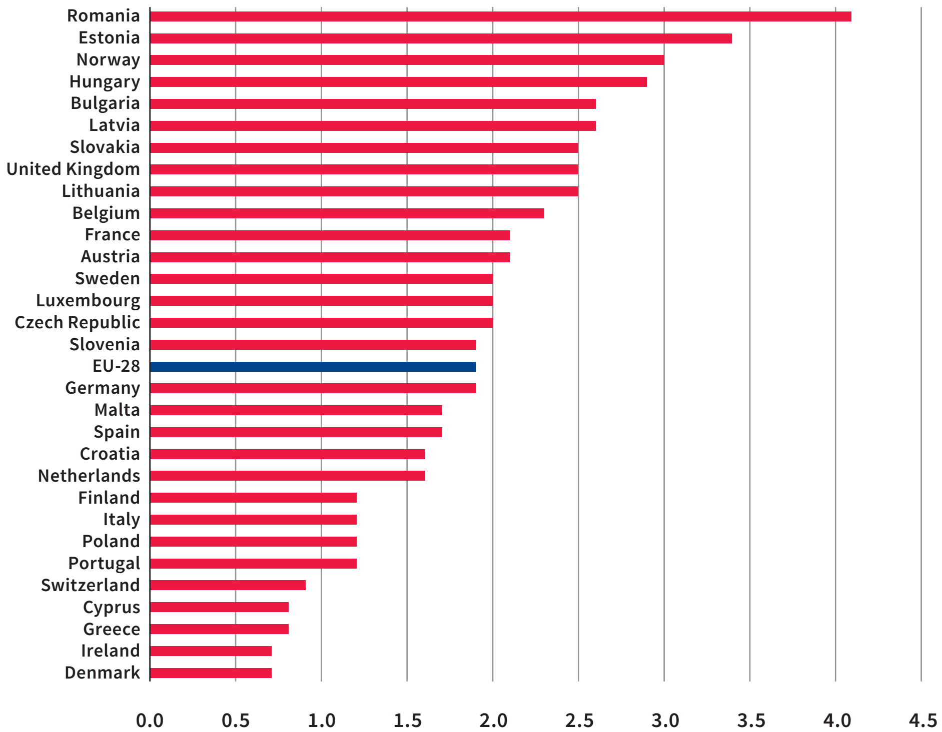
- Worldwide GDP growth is estimated to 3.6% in 2018.
- Growth has been revised downwards in almost all G20 economies, in particular in the Euro area for both 2019 and 2020.
- High policy uncertainty, ongoing trade tensions, and a further erosion of business and consumer confidence are contributing to the slowdown.
- Political uncertainty remains in Europe, including over Brexit, leading to a decreasing GDP growth anticipation in 2019 and 2020. GDP in the Euro area registered a 1.8% growth in 2018.
- GDP growth in the United States is projected to moderate to 2.6% in 2019 and 2.2% in 2020. Solid labour market conditions and supportive financial conditions continue to support household incomes and spending but higher tariffs have begun to add to business costs and prices. Moreover, the growth of business investments and exports has weakened.
- Growth in China is projected to slow down gradually to 6% by 2020 resulting from a slowdown and trade tensions weighing increasingly on exports and industrial production.
- A sharper slowdown in China would weigh on global growth and could weaken growth in Europe further.

1.2 European economic situation

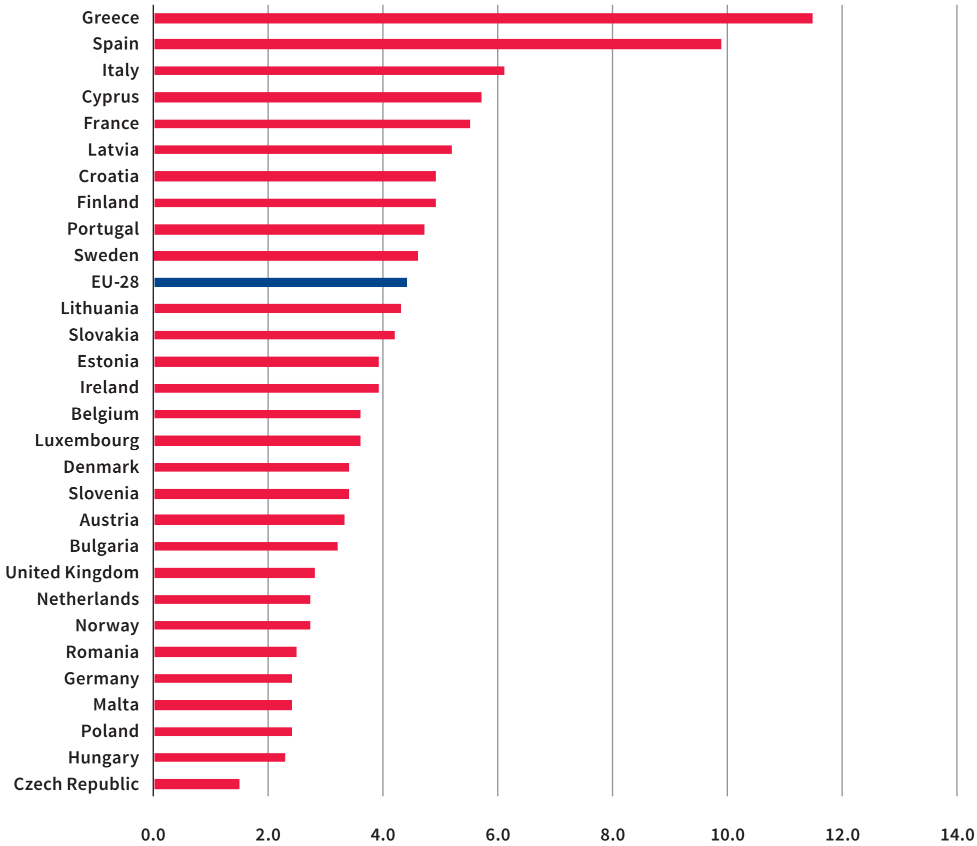
GDP growth rate, 2018, in %



Inflation rate, 2018, in %



Unemployment rate, 2018, in %



- Economic activity in the EU slow down in 2018 due to a combination of internal and external factors. The GDP growth rate reached 1.9% in 2018.

- Over the next two years, the economy is expected to continue growing but at a slower pace.

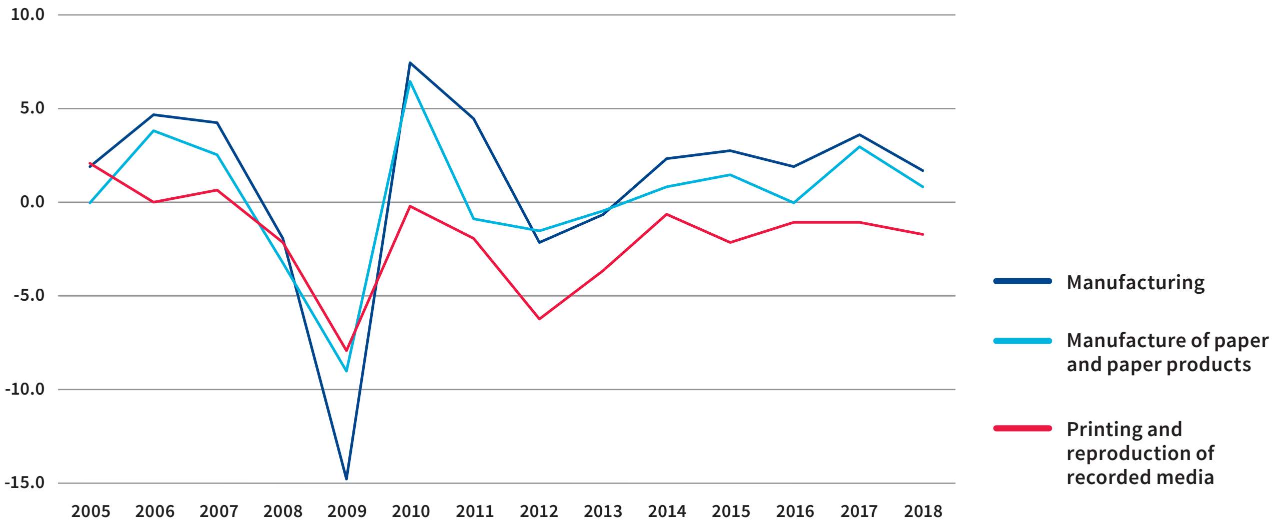
- The slowdown in 2018 reflects the declining support from the external environment, including increased uncertainty in trade policies, notably between the US and China, and a declining trend in global manufacturing output.

- Domestic factors also contributed to the loss of growth momentum in 2018. These include the disruption of car production in Europe, as well as social tensions and fiscal policy uncertainty in some Member States.

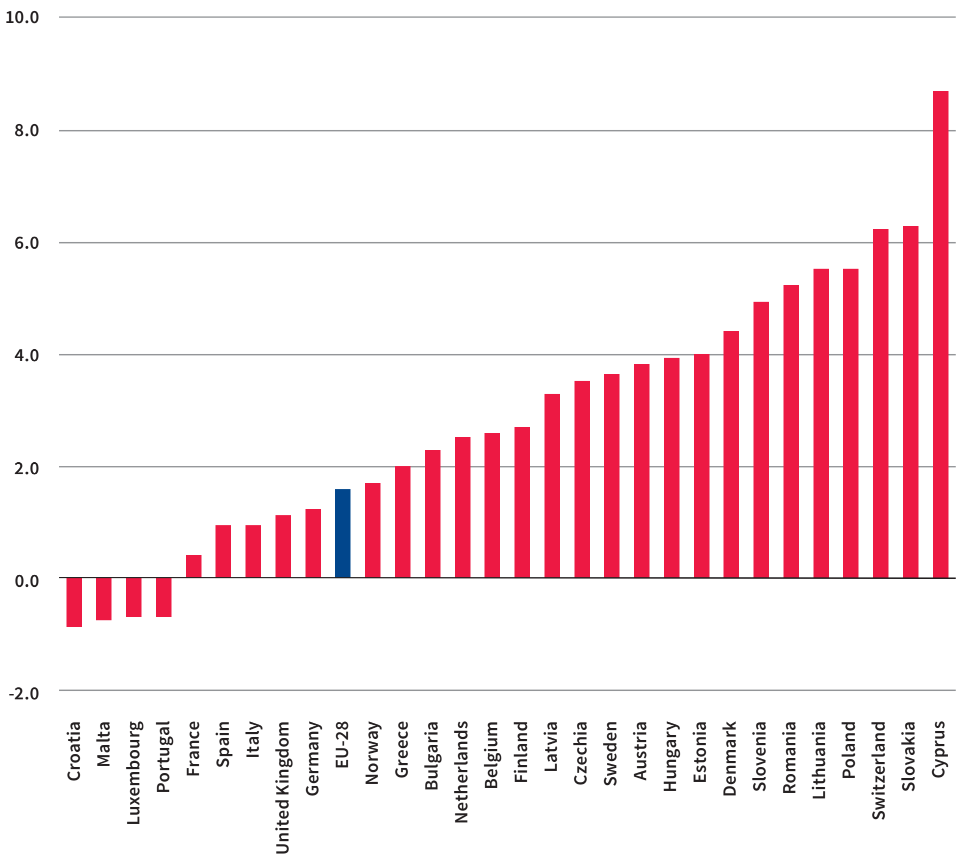
- Uncertainty remains about the implications of Brexit but the fundamentals of the European economy remain however sound. Improving labour market conditions, low financing costs and a slightly expansionary fiscal policy should allow the expansion to continue but at a more moderate pace. A more extensive use of EU funds in recipient countries could trigger additional investments and the still favourable labour market conditions could result in stronger domestic demand.

1.3 European industrial production

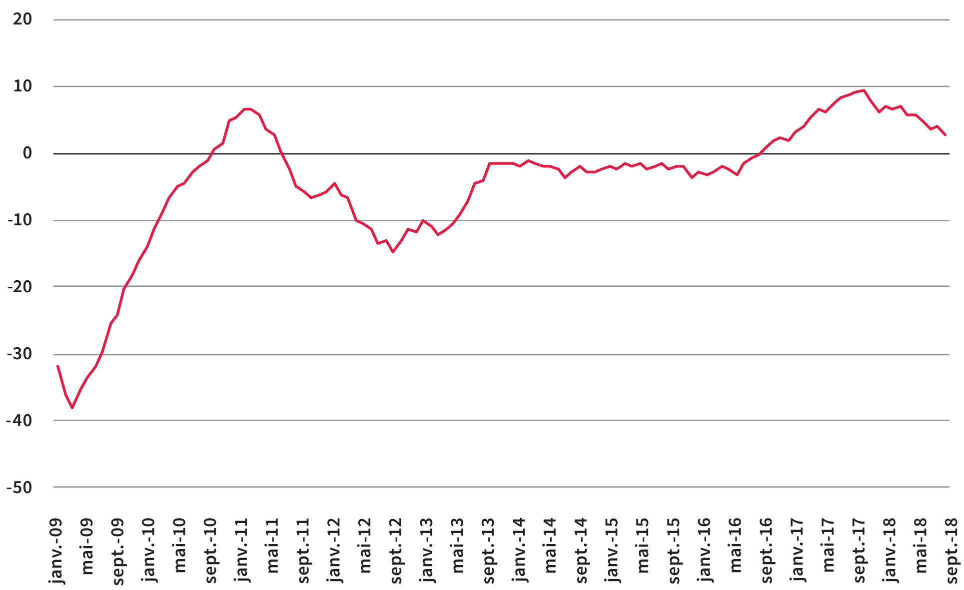
Industrial production, % change compared to the previous year, 2005-2018, EU-28



Industrial production index, European manufacturing sector, EU-28, 2018, calendar adjusted data, % comparison with previous year



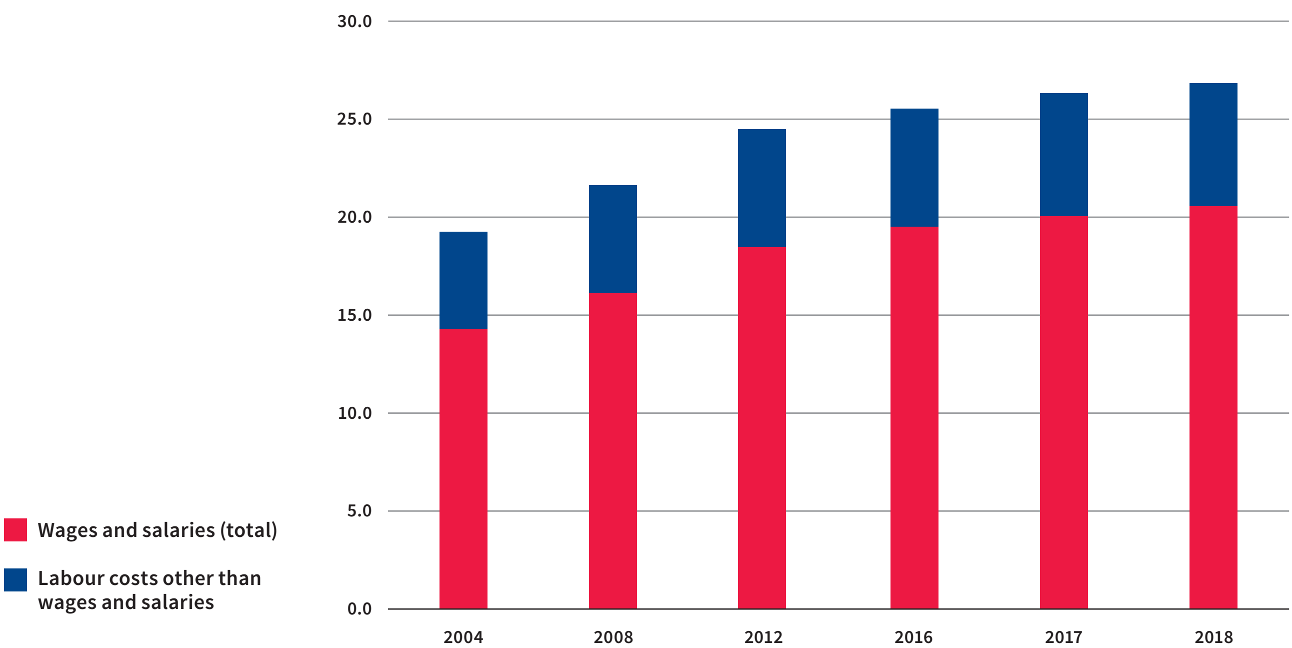
Industrial confidence, 2008 - 2018



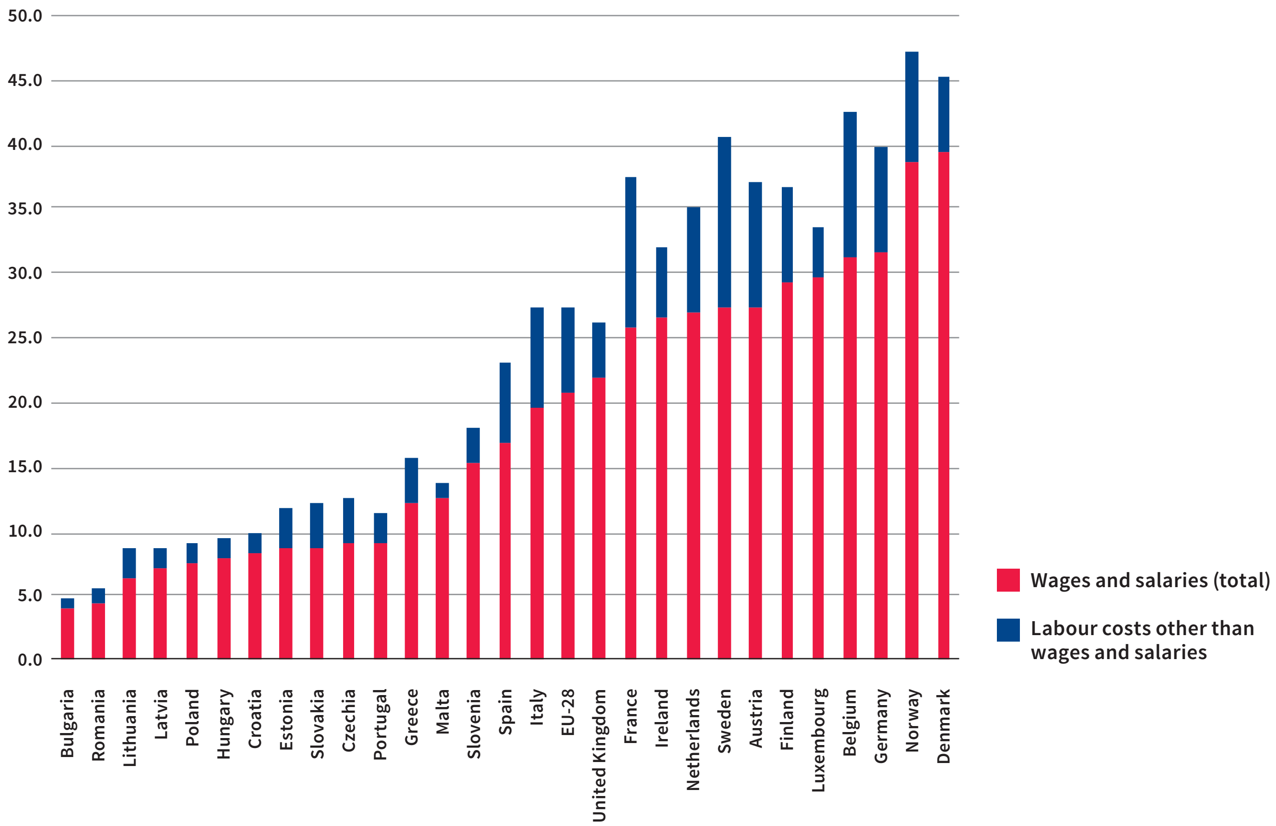
- Industrial production in the European manufacturing industry has increased by 1.6% in 2018 compared to 2017. However, in the printing and recorded media industry, industrial production has decreased by 1.7%.

- Industrial confidence had significantly increased since mid-2016 but decreased during 2018.

Hourly average labour costs in the European manufacturing industry, in €, 2004-2018



Hourly labour costs for the European manufacturing industry, 2018



- Labour costs in the manufacturing industry have increased by 2.3% in 2018 compared to 2017 and by 39.5% compared to 2004.
- The average hourly labour cost in the manufacturing industry in 2018 reached 27.2 € (20.8 € of wages and salaries and 6.4 € of other labour costs) and ranged from 4.7 € to 45.3 €.
- The highest total labour costs in the European manufacturing industry in 2018 have been registered in Denmark, Germany and Belgium. The lowest labour costs are registered in Bulgaria and Romania.

2.
EUROPEAN GRAPHIC INDUSTRY

Sources
Eurostat

Notes
: = data not available
italic = Intergraf calculation

2.1 Profile of the European graphic industry

Classification: NACE Rev 2

18 PRINTING AND REPRODUCTION OF RECORDED MEDIA
This division includes printing of products, such as newspapers, books, periodicals, business forms, greeting cards, and other materials, and associated support activities, such as bookbinding, plate-making services, and data imaging. The support activities included here are an integral part of the printing industry, and a product (a printing plate, a bound book, or a computer disk or file) that is an integral part of the printing industry is almost always provided by these operations.
Processes used in printing include a variety of methods for transferring an image from a plate, screen or computer file to a medium, such as paper, plastics, metal, textile articles, or wood. The most prominent of these methods entails the transfer of the image from a plate or screen to the medium through lithographic, gravure, screen or flexographic printing. Often a computer file is used to directly ''drive'' the printing mechanism to create the image or electrostatic and other types of equipment (digital or non-impact printing).
Though printing and publishing can be carried out by the same unit (a newspaper, for example), it is less and less the case that these distinct activities are carried out in the same physical location.
This division also includes the reproduction of recorded media, such as compact discs, video recordings, software on discs or tapes, records etc.
This division excludes publishing activities

18.1 Printing and service activities related to printing
This group includes printing of products, such as newspapers, books, periodicals, business forms, greeting cards, and other materials, and associated support activities, such as bookbinding, plate-making services, and data imaging. Printing can be done using various techniques and on different materials.

18.11 Printing of newspapers
- printing of other periodicals, appearing at least four times a week

This class excludes:
- publishing of printed matter, see NACE58.1
- photocopying of documents, see NACE82.19

18.12 Other printing

This class includes:
- printing of magazines and other periodicals, appearing less than four times a week
- printing of books and brochures, music and music manuscripts, maps, atlases, posters, advertising catalogues, prospectuses and other printed advertising, postage stamps, taxation stamps, documents of title, cheques and other security papers, smart cards, albums, diaries, calendars and other commercial printed matter, personal stationery and other printed matter by letterpress, offset, photogravure, flexographic, screen printing and other printing presses, duplication machines, computer printers, embossers etc., including quick printing
- printing directly onto textiles, plastic, glass, metal, wood and ceramics

The material printed is typically copyrighted.

This class also includes:
- printing on labels or tags (lithographic, gravure printing, flexographic printing, other)

This class excludes:
- manufacture of stationery (notebooks, binders, registers, accounting books, business forms etc.), when the printed information is not the main characteristic, see NACE17.23
- publishing of printed matter, see NACE58.1

18.13 Pre-press and pre-media services

This class includes:

- composing, typesetting, phototypesetting, pre-press data input including scanning and optical character recognition, electronic make-up
- preparation of data files for multi-media (printing on paper, CD-ROM, Internet) applications
- plate-making services including image setting and plate setting (for the printing processes letterpress and offset)
- cylinder preparation: engraving or etching of cylinders for gravure printing
- plate processing: "computer to plate" CTP (also photopolymer plates)
- preparation of plates and dies for relief stamping or printing
- preparation of:
- artistic works of technical character, such as preparation of lithographic stones and wood blocks
- presentation media, e.g. overhead foils and other forms of presentation
- sketches, layouts, dummies, etc.
- production of proofs

This class excludes:

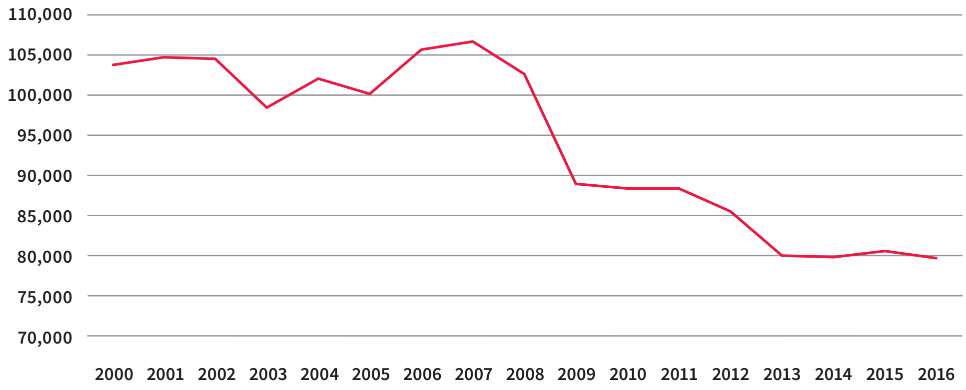
- specialised design activities

18.14 Binding and related services

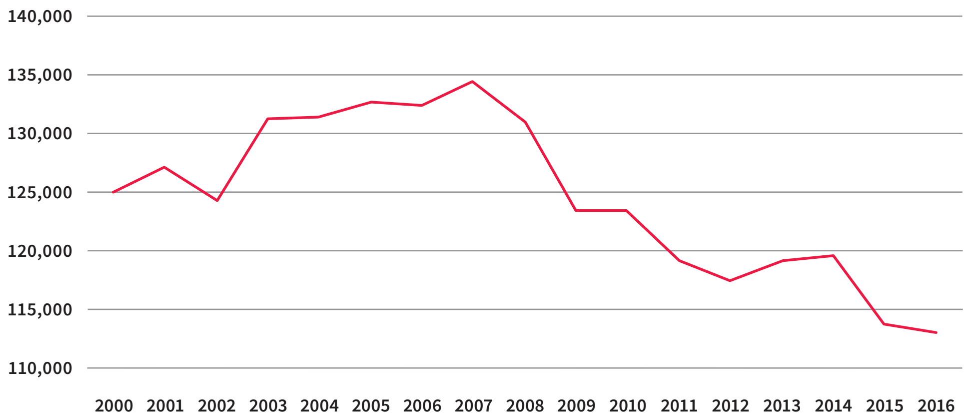
This class includes:

- trade binding, sample mounting and post press services in support of printing activities, e.g. trade binding and finishing of books, brochures, magazines, catalogues, etc., by folding, cutting and trimming, assembling, stitching, thread sewing, adhesive binding, cutting and cover laying, gluing, collating, basting, gold stamping; spiral binding and plastic wire binding
- binding and finishing of printed paper or printed cardboard, by folding, stamping, drilling, punching, perforating, embossing, sticking, gluing, laminating
- finishing services for CD-ROMs
- mailing finishing services such as customisation, envelope preparation
- other finishing activities such as die, sinking or stamping, Braille copying

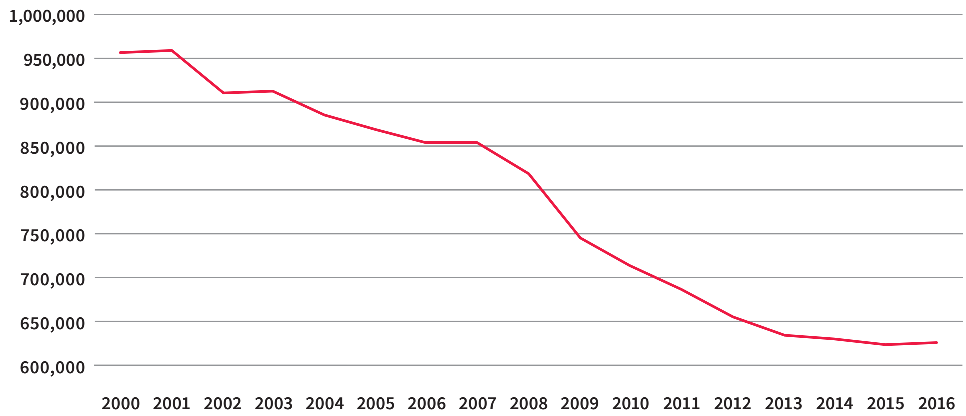
Turnover, EU graphic industry, 2000-2016, in million €



Number of EU graphic companies, 2000-2016

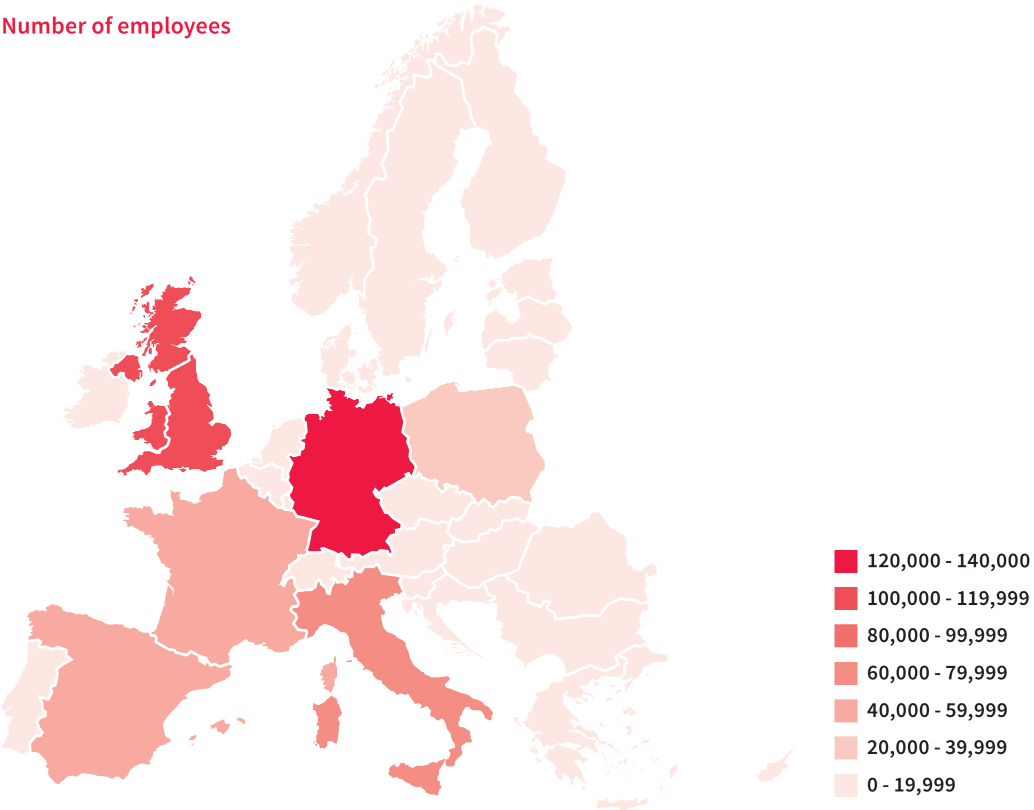


Number of employees in the EU, graphic industry, 2000-2016

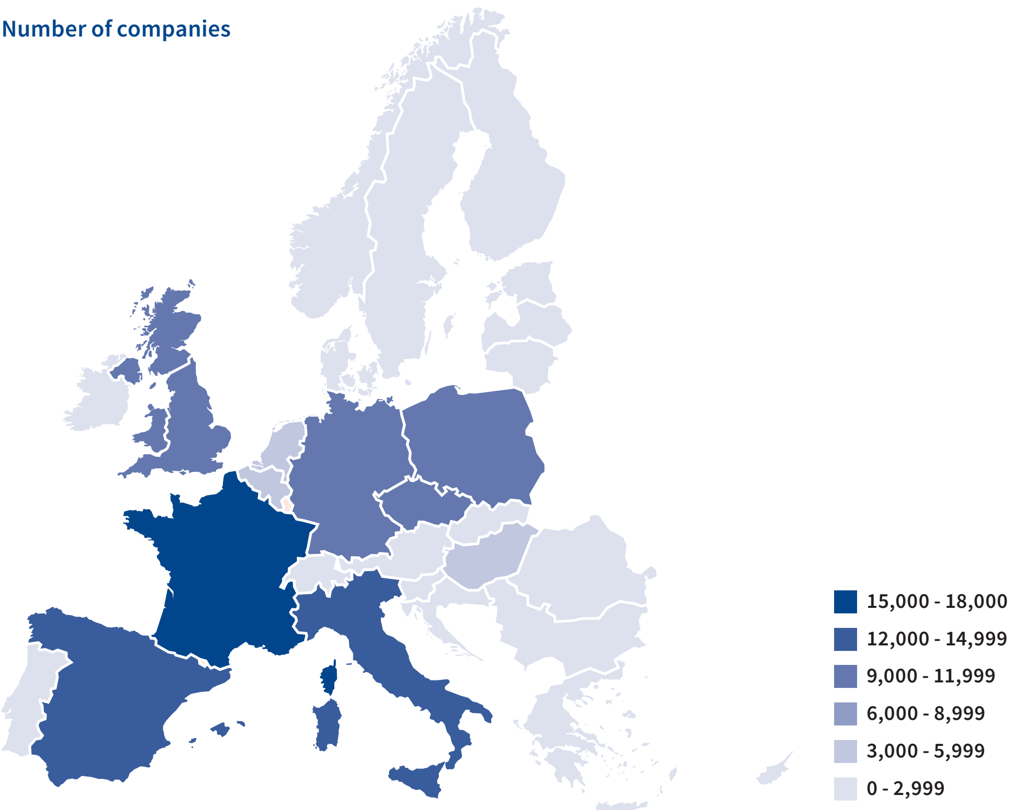


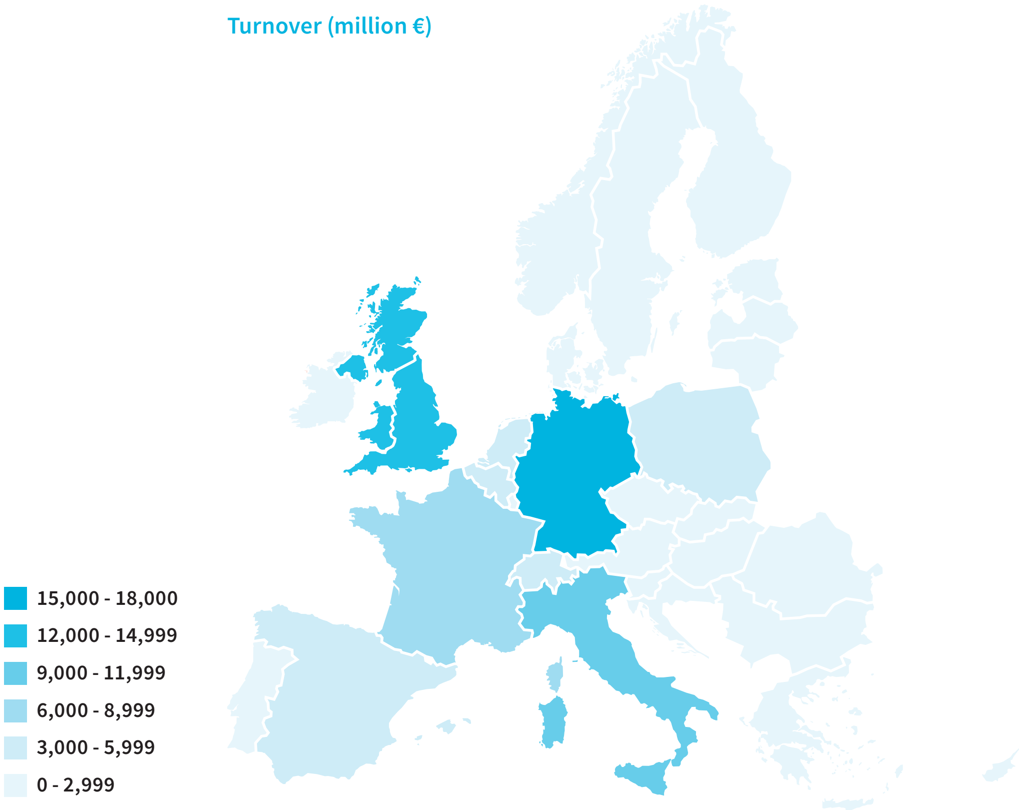
Profile of the European printing industry, EU-28, 2016

Number of employees



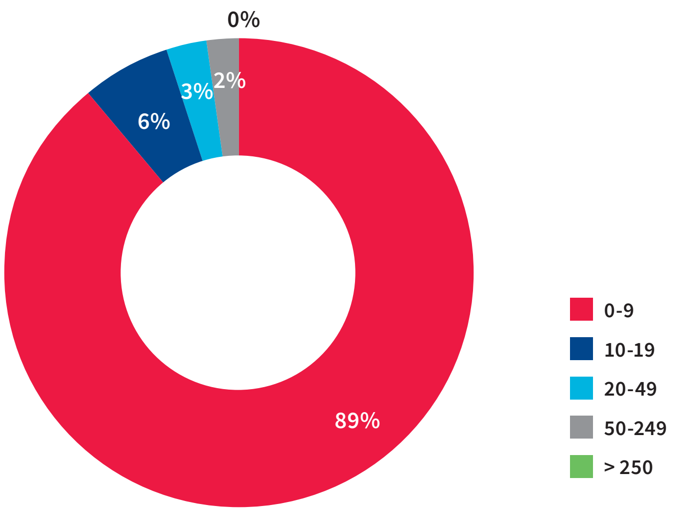
Number of companies





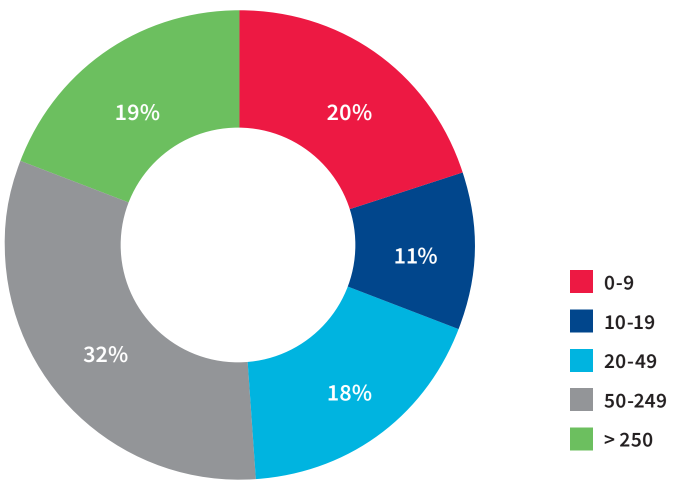
- Approximately 625,000 employees were working in the European printing industry in 2016.
- In 2016, the European printing industry counted approximately 112,000 companies, which generated a turnover of around € 79.5 billion.
- The turnover of the European printing industry decreased by approximately 25% over the last decade (2006-2016), so did the number of employees. The number of companies decreased by 15% over that period.
- Germany, the UK and Italy generate the largest turnover and register the highest number of employees in Europe whereas France, Italy and Spain have the highest number of printing companies in Europe.

Size of the european printing industry (number of employees), EU-28, 2016



- 89% of European printing companies have fewer than 10 employees.
- 95% of European printing companies are SMEs employing fewer than 20 employees.
- Less than 1% of European printing companies employ more than 250; this corresponds to approximately 80 companies in the European Union.
- 6% of European printing companies have more than 20 employees.

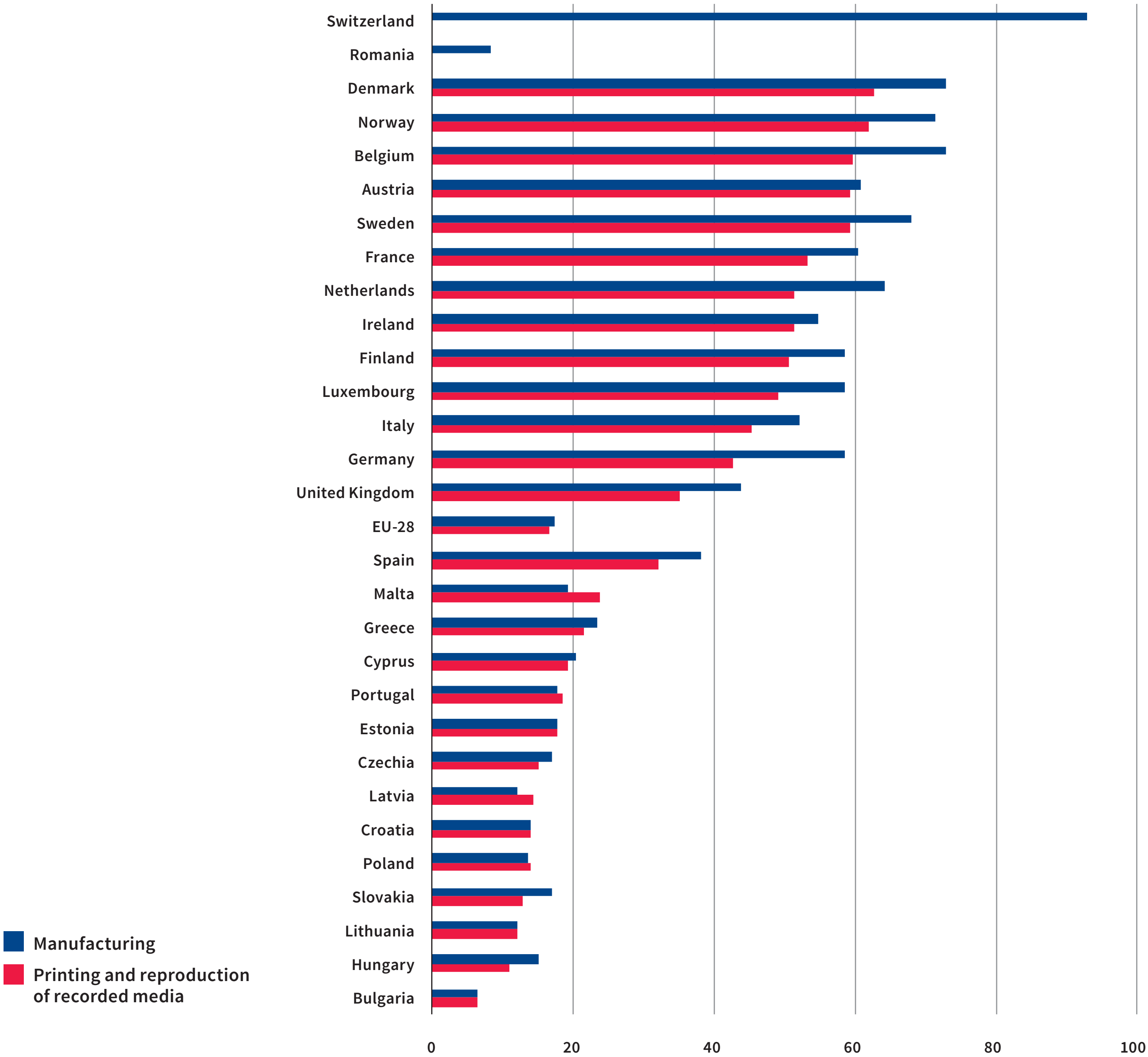
Distribution of the European printing industry turnover (by number of employees), EU-28, 2016



- 89% of European printing companies having fewer than 10 employees generate 19% of the European printing industry turnover.
- Whereas, the less than 1% European printing companies employing more than 250 workers generate 19% of the total turnover.
- Half of the European printing industry turnover is generated by companies with fewer than 20 employees and the other half is generated by companies employing more than 20 workers.

2.2 Labour costs

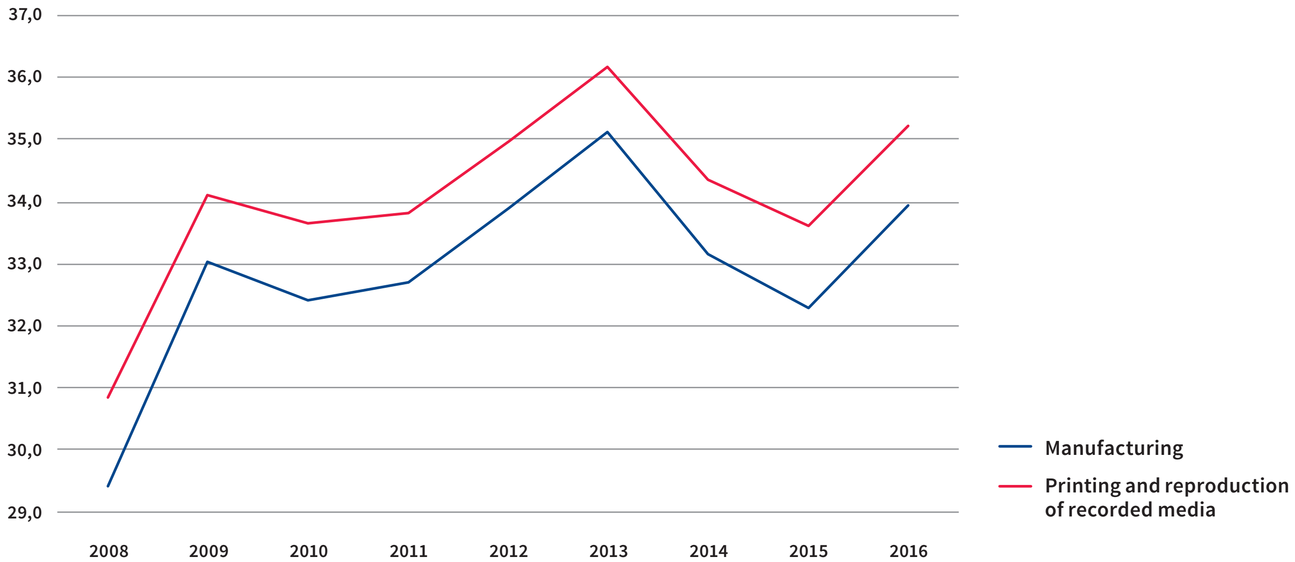
Labour costs per full time equivalent employee, in thousand €, 2016



- In the printing and recorded media industry, Denmark and Belgium have the highest labour cost per employee (full time equivalent). Bulgaria has the lowest labour costs, which are more than 10 times less than in Denmark or Belgium.
- On average, labour costs in the printing and recorded media industry are 10% lower than in the whole manufacturing industry. The difference can reach more than 35% in Hungary and Germany.

Sources
Eurostat

Labour costs per full time equivalent employee, EU-28, in thousand €, 2008-2016



- Labour costs in the printing and recorded media industry have increased by 14% between 2008 and 2016.

- Labour costs both in the manufacturing sector and the printing and recorded media industry have been increasing from 2010 until 2013 and then decreased until 2015. In 2016, it showed an upward trend.

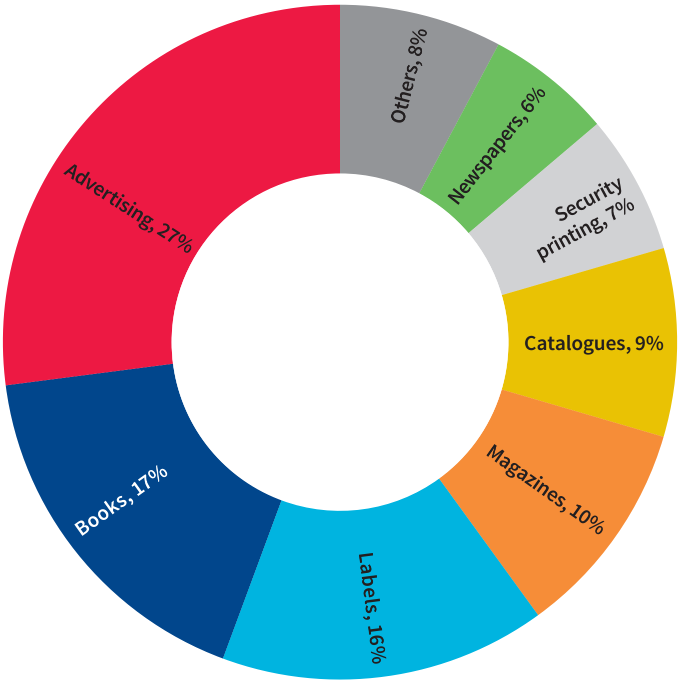
2.3 Production value

Classification: PRODCOM

Note books:
17231315 - Note books, letter pads, memorandum pads, of paper or paperboard
Diaries:
17231317 - Diaries, of paper or paperboard
Telephone books:
17231319 - Engagement books, address books, telephone number books and copy books, of paper or paperboard (excluding diaries)
Exercise books:
17231330 - Exercise books, of paper or paperboard
Blotting pads:
17231390 - Blotting pads and book covers, of paper or paperboard
Labels:
17291120 - Self-adhesive printed labels of paper or paperboard
17291140 - Printed labels of paper or paperboard (excluding self-adhesive)
Newspapers:
18111000 - Printed newspapers, journals and periodicals, appearing at least four times a week
Security printing:
18121100 - Printed new stamps, stamp-impressed paper, cheque forms, banknotes, etc
Catalogues:
18121230 - Printed commercial catalogues
Advertising:
18121250 - Printed trade advertising material (excluding commercial catalogues)
Magazines:
18121300 - Printed newspapers, journals and periodicals, appearing less than four times a week
Books:
18121407 - Printed books, brochures, leaflets and similar printed matter, in single sheets
18121414 - Printed books, brochures, leaflets and similar printed matter (excluding in single sheets)
Colouring books:
18121421 - Printed children's picture, drawing or colouring books
Dictionaries: 18121428 - Printed dictionaries and encyclopaedias, and serial instalments thereof
Maps:
18121435 - Printed maps, hydrographic or similar charts, in book-form
18121442 - Printed maps, hydrographic or similar charts (excluding in book-form)
Postcards:
18121449 - Printed postcards, whether or not illustrated
Cards:
18121456 - Printed cards bearing personal greetings, messages or announcements, whether or not illustrated, with or without envelopes or trimmings
Photographs:
18121463 - Printed pictures, designs and photographs
Calendars:
18121910 - Printed calendars of any kind, including calendar blocks
Music:
18121920 - Printed music (including braille music)
Transfers:
18121930 - Printed transfers (decalcomanias)
Others:
18121990 - Other printed matter, n.e.c.

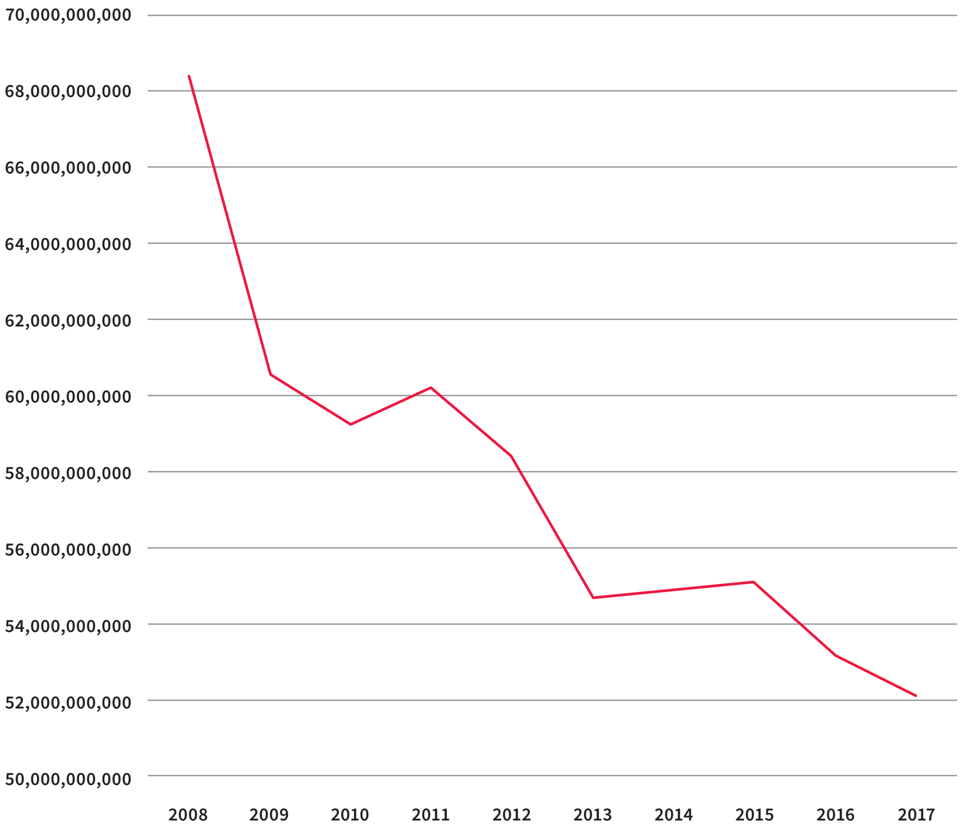
Sources
Eurostat (PRODCOM), figures are in €, by value of sold production

Share in production value, 2017, %



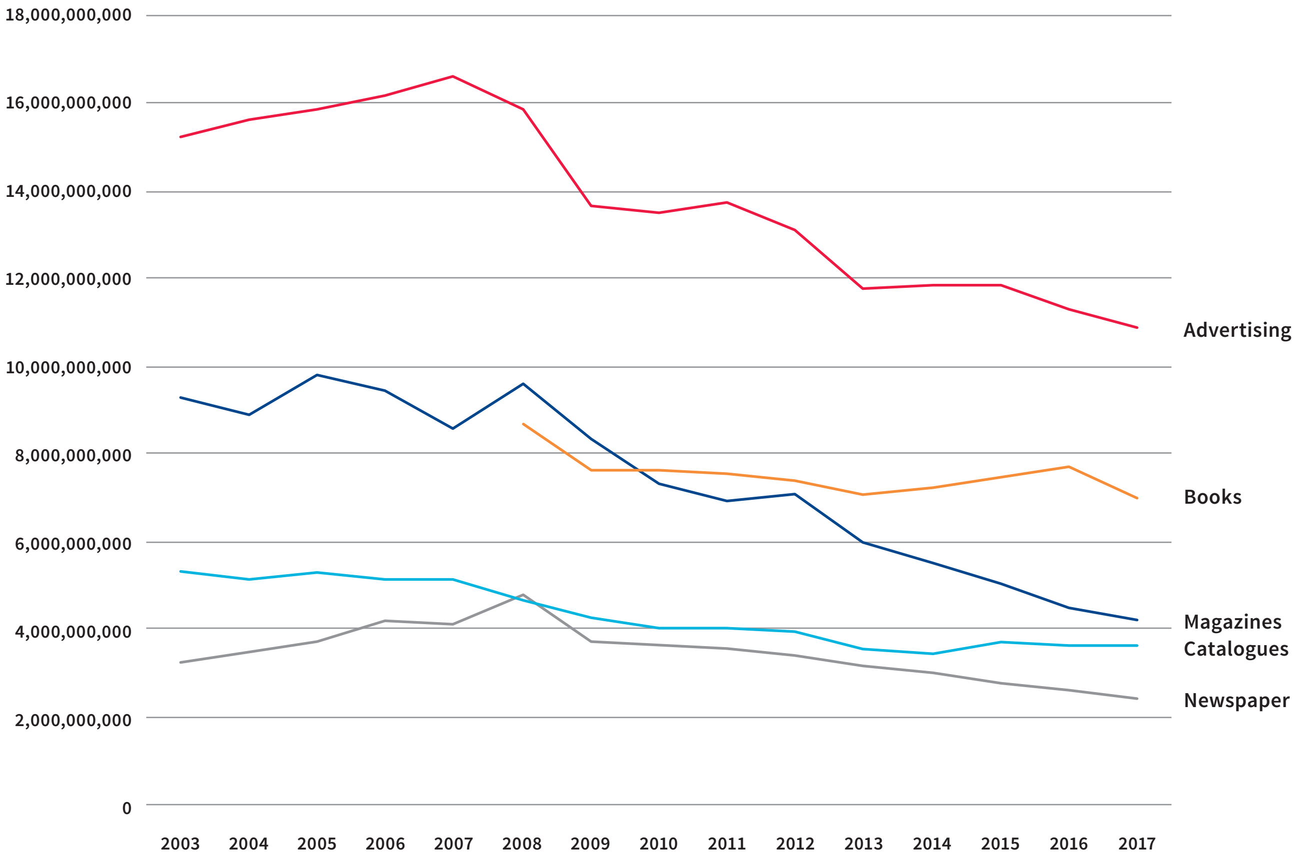
- In 2017, approximately €52 billion worth of printed products were produced in the European Union.
- From the identified categories of printed products, 27% of European production in value is classified as advertising; this corresponds to approximately € 11 billion. Catalogues represent 9% of European production of printed products.
- Magazines and newspapers represent respectively 10.5% (€ 4.2 billion) and 6% (€ 2.4 billion). Books have a share of 17.3%; € 6.9 billion worth of books are printed in Europe.
- 15.6% of the production in Europe belongs to the category of labels, i.e. € 6.3 billion. Security printed products represent 6.7% of the total production of printed products in Europe in 2017.

Evolution of production value of total printed products, 2008-2017, in €



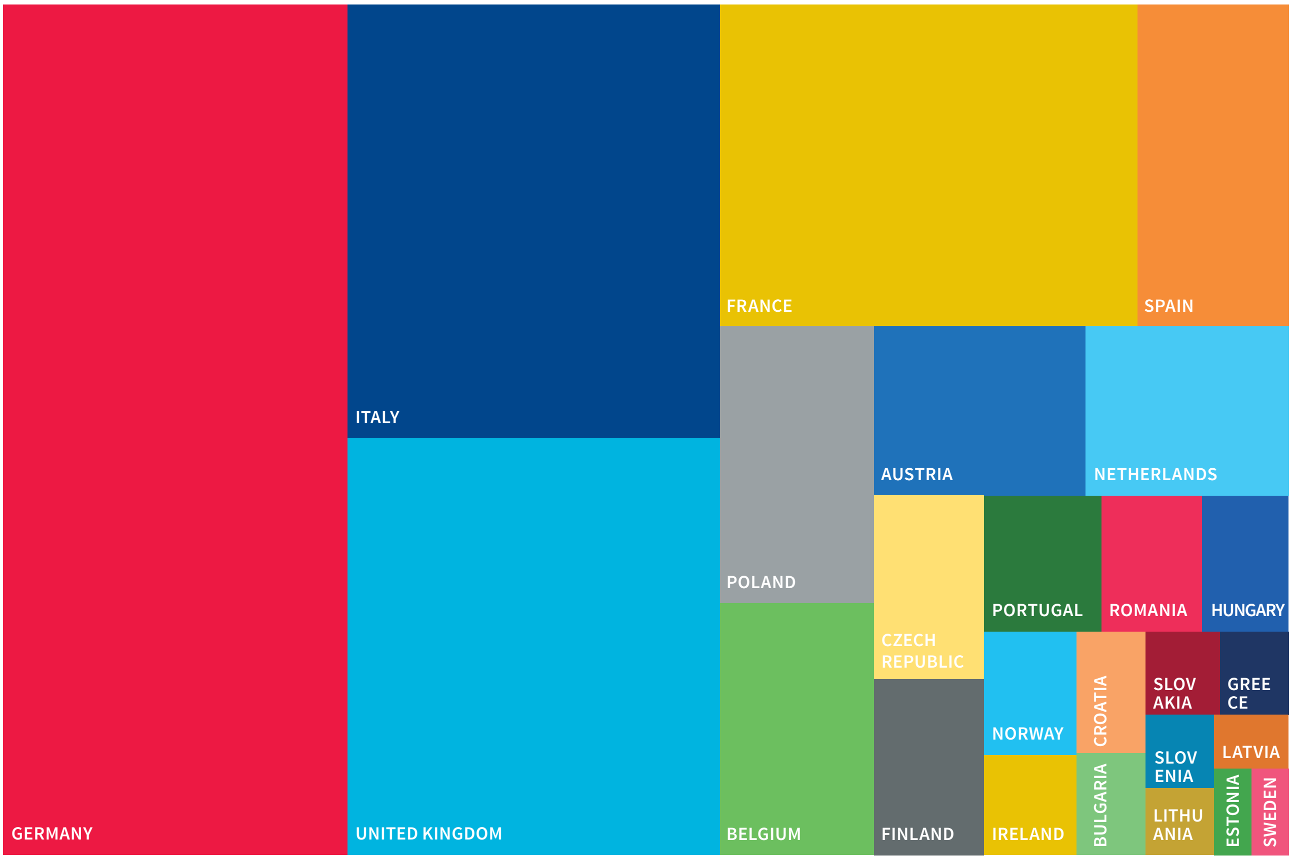
- The total production of printed products in 2017 declined by 2% compared to 2016.
- After a sharp fall from 2008 to 2010 of 13.4%, the European production of printed products steadily decreased, including sharp falls in 2011 and 2012.
- The total production of printed products overall decreased by 23.8% between 2008 and 2017.

Evolution of production value of selected printed products, 2003-2016, in €



- After increases registered in 2014, 2015 and 2016, books' production decreased by 9.6% in 2017.
- Catalogues are the only category which did not decrease. It increased by 1.1% in 2017.
- Magazines and newspapers fell respectively by 6.7% and 7.2%.
- The production of advertising material also decreased in 2017 by 3.9%.
- Taking 2008 as a reference, the production of magazines decreased by 55.9%, newspapers by 49.2%, advertising material by 31.2%, catalogues by 21.8% and books by 19.6%.

Production value of printed products by country, 2017, in %



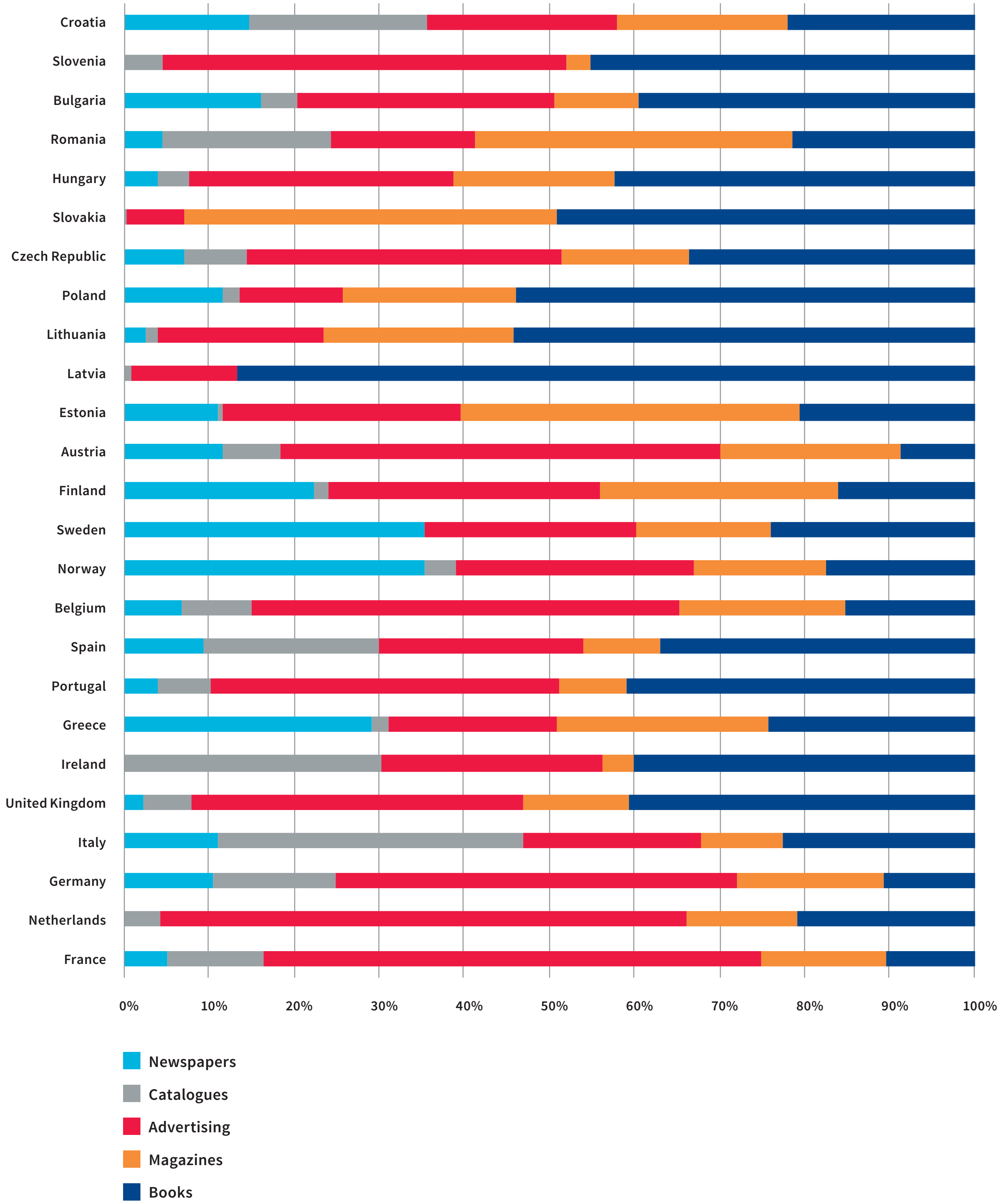
- The main producer of printed products in Europe is Germany with a total production value of € 10.4 billion. This corresponds to a quarter of the total European production value. Germany is the largest producer of printed advertising (€ 3.9 billion), which represents one third of its print production. Germany is also the main producer of magazines (€ 1.4 billion).

- Italy has a total production of € 5.7 million. This represents 14.5% of the total European production and makes Italy the second largest producer of printed product in value in Europe. Its production value is mainly allocated to catalogues, advertising and books.

- With a total production value of € 5.5 billion, the UK is the third largest producer in Europe. The UK dedicates the largest share of its production to books and advertising. The UK is the largest producer of books in the European Union (€ 1.6 billion).

- 12% of European printed products are produced in France; this is worth € 4.7 billion. More than a quarter of France's production is allocated to advertising material.

Production value of printed products, 2017, in €



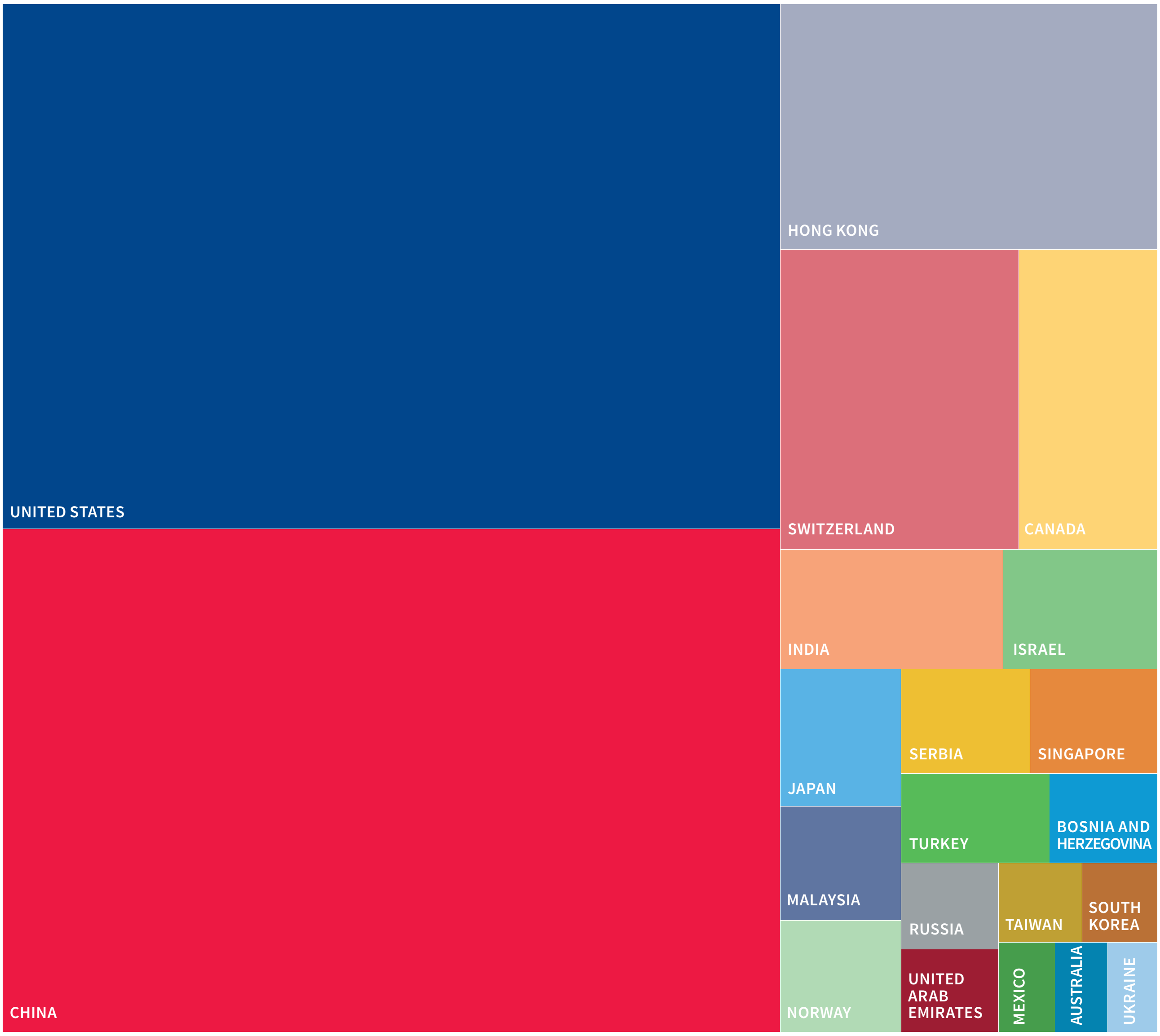
2.4 Trade figures

Classification: Combined nomenclature

49	PRINTED BOOKS, NEWSPAPERS, PICTURES AND OTHER PRODUCTS OF THE PRINTING INDUSTRY; MANUSCRIPTS, TYPESCRIPTS AND PLANS **(printed products)**
4901	Printed books, brochures, leaflets and similar printed matter, whether or not in single sheets **(books)**
4902	Newspapers, journals and periodicals, whether or not illustrated or containing advertising material **(newspapers)**
4903 00 00	Children's picture, drawing or colouring books **(colouring books)**
4909 00 00	Printed or illustrated postcards; printed cards bearing personal greetings, messages or announcements, whether or not illustrated, with or without envelopes or trimmings **(postcards)**
4910 00 00	Calendars of any kind, printed, including calendar blocks **(calendars)**
4911 10	Trade advertising material, commercial catalogues and the like **(advertising)**
4911 91 00	Pictures, designs and photographs **(photographs)**

Sources
Eurostat, data are in €

Trade partners, imports to the EU, 2018

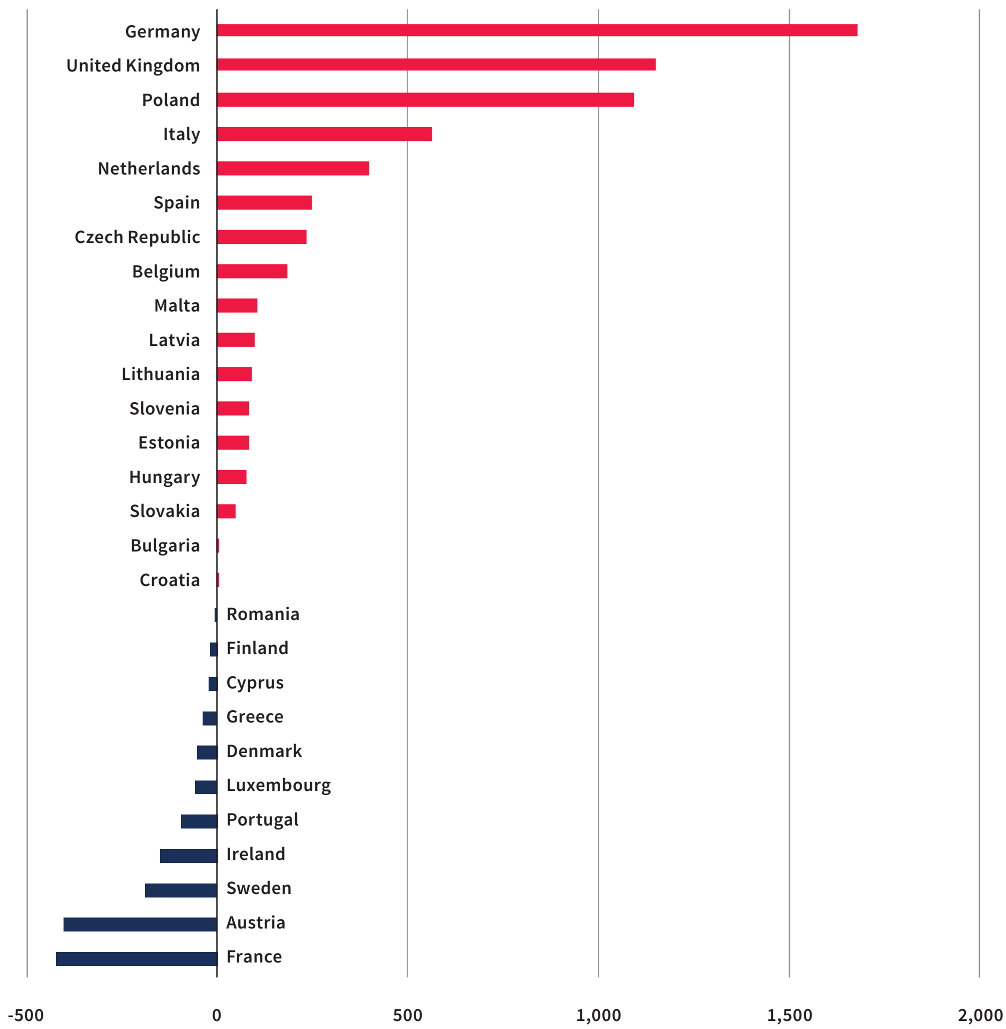


- In 2018, the European Union imported € 2.7 billion worth of printed products from non-EU countries. Half of these (€ 1.4 billion) are books.
- About one third of the total EU imports originated from China (see Chapter 2.4) and another third came from the United States (see Chapter 2.5).
- The next largest importers in 2018 were Hong Kong, Switzerland, Canada and India.

Trade partners, exports from the EU, 2018

- The European Union exported in 2018 € 5.5 billion worth of printed products to non-EU countries.
- 49% of the EU exports of printed products were books.
- The main benefiters of EU exports in 2018 were Switzerland (18%), the US (16%) and Australia (5%).

Trade balance, printed products, intra- and extra-EU, in million €, 2017

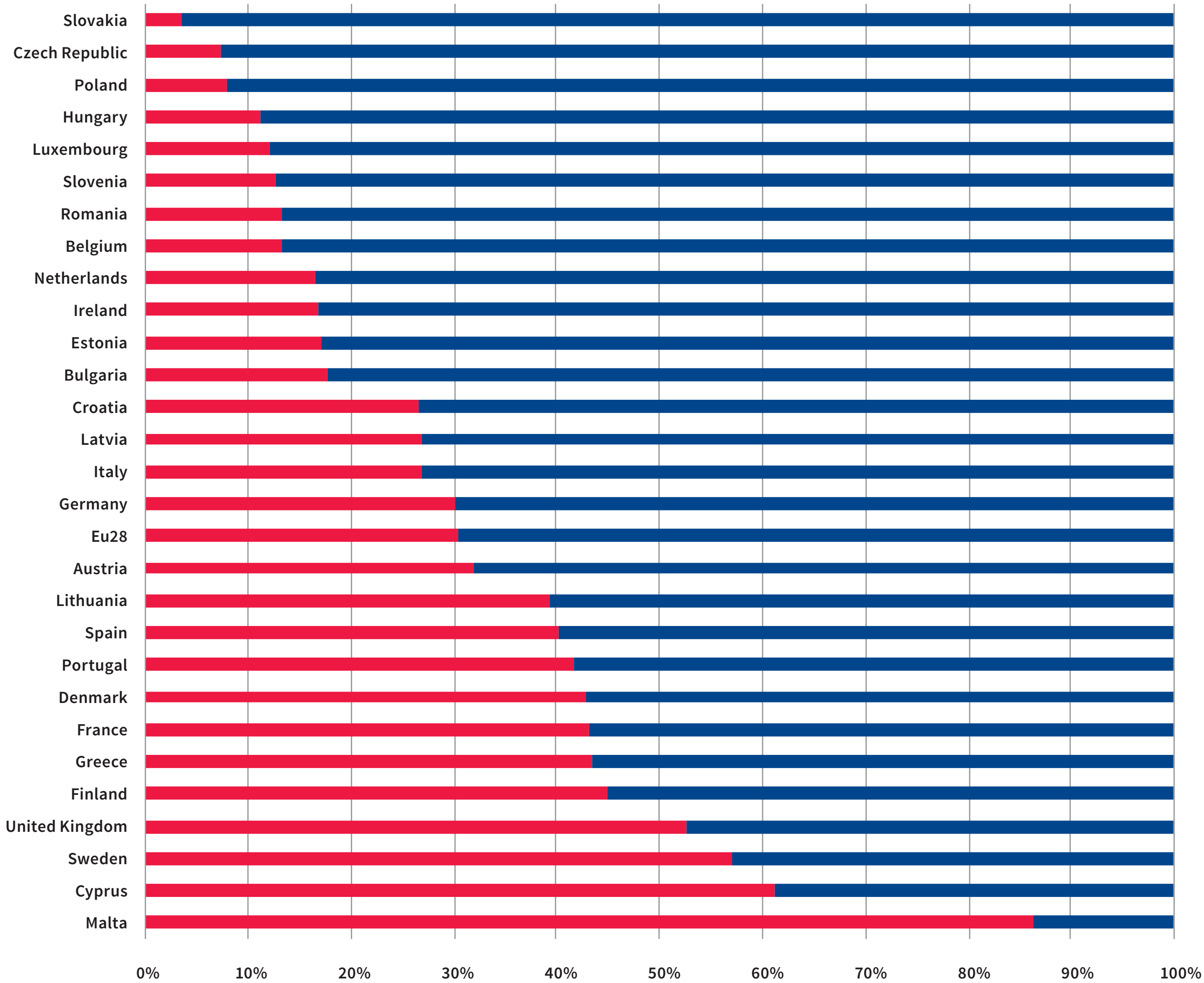


- Considering both intra- and extra-EU trade, the main net exporters of printed products in 2018 were Germany, the UK and Poland.
- With € 1.6 billion, Germany had the largest trade surplus in the EU in 2018. Germany is the largest exporter of printed advertising and catalogues.
- The UK had a surplus of € 1.1 billion surplus which is mainly owed to the trade of books.
- Poland surplus was € 1 billion. It is due to its exports of books and magazines.
- 11 out of 28 countries are net importers of printed products.
- With a trade deficit of respectively € 0.42 and € 0.4 billion, France and Austria were the largest net importers of printed products in 2018. The deficit of Austria is mainly due to its net imports of books and France to its imports of printed advertising and catalogues.

EU trade of printed products to non-EU countries, 2000-2018, in €

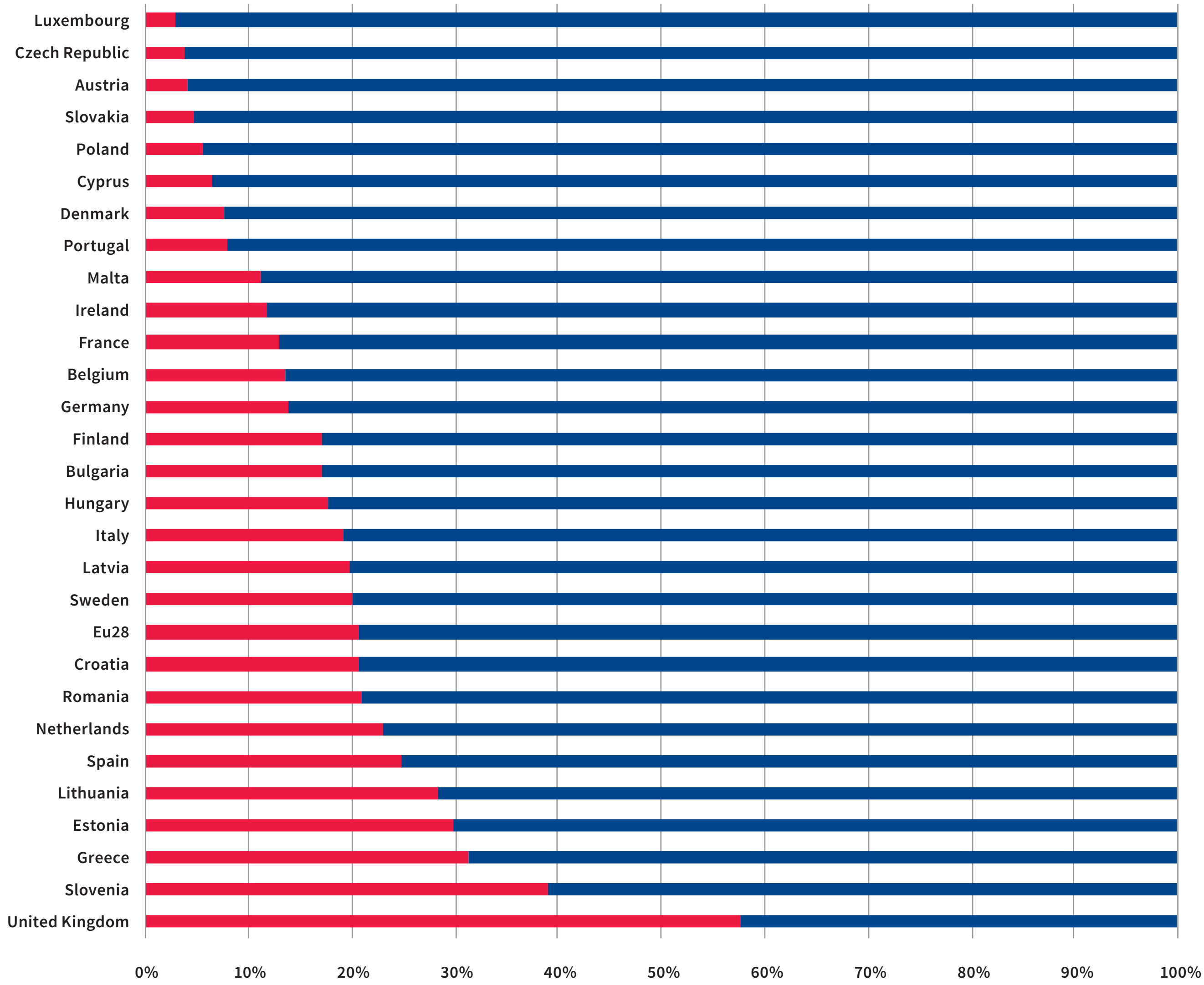
- Although the large majority of its trade is intra-EU, the European Union is a net exporter of printed products to non-EU countries with a trade surplus of € 2.7 billion.
- Both exports and imports of printed products have been decreasing since 2015, both flows decreased by 7.7% for exports and 16.3% for imports.

Share of EU and non-EU trade in exports of printed products, in %, 2018



- On average, approximately 30% of the European exports of printed products are sent outside the EU.
- In Slovakia, Czech Republic and Poland, less than 10% of their exports of printed products are extra-EU.
- Malta has the largest share of exports of printed products outside the EU.

Share of EU and non-EU trade in imports of printed products, in %, 2018

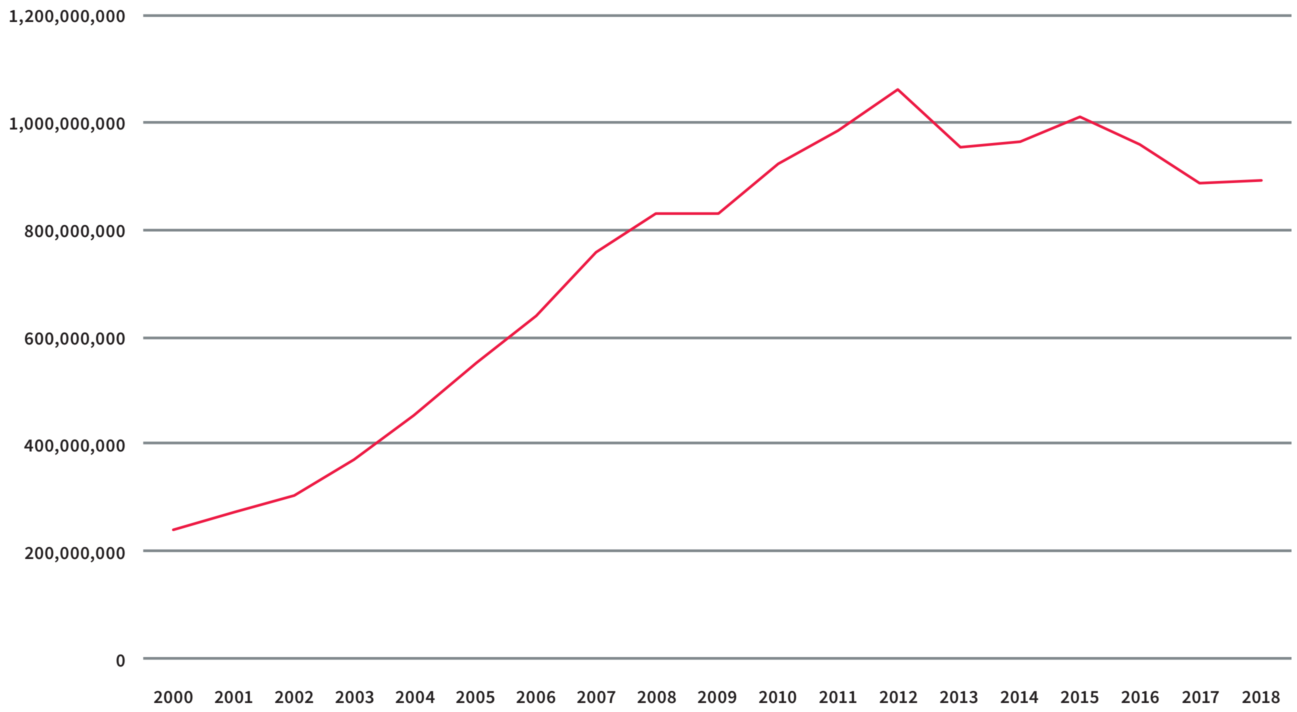


- On average, approximately 20% of the European imports of printed products are from outside the EU.
- More than 50% of UK imports of printed products are extra-EU.
- The share of non-EU imports of printed products is the lowest in Luxembourg, Czech Republic and Austria.

2.5 Imports from China

Sources
Eurostat, figures are in €

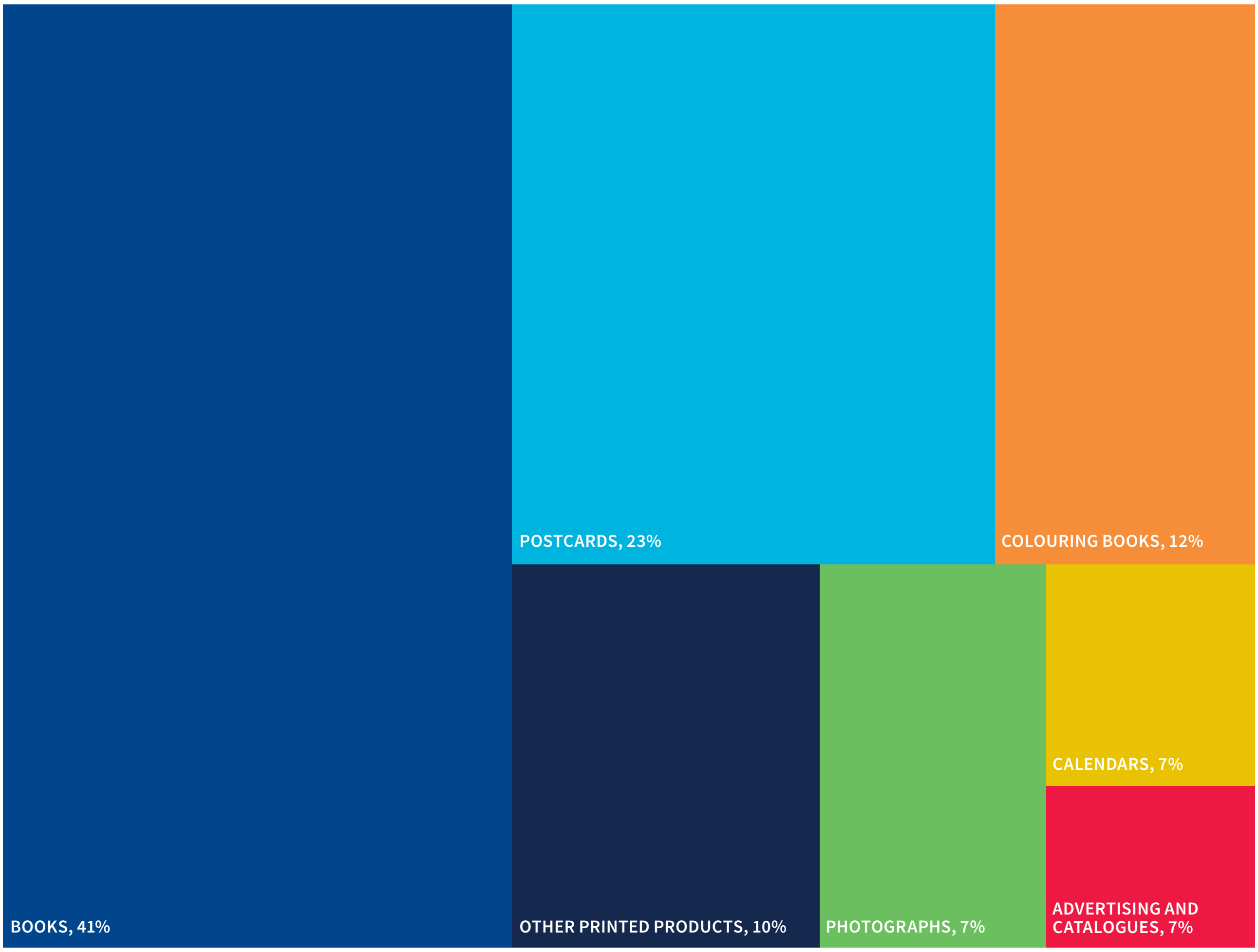
Imports from China, 2000-2018, in €



- In 2018, the European Union has imported € 890 million worth of printed products from China, which is stable compared to 2017. Chinese imports have been steadily decreasing since 2015 (-12%).

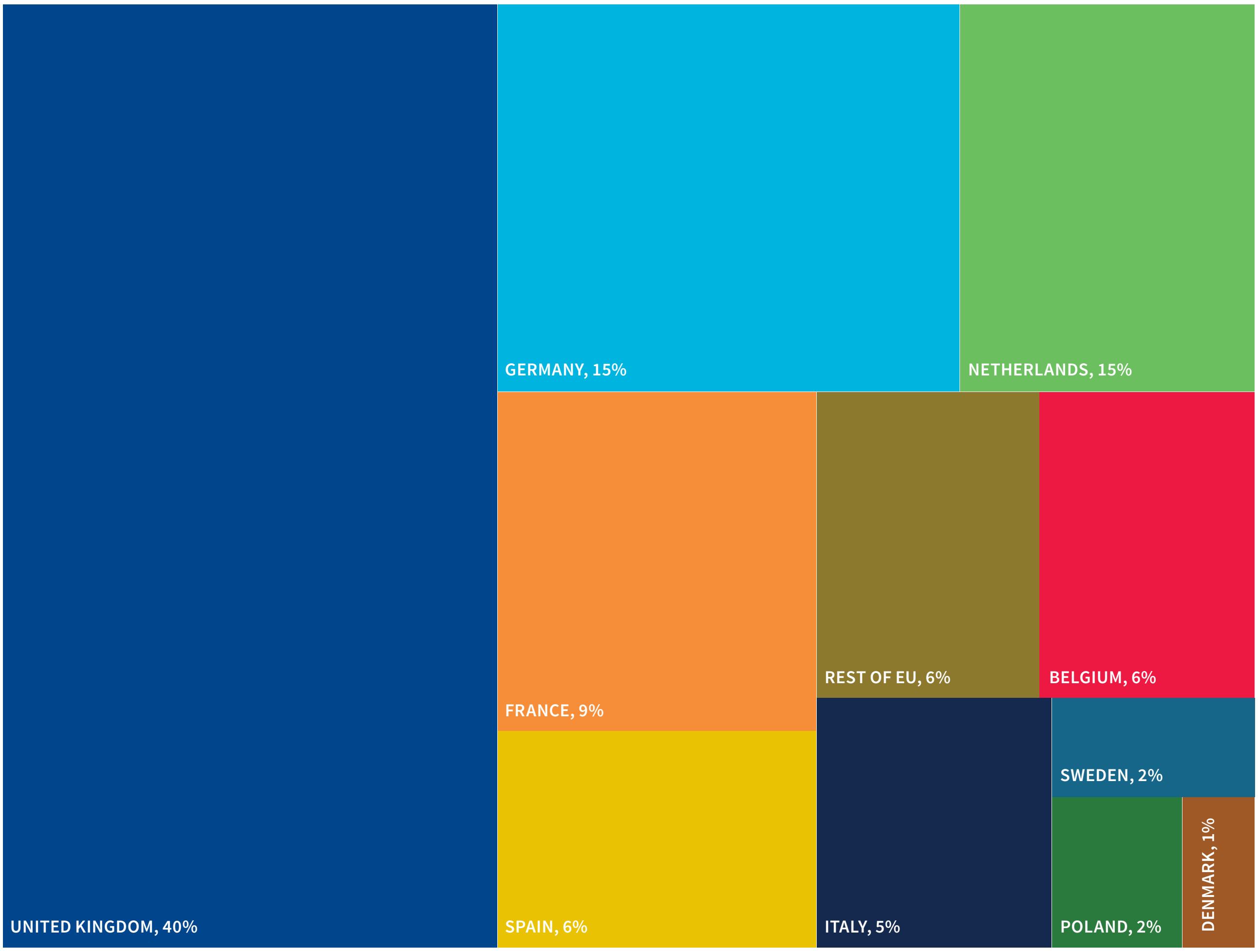
- Chinese imports are back to the level of 2008. However, compared to 2000, Chinese imports have more than tripled (+270%).

Main printed products imported from China to the EU, 2018



- Books account for 43% of the total imported printed products to the EU from China.
- Postcards (23%) and colouring books (12%) are the next most imported printed products from China in value.

Main EU importers of printed products from China, 2018

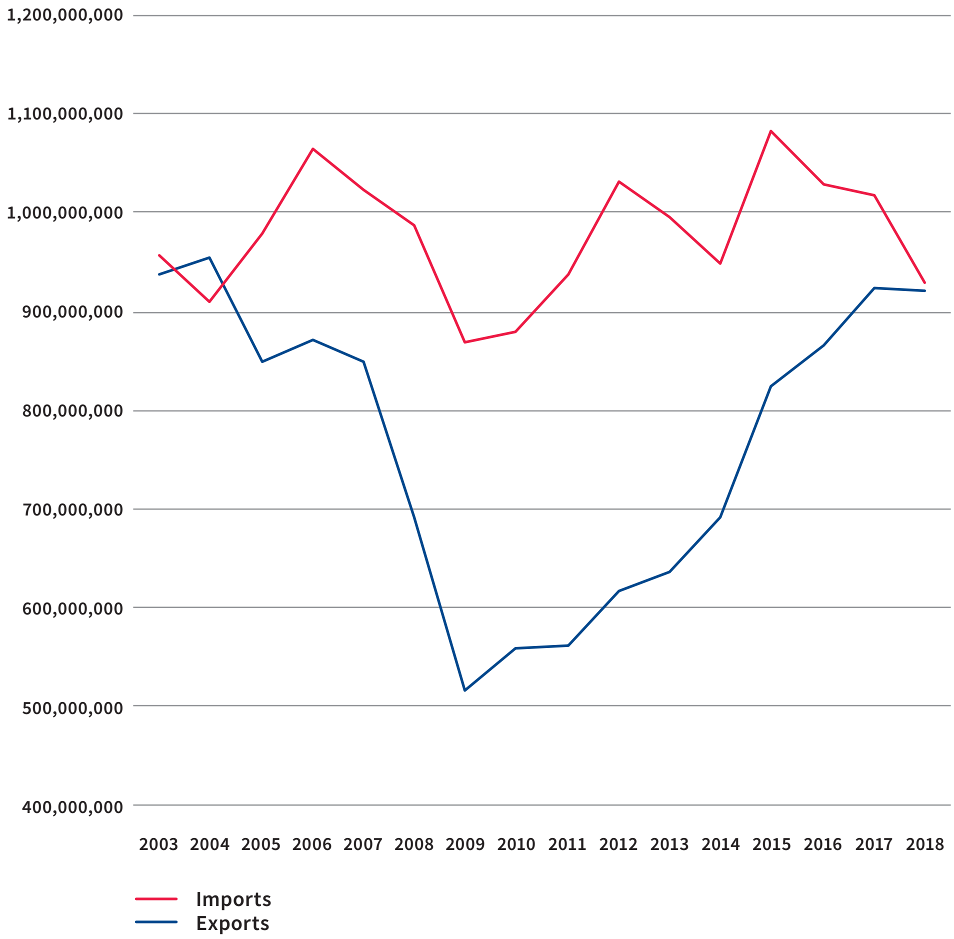


- 40% of Chinese imports are directed to the UK, i.e this corresponds to € 344 million worth of printed products. 15% go to Germany, 10% to the Netherlands and 9% to France.

2.6 Trade with the US

Sources
Eurostat, figures are in €

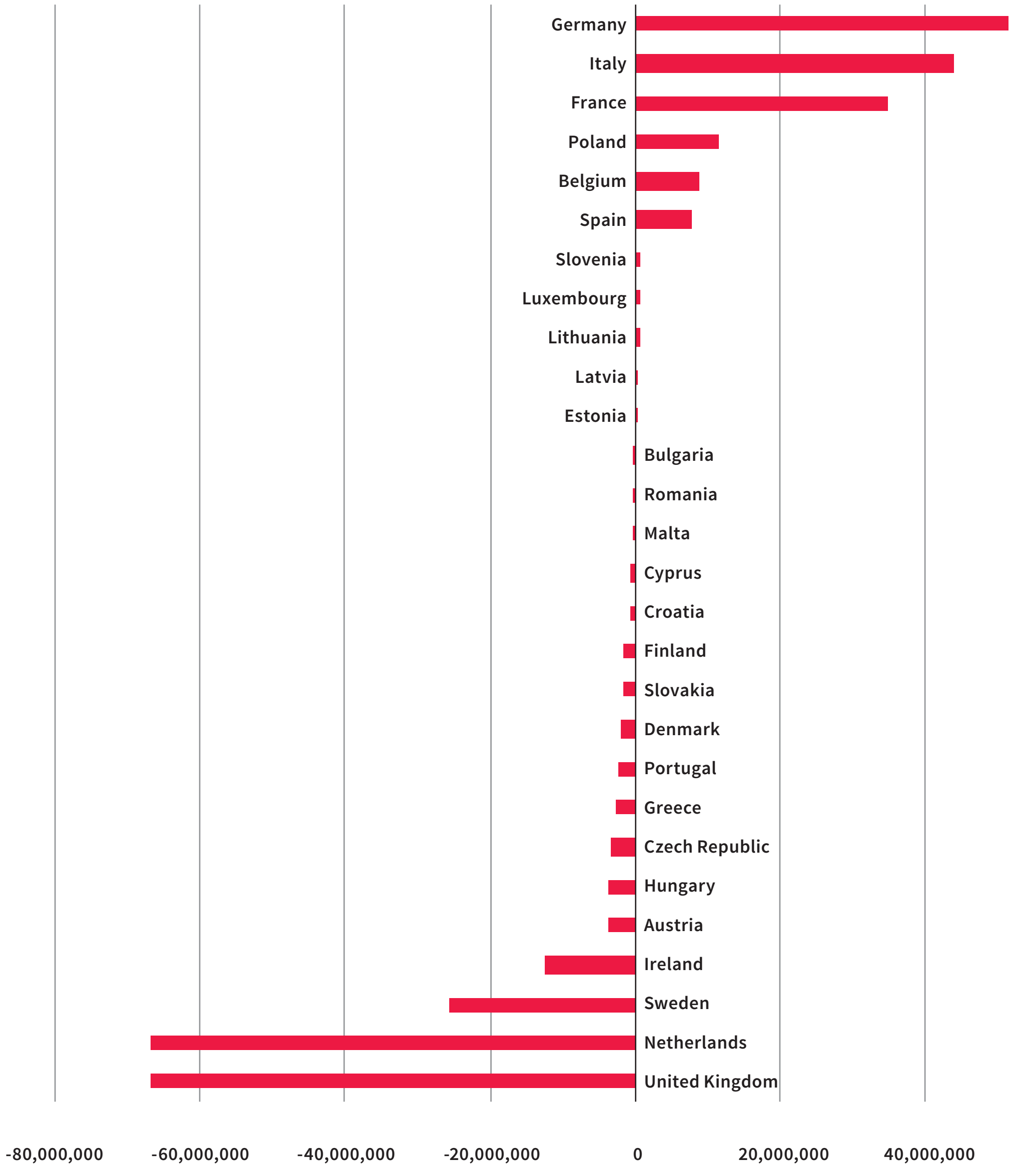
Trade of printed products with the US, 2003-2018, in €



- Over more than a decade, the EU has had a negative trade balance with the US. After a sharp decrease of European exports in 2009, the trade balance progressively improved thanks to continuous increased exports.

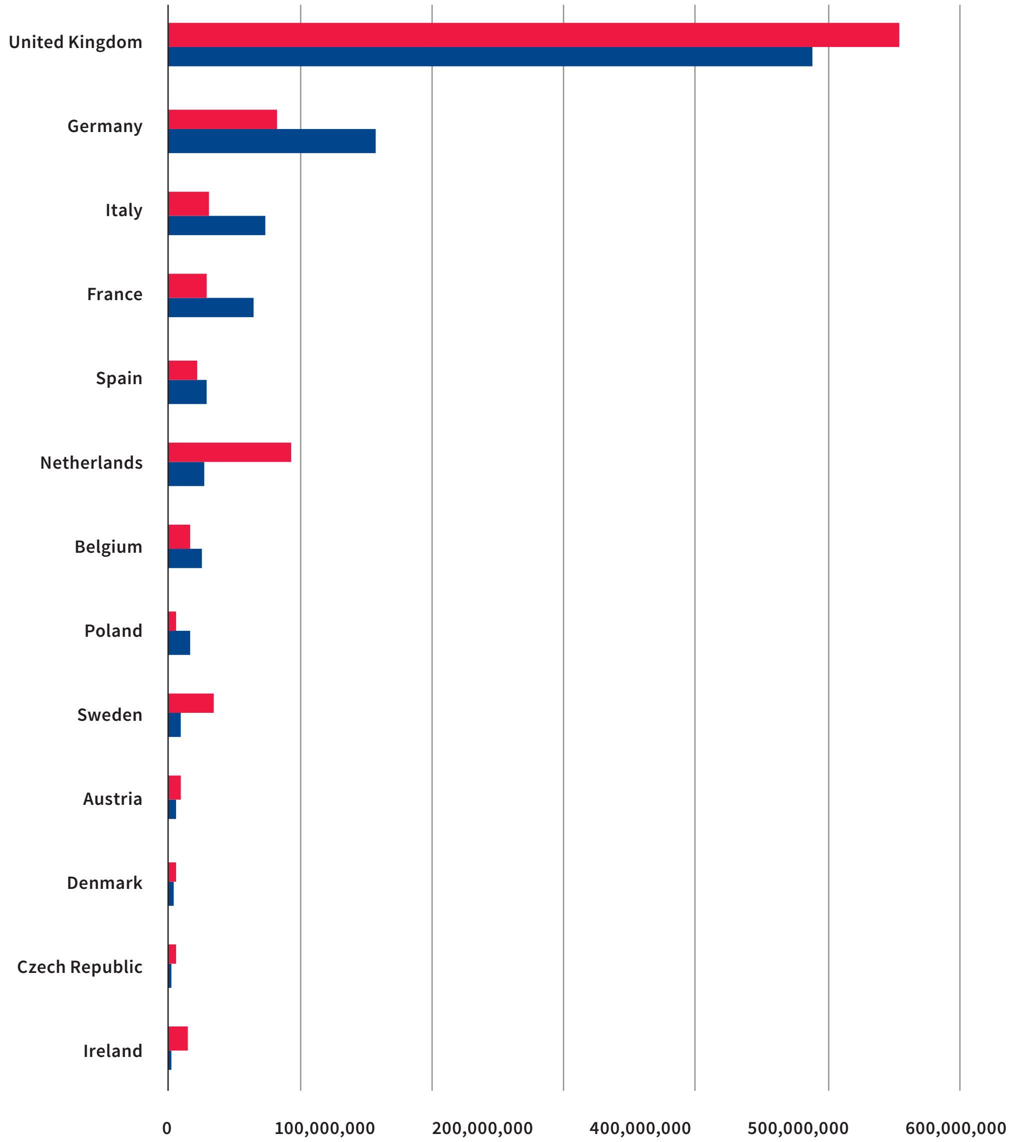
- In 2018, the trade balance with the US significantly decreased reaching a small deficit of € 9 million.

Trade balances of EU countries with the US, 2018, in €



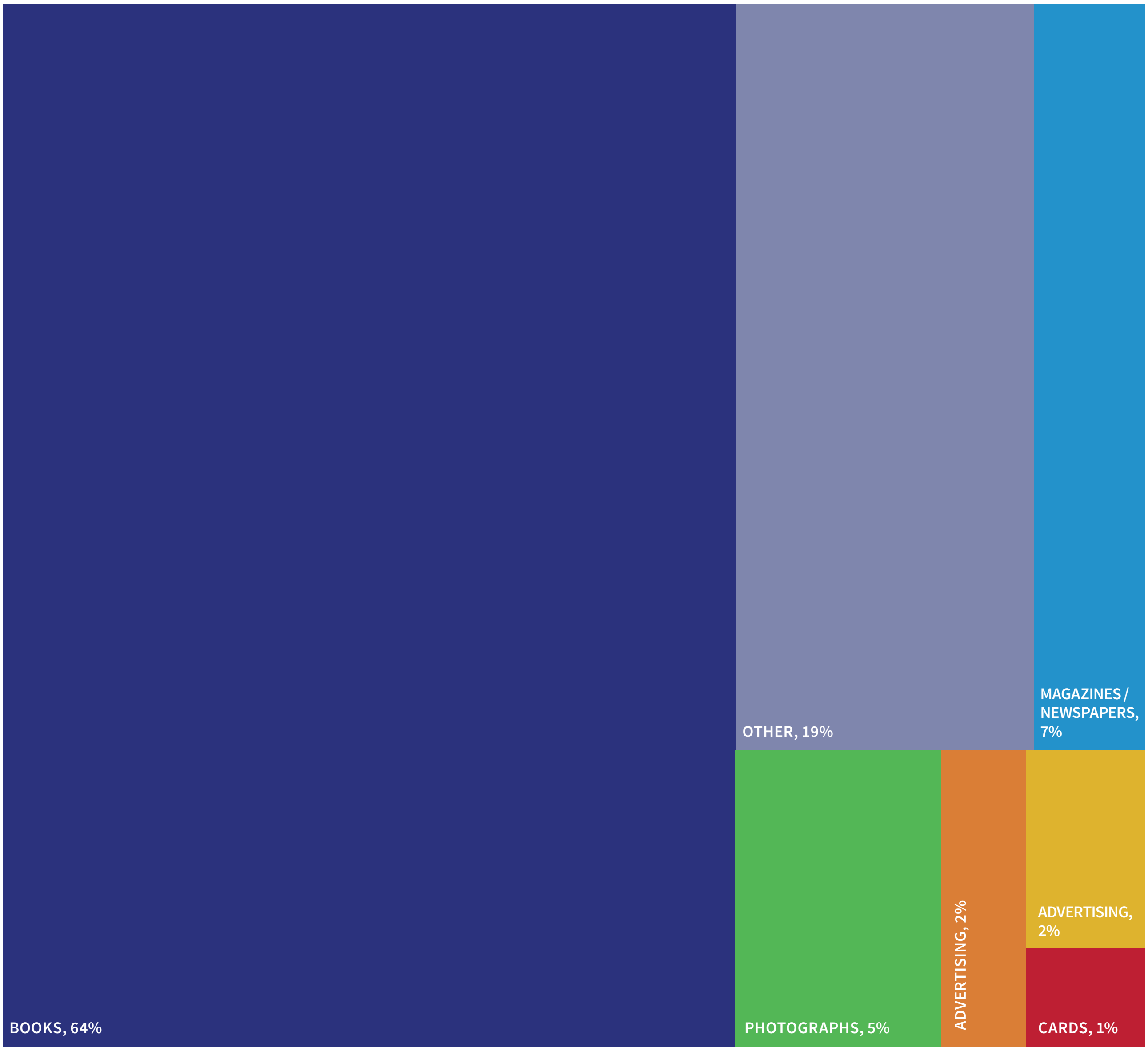
- Germany and Italy were the main net exporters to the US market in 2018.
- In 2018, the UK and Netherlands were the main net importer of printed products from the US, followed by Sweden and Ireland.

Main trade partners with the US, 2018, in €



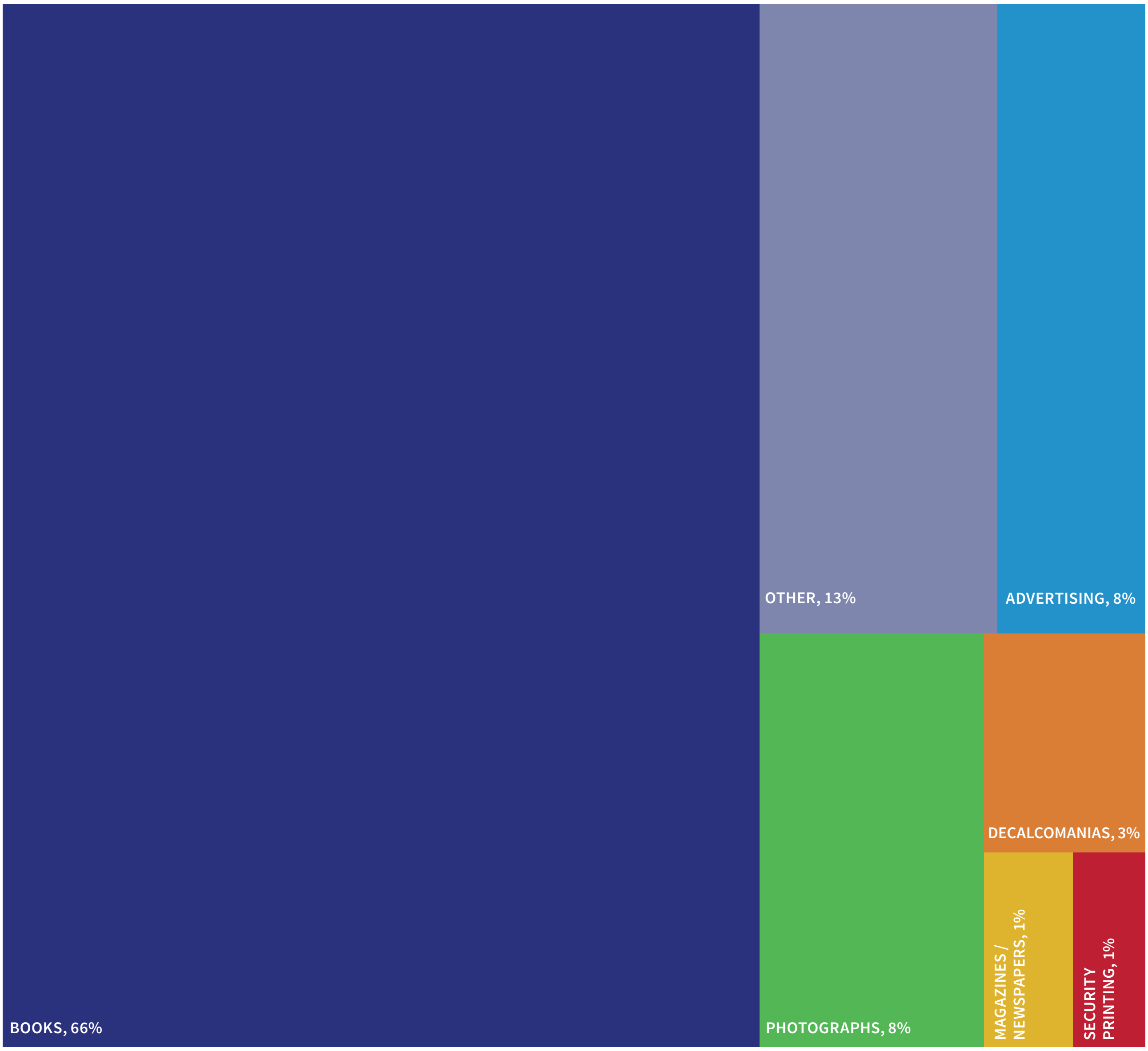
- In value terms, the UK is the main trade partners of the US for printed products.
- Germany, Italy, France and Spain are the next main trade partners to the US but contrary to the UK, they have a positive trade balance to the US.

Imported printed products from the US, 2018



- 64% of imported printed products from the US are books. They represent a value of more than € 595 million.
- Magazines and newspapers represent 7% of the total imported printed products from the US.

Imported printed products from the US, 2018



- 66% of exported printed products to the US are books. They represent a value of more than € 608 million.
- Photographs and advertising materials represent each a share of 8% of the total exported printed products to the US.

3. EUROPEAN PRINT MARKET REVIEW

Contribution from
Smithers Pira, April 2019

Sources
Smithers Pira

Introduction

In 2018, European printing and printed packaging output grew by one per cent in current terms to €160 billion, although taking out the effect of inflation and exchange rate movements, revenues actually declined by 0.1% in real terms in comparison with 2017. As in previous years, there was growth in packaging revenues (incl. labels), which is moving at a faster rate than GDP growth trends, offset by a 3.0% decline in graphic printing output.

Into 2017, there was a decline in the number of copmmercial establishments in the EU, of around 1,000, with numbers down in most countries although there were increases in some Central European countries including Slovakia, Romania and the Baltics according to Eurostat estimates. Employment again fell, and revised numbers show the number of persons employed declining from 756,521 in 2012 to 705,731 in 2015 and 688,540 into 2017. Although digital printing may open up more opportunities for smaller, leaner operations, further industry consolidation is likely as larger printing companies seek to scale up operations, undertake strategic investments and improve efficiencies are making it harder and harder for traditional commercial printing operations to complete.

The European Print Market

Basis of presentation

Smithers Pira undertakes ongoing research into European and global print markets, and maintains a database of print market information covering printed output by print product, printing process and industry sector, as well as data on the key supply markets of new printing equipment, inks/colourants, paper/other substrates and prepress consumables. Some extracts here are based on our report on The Future of European Printing to 2023, themselves based on updates undertaken to the database towards the end of 2018.

We consult with a wide number of secondary sources, including official sources and also printing and related, publishing and packaging trade associations. We also undertake regularly primary research projects including surveys of printers in addition to more wide-ranging discussions with key players in supply industries. This is backed up by a variety of other information on the operating environment for print, including economic, demographic, literacy, advertising and postal data, as well as da9ta on trends IT and communications. Major research projects undertaken in 2018 and through into early 2019 have covered prospects for food package printing, inkjet printing, inkjet corrugated, printing equipment, printing inks, digital print for packaging, analogue vs digital printing, package printing, printed labels and signage, in addition to other one-off projects and an ongoing prepress consumables syndicate.

We continue to consult Eurostat data when putting together our figures on trends in printing output, machinery, inks, paper and other elements. We also look at the original national statistics data sources from which the data is drawn, which generally provide an indication as to any changes in the respondent base and degree of error in reporting, and consequently enables us to assess whether data is comparable from one year to the next. It is true that accurate comparisons cannot be made in some cases, but in other instances there is genuinely useful data that is especially valuable in an industry that is difficult to track and define. On the matter of definition, it is also important to note that Eurostat data focuses on the commercial printing industry and excludes various printing undertaken by some in-house printing operations, packaging companies and business support services such as some transactional printers and direct mail publishing houses. Furthermore, often the practise of classification into product segments on the part of companies submitting revenue data can vary from one company to the next, with ‘other printing’ often including data on products classified separately elsewhere. Nevertheless, as one becomes more acquainted with the data, it becomes easier to establish that data that is consistent and provides a useful indication on printing trends.

Given that there is no single official source that surveys print output in all its forms from all types of companies engaged in printing activities, ultimately, almost all available data on print is indicative. The key is to undertake as much research as possible and ensure that final figures are consistent with key data, especially relating to inks consumption and paper/other substrate consumption. In terms of Smithers Pira data on printing output – including for digital print – this is given at ex-factory prices, whereby the design and prepress work billed by the print supplier is included, along with the substrate value (unless supplied by the customer), and any printing/converting and finishing. We are concerned with the invoice value to the print buyer rather than the final retail value of the product, and we do not include delivery costs, or any local taxes or VAT.

For companies offering mailing services the data handling, mail-sorting (to obtain postal discounts) and inserting are included, but the postage costs are not. For in-plants, where the print supplier is a part of the buyer group, costs are apportioned at commercial rates rather than trying to follow the range of inter-company costing and transfer pricing. The value data includes substrates where there is more than one type of print process; in hybrid manufacture or two-pass overprinting, part of the value is apportioned to the digital production and part to the other processes in developing the final report data. The costs of the packaging substrates are included in the figures.

We cover all materials produced by specialist converters that are sold for profit, and estimates of values are provided for materials produced internally by in-plant operations, e.g. for in-house billing and statement applications. We do not distinguish between output from high-volume, industrial production equipment and low-cost, low-volume systems when sold for profit or used to pack or label goods produced by the user.

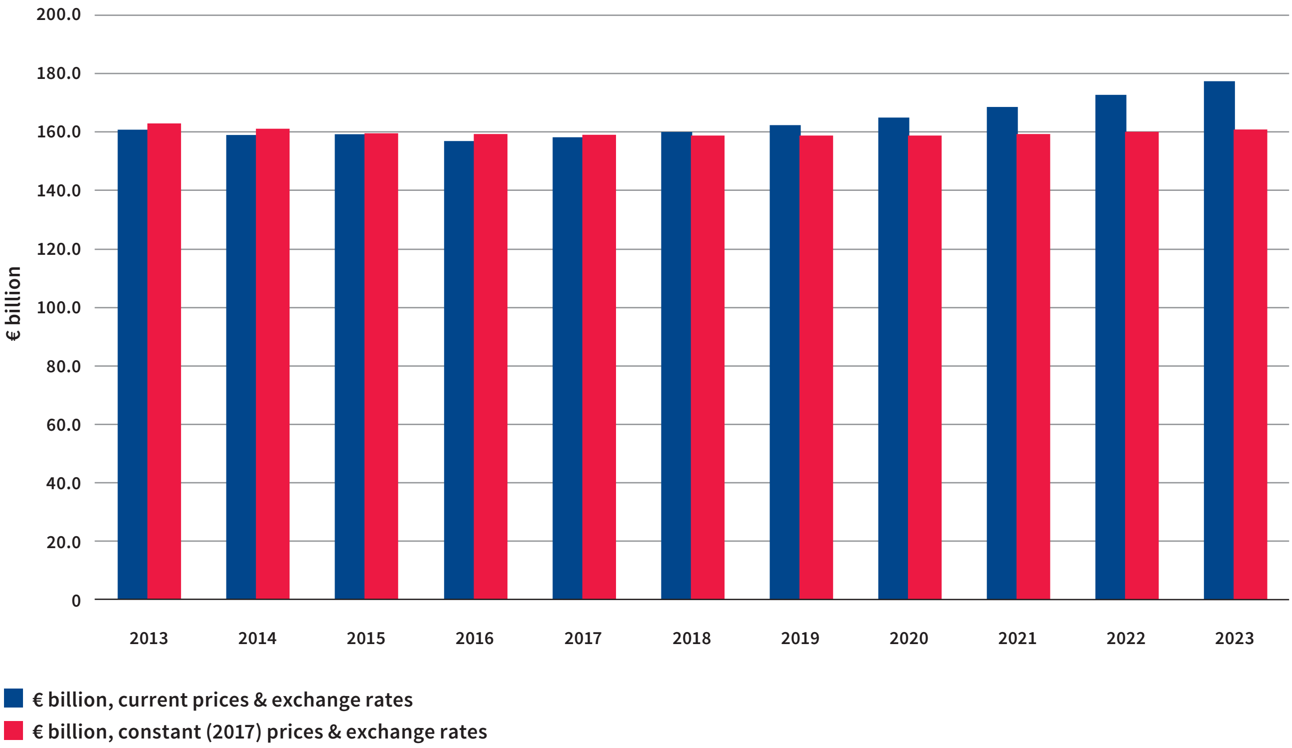
For the purposes of this publication, value data has been converted into Euros. In some cases data is presented in terms of constant 2017 prices and exchange rates to reflect real changes in demand after the effects of inflation (as measured by the consumer prices index) and exchange rate movements. Volume data is generally presented in terms of tonnages unless otherwise stated.

Market overview

European printing output, including package printing output, grew by an estimated 1.1% in current terms to €160 billion in 2018, but fell by 0.1% in real value terms after taking into account the effects of inflation and exchange rate movements. Package and label printing demand continued to grow steadily and is generally moving at a faster rate than GDP growth trends. However, graphic printing markets continue to decline with a 3.0% fall in real terms during 2018.

Again, there was a marginally stronger performance in southern European markets in comparison to some in northern Europe as rebounding occurred in those countries hit the hardest by the Eurozone crisis. In Eastern Europe the market grew by 2.4% in real terms.

FIGURE 1 European Printing & Printed Packaging Output, 2013-2023f



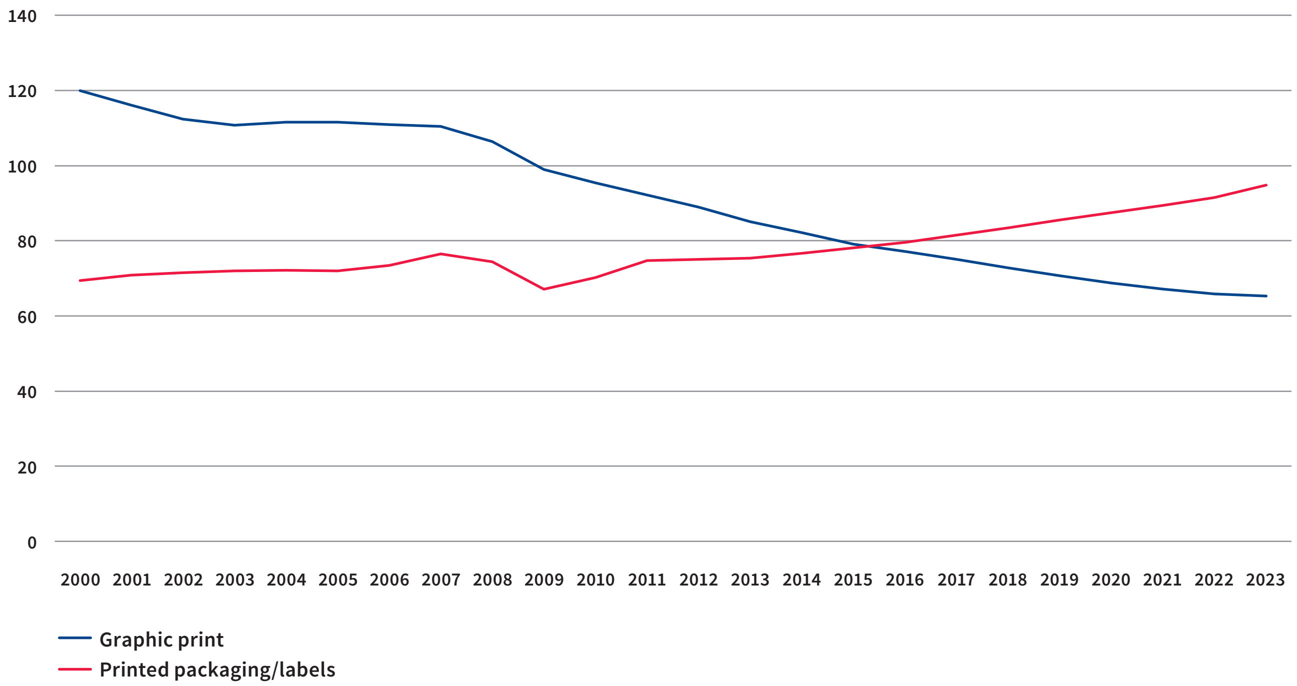
Note: constant price values show market data at 2017 prices, removing impact of inflation and exchange rate fluctuations from one year to the next

Source: Smithers Pira

Euro-Graph statistics for 2018 revealed sharp declines in both shipments and demand in Europe, with European shipments down 5.4% and demand down 5.5% on 2017. Newsprint demand fell by a reported 8.4%, with coated woodfree paper demand declining at the same rate after a 3.6% decline in 2017. Across other grades, demand for coated mechanical reels fell by 3.8% in 2018 (2.2% down in 2017); SC-magazine demand was down 4.8% (1.3% down in 2017), other uncoated mechanical papers (including improved newsprint) were down by 0.8% (no change in 2017), and uncoated woodfree paper demand fell by 4.0% after a 0.5% increase in 2017.

Efficiencies in printing production processes continue to be realised, and the value of printed output is not declining to the same extent as paper consumption. Nevertheless, print remains under pressure from digital media, particularly in the case of newspapers but also in other publication print areas, business print and also advertising.

FIGURE 2 Trends in European Printing & Printed Packaging Output, 2000-2023f (€ billion, constant 2017 prices & exchange rates)



Note: constant price values show market data at 2016 prices, removing impact of inflation and exchange rate fluctuations from one year to the next
Source: Smithers Pira

Out of overall estimated printing revenues of €160 billion in 2018 at current prices, Western European countries contributed €136 billion, led by Germany (€33 billion), the UK (€21 billion) and France (€20 billion). Over the past five years demand for combined graphic print and printed packaging has declined by around €1.5 billion in current terms, but in real terms has declined by almost €6.3 billion. As time has moved on, average growth rates across Western Europe have come more into line alongside a partial recovery in those countries worst affected by the recession.

Of the €24.4 billion in Eastern European printing revenues in 2018, Russia and Poland between themselves accounted for half of the total at €8 billion and €7 billion respectively. In current terms, Russian print revenues recovered as the rouble continued regained ground vs the euro compared to 2016 and 2017 although in real terms the value of printing output grew by only around one per cent. Overall, print demand continues to hold up well in Central European countries like Poland while in the CIS the situation still remains challenging as inflation rates rise.

In real terms, growth of around 4.4% per annum is anticipated in printing revenues in Eastern Europe, but we still expect this to be value driven and driven by packaging rather than graphic print. In Western Europe, overall printing revenues are set to be broadly flat in real terms but grow in current terms by 1.6%, with growth in package and label printing offsetting declines elsewhere.

TABLE 1: European Printing & Printed Packaging Output by Country and by Region, 2012-2023f (€ billion)

Country	Current prices & exchange rates				Constant (2017) prices & exchange rates*			
	2013	2017	2018e	2023f	2013	2017	2018e	2023f
Western Europe	**137.0**	**134.7**	**135.6**	**147.1**	**140.1**	**134.7**	**133.9**	**132.6**
Germany	32.6	32.4	32.6	36.3	33.7	32.4	32.1	31.7
UK	21.9	21.2	21.4	22.9	22.3	21.2	21.2	21.3
France	20.1	19.9	20.1	22.0	20.5	19.9	19.8	19.8
Italy	18.2	17.7	18.0	19.1	18.4	17.7	17.7	17.4
Spain	10.6	11.1	11.4	13.0	10.8	11.1	11.2	11.7
Netherlands	5.8	5.3	5.4	5.9	5.9	5.3	5.3	5.2
Switzerland	4.5	4.8	4.6	5.0	4.9	4.8	4.7	4.7
Belgium	4.6	4.4	4.4	4.6	4.8	4.4	4.3	4.1
Austria	3.7	3.7	3.7	4.0	3.9	3.7	3.6	3.5
Sweden	4.3	3.7	3.6	3.6	4.1	3.7	3.6	3.3
Denmark	2.0	2.0	2.0	2.2	2.1	2.0	2.0	2.0
Norway	2.0	1.7	1.6	1.5	1.9	1.7	1.7	1.5
Greece	1.5	1.6	1.6	1.7	1.5	1.6	1.6	1.6
Finland	1.8	1.6	1.6	1.6	1.8	1.6	1.5	1.4
Portugal	1.5	1.5	1.5	1.7	1.6	1.5	1.5	1.5
Ireland	1.4	1.4	1.4	1.5	1.3	1.4	1.4	1.4
Other Western Europe	0.6	0.6	0.7	0.7	0.7	0.6	0.6	0.6
Eastern Europe	**23.9**	**23.6**	**24.4**	**30.3**	**22.0**	**23.6**	**24.2**	**27.5**
Russia	9.3	7.8	8.0	9.6	7.9	7.8	8.1	9.4
Poland	5.5	6.5	7.0	8.6	5.5	6.5	6.7	7.7
CzechRepublic	2.1	2.3	2.5	3.3	2.1	2.3	2.3	2.6
Hungary	1.2	1.4	1.4	1.7	1.3	1.4	1.4	1.6
Romania	1.0	1.1	1.1	1.5	1.0	1.1	1.1	1.2
Slovenia	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.6
Bulgaria	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.6
Other Eastern Europe	3.7	3.3	3.3	4.2	3.1	3.3	3.4	3.8
Europe	**161.0**	**158.3**	**160.0**	**177.4**	**162.1**	**158.3**	**158.1**	**160.1**

Note: *removes impact of inflation and exchange rate fluctuations from one year to the next
Source: Smithers Pira

Print products

The outlook for print products is being directly affected by evolving consumer patterns that are mainly driven by the emergence of e-media. This is having a negative effect on volume of printed media in Europe falling to €158.1 billion in 2018 (constant prices). It is predicted that the output volume will continue to decline through 2023, however, in contrast the value of the market is expected to experience a marginal growth at a rate of 0.3% over the same period. The largest decline is seen in magazines, newspapers, catalogues and directories that have experienced a 5% drop in real value terms.

Advertising print declined more gradually, while book printing was down by a further 3.5% compared to 2017. Moves towards greater production efficiencies with book printing and growth of alternative media options will continue to impact the book printing business even as the novelty value of digital readers like Kindles seemingly wears off, and there is no evidence of the change in price positioning required for such products to rejuvenate the category.

In publishing, e-media is a risk to of the publishing businesses and physical print. Both magazine and newspaper print is experiencing a 5% decline due to the ability to access information in online formats. While the decline in magazine print is worrying, it is being assisted to some extent by digital print allowing short-run editions of specialist titles serving small audiences, with the potential of more targeted advertising. However, newspaper print does not have this and due to online news media (websites, newsletter emails, Twitter, etc.) and the arrival of dedicated 24-hour television news channels have eroded the central role traditionally played by newspapers as the key source for information. As this high-profile role has diminished and switched to online media, advertising spends have been reduced. This has led newspapers to raise prices, eliminate separate supplements, as well as develop their own Internet presence. Furthermore, as paper is the costliest element in newspaper production, tightening margins are leading many titles to shift from broadsheet to tabloid or other reduced sizes.

As with other print products, advertising is also seeing the effect of electronic and online advertisement, which has more than doubled in the last five years. This has also corresponded to a decline in physical print advertising by 1.6% annually over the same period. In response, the printing industry is shifting its emphasis to higher quality items and is exploring new market opportunities. Furthermore, advertising is the segment that most closely follows fluctuations in overall economic activity.

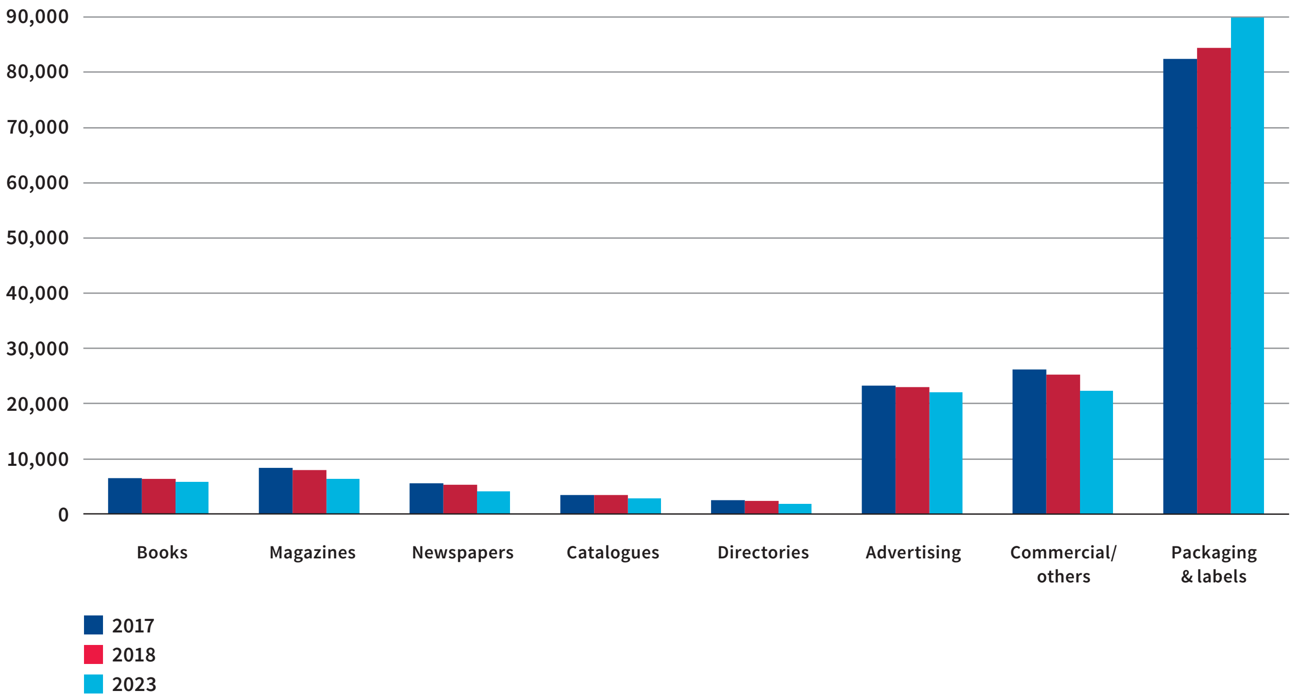
Catalogue printing is declining rapidly as retail companies increasingly have switched to online sales channels that offer a quicker, more dynamic means to advertise, promote and sell a company's products, without the overheads associated with long print runs. Europe does still have catalogues from firms such as Ikea, Office Depot, Conrad Electronic and Schäfer Shop, but these are mainly for business-to-business rather than direct-to-consumer selling. Moreover the concept of catalogue selling is increasingly unknown to younger consumers.

Across other areas, directories have become slimmer and slimmer or disappeared altogether as people have opted to get this kind of information online or via smartphones. The use of GPS in satellite navigation and on smart phones has replaced many road atlases and A-to-Z street maps. Smartphones and computers are increasingly the first sources of information for consumer products, and catalogue printing has been hit as a result – also affected by online purchasing. There will continue to be some legacy use in less developed, rural areas and countries where internet penetration is more limited.

Packaging print plays a large part in the print industry due it's ever increase market size. This is expected to grow rapidly over the next 5 years particularly in flexible packaging, which is forecast to increase at 3.3%. The labels market also has potential and is being botted by digital printing.

The book print market has been damaged by the arrival of competing electronic reader devices (e-readers), like the Amazon Kindle, but these are now seeing themselves displaced by multi-functional tablet computers. It appears now the rate of substitution to these is slowing, and that predictions of a total collapse in the reading of physical books were premature. The book print market is starting to rebound slowly with focus on premium editions including an increased quality. Online e-commerce platforms are also allowing publishers to utilise a back catalogue of copyright and only publishing the book once an order is received. This makes the process more economically viable and is also made possible by the arrival of faster printing and finishing machines allowing an optimised turnaround.

FIGURE 3 European Printing & Printed Packaging Output by Print Product, 2017-2023f (€ million, constant 2017 prices & exchange rates)



Note: constant price values show market data at 2017 prices, removing impact of inflation and exchange rate fluctuations from one year to the next

Source: Smithers Pira

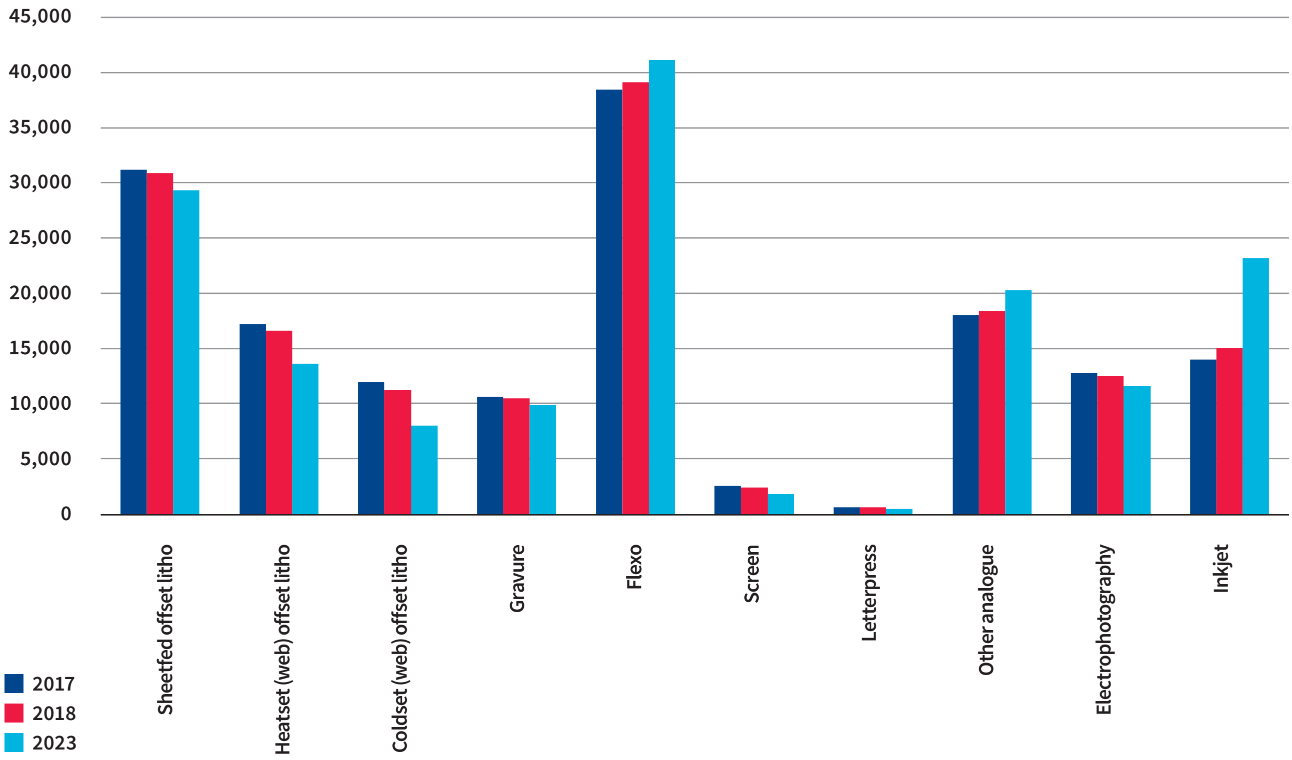
Printing processes

Flexo is still the single largest printing process sector a head of sheetfed offset litho, with an output valued at €39.2 billion in 2018 which is an increase of 1.8% compared to 2017. This is mainly accounted for by package and label printing, with corrugated packaging representing the single largest element.

Sheetfed offset printing presses continue to be among the most cost-effective, particularly for large runs. A number of companies, particularly from Germany, are responding to enduser requirements for greater flexibility in operation and automation. In 2018, sheetfed offset work in Europe increased slightly from the 2017 value of €31.0 billion to €31.01 billion. This is projected to decrease to €29.45 billion by 2023, a decline of 1.7% year-on-year. Declines in graphic print led to further falls in heatset and especially coldset web offset printing output (the latter down by over six per cent in 2018). Between 2017 and 2018, Gravure remained stable, due to the pickup in flexible packaging offsetting the decline in magazine and catalogues. These are expected to continue to decline through 2023. Screen and letterpress printing revenues continue fall sharply.

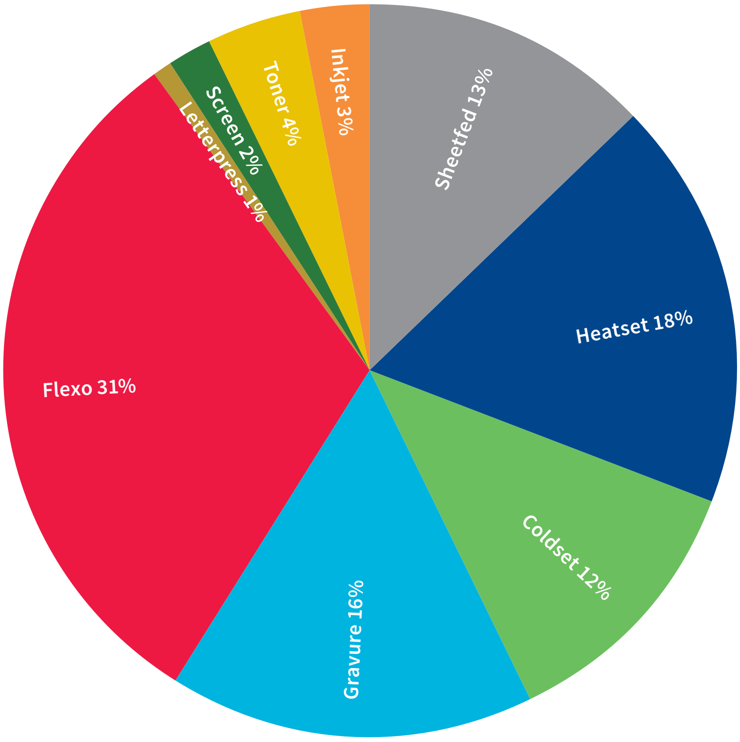
The growth in digital printing remains a key trend, with overall digital printing revenues standing at €28.04 billion. Both electrophotography and inkjet have grown strongly, with inkjet set to continue to grow at around nine per cent per annum in real terms. However, electrophotography is forecast to decrease at 1.5% year-on-year through 2023 as companies transition from toner presses to higher throughput, more versatile inkjet presses. This will result in inkjet being valued at roughly double that of electrophotography.

FIGURE 4 European Printing & Printed Packaging Output by Process, 2017-2023f (€ million, constant 2017 prices & exchange rates)



Note: constant price values show market data at 2017 prices, removing impact of inflation and exchange rate fluctuations from one year to the next
Source: Smithers Pira

FIGURE 5 European Printing Inks Consumption by Type, 2018 (% share by volume)



Source: Smithers Pira

Total printing inks & colourants consumption: 838,000 tonnes

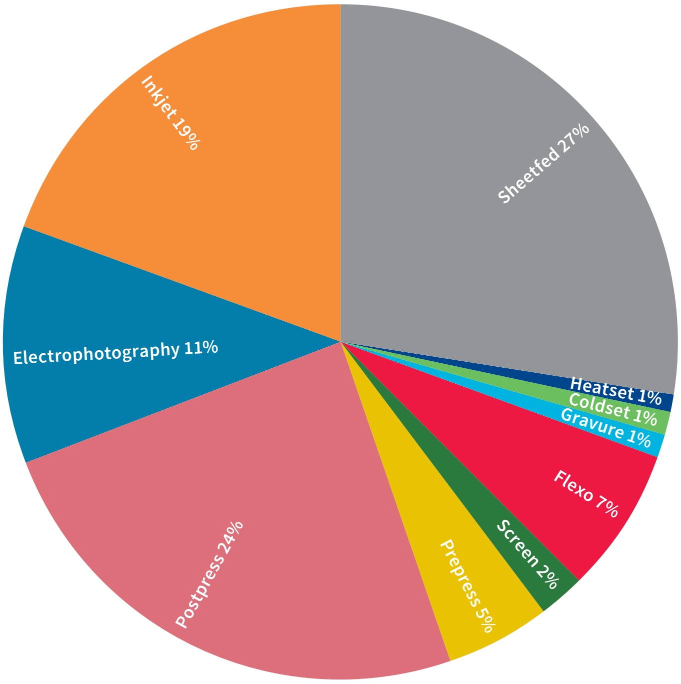
Printing equipment

Future demand for print systems generally declining at a slow rate. Sales value of new analogue presses are declining at constant prices, while digital is growing. The fall in heatset and coldset litho machinery has been particularly pronounced as newspaper and magazine printing has dropped in Europe, while innovation in flexo processes makes it the only analogue process to show positive growth across 2013–18. The market will continue to drop across 2018–23, but at a slower rate than the five years before. Only inkjet and flexo (marginally) will see positive growth as annual sales into Europe drops further to €4.96 billion, a compound annual growth rate of -1.2%.

Digital print equipment sales remain strong with a growth rate of 3.9% per annum over the last five years. However, it is predicted that over the next five years the annual sales of digital printing presses is expected to experience a decline of 0.3%. This is in part due to a fall in sales of electrophotography presses in response to better inkjet printers. Investment in inkjet printing equipment is continuing but growth rates are expected to settle back over the next five years while investment into electrophotographic systems is set to fall back.

Overall sales of printing equipment are forecast to decline on average, by 1.2% per annum in real terms over the period 2018-2023 to €4.96 billion but will grow by half a per cent per annum in current terms, including the effects of general inflation. Offset litho printing equipment investment is set to fall back, with coldset web offset press sales declining by just over three per cent per annum in real terms. Inkjet equipment sales, meanwhile, are forecast to grow by around two per cent per annum by the same measure, reaching €1.11 billion at today's prices by 2023.

FIGURE 6 European Sales of New Printing Equipment by Type, 2018 (% share by value)



Total sales of new printing equipment: €5.26 billion

Source: Smithers Pira

Summary

In 2018, Europe remains a key market for print products globally. Worth a projected €158 billion in 2018, it accounts for around 23% of overall value worldwide. Trends in European printing markets in 2018 are continuing as seen for the last few years with the declines seen in most graphic printing areas in line with those seen in 2016 and 2017, while package and label printing continued to grow.

Despite political upheavals, and economic uncertainty in Russia, Eastern Europe has continued to grow. Even as Western Europe continues to recovers from the downturn of the Euro zone debt crisis, its print industry continues to face challenging conditions as consumer attitudes shift. The impact of the UK's 'Brexit' from the EU meanwhile has had no significant impact to date, but there are a number of sticking points with negotiations and IMF forecasts for growth in the UK are somewhat depressed versus its counterparts on the continent. The UK was due to leave the EU in March 2019 however, the deadline has been pushed back to October 2019 with the possibility of extension.

Looking to the future, graphic print is expected to increase in some Eastern European countries, but there is little chance of this happening in other regions. This is being influence by the uptake of online newspapers and magazines. Printed packaging demand on the other hand will continue to grow, largely in line with the shift towards rising packaged food consumption in areas like fresh food, chilled food and ready meals.

Technological, commercial and cultural changes will continue to favour investment into digital print as printers seek to meet the demand of their customers by improving response/lead times, communications and the range of products available. Further consolidation of the industry is expected and could accelerate if there is further economic slowdown.

The landscape will remain challenging for many printers with further declines in graphic printing demand. To continue to prosper businesses will need to adapt their capability to growth areas in packaging as well as in digital industrial printing sectors. If companies fail to adapt then we would expect to see declines in revenues and continued market shrinkage.

4.

EUROPEAN PRINT MARKET REVIEW

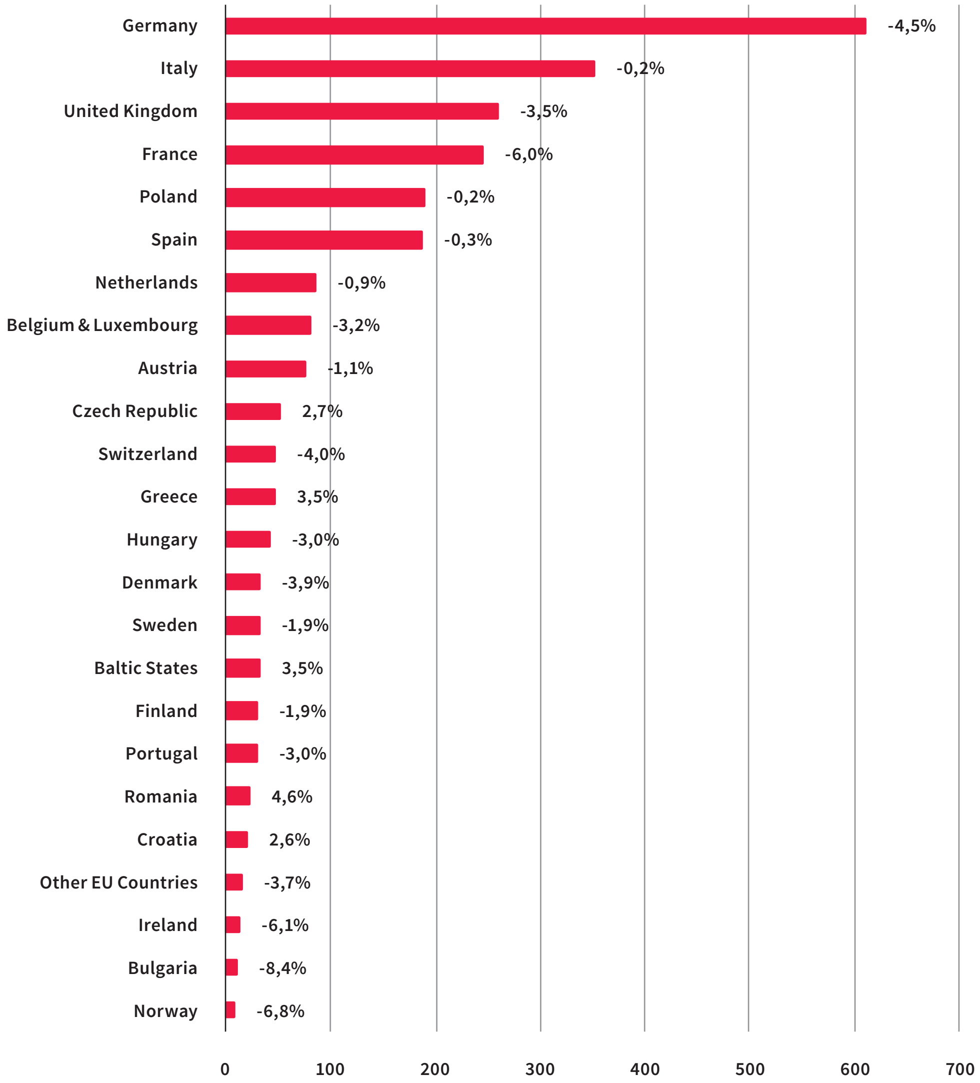
4.1 Ink market

Sources
Eurostat

EuPIA (European Printing Ink Association)
EuPIA data are provided for the following global ink categories:
– Publication inks: they comprise web offset inks (coldset and heatset), sheetfed offset inks, publication gravure inks and related overprint varnishes.
– Packaging inks: they comprise flexographic inks, specialty gravure inks, energy curing inks and related varnishes.
It is estimated that the data represent overall more than 90% of the total European market.

Notes
: = data not available

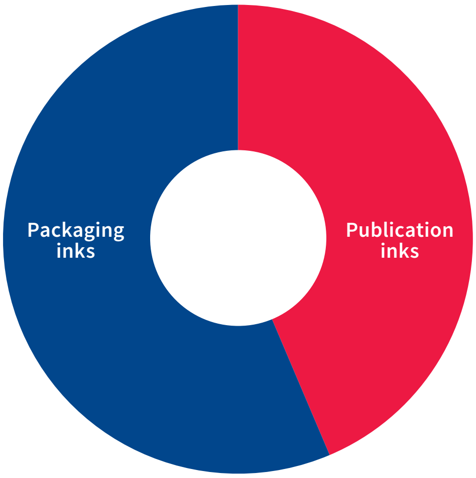
Printing inks sales value by country, 2018, in million € and comparison with previous year 2017



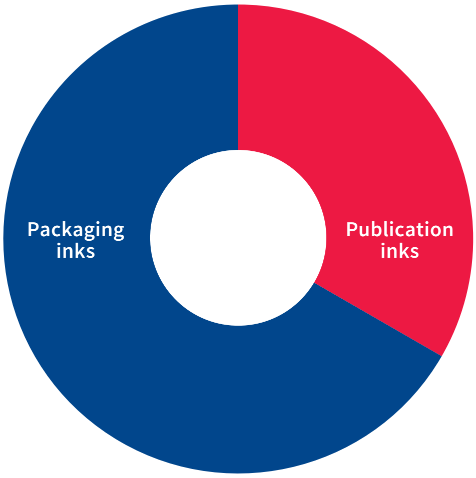
- Germany was the largest seller of printing inks in Europe with a total sales value of € 611 million in 2018. It is 4.5% less than in 2017 and 25% less than in 2012.

- Italy is the second largest seller of printing inks with a sales value of € 351 million in 2018.

Sales volume, in tonnes, 2018



Sales value, in million €, 2018

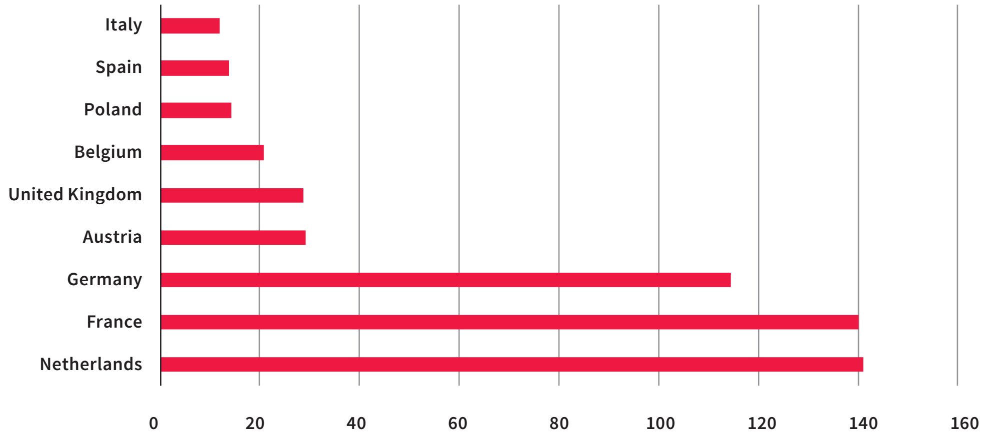


- Total European sales of printing inks were worth € 3 billion in 2018. In volume, 940,000 tonnes of printing inks were sold by European ink manufacturers in 2018.

- 410,000 tonnes of publication inks were sold (i.e. € 1,000 million in value). This is 6.8% less than in 2017.

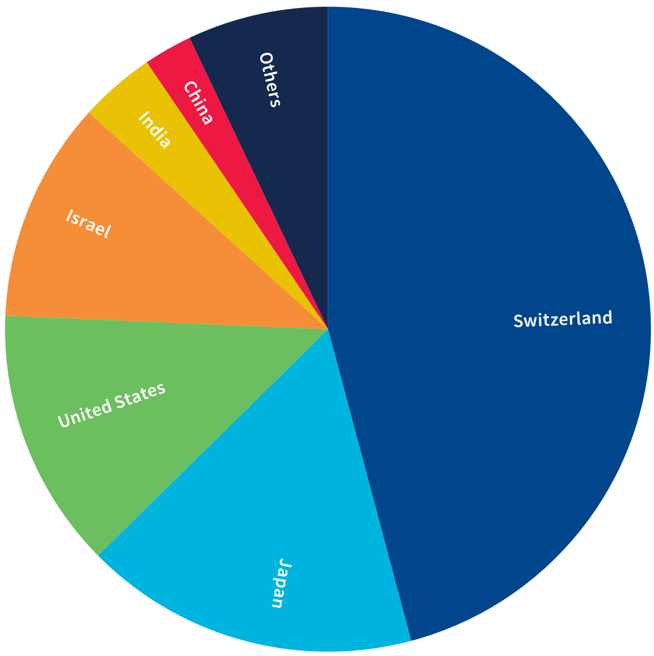
- 530,000 tonnes of packaging inks were sold in 2018 (i.e. € 2,000 million in value). Contrary to publication inks, the tonnage of packaging inks sales has increased by 2% compared to 2017.

Main EU importers of printing inks from non-EU countries, 2018, in million €



- The European Union imported € 1.4 billion worth of printing inks from non-EU countries in 2018.
- The main importers are Germany, the Netherlands and France.

Main exporters of printing inks to the EU, 2018



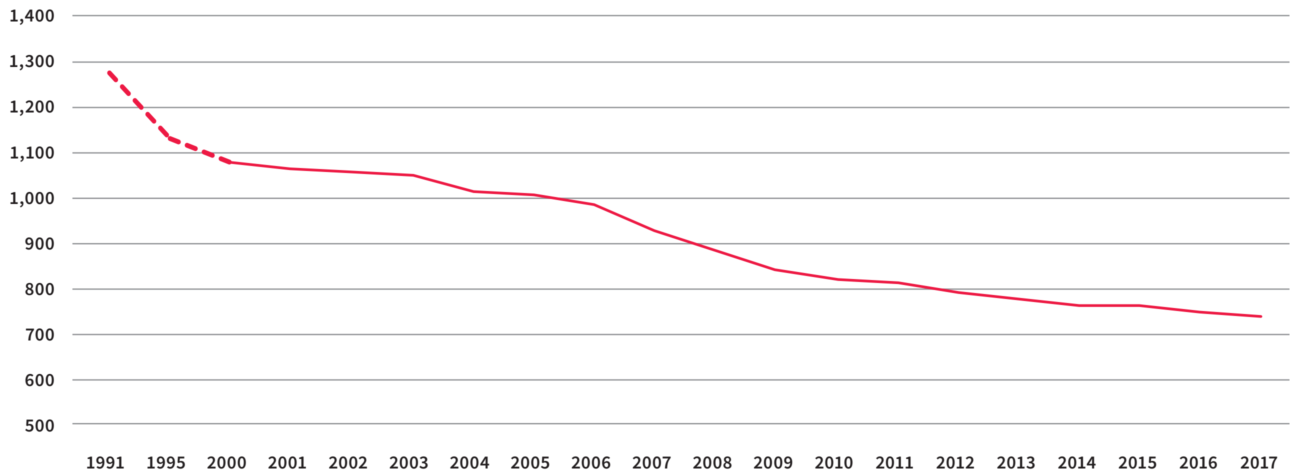
- The main exporter of printing inks to the European Union in 2018 was Switzerland, followed by Japan and the United States.

4.2 Paper market

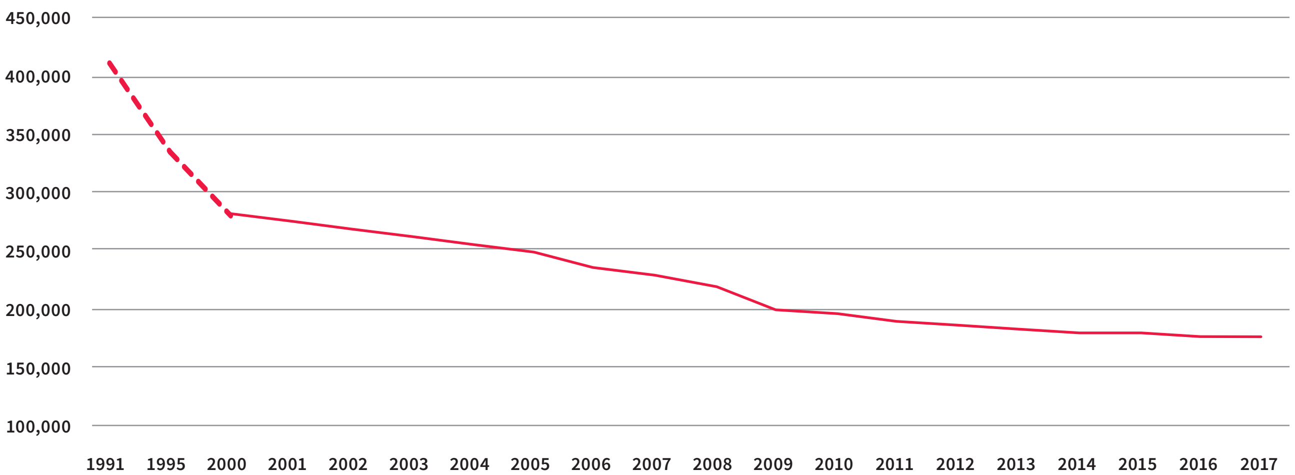
Sources
CEPI (Confederation of European Paper Industries)
Eurograph (European Association of Graphic Paper Producers)
Eurostat

Note
: = data not available

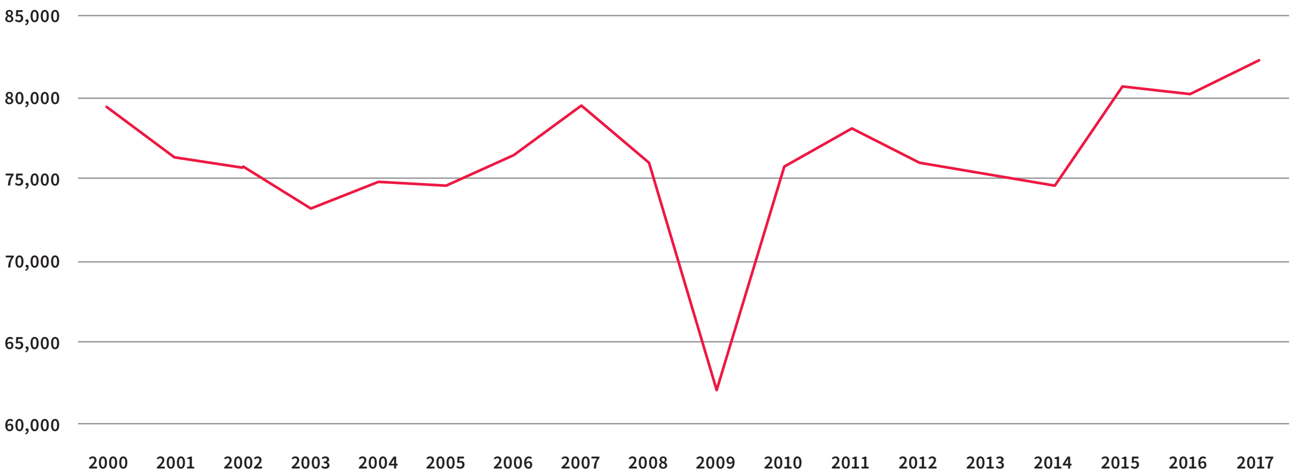
Number of paper & board mills



Number of employees

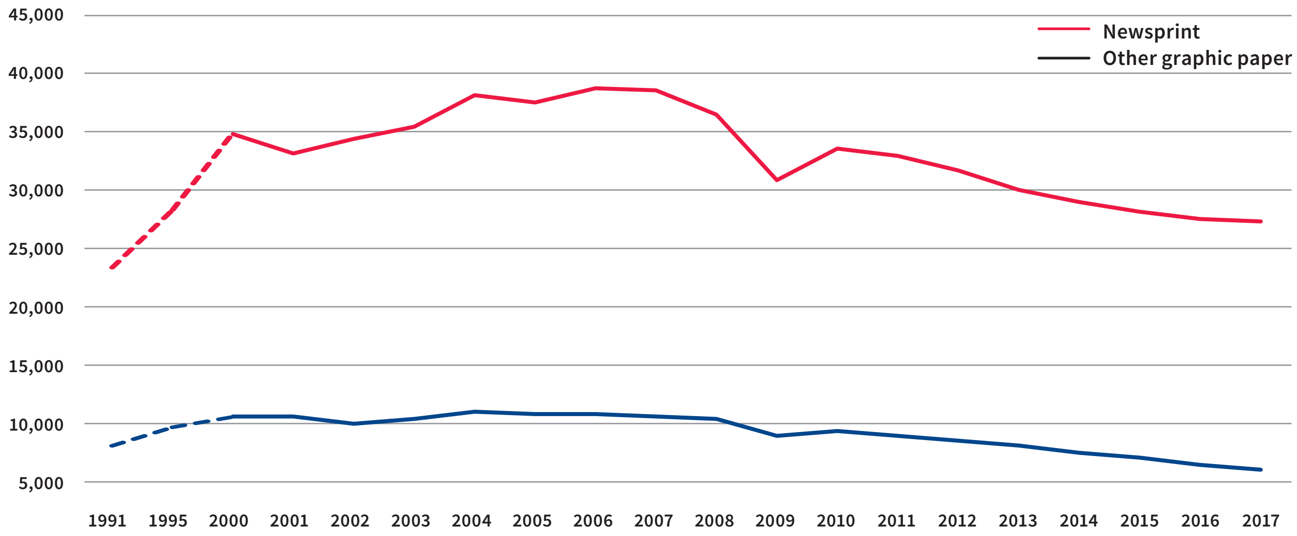


Turnover (in million €)

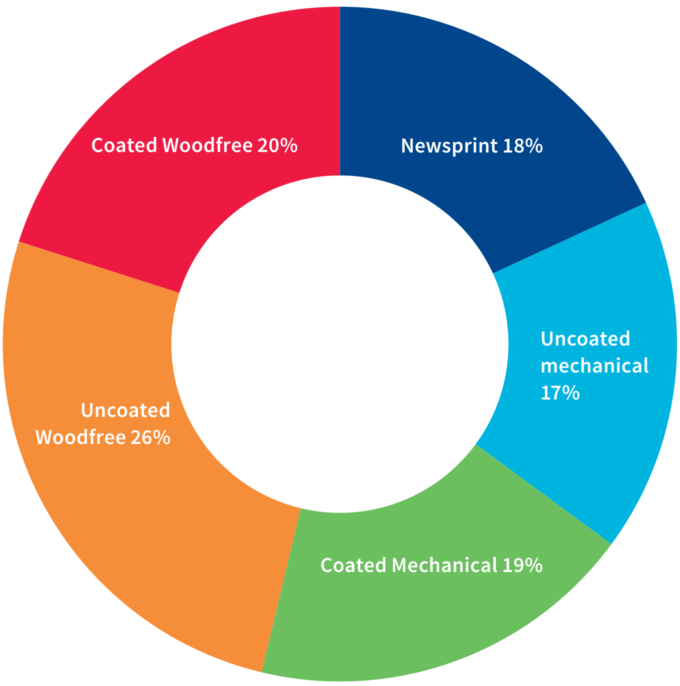


- With a turnover of €82 billion, the European paper manufacturing industry was composed of 675 companies, running 735 mills and employing around 176,760 employees in 2017.
- Since 2000, the paper industry has lost one third of its companies and employees whereas the turnover has increased by 3.6%. Investments have also been relatively stable (-2.4%).
- Most indicators showed a positive trend in 2017, compared to 2016: turnover (+2.6%), investments (+7.5%), number of employees (0.1%).

European production of newsprint paper and other graphic paper, 1991-2017, in million tonnes

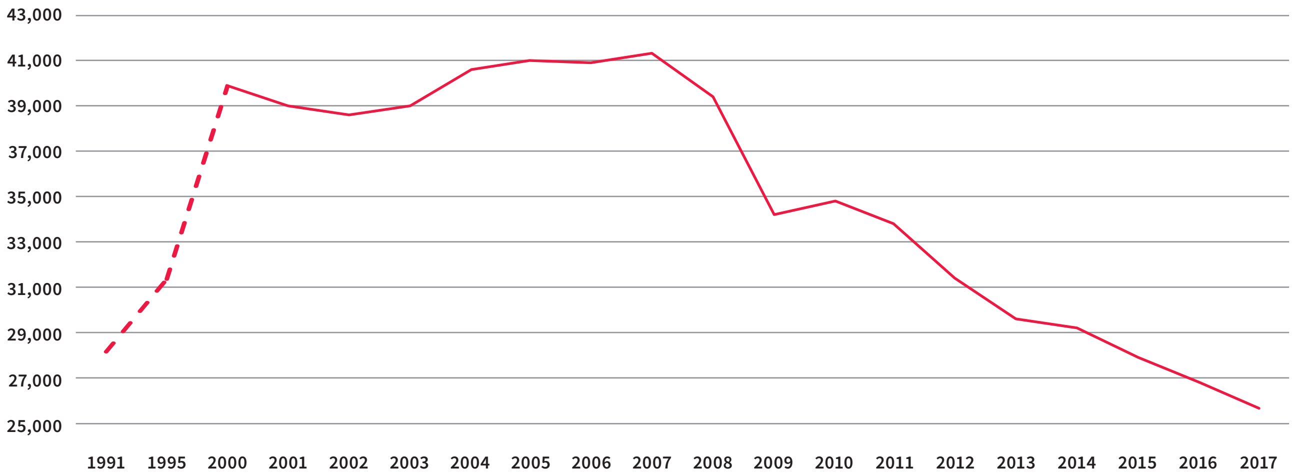


European production of graphic paper per type, 2016



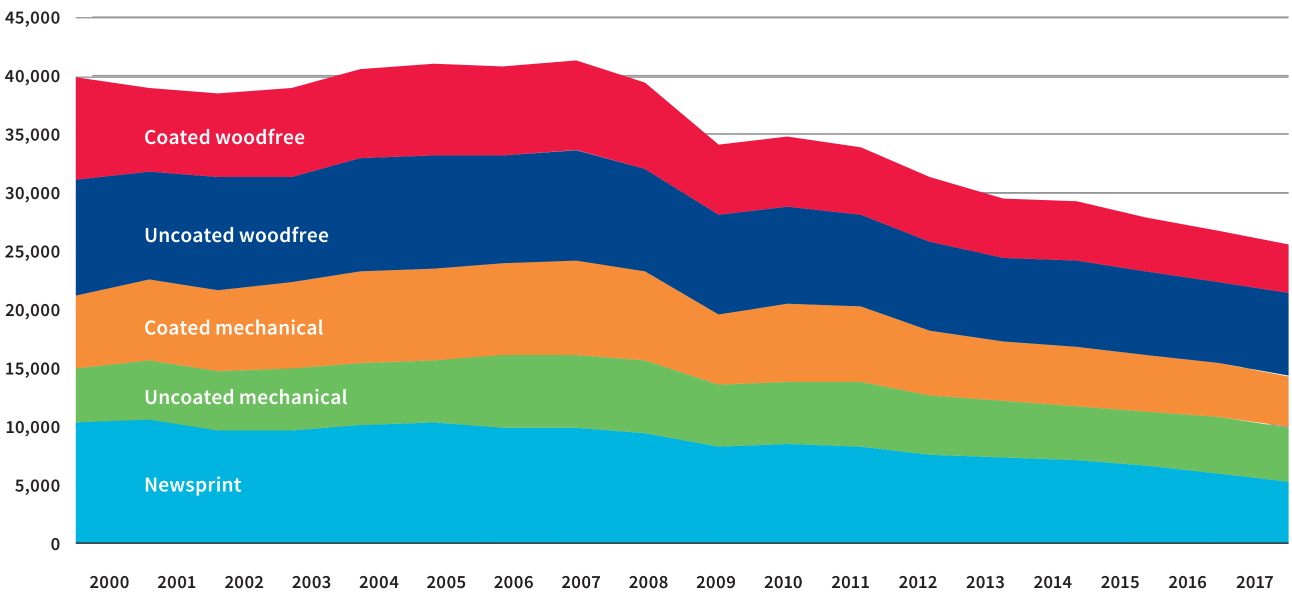
- 33.3 million tonnes of graphic paper were produced in Europe in 2017. This is 2.3% less than in 2016. The largest decrease in production was in newsprint paper production (-7.8%).
- Since 2000, graphic paper production in Europe decreased by 26.8%. Newsprint experienced the largest decrease (-42.9%).

Graphic paper consumption in the EU, 1991-2017, in million tonnes



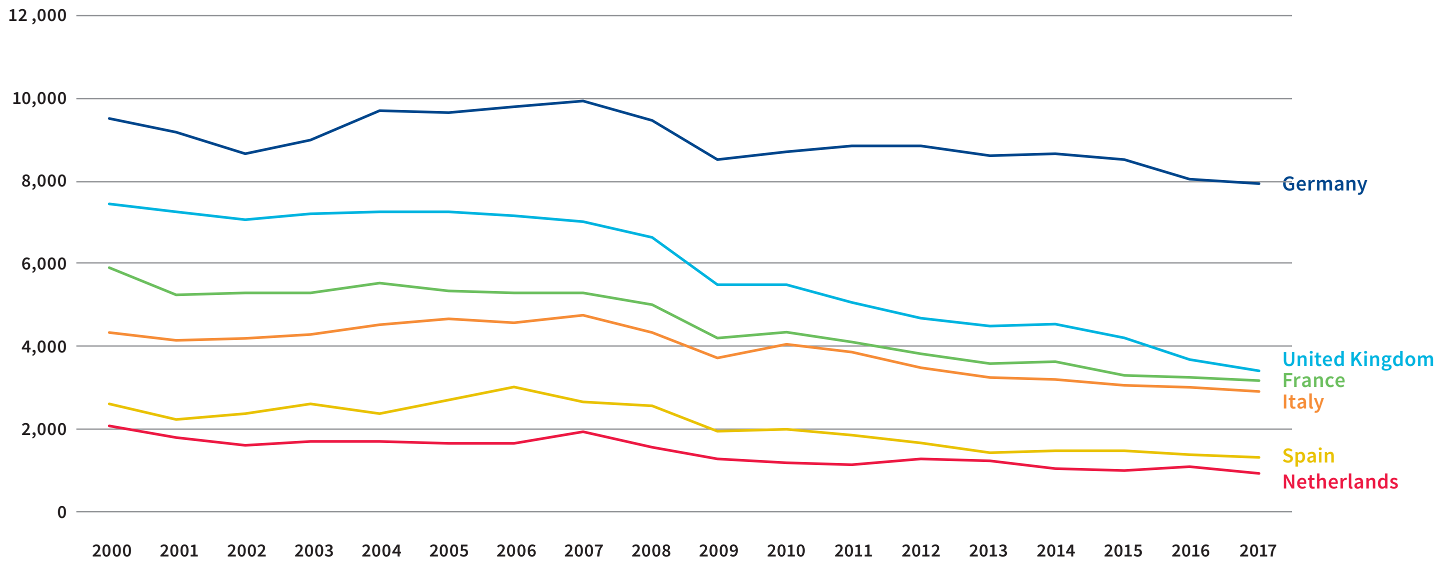
- The total graphic paper consumption in Europe amounted to 25.6 million tonnes in 2017. This is 4.4% less than in 2016.
- Graphic paper consumption has significantly decreased since 2000. It has decreased by 26.8%, which corresponds to a loss of more than 10 million tonnes.

Graphic paper consumption in Europe, 2000-2017



- The sharpest decrease in consumption was registered by newsprint (-12.3%) between 2016 and 2017.
- Compared to the level of 2000, coated woodfree paper had the sharpest decrease (-51.6%).
- The paper grade which registered a positive trend over the years is uncoated mechanical paper. It increased by 0.3% compared to 2016 and even increased by 3.9% compared to 2000.

Graphic paper consumption in selected countries, 2000-2017, in '000 tonnes

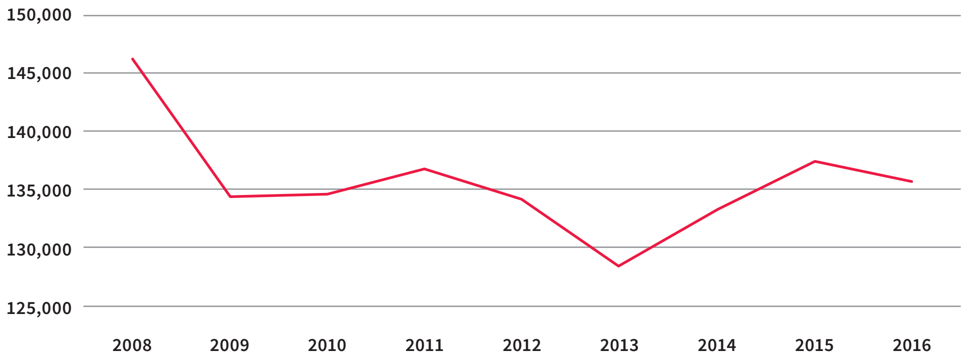


- With 7.9 million tonnes of graphic paper, Germany was the largest consumer of graphic paper in Europe in 2017, followed by the UK (3.3 million tonnes), France (3.1 million tonnes) and Italy (2.8 million tonnes).
- The biggest decrease in graphic paper consumption since 2016 was registered in the Netherlands (-12.4%) whereas Romania experienced the largest increase in consumption (+7.6%).
- Most European countries reported decrease in consumption since 2000. The UK, Sweden, Spain, the Netherlands, France and Austria all reported decrease close to 50%.

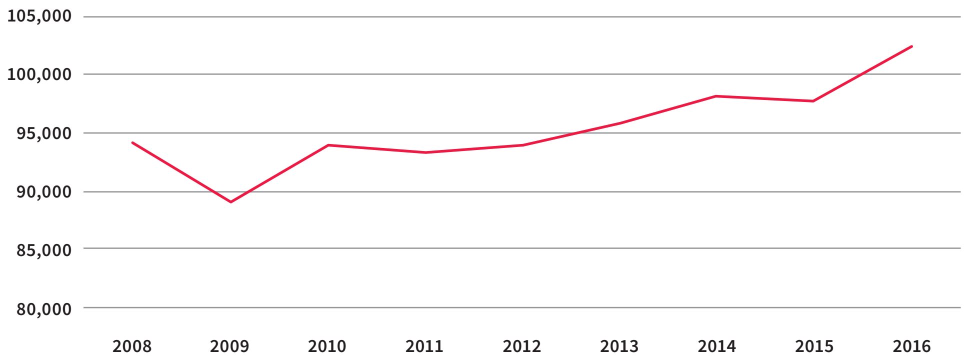
4.3 Publishing market

Sources
Eurostat
Book publishing (NACE 58.11) includes publishing in print, electronic (CD, electronic displays and so on) or audio form or on the internet.
The publishing of directories and mailing lists (NACE 58.12) includes the publishing of lists of facts/information that are protected in their form, but not in their content.
The publishing of newspapers (NACE 58.13) includes the activities of publishing newspapers, including advertising newspapers, appearing at least four times a week.
The publishing of journals and periodicals (NACE 58.14) includes the activities of publishing periodicals and other journals, appearing less than four times a week.
Directories and mailing lists, newspapers, journals and periodicals can be published in print or electronic form, including on the internet.
Other publishing activities (NACE 58.19) include publishing (including online) of catalogues, photos, engravings and postcards, greeting cards, forms, posters, reproduction of works of art, advertising material and other printed matter, online publishing of statistics and other information.

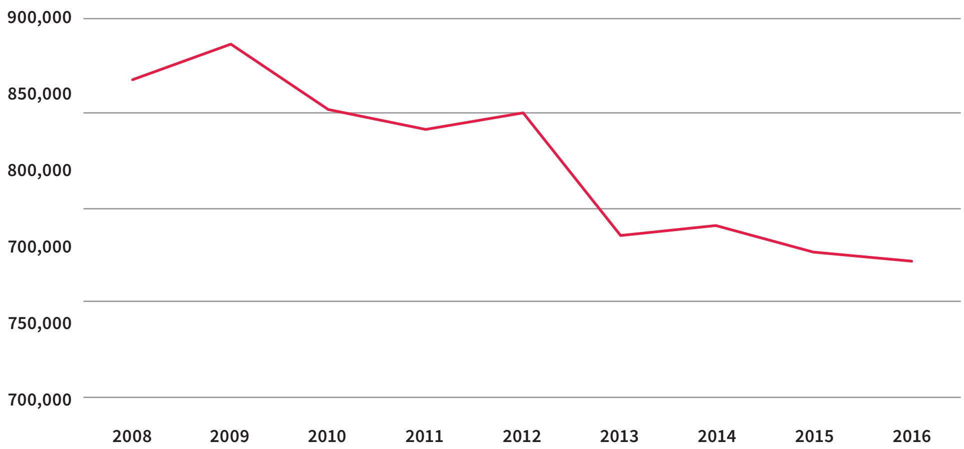
Turnover of the publishing industry, in € million, 2008-2016



Number of publishing companies, 2008-2016

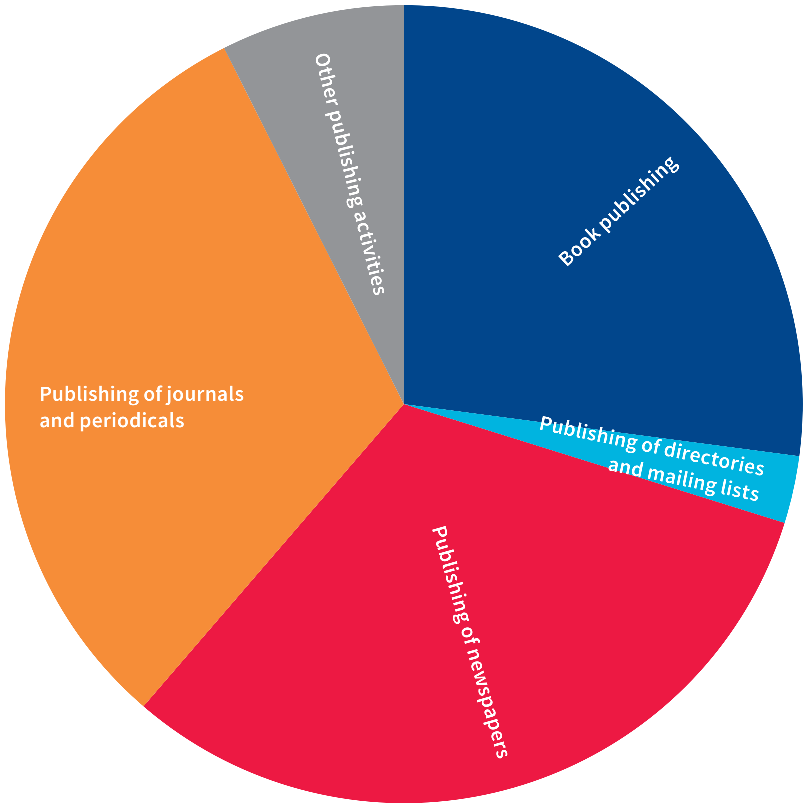


Number of employees in the publishing sector, 2008-2016



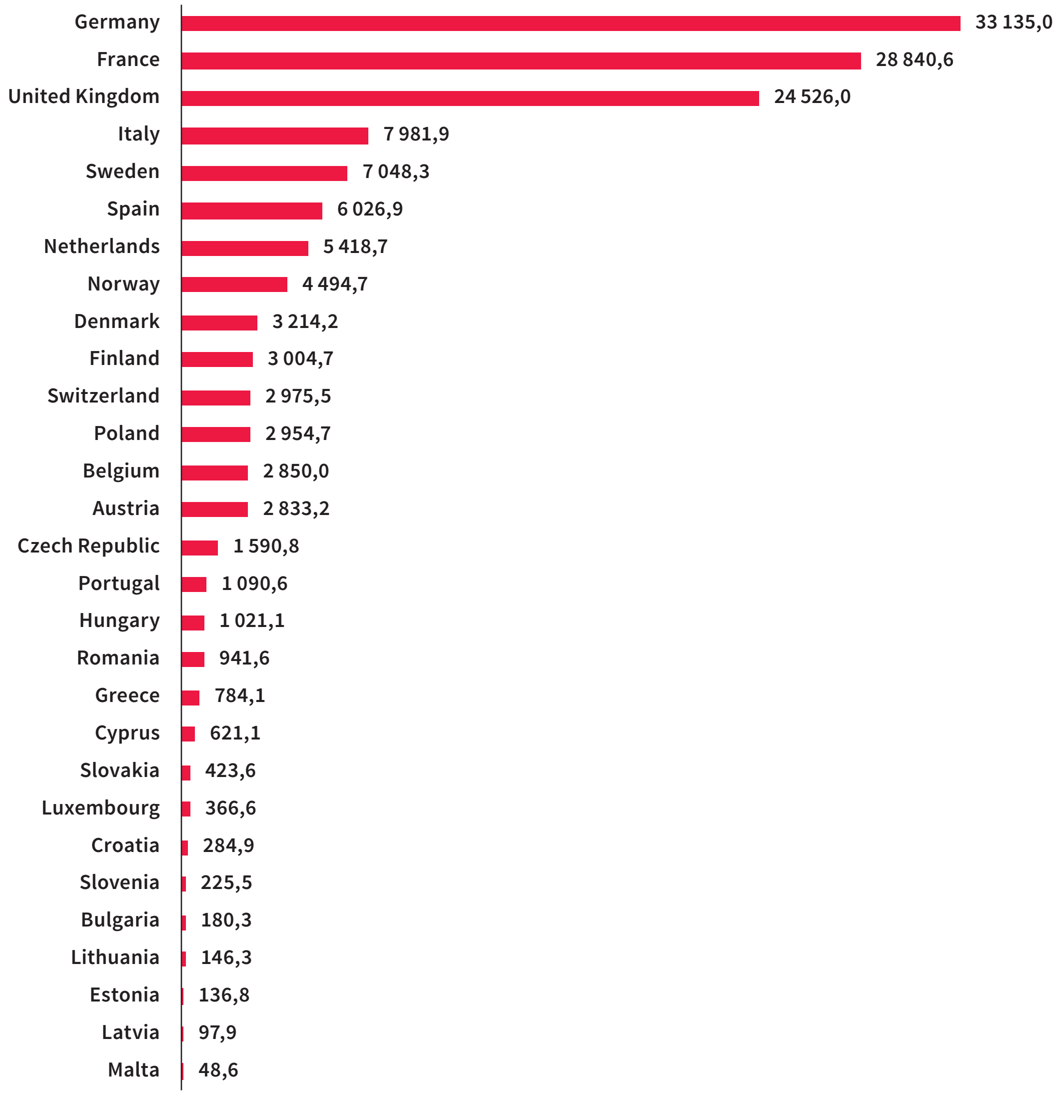
- The turnover of the European publishing industry reached € 135 billion in 2016, this is 1.1% less than in 2015.
- In 2016, the publishing industry was composed of approximately 100,000 companies and 772,000 employees.

Distribution of turnover per publishing sector, 2016



- One third of the European publishing sector's turnover is generated by newspapers, another third by magazines and a quarter by books.

Turnover of the publishing industry per country, in million €, 2015

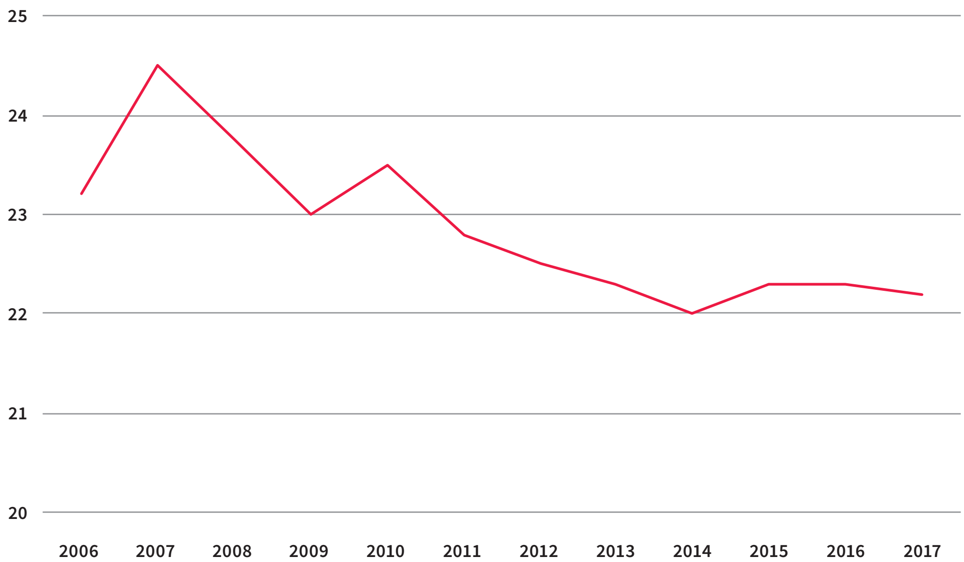


- Germany was the largest contributor to the turnover of the publishing sector in 2016 with more than € 33 billion.

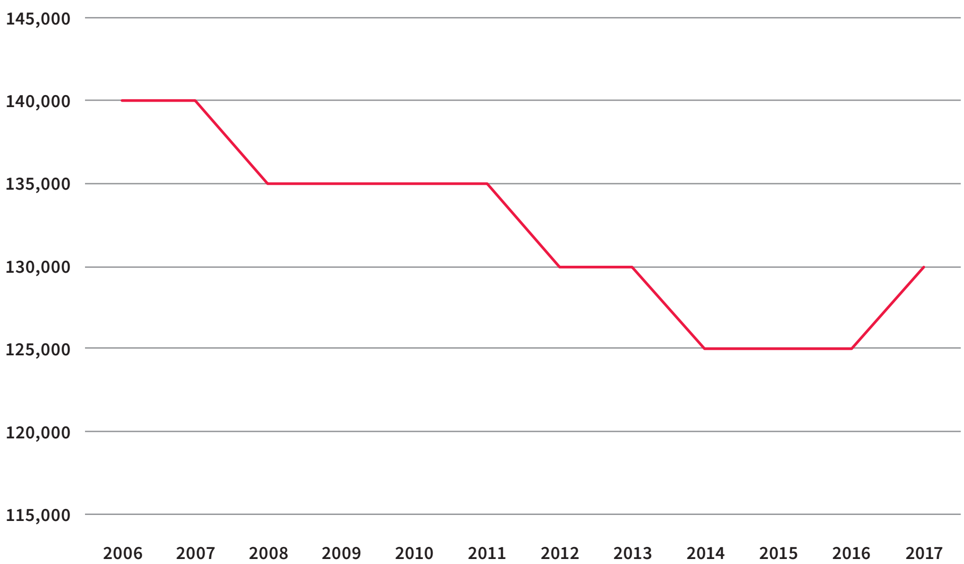
4.4 Book market

Sources
FEP (Federation of European publishers)
Data are estimates and figures are rounded. Figures refer to net publishers' turnover, i.e. the publishers' total revenues from the sales of books, no the total market for books (margin of booksellers or other retailers).

Publishers' revenue from sales of books (€ billion)

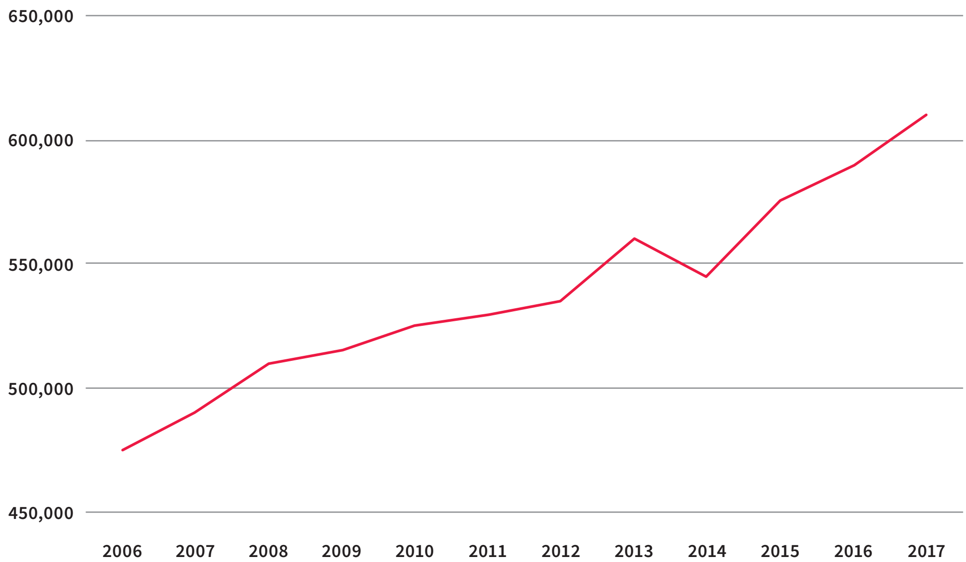


Number of persons in full-time employment in book publishing



- In 2017, the revenue of the book publishing from sales of books was stable compared to 2016 (€22.2 billion). It declined by 6.5% since 2008.
- Approximately 130,000 people are employed by the European book publishing industry. This is 3.7% less than in 2008.

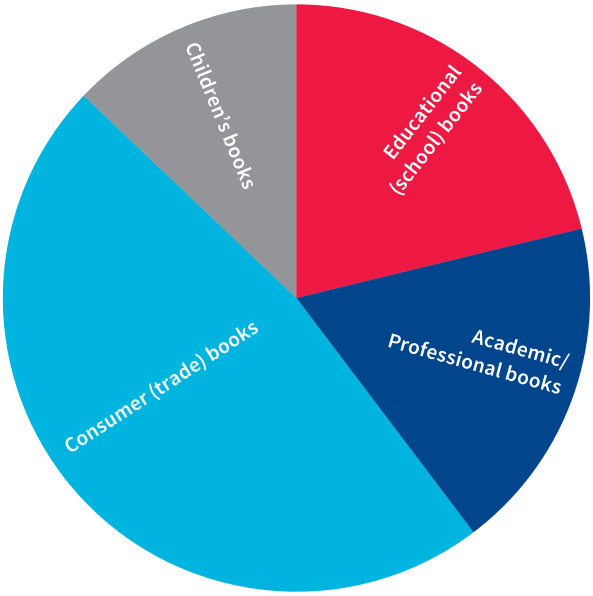
New book titles published in Europe, 2006-2017



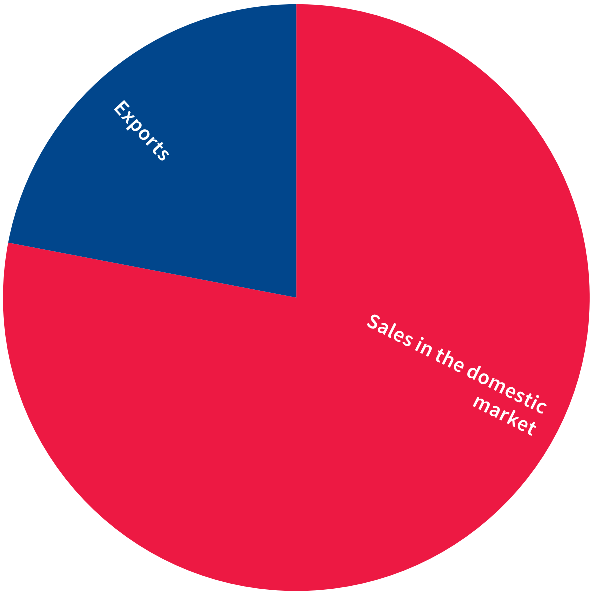
- Since 2014, the book publishing market in Europe is showing clear signs of recovery.
- In 2017, approximately 610,000 new books were published. This represents an increase of 3.4% compared to 2016 and of 19.6% compared to 2008.

European publishers' revenue from sales of books, in € billion, 2017

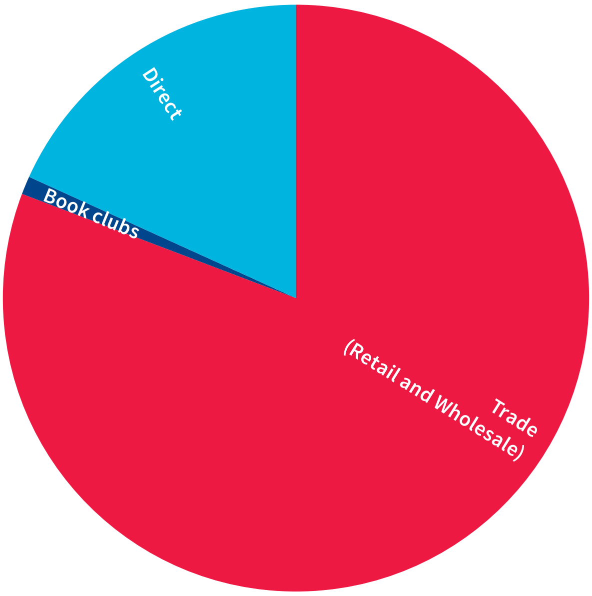
By type of books



By area



By distribution channel

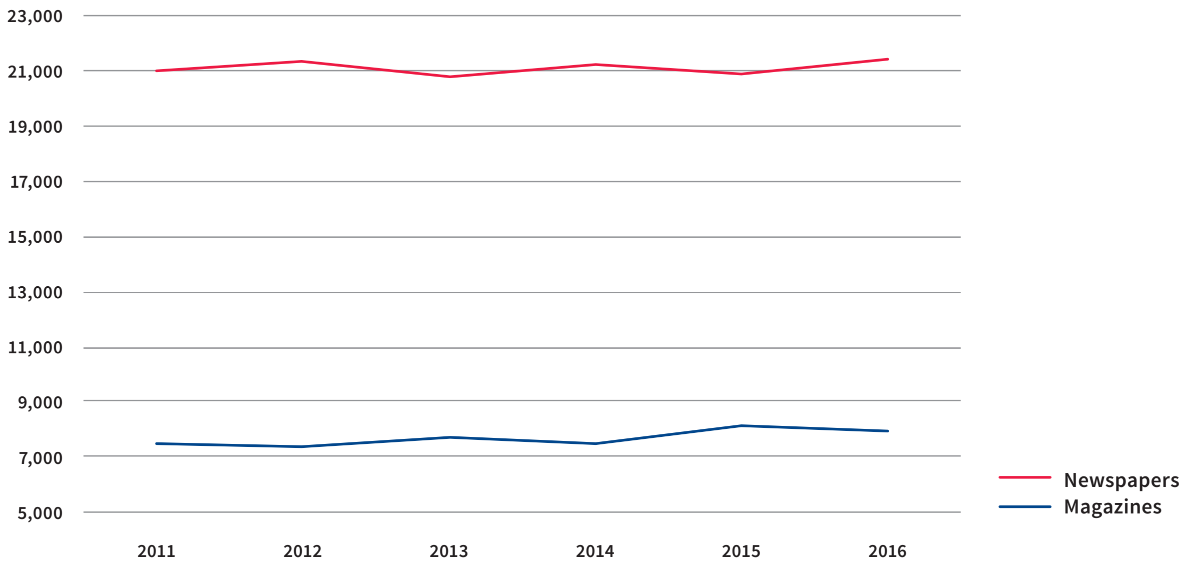


- 47% of book publishers' revenue is generated by consumer books, 21% to educational books, 19% by academic and professional books and 13% by children's books.
- 78% of book publishers' revenue comes from the sales of books in their domestic markets and 22% from the export of books.
- 81% of the total sales are distributed through retail and wholesale,18% by direct sales and 1% through book clubs.

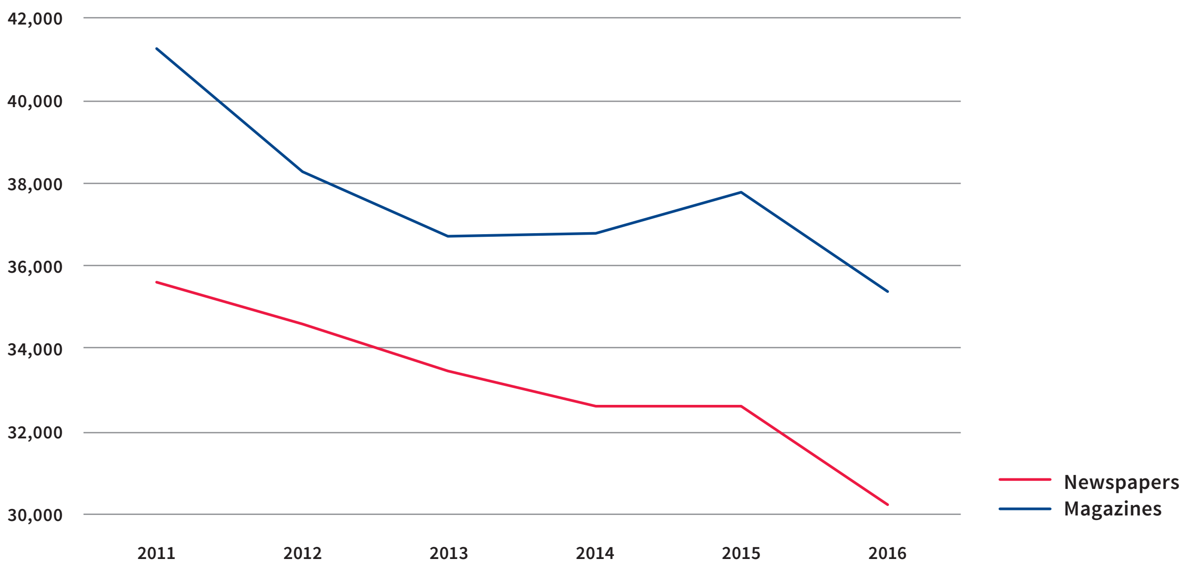
4.5 Press market

Sources
EUROSTAT
ZenithOptimedia (Global adspend by medium)

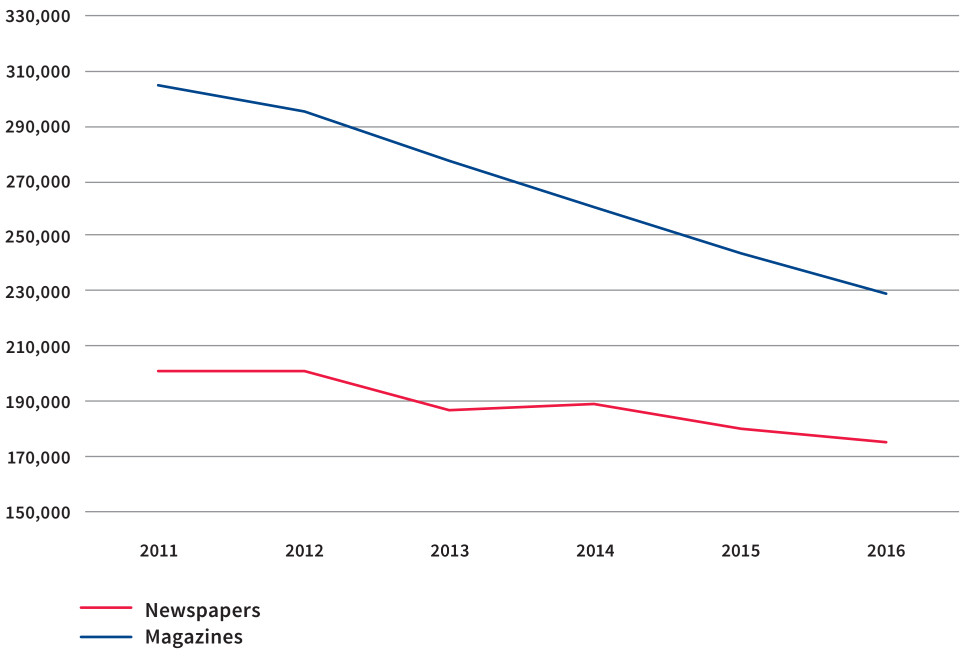
Number of publishing companies, 2011-2016



Turnover of publishing industry, 2011-2016, in million €



Number of employees in the publishing industry, 2011-2016

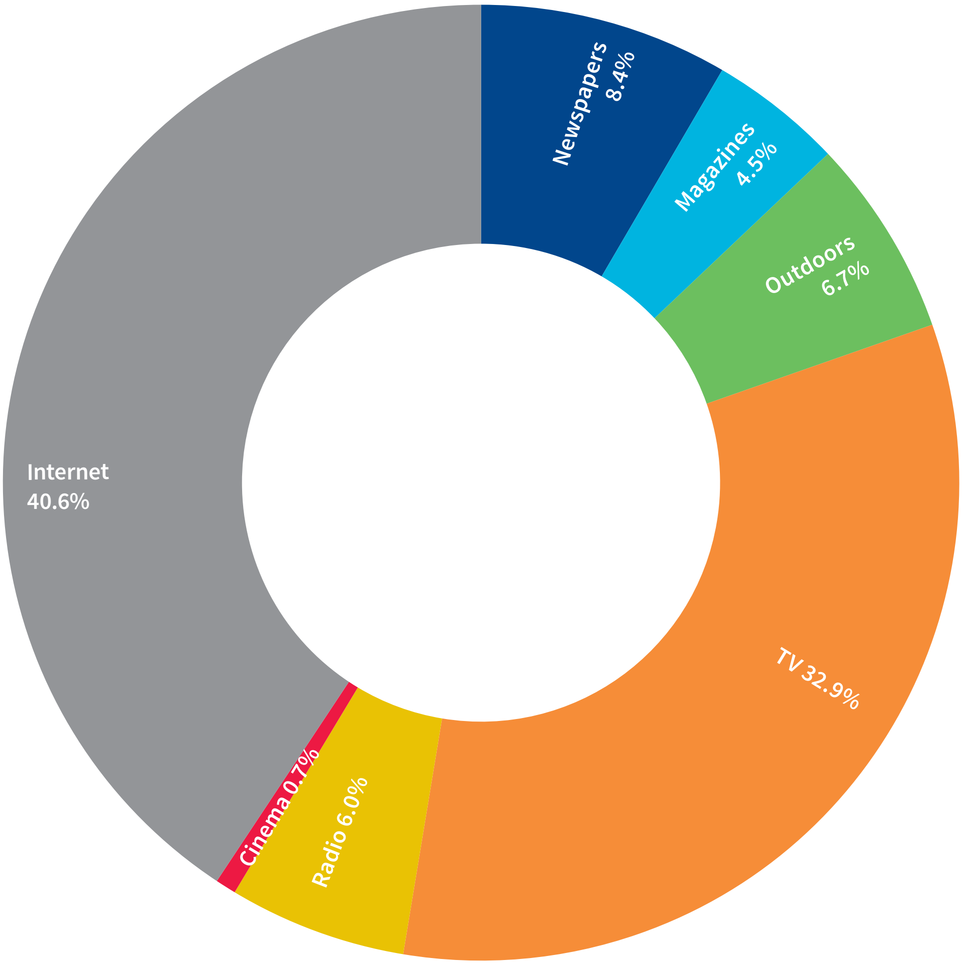


- In the European newspaper industry in 2016, there were approximately 7,900 companies employing 230,000 employees and generating a turnover of € 35.3 billion.

- In magazine publishing, there were 21,000 companies active in 2016, with 175,000 employees and a turnover reaching € 30.2 billion.

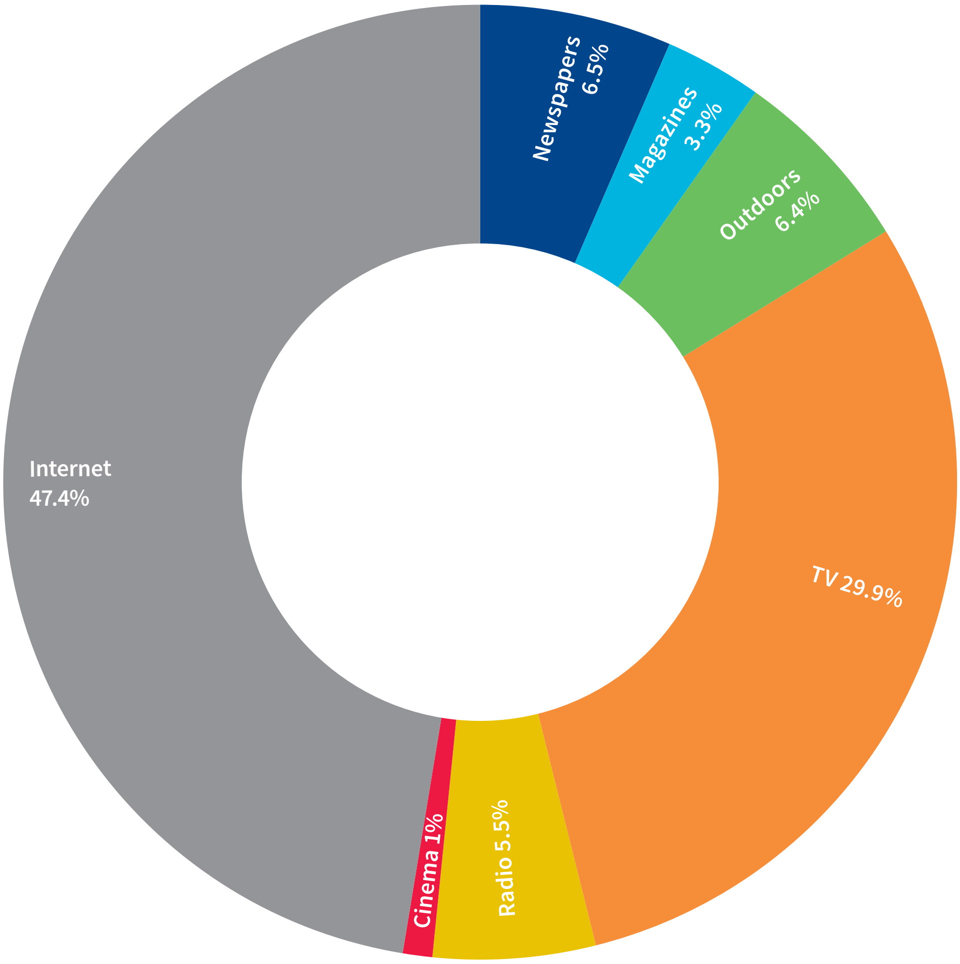
- In 2016, the turnover of newspaper publishing companies decreased by 6.3%, so did the number of companies (-2.7%), while the number of magazine publishing companies increased by 2.6% with a turnover decreasing by 7.3% compared to 2015. The number of employees decreased by 6.1% in the newspaper publishing industry and by 3% in the magazine publishing industry.

Global adspend by medium, 2018



- Globally, internet advertising continues to increase its share of advertising and stood at 40.6% in 2018 (compared to 37.6% in 2017).
- The share of printed advertising (newspapers, magazines and outdoor) represented 19.4% in 2018; it was 21.4% in 2016.
- Internet advertising is principally rising at the expense of print. Compared to 2013, newspapers' share of global spend has decreased by almost 50% while internet advertising has almost doubled.

Global adspend by medium, 2021 forecast

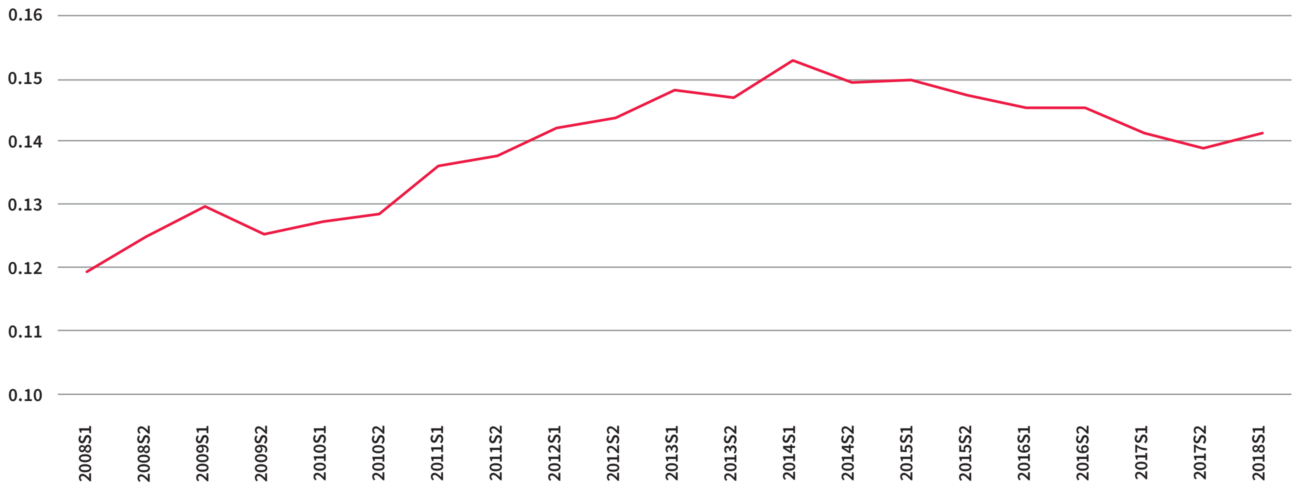


- In 2021, the share of internet advertising in global adspend is expected to further increase and to reach 47.4%.
- The share of printed advertising (newspapers, magazines and outdoor) is set to decrease to 16.2% in 202 from 21.4% in 2018.

4.6 Energy market

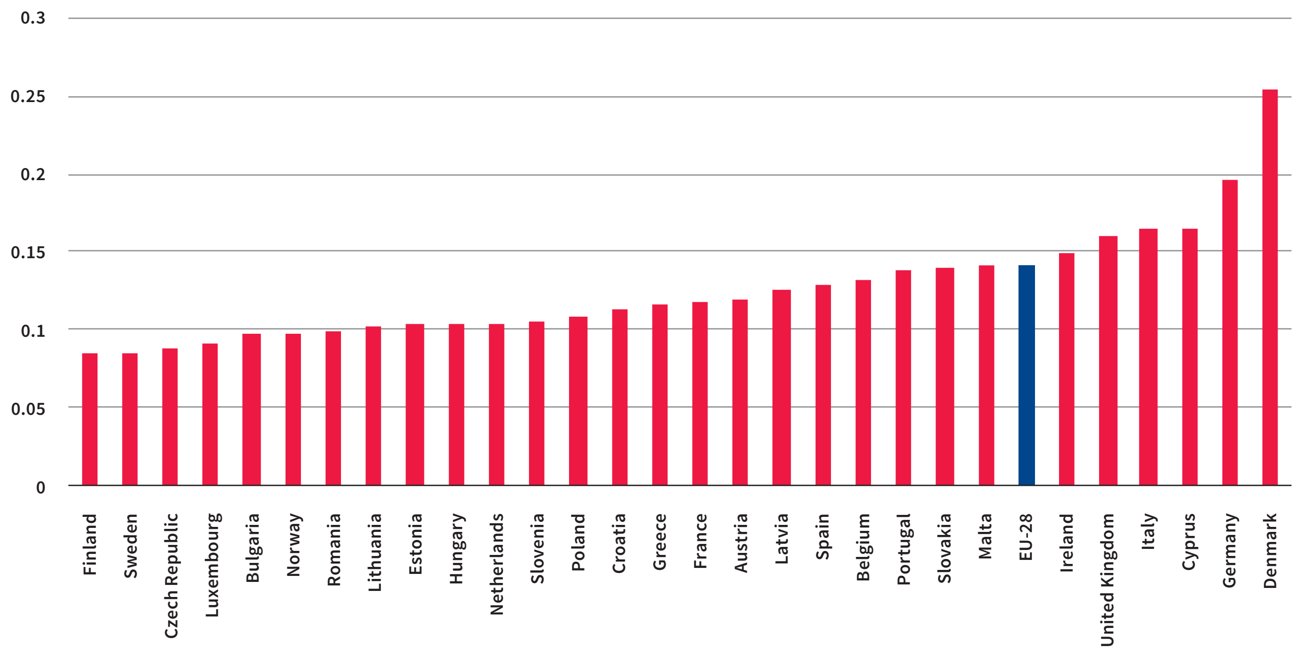
Sources
Eurostat
The prices mentioned refer to Electricity prices for industrial consumers (all taxes and levies included) in €/KWh, which correspond to medium standard industrial consumption band with an annual consumption of electricity between 500 and 2000 MWh.

EU electricity prices for industrial consumers, 2008-2017, in €/KWh



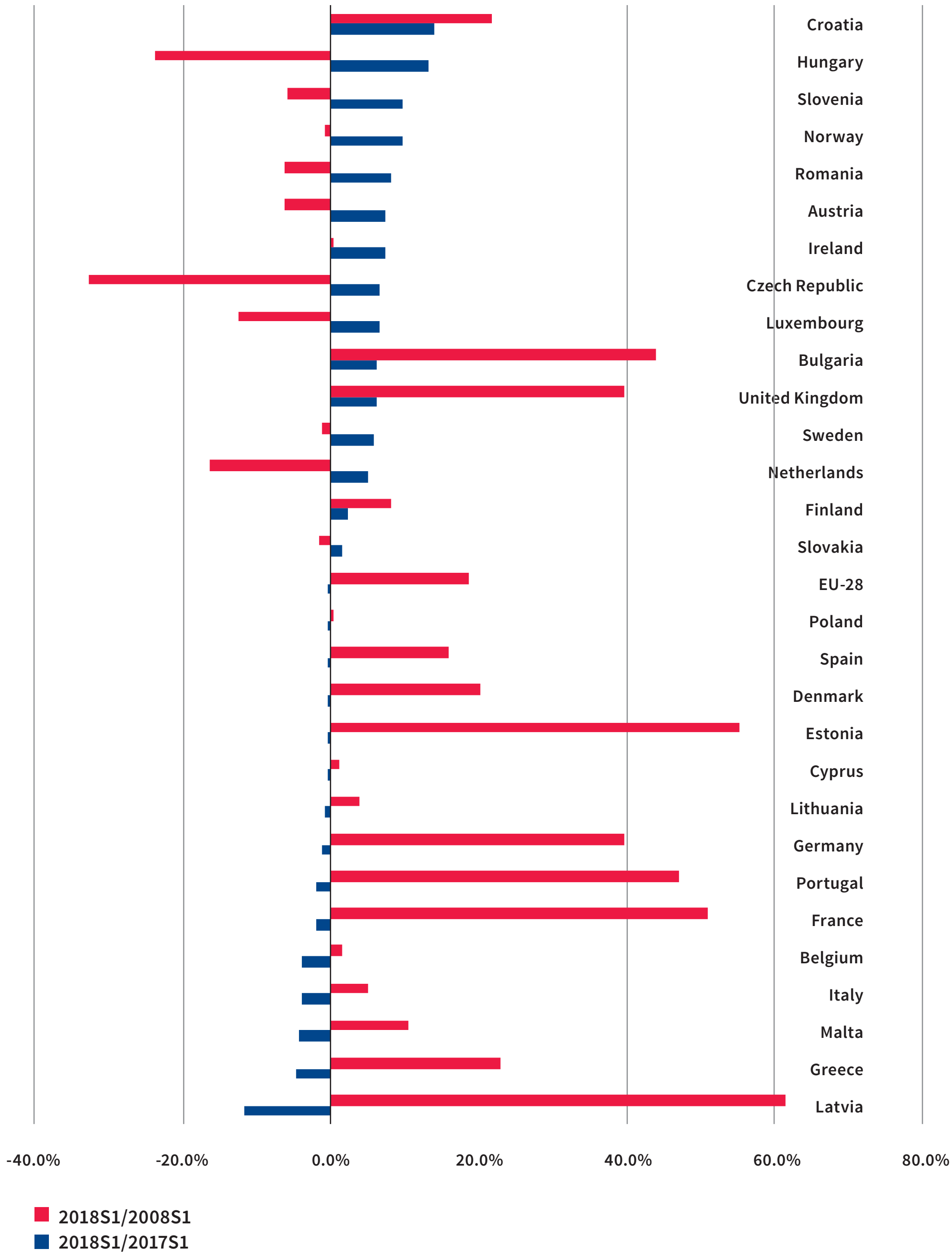
- European electricity prices for industrial consumers showed regular increases between 2008 and 2014. A steady decrease was registered as from 2014 until 2017.
- Electricity prices increased by 24% between 2008 and 2013 and decreased by 9% between 2014 and 2017.
- In first half of 2018, the average price of electricity for industrial consumers was 0.1414 €/KWh all taxes and levies included, this is 1.7% more than the second half of 2017.

EU electricity prices for industrial consumers, 2018 (first semester), in €/KWh



- In 2018, Denmark registered the highest price whereas Finland registered the lowest in Europe.
- After Denmark, the highest prices are in Germany, well above European average.

%-change in EU electricity prices for industrial consumers, 2018/2017 and 2018/2008, in €/KWh

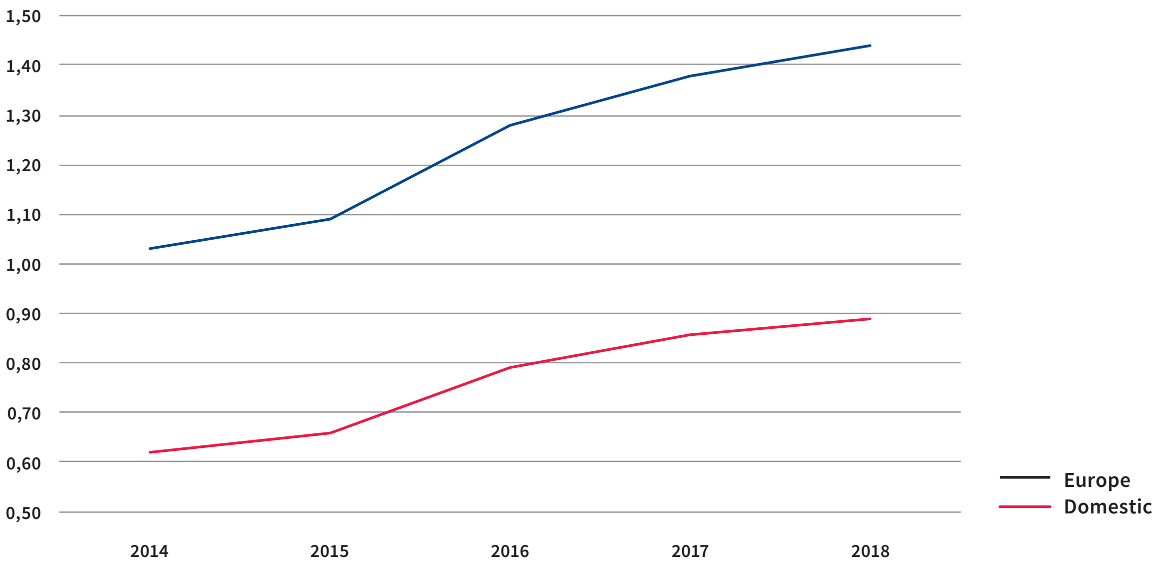


- Compared to 2017, Croatia and Hungary experienced the sharpest increase in electricity prices in 2018. Prices in Latvia decreased the most compared to 2017 (12% decrease).
- Latvia, Estonia and France registered the largest increases between 2008 and 2018 whereas prices in the Czech Republic, Hungary and the Netherlands decreased the most.

4.7 Postal market

Sources
Letter prices in Europe, Up-to-date international letter price survey, Deutsche Post, March 2018

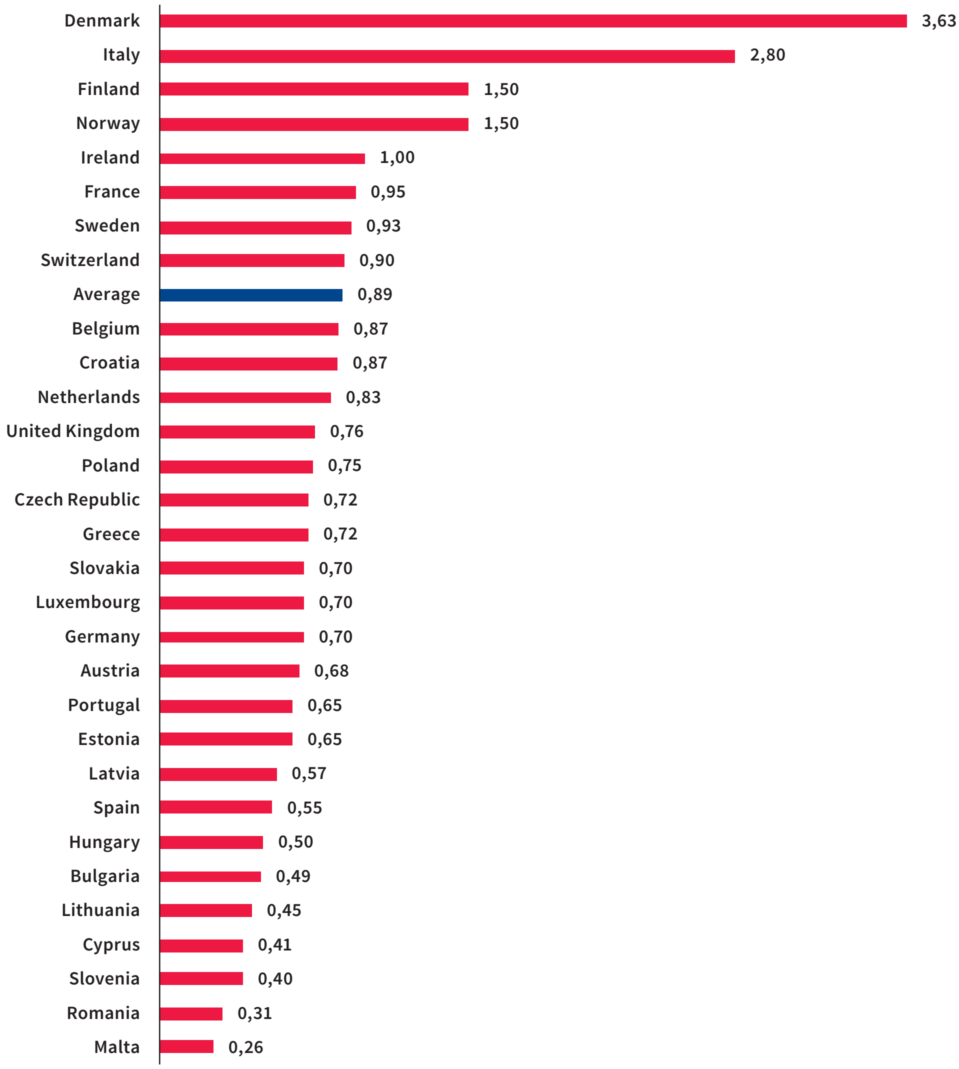
Evolution average postal prices in Europe, in €, 2014-2018



- On average, postal prices in Europe have increased by 43.5% in the last 4 years for a domestic sending and 39.8% for European sending.

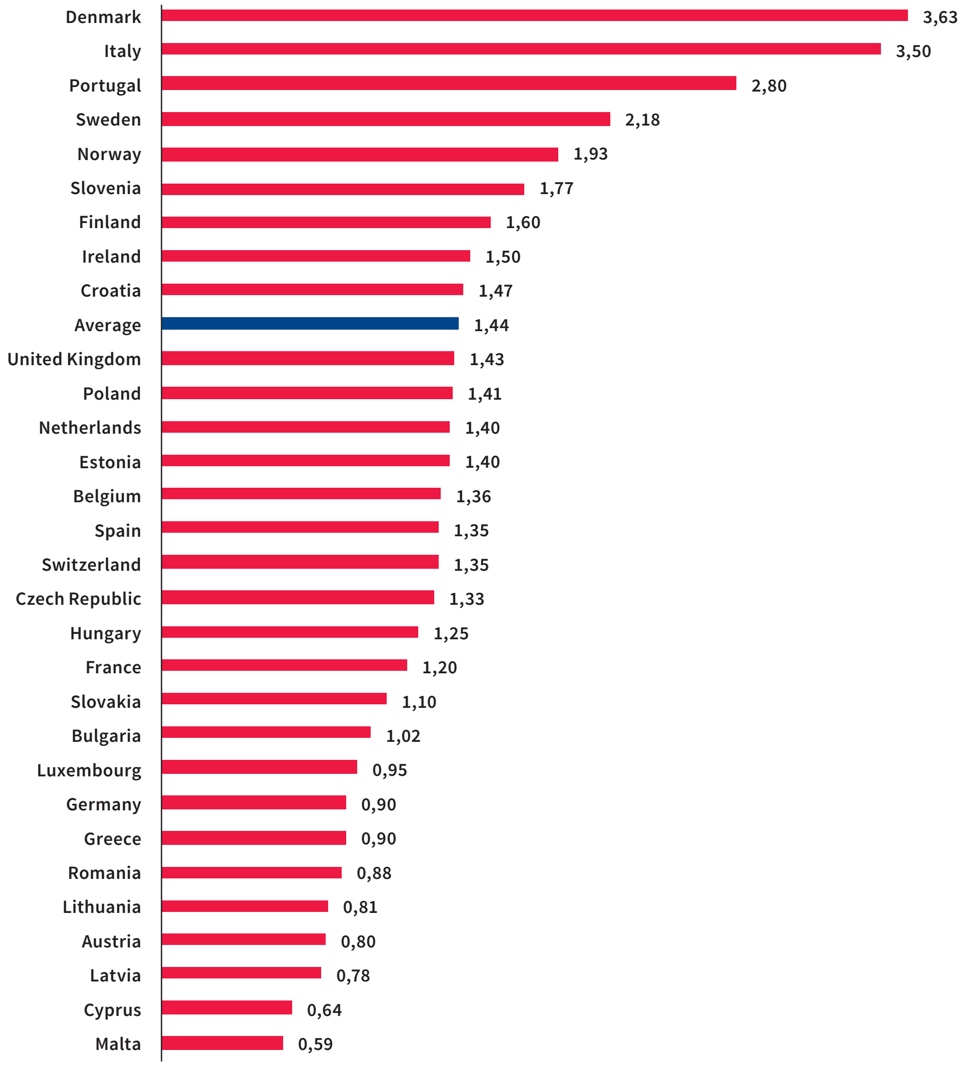
- In the last year, prices have increased by 3.5% on average for domestic sending and 4.3% for European sending.

Nominal price for a domestic standard letter, in €, 2018



- The average price for a domestic standard letter is 0.89€ in Europe. This is 3% more than in 2017.
- Italy and Denmark have the highest prices for domestic standard letters in Europe. In both countries, the price per piece is above 2.50€.
- Between 2017 and 2018, the largest increases in price were registered in Sweden (+26%) and Czech Republic (+22%).

Nominal price for a letter mail in Europe, in €, 2018

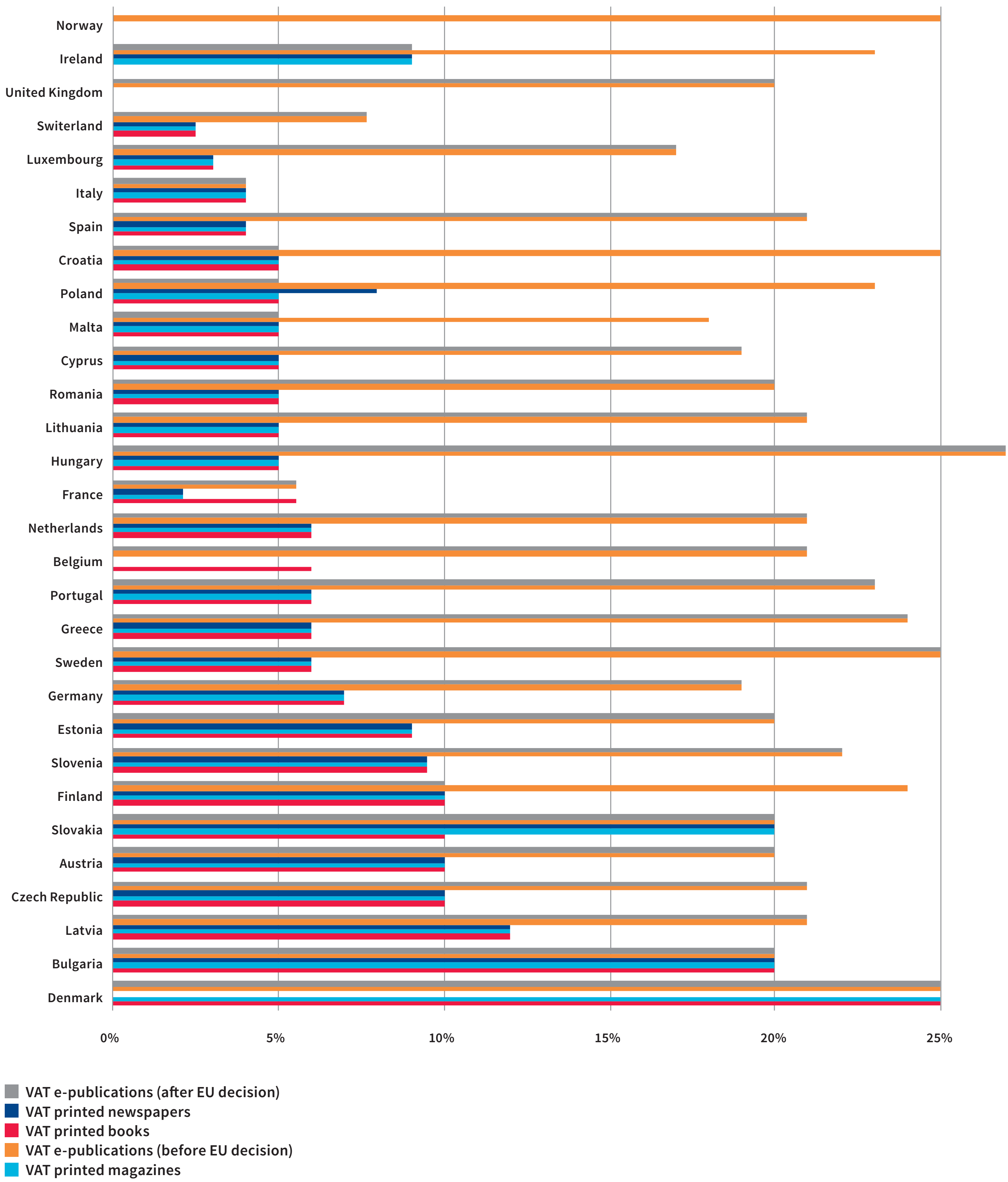


- The average price for letter mail in Europe is 1.44€. This is 4% more than in 2017.
- The situation of the price for letter mail in Europe is similar to the domestic market. Italy and Denmark have also the highest price for letter mail in Europe with a price close to 3.50€.
- Malta and Cyprus have the lowest prices in Europe with less than 0.70€ per piece.
- Bulgaria has registered the largest price increase since 2017 (+32%).

4.8 VAT rates

Sources
European Commission, January 2019

VAT rates applicable to printed books, printed magazines, printed newspapers and electronic publication, January 2019



- Most European countries are using the possibility of granting printed publications with a reduced VAT rate with the exception of Denmark and Bulgaria. Both countries are also applying the highest standard VAT rate. There is however an exception in Denmark for newspapers which benefit from a 0%-rate.

- Norway and the UK are granting a zero % VAT rate on printed books, magazines and newspapers. Ireland is granting it only to printed books.

- Reduced rates are ranging from 0% to 12%.

- Member States are allowed to apply a reduced VAT for e-books and e-press since December 2018. France and Italy have implemented a reduced VAT rate before 2018. Croatia, Ireland, Malta (and Norway) have implemented a reduced VAT rate as of January 2019. Finland and Portugal will introduce it in the course of 2019. The other Member States are still applying a standard VAT rate to e-books and e-press.

5.

COUNTRY REPORTS

Sources
Intergraf's member federations' information

5.1 BELGIUM

2018 turnover

The turnover of the Belgian graphic industry increased by 1.93%. The number of printing companies is still decreasing (from 609 to 580). The consolidation process is still ongoing. Despite the slight increase in turnover, the level of employment is down by 3.83%, which may be the result of the many mergers and acquisitions.

The total turnover (newspapers excluded) increased by 1.47% to a total of € 2.517 billion. Whereas the greatest increase in turnover in 2017 was coming from pre-press activities (+10.2%), the increase in 2018 came mainly from printing activities (+ 1.93%). The turnover of newspaper printing is stabilising for the first time in years (-9,5% in 2017). The turnover from finishing activities has decreased by 3.3%.

Turnover of the Belgian graphical industry by subsector 2017-2018 in € million

€ million	Newspaper printing	Printing	Pre-press	Finishing	Total (newspapers excl.)	Total (newspapers incl.)
2017	52.9	1 965.57	465.26	49.62	2 480.48	2 533.35
2018	52.87	2 003.64	465.39	47.98	2 517.02	2 569.90

Trends in specific printing market segments

There is a continuous increase of investments in pre-press: after an increase of 27.7% in 2017, pre-press investments further grew by 7.8 % in 2018. Investments are decreasing in printing activities (-21.3%). Investments in printing machines are down to 84.34 million € (-17.4%).

Investments in Belgian graphical industry in € million

€ million	Newspaper printing	Printing	Pre-press	Finishing	Total (newspapers excl.)	Total (newspapers incl.)
2017	1.8	102.1	26.3	2.47	130.87	132.67
2018	4.73	84.347	28.4	2.53	115.28	120.01

Trends in the number of operating companies

In 2018, the graphic industry counted 802 companies (845 in 2017):

- 580 (2018) vs. 609 (2017) Printing companies (excluding newspaper printing): -4.76%
- 185 (2018) vs. 198 (2017) prepress companies: -6.56%
- 37 (2018) vs. 38 (2017) finishing: -2.63%

Trends in specific printing market segments

The number of self-employed graphic experts (mainly designers) is still growing. The last available figures (2017) show an increase by 1.61% for self-employed people in main occupation, +5.69% for secondary occupation and +6.5% for occupation after pension.

Number of self-employed people in graphical industry (NACEBEL 18.10) (source: RSVZ)

	Main occupation			Secondary occupation			Occupation after pension		
	2015	**2016**	**2017***	**2015**	**2016**	**2017***	**2015**	**2016**	**2017***
Abroad	27	32	34	10	9	12	1	5	7
Brussels	357	365	371	112	108	123	56	59	61
Wallonie region	711	721	749	389	424	441	177	190	211
Flemish Region	2012	2037	2052	859	907	1012	341	360	375
Total	**3.107**	**3155**	**3206**	**1 370**	**1448**	**1588**	**575**	**614**	**654**

During 2018, a total number of 9,730 (9,871 in 2017) employees were active in the different subsectors of the Belgian graphic industry:

- Printing: 7,959 (2018) vs. 8,276 (2017) employees (-3.83%)
- Pre-press: 1,349 (2018) vs. 1,290 (2017) employees (+4,57%)
- Finishing: 422 (2018) vs. 305 (2017) employees (+38, 36%)

The total amount of employees is slight lower (-1.43%) despite a slightly higher turnover. One possible explanation is the high number of mergers and acquisitions processes during 2018.

78% of the Belgian graphic employment is based in Flanders, 4.6% in Brussels and 17.4% in Wallonia.

Employees in Belgian graphic industry 2017-2018 (newspapers excluded)

	2017	**2018**
Belgium	9,871	9,730
Brussels	415	452
Wallonia	1,698	1,679
Flanders	7,758	7,599
Yearly evolution in %	-6.4	-1.43

Trends in foreign trade

Exports represented 34.5% of the annual total production of printed products. Belgium's main export partner countries are: France (€ 321 million) (-5.9%), the Netherlands (€ 220.9 million) (-6.6%), Germany (€ 65 million) (- 4.1%). Export to the UK was an exception with a growth of +24.8% to € 52 million. Although imports were down by more than 3%, the trade balance remained positive with a surplus of € 180 million.

During 2018, export as well as import volumes and values decreased. Belgium exported € 32 million less (-3.47%) and imported € 27 million (-3,67%) less.

5.2 BULGARIA

2018 turnover

The printing industry reflects directly the country's overall economic situation. Compared to 2017, positive macroeconomic indicators have been reported in Bulgaria in 2018: an increase of 4% of the Gross Domestic Product (GDP), consumer demand growth of 9.6%, exports of goods and services growth of 5.2%, growth of average wages more than 11%, decline of unemployment by 5.8%, growth of foreign investments up to 6%.

In 2018, the Bulgarian printing industry retained stable indicators. The number of printing companies was 1.010 (1.025 in 2017), the number of employees in these companies reached 8,810 (8,520 in 2017). The production volume of print reached 700 million BGN

(1 BGN = € 0,51) and the exported production reached about € 63 million. As in 2017, the average salary remained 950 BGN per month, but for printing specialists, it reached 1,300 BGN. Indicative of the sustainable situation of the industry is also the fact that the consumption of paper, cardboard, inks and consumables last year is comparable with those of the past few years.

Trends in specific printing market segments

The volume of offset printing, incl. books, magazines, newspapers, media and commercial editions remained unchanged in 2018 - it is more than 55% of the total volume of printed output. As expected, direct marketing grew by about 2%. A growth of over 5% has been registered for the production of packaging.

Trends in the printing labour market

The statistics show that the number of companies and their employees has remained stable the last few years. Indeed, there are no bankruptcies of companies, rather, termination of activity where appropriate, selling of some production divisions, merger into larger enterprises, etc. Unemployment in the industry is only 3.1%. Unfortunately, hiring qualified specialists and even regular workers is very difficult and problematic. More and more resources are being provided for training and social benefits in order to preserve and stimulate the own staff. The share of working retirees in the industry has risen by up to 17%.

Trends in the number of printing companies

In 2018, only 3 companies ceased their business and 2 exchanged their owner and operational management.

Trends in foreign trade

In 2018, exports of Bulgarian print production were worth about € 63 million, which corresponds to a growth of 21% compared to last year - this growth has been registered for the third consecutive year. Over 75% of our exports are to EU countries, with the largest product share of packaging products, labels and special protection materials.

Competitors on the domestic market are print products from Turkey and China. The prices are lower because of the state protectionism for the export of these goods. On the other side, the export of Bulgarian printing products is influenced not only by the strong competition of other EU-countries but also by the accumulated negativism towards Bulgarian goods as a whole.

Trends in printing processes

The most significant trend is the growth of digital print products - over 5% per year. This is due to declining print circulations, shortened delivery times, the need for personalisation, fast prepress processes, and the employment of less qualified operators. Flexography is the other printing process with a positive annual trend - more than 1% per year.

Uptake of new media by printing companies

The most important requirement for being successful is to offer efficient, fast and high-quality services. Several companies provide remote and interactive service. Spare parts delivery and repairs are fulfilled within one working day. All companies offer training to their customers and inform about the latest technical innovations.

Trends in labour and production costs of the printing industry

Labour costs in our printing industry are steadily rising. These are mainly monthly wages and additional wages for workers. The salaries in 2018 increased with 11%, and, with them the social contributions and pension funds. Costs for insurance policies and social contributions have also increased. For retired workers, there is also an increase in pensions. Total wage costs increased by 8%.

All components of the manufacturing process in the printing industry are on the rise. In 2018, paper and cardboard prices have risen dramatically - more than 20-25%. In addition, a new mechanism for daily electricity pricing was introduced in Bulgaria. On some days, the prices have been so high that some printing houses stopped their activities. As a result, most of the printing companies raised their prices, but not very much in order not to lose their customers. The consequences are reduced resources for innovation, social activities and competitiveness.

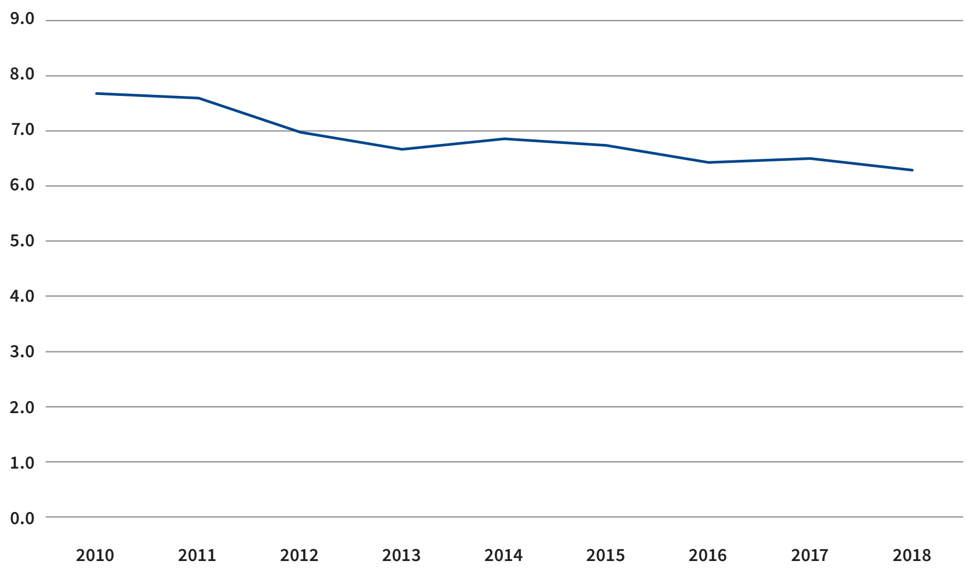
Developments affecting competitiveness

In general, the Bulgarian legislation, the taxation system and the government regulations are trying to provide acceptable conditions for businesses, including the printing industry. In Europe, Bulgaria has the lowest level of taxation and is consistently adopting relaxing regulatory regimes for small and medium-sized companies. Electronic government communications, payments and services are being implemented.

5.3 DENMARK

2018 turnover
The overall turnover of the Danish printing industry wa stable in 2018.

Printing turnover, Billion DKK



Trends in specific printing market segments
In 2018, the book market was stable. The numbers of magazines and newspapers continue to decrease. Other commercial printing was slightly falling. The number of people, that are listed saying no to direct mails and phone calls is slightly increasing. At the same time the postal rates are increasing. Printed packaging is increasing due to increased consumption of goods.

Trends in the printing labour market
In 2018, the number of employed people in the printing industry decreased. The number of employed skilled workers is decreasing, while the numbers of unskilled workers is slightly increasing. This might be due to the substitution from offset printing to digital printing.

Trends in the number of operating printing companies
There is still a decrease in the number of operating companies and some companies are struggling. There are still a few bankruptcies a year and a few mergers.

Trends in foreign trade
The Danish foreign trade for the printing industry is almost in balance. There is a small deficit, which has increased the last year.

Trends in printing processes
There is an ongoing substitution from offset printing to digital printing.

Uptake of new media services
Some companies see new media services as competition to print. Others see it as an opportunity to do new types of business. Some printing companies have started advertising agency activities that advertise both on print and online.

Trends in labour and production costs of the printing industry

The general labour costs in Denmark are growing at the same pace as the countries Denmark does most of its trading with. In the printing business, the wage growth is a little bit lower compared to other sectors.

Paper price increases make it difficult for companies with longer contracts to make profits.

The digitalization of communication such as correspondence with public authorities, bills etc. significantly impacted mail volumes in Denmark, leading to an increase in postal rates increase. At the same time, the distribution costs of printed advertising increased due to a lack of competition.

Developments affecting competitiveness

The new media settlement, where online newspapers will get a VAT-rate of 0%, while online magazines still have a VAT-rate of 25% can distort competition between online magazines and online newspapers. It will give an advantage to online papers making it more difficult to sell online magazines. The final draft of the bill is not yet in place.

5.4 ESTONIA

2018 turnover

The turnover of Estonian printing industry showed a continuous positive trend in 2018.
2015 turnover: € 207 million
2016 turnover: € 218 million
2017 turnover: € 234 million

Trends in specific printing market segments

The book market was stable. Print runs are shorter but more books are published. Magazines remain stable whereas newspapers are decreasing. Direct mails are decreasing and other commercial printing are increasing slightly. Trend in printed packaging and labels is increasing. Trends in the labour market

Trends in the labour market

The unemployment rate in general is low in Estonia (5.4% in fourth quarter of 2018). There is a constant demand for qualified and skilled workforce in the Estonian printing industry and companies are therefore willing to hire foreign specialists and workers. The number of people employed in the printing sector is stable compared to 2017, there is around 3,600 people working in the printing industry, including in the packaging segment.

Training for print-related professions is available only at vocational level, in Tallinn Polytechnic School. As a result, the number of young people who are willing to study and work in the printing industry is low. Short-term courses and specific trainings in print-related skills as part of lifelong learning and training are offered by companies at workplace.

Trends in the number of operating companies

There are 398 companies operating in the printing industry, 146 companies of them with an annual turnover of more than € 100 000.

Trends in foreign trade

Export is important for the Estonian printing industry. Exports increased slightly and was approximately 53% of the total turnover in 2018. For companies with newest technology, the local market is not large enough.

Competition remains from neighbouring countries and from Eastern Europe.

Trends in digitalisation

Estonia is well known as digitalised country. The Estonian government is promoting and developing the digitalisation in society – e-books in schools, among 2500 e-services, paper-free government, digital signing and exchanging of documents, national e-health system (99% of prescriptions are digital), electronic tax declaration system etc.

So, digitalisation is everywhere, also in the printing industry. Advertisers and publishers tend to order smaller runs and personalised advertising is increasing, for certain markets, especially periodicals, digitalisation is still a threat.

At the same time, new materials and technics allow the use of printing more widely, personalisation in advertising or labelling, more opportunities in decoration, architecture, fashion industry, smart printing solutions for packaging printing etc.

Trends in labour and production costs of the printing industry

Due to the lack of qualified labour force, the pressure on labour cost has continued to grow during 2018. The high labour cost may affect the investment capacity.

All other production costs (paper, ink, energy and transport) have all increased in 2018 with the exception of postal rates.

5.5 FINLAND

2018 turnover
The turnover of the Finnish printing industry is still slowly decreasing. This negative trend stabilised and levelled out since 2016. The estimation is that the turnover has decreased by 0.5% at 1,043 million euros in 2018.

Trends in the labour market
The number of employees in the industry continued to fall, but the trend has been strongly slowing down since 2016. The decrease between 2016 and 2017 was only –1%. It is estimated that in 2018 the number of employees has decreased reaching 6,000.

University level education of graphic technologies has practically ended in Finland. There is only training in vocational schools available, but students are not interested in studying graphic industry disciplines.

Trends in the number of operating companies
The number of operating printing companies is slowly decreasing, reaching around 750 in 2018. The average size is around 8 employee/company. Almost 80% of the printing companies belong to the group of the smallest ones (0–4 employees). In Finland, about 7% of the companies employ about 70% of the employees.

During the last two years, the number of company acquisitions and mergers has registered the highest increase than ever before in the industry. Moreover, statistics show signs of healthier business climate. There is a positive trend in turnover and the number of employees figure as well as operating profit and net income are growing since 2016, showing the profitability improvement in the branch.

Bankruptcies are still at a very low level. In 2018, there were 16 registered bankruptcies. These companies employed 158 persons.

Trends in foreign trade
The value of total exports decreased by 9% during 2018. The value of exports represented approximately 9% of the total turnover of the industry.

The main export destination countries have traditionally been Sweden and Russia. In 2018, exports to Sweden dropped by 28% and to Russia by 12%. According to the statistics, the top export destination country is Norway, but most of that is just rotating subscribed magazines back to Finnish readers in order to avoid VAT.

Exports to Poland has been quite surprisingly increasing during the last years. In 2018, Poland passed Denmark and Great Britain and climbed to the fourth position with 44% growth in the export value.

Imports from Poland have also increased heavily, i.e. by 103%. Printed matters from Poland are the cheapest ones (1.10 €/kg). The main import countries in 2018 were Sweden, Netherlands, Germany and Great Britain.

Trends per printing process

Digital printing
As Finland is a country with only 5.5 million inhabitants, print runs are not very large. There is therefore a clear demand for short run digital print. Many companies specialised in digital printing have shown growth in their turnover and have been very active in the consolidation process with building a network of digital printshops covering the main cities. There are mainly small or medium-size companies, which have invested in medium volume machines. Moreover, many traditional offset printing companies are making their investments in digital printing and considering to entirely stop the offset production.

Weboffset

Newspaper printing is decreasing steadily. There are 17 newspaper printing companies left in Finland. Newspaper printing has been suffering of the shortage of paper. The magazine market and heatset printing have been the most turbulent sector in graphic industry during the last 15 years in Finland.

Sheetfed offset

The decreasing of the sheetfed offset turnover has almost stopped – in the small offset companies (10–20 employees) turnovers have even increased in 2018. In offset companies with over 20 employees, the number of employees has continued to fall. It is likely that investments in automation and effectiveness are finally producing results.

Large format

Large format printing is a growing sector. Almost every printer has invested in some kind of large format equipment.

Uptake of new media

The uptake of new media services is still quite slow in the printing companies and digitalisation is still very much seen as competition to print. Traditional printers do not have the skills to develop new services or to sell them to existing and especially to new customers. To adapt new products and services, companies would need to recruit people with new skills from other industries. New digital services are at the moment mostly provided by companies outside the printing business.

Trends in labour and production costs of the printing industry

The competitiveness of the Finnish industry has been an important issue in the political debate during the past years. In 2016, the annual total working hours were increased by 24 hours without any salary increase, but in the graphic industry the collective labour agreement has practically reversed it. After several attempts to reduce the exceptionally high number of annual holidays in the graphic industry, the employers' association finally succeeded to change one week of winter holiday to a special Christmas pay.

Most production costs have been stable or have moderately increased. Prices are following the development of the main markets in continental Europe.

Postal rates are a big concern. The state-owned post distribution company has raised the prices for newspaper early morning deliveries and also for other products. Several newspaper publishers have set up their own local distribution companies and are also selling these distribution services to other companies.

Developments affecting the competitiveness

The reduction of the VAT for single copy sales of newspapers and magazines from 24% to 10% VAT rate on the 1 July 2019 might increase the sales of single publications and raise the print runs. But at the same time, the VAT rate of digital publications will also come down to 10% and that might have an effect to the opposite direction.

5.6 FRANCE

2018 turnover

The turnover of the French printing industry decreased by approximately 1.1% in 2018. After correction, it should however be less.

Trends in specific market segments

Book market: -4%; Magazine market: -0.8%; Direct mail market: -0.8% for addressed mail, -1% for unaddressed mail; Catalogue market: -1.9%.

Trends in foreign trade

The following figures come from the French customs and do not include label printing or packaging.

	Importations			
	Trends	**Trends EU**	**Trends outside EU**	**Share of EU**
Book	-1%	0%	-8%	84%
Catalogues	-18%	-18%	-30%	99%
Magazines	0%	0%	-38%	100%
Advertising	9%	9%	8%	98%
Total printing	-5%	-4%	-9%	94%

	Exportations			
	Trends	**Trends EU**	**Trends outside EU**	**Share of EU**
Book	0%	2%	-2%	57%
Catalogues	-25%	-26%	-6%	92%
Magazines	-22%	-25%	-13%	74%
Advertising	-30%	-39%	-4%	65%
Total printing	-16%	-20%	-5%	71%

Trends in digitalisation

Digitalisation still constitutes a real threat to magazines. Social media can put books and magazines in difficulty because they monopolise the potential readers. Digitalisation is also impacting volumes of printed administrative documents.

Trends in costs of the printing industry

In October 2018, prices of imported paper pulp have increased by 37% over a year according to the French statistics office INSEE.

Developments affecting the competitiveness of the industry

The magazine publishers have to pay a contribution to support recycling since 2018 as part of the French Extended Producer Responsibility scheme on graphic paper.

Non-addressed advertising has been criticized by a famous consumer association and there is a risk that public authorities enact on that.

5.7 GERMANY

2018 turnover

In 2018, the turnover of all printing companies subject to turnover tax amounted to approximately € 20.4 billion, which corresponded to an estimated decline of 1.9% compared to 2017. The price adjusted turnover amounted also to approximately € 20.4 billion, however has been estimated to have declined by 2.6%.

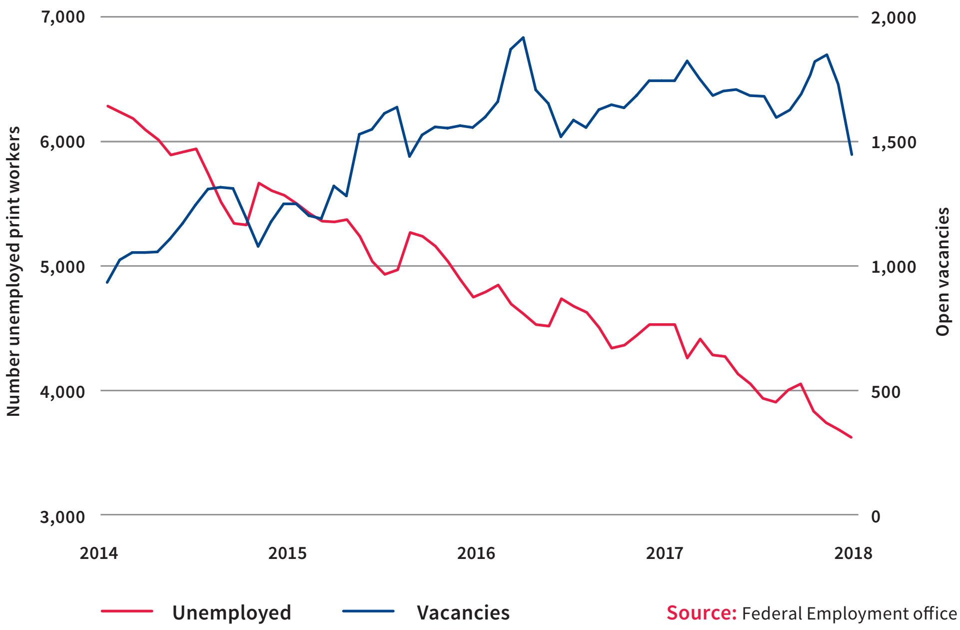
Trends in specific printing market segments

Important printed products decreased in value. Advertising printing (e.g. supplements, leaflets) declined by 4.5%, magazines by 3.4%, newspapers by 1%, and books (together with cartographic prints) also by 1% compared to 2017.

On the other hand, while labels remained at the level of the previous year (-0.2%), calendars (+3.2%) and printed products on other substrates than paper (6.8+%) gained in value.

Trends in the labour printing market

There has been a change in the trends compared to the past years in the labour market for print workers: while the number of unemployed print workers continued to decrease in 2018 (by -9.5% compared to the previous year) also the number of open vacancies declined slightly (by -1.4% compared to the previous year). The number of open vacancies grew significantly from 2015 to 2017 (+16.9 % on average).



Source: Federal Employment office

Trends in the number of operating printing companies

The number of operating printing companies and their employees continued to decline in 2018.

Employment size classes	companies			employees		
	number	share in %	yoy in %	number	share in %	yoy in %
1–9	5,387	69.2	-4.7	16,431	12.6	-4.4
10–19	987	12.7	-0.9	13,579	10.4	-0.6
20–49	816	10.5	-3.3	24,724	19.0	-3.6
50–99	340	4.4	-0.3	23,289	17.9	-1.2
100–499	244	3.1	0.8	43,971	33.7	-0.4
500 and more	10	0.1	0.0	8,297	6.4	-10.9
Total	**7,784**	**100.0**	**-3.7**	**130,291**	**100.0**	**-2.5**

Source: Federal Employment office (as of 30th of June 2018); calculations: bvdm

Trends in foreign trade

Germany remained a net exporter of print and publishing products in 2018. Its exports amounted to around € 4.5 billion (+2.6%) and low-value imports were around € 2.8 billion (+6.5%).

Germanys foreign trade with print and publishing products

Products	export			import		
	million euro	yoy in %	share in %	million euro	yoy in %	share in %
Advertising/catalogs	1,074	5.2	23.9	400	11.1	14.5
Labels	342	4.1	7.6	192	-1.3	7.0
Calendars/cards	98	-0.6	2.2	143	3.4	5.2
Transfer prints	219	8.7	4.9	36	20.1	1.3
Other printing products	654	-0.3	14.5	409	18.1	14.9
Sum print products	2,387	3.5	53.1	1,180	10.3	42.9
Books/brochures	1,597	5.3	35.5	1,341	7.4	48.7
Newspapers/magazines	514	-8.4	11.4	231	-13.2	8.4
Sum publishing products	2,111	1.6	46.9	1,571	3.8	57.1
Total sum	**4,497**	**2.6**	**100.0**	**2,751**	**6.5**	**100.0**

Source: Federal Office of Statistics; calculations: bvdm

Poland remains the most important importing country for printed and publishing products. The imported publishing products amounted to a total of € 693 million (+9.8% compared to 2017), while print products amounted to € 164 million (+51.4 % compared to 2017). Overall, Germany's imports from Poland increased by 31.1%.

Germanys top 10 countries in foreign trade with print and publishing products

Export to...				**Import to...**			
Country	**million euro**	**yoy in %**	**share in %**	**Country**	**million euro**	**yoy in %**	**share in %**
Switzerland	666	-1.9	14.8	**Poland**	857	15.9	31.1
Austria	600	-6.3	13.4	**Czech Republic**	331	-3.7	12.0
France	483	9.9	10.7	**United Kingdom**	232	8.0	8.4
Poland	410	1.9	9.1	**Netherlands**	189	10.2	6.9
Czech Republic	342	29.3	7.6	**China**	176	6.1	6.4
United Kingdom	292	-2.2	6.5	**Austria**	168	25.6	6.1
Netherlands	240	3.1	5.3	**Italy**	135	2.6	4.9
Italy	190	1.3	4.2	**United States**	110	-12.3	4.0
United States	167	24.5	3.7	**France**	101	-5.4	3.7
Belgium	120	0.3	2.7	**Switzerland**	77	-12.3	2.8
Sum top 10	**3,511**	**3.3**	**78.1**	**Sum top 10**	**2,376**	**7.0**	**86.4**
Total sum	**4,497**	**2.6**	**100.0**	**Total sum**	**2,752**	**6.5**	**100.0**

Source: Federal Office of Statistics; calculations: bvdm

Trends per printing process

In 2018, products produced with digital printing process continued to gain in relative importance (+6.8% in value). Its share reached 7.5 % of all processes. In contrast, the share of gravure printing and offset printing has been more or less stable, ie 11% and 78%, respectively.

Trends in digitalisation

Seeing the structural shift of advertising budgets from printed to digital media (offline to online) as a consequence of digitalisation, competition to print is still noticeable. The previously expected flattening trend did not really happen in 2018. On the contrary, the sharp increase in paper prices and, at the same time, the rise in selling prices on the part of printing companies are likely to have strengthened the shift.

Many companies look for new opportunities to overcome the mature and highly competitive market for traditional printing services. They try to distinguish themselves from others setting up new business models and offering services like databases, web design, digital out-of-home advertising or cloud solutions. Yet in general, printing companies see their new digital business models as a means to guide the customer to their core business (printing).

Trends in labour and production costs in the printing industry

In 2018, the official data show an average increase of labour costs in the printing and reproduction media industry by 1.5% compared to 2017.

Printing companies expect a further rise of labour costs in 2019. In addition to that, negotiations of a new collective wage agreement are ongoing.

The year 2018 was characterised by extremely strong price increases for important intermediate goods for printing and media companies. A further tightening cost situation was already feared by the companies in early 2018, when they issued their expectations for the year 2018 in a survey. However, except for printing plates, the actual development in 2018 exceeded the expectations for all costs. For example, nine out of ten companies (93%) had to cope with huge paper price increases, with 57% of participants reporting price increases of over 5%. Eight out of ten companies (78%) faced rising transport costs.

According to a survey for the year 2019, printing companies expect a further increase in costs. On average, the price situation is likely to worsen even further for all cost types surveyed. Thus, 68% of the survey participants agree on rising labour costs. Similar numbers of participants (67%) expect higher energy prices. For graphic paper, 92% of the participants fear further cost increases.

Developments affecting the competitiveness of the industry

For several months, two important merger control proceedings have been pending at the Federal Cartel Office. One case concerns the takeover of the MBO Group, a folding machine manufacturer, by Heidelberger Druckmaschinen AG. In the other case, OptiGroup and Inapa, two internationally active paper wholesalers, want to merge their German subsidiaries Papyrus Deutschland and Papier Union.

In the printing industry, those intentions to merge have created great concern. There are already a few suppliers facing many buyers in the affected markets. An official approval of the mergers would further reinforce this oligopolistic market concentration.

5.8 ITALY

2018 turnover

Following the reduction that characterised the second half of 2018, after a comparatively positive trend in the first half, 2018 closed with a moderate overall reduction in the turnover, down by 1.5% compared to 2017.

The analysis of the companies' sales turnovers shows that a majority of companies registered negative results in 2018 compared to 2017: 70% of the companies incurred an average income reduction of 8.9%, and only 30% of them increased their turnover by an average of 9.7%.

Trends in specific printing market segments

Production in the printing sector decreased by 2.4% in 2018 compared to 2017, due to a modest decrease in publishing printing segment (-1.9%) and a more significant decrease in advertising and commercial printing segment (-4.2%).

In the publishing printing segment, the negative production result of 2018 is entirely due to books (-3.4%), whereas positive news come from magazines, where production saw a moderate recovery, increasing by 1.5% thanks to a favourable closure of the year in the 4th quarter of 2018.

As to the publishing printing segment, 2018 sales in the book market decreased by -0.4% mostly due to the crisis in sales of mass retailers.

With respect to magazines, press advertising was still in great difficulty in 2018, in terms of demand. According to Nielsen, the Italian advertising market closed in 2018 at € 8.4 billion, showing a positive trend (+2%) for the media surveyed as a whole, but one of essential stability with regard to classic media (-0.2%), leaving aside the digital category estimated by Nielsen. The 2018 trend in press advertising continued to be significantly negative compared to the other media: -7%, resulting from a -6.2% for newspapers and -8.2% for periodicals. In the rest of the advertising market, the growth was due to digital advertising and digital outdoor advertising, out of home TV channels (Go TV), but also cinema and radio.

Regarding the advertising and commercial printing segment (and the related printed matter), in terms of demand, direct mail advertising continued to drop in 2018 (-6.6% over 2017), and outdoor advertising also saw a further decline (-8.6%).

Trends in the labour market

It is estimated that the 2018 decrease was around 2% of employees compared to 2017.

The number of hours reported for publishing, printing and reproduction of recorded media decreased in 2018, and especially in the second half-year, so that the total decline during the year was 19% compared to 2017, totalling approximately 6 million hours.

Trends in the number of operating companies

In 2018, there were 17,247 companies operating in the printing and reproduction of recorded media, about 95% of which have less than 20 employees. Active companies dropped by 374 units compared to 2017, i.e. by -2.1%.

Despite the decline, there seems to be a structural stabilisation and some form of consolidation, and in general, printing companies are now more resilient against competition.

Trends in foreign trade

The export value of the printing industry closed the year with a significant increase by 6.4% compared to 2017 which had a positive effect on the total turnover. In terms of share, the export value in 2018 increased to 17% of the printing industry turnover from 15.7% in the previous year.

In 2018 a significant increase was registered in exports in terms of the value of advertising and commercial printed matter (+7.5%), magazines (+5.8%) and books (+5.6%). Among minor products, the export of albums/picture books (+23.3%), stamps (+20.2%), calendars (+10.5%) and transfers (+4.5%) grew significantly. On the other hand, a decrease was registered in the export of manuscript or printed music (-10.2%), postcards (-7.9%) and maps (-0.4%).

There was a decrease in exports to the main country of destination, France (-6.3%), whereas a double-digit increase was registered in exports to the second country, Germany (+18%); exports declined to the third country of destination, namely the United Kingdom (-5.5%), whereas there was a growth in exports to Switzerland (+8.6%) and Spain (+19.8%). A significant export increase in 2018 was also registered to the United States (+7.5%), Poland (+42.5%), Belgium (+39%) and Bulgaria (+633.6%). A two-digit decrease, on the other hand, was seen in exports to the Netherlands (-12%), Sweden (-23.7%) and Austria (-18%).

Regarding imports value, the closure of the year 2018 was characterised by a reduction compared to 2017 (-4.3%), owing to the downturn in imports of magazines (-14%) and advertising and commercial printed matter (-12%), against an increase in the import of books (+6,8%).

The analysis of the 5 main countries of origin of printed products showed an increase in imports from the main two countries: Germany (+0.1%) and more significantly the United Kingdom (+7%). On the other hand, there was a reduction in imports from the 3rd country of origin, namely China (-4.6%). A significant increase was registered in 2018 in imports from Spain (+46%), which has thus become the 4th country of origin, while there was a decline in imports from France (-23.6%).

Imports in 2018 saw a significant drop from the United States (-18.1%), Austria (-20.2%) and Slovakia (-24,4%). On the contrary, imports from the Czech Republic (+15.1%), from Poland (+9.5%) and from Romania (+49.6%) all registered a significant increase.

Trends in printing processes

As regards investments in printing and paper converting machinery, 2018 was a very positive year for the sector, with a turnover increase of 10% supported by exports as well as by the internal market, where the incentives provided by the Government under Industrial Plan 4.0 certainly gave an impulse to an already dynamic sector.

The data coming from machinery manufacturers confirm that the Italian printing companies have profited by the opportunities provided by the tax facilities of the Industrial Plan 4.0. The challenge is now to adopt new production and competition strategies: from the detection to the analysis of data, from robotics to 3D printing, from the cloud to the Internet of things and to collaborations with suppliers, customers and competitors.

In terms of technology, there is a positive trend regarding both offset printing machines and digital printing machines, while the positive trend of flexographic printing machines is also continuing.

Investments are still being made in rotogravure machines for packaging, whereas the market of rotogravure machines for publishing is stagnant. Large format printing suffered, in 2018, from the crisis in billboard advertising. The market with the highest growth prospects remains in paper converting and labelling machines.

Uptake of new media

In 2018, the integration of digital communication services by traditional printing companies continued, as did the increase in industrial, decorative and 3D printing.

As to digitisation, reading in Italy is increasingly diversified between paper books (62% of readers), digital products, comprised of e-books and audiobooks (8%), and a mixture of both (30% of readers). The growth in e-books is slowing down though, representing about 5% of the book trade market.

Furthermore, in 2018, various printed packaging segments saw an increase (especially flexible packaging and self-adhesive labels), with a number of printers, and in particular book printers, converting to packaging activities.

Trends in labour and production costs

Hourly wages in contracts for workers and employees in the printing industry remained stable in 2018 as the printing industry is still waiting for the renewal of the collective agreement, which is still in a deadlock.

On the raw materials front, an increase was observed in the prices of the principal types of printing paper, although differentiated depending on the specific type: higher for natural paper and forms (around 10% in 2017), more moderate for coated paper (between 0.1% and 6% approximately).

Ink prices were essentially stable in 2018, with end-of-year increases that will probably continue in 2019.

Energy costs were significantly higher in 2018 (about +10% compared to 2017) due to the increase in excise duties, which also affected transport costs. Postal and insurance costs, instead, remained stable.

Developments affecting the printing industry

On the book printing front, the 18app had a positive effect, despite the delay in its entry into force for problems in issuing the implementing decree. This is a culture bonus of € 500 for teenagers born in 2000. Thanks to an almost doubled number of registered users (from 230,000 to 417,000), the 18app expenditure increased from € 163 million in 2017 to € 192 million in 2018 (+17.8%), no less of 69% of which were used for books, followed at a short distance by music, concerts, cinema, etc.

However, expenditure for cultural products, such as books and newspapers, has been low for years, representing about 1% of the total purchases of Italian families.

Unfortunately, once again, in 2018, the book reading index places Italy in the last positions of the international rankings, with 62% on the total population, after Spain and before Brazil.

In April 2019, the rules for benefiting from the tax credit on incremental advertising investments were published along with a list of beneficiaries.

5.9 NETHERLANDS

2018 turnover

In the Netherlands, the Gross Domestic Product (GDP) is still growing strongly, but this is not the case for the printing industry. The domestic market for print products and services is shrinking further in 2018. The turnover for the foreign market was going up strongly in 2016 and going down in the last two years. All the print industry index figures in 2018 are on a lower level compared to 2016 and 2017. The total print turnover in 2018 reached € 3,400 million Euro.

Printing industry turnover and Dutch GDP (GDP-NL); index (2015=100)

Year	Domestic market	Foreign market	Total turnover	GDP-NL
2010	152.9	87.1	132.8	96.3
2011	146.4	93.9	130.4	97.8
2012	125.3	96.9	116.6	96.8
2013	120.8	101.6	114.9	96.7
2014	109.7	100.1	106.8	98.1
2015	100.0	100.0	100.0	100.0
2016	98.8	126.6	107.2	102.2
2017	92.1	118.7	100.1	105.1
2018	90.3	116.9	98.4	107.9

Source: GOC Research analysis of CBS Statline data

Trends in specific market segments

Books: the quantity and turnover in Euro are growing for paper books. The share of e-books in total turnover for books is about 6% and did not grow strongly in the past years. Almost all popular titles are available on internet for free. Reading books on e-reader is not very popular in the Netherlands, paper books are preferred. In book printing, there is a strong competition with Denmark and China.

Magazines: the number of magazine titles is growing but circulation data are going down. This is the case for almost all titles and for the total number of sold magazines. Almost all magazine titles have a paper and an electronic version.

Newspapers: paid-for newspaper circulation has been going down very strongly. The number of newspaper titles is stable. All the titles also have an electronic version. E-news portals partly have free access and partly paying subscription or paying per article. The loss of paper-based turnover is still not compensated by the payed subscription for e-news access.

Direct mail: in the past ten years, addressed direct mail was growing rapidly because of digitalisation of personal information and one-to-one marketing strategies of institutions (health care, government) and companies. More and more this kind of personalised communication is moving to digital instead of paper. A more recent threat for personalised direct mail is the European data protection legislation. On the one hand, it is more difficult to collect and use personal information, and on the other hand, the public opinion becomes more hostile to personalised direct mail. In Amsterdam, the local government has changed the distribution of all non-addressed commercial print to a system that allows posting only with a sticker YES on the individual post box. There is currently a court case ongoing. Other cities in The Netherlands wants to introduce the same sticker-system.

Other commercial printing (catalogues, advertising…): job advertisements, manuals, phone books and timetables moved already completely to internet and social media devices. Product advertising in newspapers partly moved to internet. Advertising in magazines mostly remained. Because of the circulation decline, the prices for advertisement declined too and big discounts are offered to advertisers because of strong competition between publishers.

Printed packaging: printed packaging is strong because of economic growth. In general, the position of paper packaging is growing against the environmental issue with plastic packaging. Paper packaging are gaining ground on plastic packaging already in the Netherlands.

Trends in the labour printing market

The employment is shrinking and the unemployment rate in the printing industry is going down but is still two times as high as the national unemployment rate. In the Netherlands, the unemployment rate was at 3.6% in 2018. The unemployment rate for the printing industry is 7.1%. The mobility agency, established by industry and unions, organises career support and trainings for unemployed printers and other unemployed graphic workers directly at the start of unemployment, while unemployment agencies of the government only start after 6 months of unemployment. The government has changed the unemployment benefit period step by step from 38 month to 24 months. At the same time, the government is changing the year of retirement in steps of 3 month to 66 in 2018, 67 in 2021 and even further to 68 in 2033. The age of retirement is coupled on the mean life expectancy age of the whole population. There is an ongoing discussion to find a solution for those employees who are working in physically demanding occupations. The government tries to make an arrangement with the employers organizations and the labour unions about a system of flexible retirement in combination with a system where employees have more personal options with variation in length and duration of pensions. It is expected that there will be an agreement at the end of 2019. The results will be very important for the employers and employees in the print industry because of production problems with ageing staff and with finding new staff on a tight labour market.

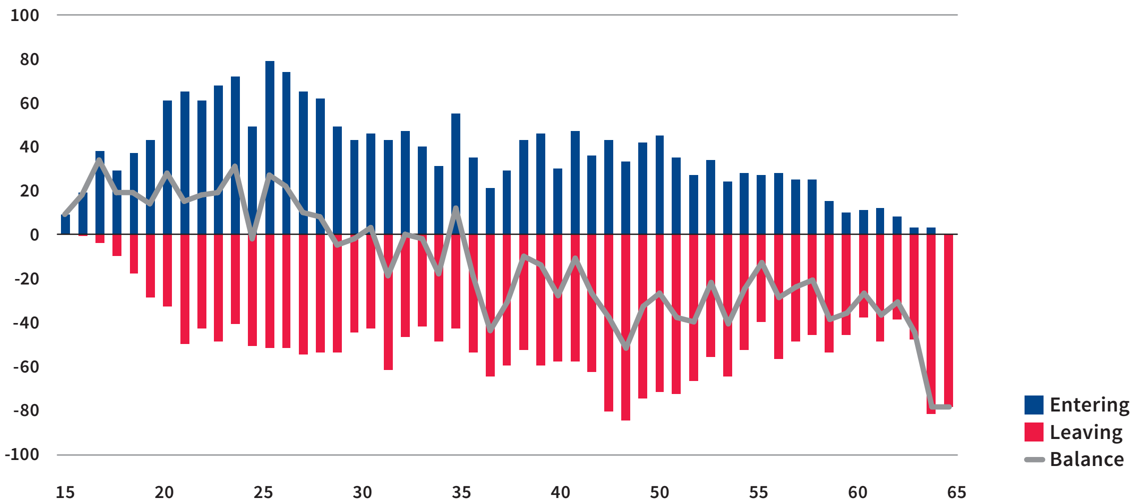
Employment printing industry

Year	Employees	Self employed	Total
2010	29,000	1,740	30,740
2011	27,000	1,650	28,650
2012	25,000	1,740	26,740
2013	24,000	1,750	25,750
2014	21,000	1,765	22,765
2015	20,000	1,715	21,715
2016	19,500	1,705	21,205
2017	19,000	1,735	20,735
2018	18,500	1,710	20,210

Source: GOC Research analysis of CBS Statline data

In the training market, there was a strong shift to alternative training programs for a career move to other professions outside the printing industry. In 2018, it is very difficult for employers to find qualified staff. The number of students in printing in the regular vocational education schools is very low and by far not enough to compensate the number of retiring staffs. The branch training centre GOC started in 2017 a dual training program for printing and finishing. The last five years, the number of staffs on temporary work contracts has greatly increased. In 2018, 12% of the total print staffs left the printing sector and in the same year, 9% entered the sector. The consequences of the great flow of people leaving and entering the companies translates into the need for ongoing training of entering staff. Often this training is given on the job by qualified workers.

Number of staf entering and leaving the print industry in 2018



Source: GOC Research analysis of ASF data (graphic social security refund)

Trends in the number of operating printing companies
The number of total companies is shrinking already for 25 years. The number of one-person companies (self-employed without staff) is rather stable. The number of companies with staff is falling sharply. The share one-person companies is therefore increasing every year.

Companies and self-employed

Year	Self-employed	Companies	Total	Share of self-employed
2010	1,650	2,065	3,715	44.4%
2011	1,740	1,990	3,730	46.6%
2012	1,750	1,845	3,595	48.7%
2013	1,765	1,720	3,485	50.6%
2014	1,715	1,605	3,320	51.7%
2015	1,705	1,530	3,235	52.7%
2016	1,735	1,460	3,195	54.3%
2017	1,710	1,370	3,080	55.5%
2018	1,690	1,280	2,970	56.9%

Source: GOC Research analysis of CBS Statline data

The number of bankruptcies was 6.4% in the beginning of the economic crisis but was less every year until 2017. In 2017, there was an increase from 1.7% in 2016 to 2.3%. In 2018, the number of bankruptcies was low with 1.5% of total companies (with staff).

Bankruptcies (excl. self-employed)

Year	Companies	Share
2010	134	6.4%
2011	129	6.2%
2012	97	4.9%
2013	88	4.8%
2014	71	4.1%
2015	58	3.6%
2016	26	1.7%
2017	34	2.3%
2018	20	1.5%

Source: GOC Research analysis of CBS Statline data

Trends in foreign trade

In 2018, imports from EU countries to the Dutch market grew and imports from non-EU countries decreased. Total imports in 2018 was growing. Exports are split up between exports of print products produced in the Netherlands and transit exports. Exports of Dutch printed products were less than in 2017 because 2017 was exceptionally high. Compared to the normal range, exports in 2018 were growing. Export to non-EU countries was rising too. A large amount of exports is transit to other EU-15 countries. Total exports in 2018 are lower than in 2017 but compared to the normal range are rising.

Import and export print products inside EU and outside EU (x 1.000 €)

	Import to NL			Export from NL			
Year	**EU**	**Outside-EU**	**Total**	**EU**	**EU**	**Outside EU**	**Total**
				NL-made	**Transit**	**NL-made**	
2010	680,319	209,955	890,274	741,507	406,337	108,163	1,256,007
2011	684,195	224,873	909,068	707,755	433,786	98,694	1,240,235
2012	689,230	226,536	915,766	730,411	391,572	117,744	1,239,727
2013	660,686	208,411	869,097	734,033	334,428	126,836	1,195,297
2014	551,825	189,398	741,223	739,505	291,883	151,704	1,183,092
2015	695,373	183,632	879,005	740,818	249,580	164,494	1,154,892
2016	697,427	194,530	891,957	714,691	344,111	163,636	1,222,438
2017	711,358	203,436	914,794	862,546	307,801	175,754	1,346,101
2018	750,980	188,378	939,358	750,165	321,499	179,728	1,251,393

Source: GOC Research analysis of CBS Statline data

The most important trade partners of print products are Germany, Belgium and the UK. France is also an important country for Dutch exports of print products but less important for imports. In the last eight years (2010-2018), imports from the UK decreased by 26.3% while exports to the UK was stable. Imports from and exports to Germany increased in this period. So, Germany becomes more important for the Dutch print industry. Exports to Belgium decreased by 22.6% but remained the most important export country for the Netherlands. Of all countries, imports from Italy increase sharply, but the total amount of imports was still low (3.1%). China accounts for 6.2% of total imports of print to the Netherlands.

Top export and import countries for printed products

	Import to NL from country		Export from NL to country	
Countries	**Share of total import**	**Growth 2010-2018**	**Share of total export**	**Growth 2010-2018**
Germany	27.0%	13.0%	21.8%	14.3%
Belgium	20.0%	-2.1%	23.9%	-22.6%
United Kingdom	10.6%	-26.3%	12.8%	-0.9%
China	7.2%	6.2%	0.2%	45.1%
USA	6.2%	-8.7%	1.6%	64.3%
France	3.6%	22.0%	11.4%	8.3%
Italy	3.1%	48.7%	2.7%	-29.1%

Source: GOC Research analysis of CBS Statline data

Trends in printing processes

Digital printing is rapidly. In 2004, already 22% of the companies had digital printing systems (inkjet and laser) for print productions in addition to offset, flexography and gravure printing systems. This print systems were used for small runs (max. 250 prints) and for personalised direct mail. In 2018, two out of three companies (64%) had digital printing technology. In 2004, about 5% of total print turnover was realised by digital printing, in 2018 this is already 21%.

Share of digital printing: companies and total turnover

Year	Companies with digital printing in addition to offset	Share of digital printing in total turnover
2004	22%	5%
2008	43%	8%
2012	62%	17%
2018	64%	21%

Source: GOC annual survey research

In the Netherlands, web-offset is still strong in production of newspapers and magazines but is losing share of production to sheetfed offset and flexography. That is because the production quality of flexography has become much better the last ten years, and the print speed of sheetfed offset is very high (18.000 sheet per hour), while the print runs are much smaller nowadays.

Sheetfed offset still has a strong position in print production because of outstanding quality and speed combined with automated inking systems, automated plate change, automated clean up systems and automated visual ink density control systems. The automation system creates a complete control circuit.

Publication gravure almost disappeared in the Netherlands. There is only one printing plant with an already old (20 years) gravure press. Future investments would replace gravure by web-offset.

Packaging gravure is still in production but slowly replaced by flexography.

In the Netherlands, flexography has a strong position in packaging. These are large presses with 10 printing units and completely automated. Most of the presses are sleeve printing. Behind the presses, there are fixed robotic arms in production lines like the automotive production industry.

The small sized printing companies (less than 20 staff) have small format presses. The medium sized and larger printing companies have more and more large format presses. Large format presses offer the possibility to combine different production orders to one press production run. It makes production cheaper and faster. This offers modern print companies a much larger production capacity than small-sized print companies.

Trends in digitalisation

For already 20 years, a growing number of printing companies were offering more and more new media services like database management and website building. There is however a very strong competition with specialised IT, design and communication companies offering the same services. Large publishing companies have invested into their own social media and web-based publishing departments. So, it is not an easy way to make more money to compensate the reduction of print.

In 2018, most printing companies still consider digitalisation as an ongoing threat for their business because the total amount of print is declining every year. Their strategy is first of all oriented on more efficiency in print production and not in developing more digital services. (Bar)Coding and print-to-web are techniques most companies can offer, creating and hosting websites much less. That is because of competition with designing, communication and IT companies. Mobile apps and mobile marketing are emerging techniques and services, also under strong competition with design and IT companies.

Print companies offering new techniques and services in 2018

Techniques an services	Companies
(Bar)Coding	56.3%
Print-to-web	41.6%
Coating	36.9%
1-to-1 communication	36.2%
Foil materials	33.5%
Create websites	21.8%
Crossmedia marketing	20.0%
E-mail marketing	16.4%
Websites hosting	13.6%
Optic techniques	12.3%
Mobile apps	9.8%
Video production	7.0%
Mobile marketing	6.5%

Source: GOC annual survey research

Trends in labour and production costs in the printing industry

In the Netherlands, labour costs were rather stable for many years because wages did not rise much. That situation is changing. The wages, as a large part of the labour costs, are rising, also in the printing industry. Collective bargaining in 2018 ended in an agreement about a yearly average wage growth of 2.57% in the next 28 months (1 April 2018 – 1 August 2020).

The prices for web-paper and ink went down the last years, all other graphic paper prices went up. The prices for solvents, postal, road transport and energy went up too. The prices for print products were going down between 2010 and 2018 and have now increased in 2018. Energy costs for small and medium sized companies are going up and it is still uncertain what the cost for the energy transition will be for companies.

Trends in production costs and prices print products; Index (2010=100)

Year	Production costs								Prices
	Paper	Web-paper	Ink	Solvent	Postal	Transport	Energy 1*	Energy 2*	Print
2010	100	100	100	100	100	100	100	100	100
2011	104.9	110.3	104.8	102.6	104.5	103.6	104.1	96.1	100.1
2012	103.4	109.1	110.1	104.7	113.6	105.6	107.9	98.4	99.3
2013	104.7	104.0	109.3	105.5	122.7	106.4	117.6	99.2	95.4
2014	103.8	106.5	109.9	105.2	145.5	106.7	119.1	97.7	94.4
2015	104.0	95.9	93.1	105.0	156.8	106.2	114.3	96.9	93.2
2016	102.5	97.0	90.9	105.3	165.9	106.3	117.8	93.8	88.2
2017	105.0	96.3	88.5	108.7	177.3	107.7	113.3	89.9	87.1
2018	110.7	.	.	.	188.6	110.9	116.7	96.1	89.4

Source: GOC Research analysis of CBS Statline data; Energy 1= heating (<10 TJ), Energy 2= electricity (<500 MWh)

Development affecting competitiveness

The consequences of the Brexit for imports and exports of print products is an issue. The UK is the third in importance for foreign trade for the Dutch graphic industry.

The cost effects of the energy transition is another concern for the industry. Energy costs will go up for the energy intensive paper industry and thus for the paper prices.

A further trend is the changeover in packaging materials from printing on many plastics to printing more and more on paper packaging. Print companies have to invest to new production equipment.

The consequences of major legislation (national and local) for reducing environmental pollution and waste of raw materials for print products are a further important development.

Finally, the consequences of ongoing automation and robotisation in production and the rise of fully automated print company is an important issue.

5.10 NORWAY

2018 turnover
All printing markets are declining in Norway except packaging printing. Sales of magazines are down from 46 million copies in 2017 to 42 million copies in 2018. Newspapers circulation also decreased by 9.6% compared to 2017.

Trends in the labour market in the printing industry
Considering that the Norwegian unemployment rates is low (3.9%), it is relatively easy to find alternative jobs to the printing industry.

Trends in the number of operating companies
There is an ongoing merger and acquisition process. Smaller companies are facing more difficulty to stay in business.

Trends in foreign trade
Competition is mainly from other Nordic countries and Baltic countries. The trend is toward more local production because of a favourable currency and a trend towards short time delivery and smaller runs.

Trends in printing processes
Digital printing and large format are increasing whereas sheetfed offset is declining.

Trends in digitalisation
Whereas digitalisation remains a major challenge, several companies are increasingly offering new media services.

Trends in costs of the printing industry
Labour costs have increased by 3.2% in 2018. Most production costs have been increasing (paper, energy, postal rates, transports and insurance). Inks and solvents have remained stable.

Developments affecting the competitiveness
There is a discussion on an increase by 10% of the minimum wage and a decrease of the weekly hours (40 hours currently).

5.11 PORTUGAL

2018 turnover

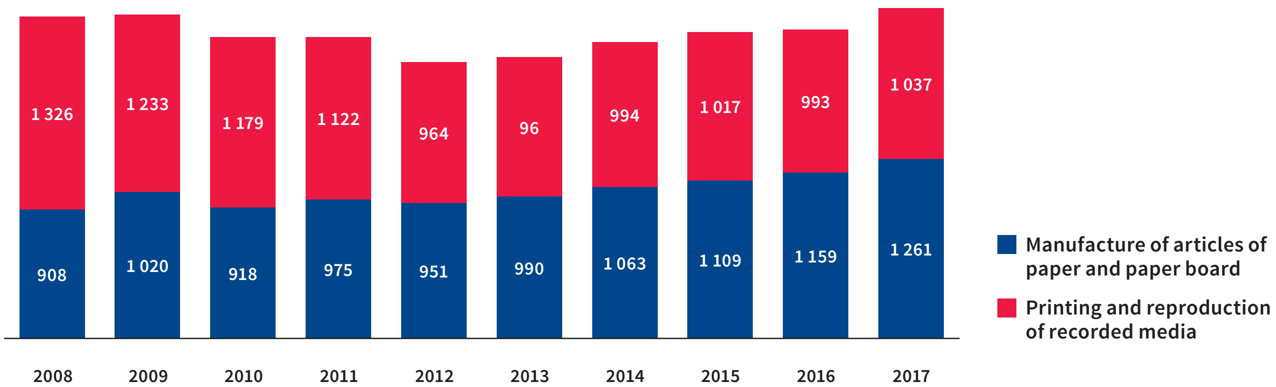
The turnover of the paper and printing industry (including the manufacture of paper products and reproduction of recorded media) registered a significant increase of 6.8% in 2017 compared to the previous year 2016. In relation to 2008, the sector's current turnover is higher (+ 2.8%).

Trends in paper and printing industry turnover

Year	% (compared to previous year)
2014	5.40
2015	3.35
2016	1.21
2017(*)	6.79

(*) Last year available.

Printing industry annual turnover (Euro Million)



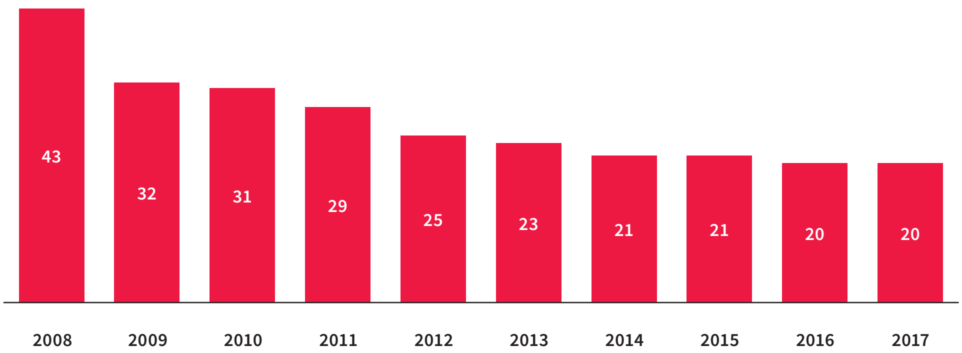
Source: INE (Portuguese National Statistical Institute - http://www.ine.pt), NACE Rev. 2: 17.2 – Manufacture of articles of paper and paperboard; 18 – Printing and reproduction of recorded media

Trends in specific market segments

Book publishing, magazine publishing and newspapers are decreasing. Direct mail and printed packaging registered increasing trends.

As regards to the newspaper segment, its turnover decreased slightly compared to the previous year (-1.0%). This segment shows a downward trend in recent years, mainly explained by the growing preference for online news.

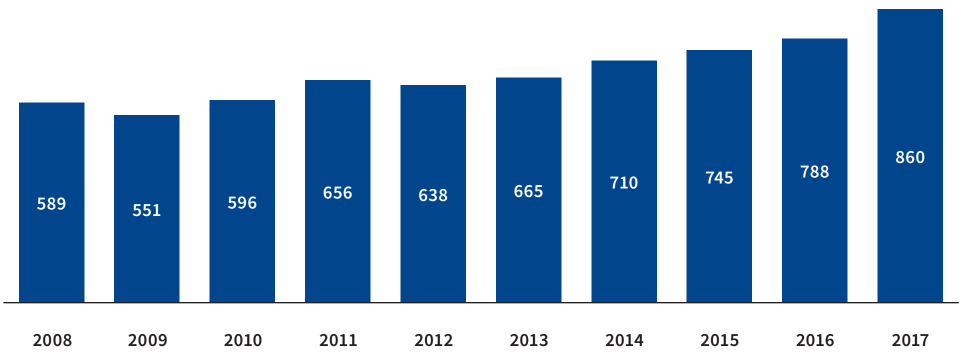
Newspapers printing annual turnover (Euro Million)



Source: INE (Portuguese National Statistical Institute - http://www.ine.pt), NACE Rev. 2: 18.11 – Printing of newspapers

Paper packaging has registered a steady increase in turnover in recent years. In comparison with the previous year, there was a significant increase, slightly higher than 9% (+ 9.11%).

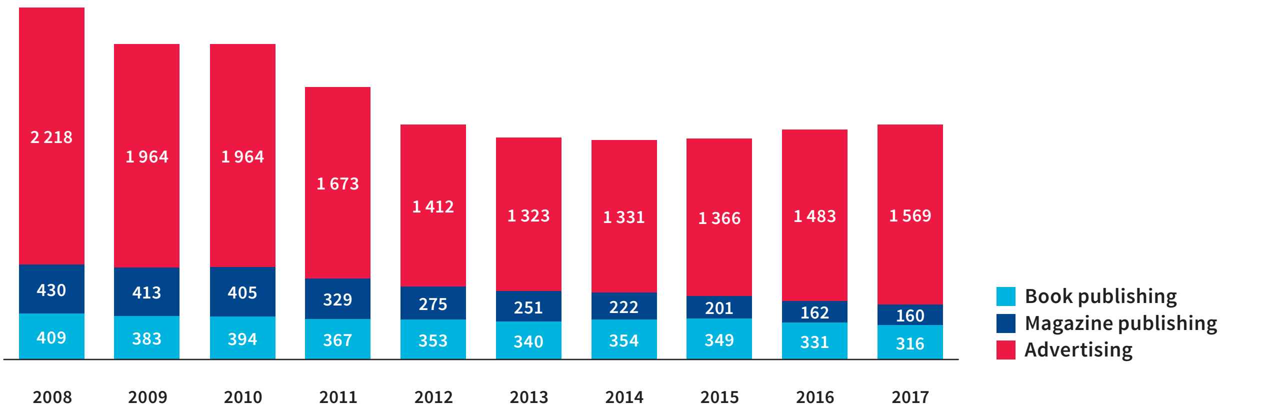
Paper packaging annual turnover (Euro Million)



Source: INE (Portuguese National Statistical Institute - http://www.ine.pt), NACE Rev. 2: 17.21 – Manufacture of corrugated paper and paperboard and of containers of paper and paperboard

Using the economic activities of book publishing, magazines publishing and advertising as a proxy for the respective segments of the printing industry, it is noticeable that the turnover of the first two segments underwent a decrease in 2017 compared to 2016, confirming a downward trend. In relation to the advertising segment, there is a recovery trend of its value, starting in 2014. In relation to the previous year, the turnover of this segment grew by almost 6% (+ 5.78%).

Annual turnover (Euro Million)

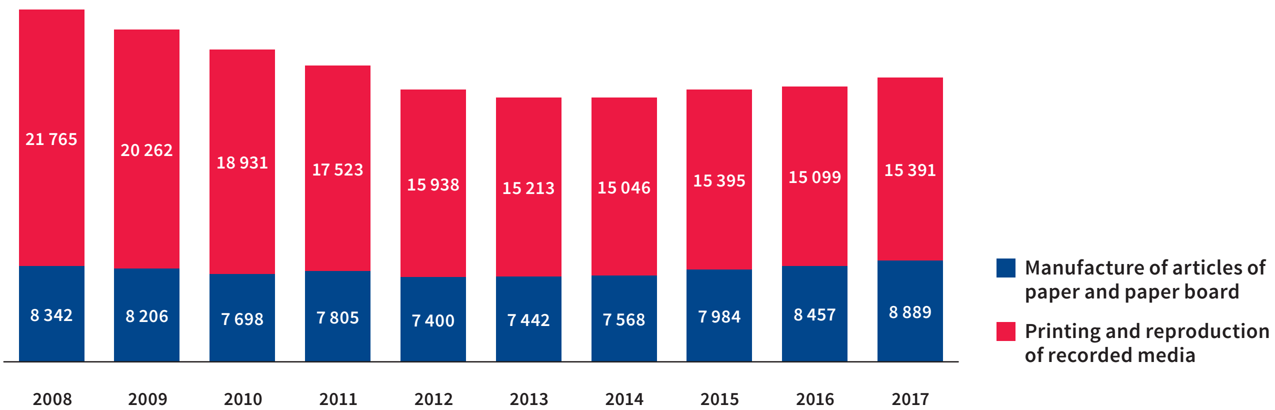


Source: INE (Portuguese National Statistical Institute - http://www.ine.pt), NACE Rev. 2: 58.11 – Book Publishing; 58.14 – Publishing of journals and periodicals; 73.1 – Advertising

Trends in the labour printing market

The number of employees in the paper and printing industry (including the manufacture of paper products and the reproduction of recorded media) began to show signs of improvement. In 2017, the number of employees increased more than 3% (+3.07%).

Persons employed in the printing industry (N°)

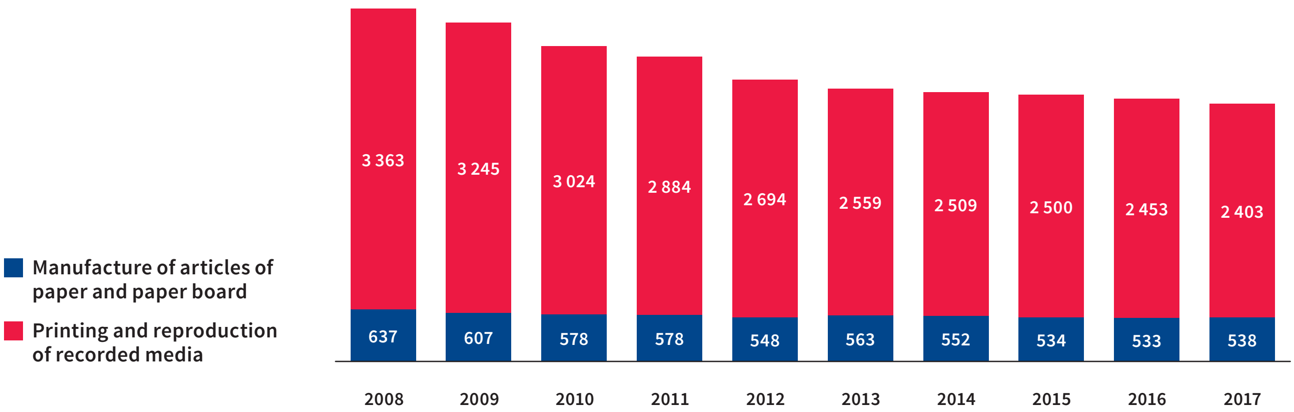


Source: INE (Portuguese National Statistical Institute - http://www.ine.pt), NACE Rev. 2: 17.2 – Manufacture of articles of paper and paperboard; 18 – Printing and reproduction of recorded media

Trends in the number of operating companies

In 2017, there were 2,941 operating companies registered (including the manufacture of paper products and the reproduction of recorded media), less 45 units than in 2016. This figure, compared to 4,000 companies in 2008, represents a decrease of 26.5%.

Printing industry enterprises (N°)



Source: INE (Portuguese National Statistical Institute - http://www.ine.pt), NACE Rev. 2: 17.2 – Manufacture of articles of paper and paperboard; 18 – Printing and reproduction of recorded media

Trends in Business Demography (printing and reproduction of recovered media – NACE 18)

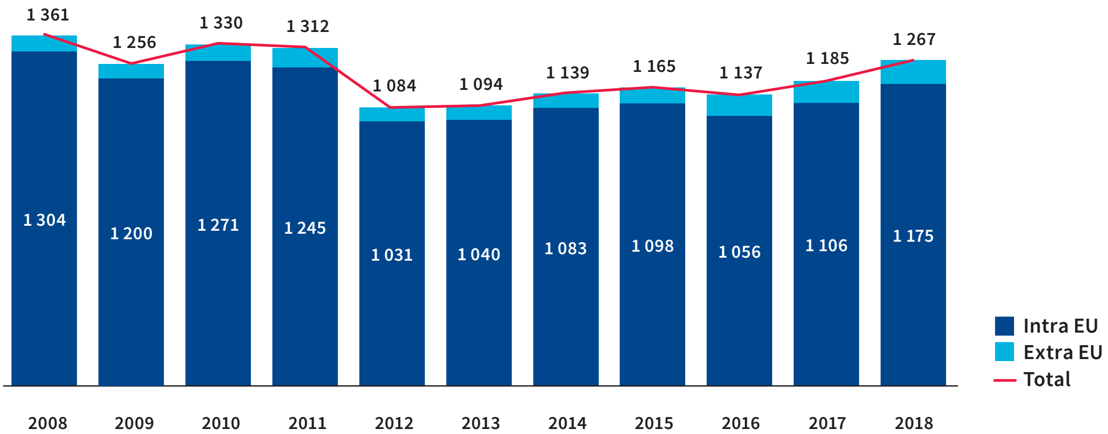
Year	2013	2014	2015	2016	2017
Operating Companies (No)	2 559	2 509	2 500	2 453	2 403
New Companies (No)	180	211	205	174	165
Dissolved Companies (No)	213	214	222	234	n/a
Birth Rate (%)	7.0	8.4	8.2	7.1	6.9
Mortality Rate (%)	8.3	8.5	8.9	9.5	n/a

Source: INE (Portuguese National Statistical Institute - http://www.ine.pt), NACE Rev. 2:18 – Printing and reproduction of recorded media

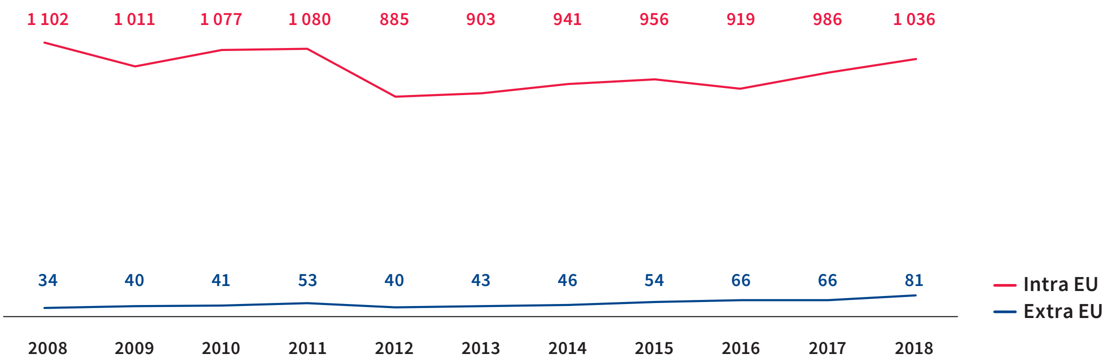
Trends in foreign trade

Imports of printed and paper products (NC 48 and 49) amounted to €1,267 million in 2018. Imports are mainly from EU countries and, compared to the previous year, total annual imports increased by more than 6.9%.

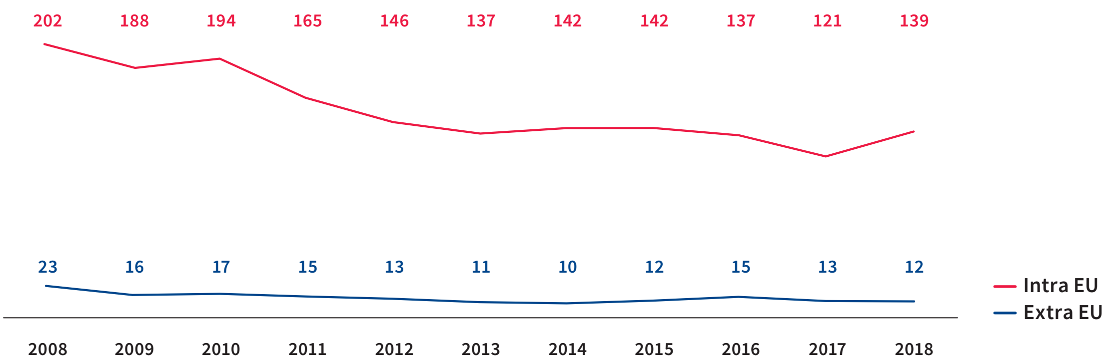
Printing industry annual imports (€ million)



Paper and paper articles (NC8-48)



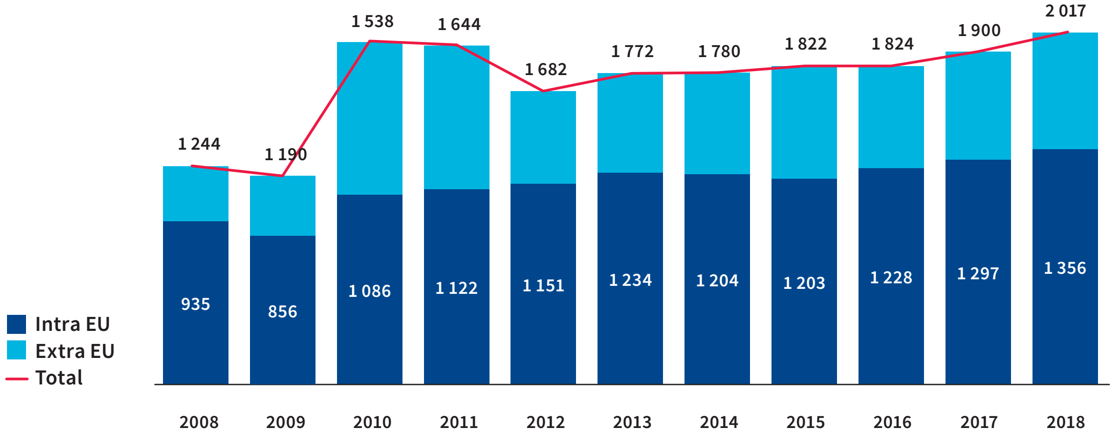
Printing industry product (NC8-49)



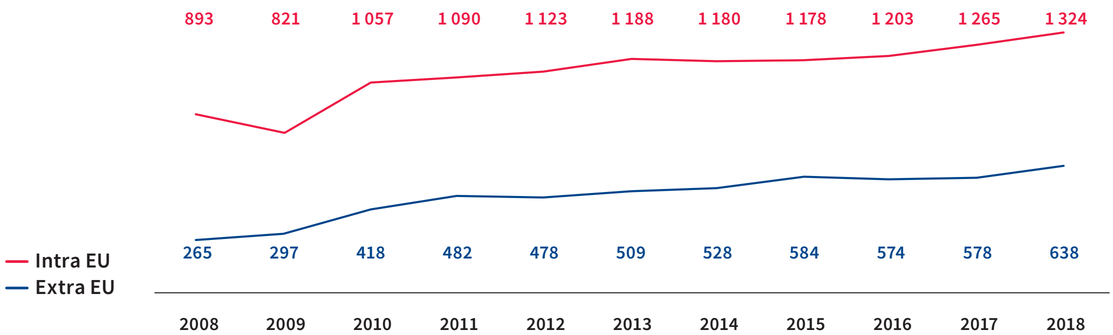
Source: INE (Portuguese National Statistical Institute - http://www.ine.pt),
NC8 48 – Paper and paperboard; articles of paper pulp, of paper or of paperboard
NC8 49 – Printed books, newspapers, pictures and other products of the printing industry...

In 2018, accounting jointly for exports of printed products and paper articles, an overall value of more than €2,000 million was reached. Both intra- and extra- EU exports maintained growth trends. In the last decade (2008-2018), exports to EU countries have grown by 45% - from €935 million in 2008 to €1,356 million in 2018 - and exports to non-EU countries have more than doubled (+114%) - going from €309 million in 2008 to €661 million in 2018. Compared to the previous year, the total annual exports increased by 6.2%.

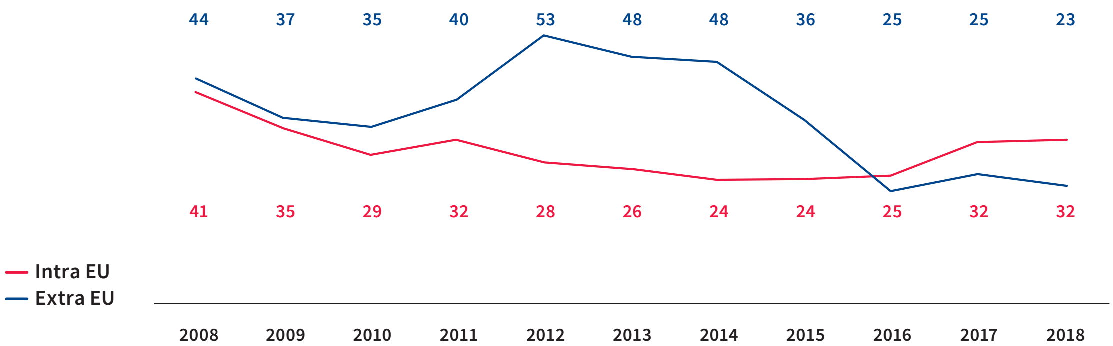
Printing industry annual Emports (€ million)



Paper and paper articles (NC8-48)



Printing industry product (NC8-49)



Source: INE (Portuguese National Statistical Institute - http://www.ine.pt),
NC8 48 – Paper and paperboard; articles of paper pulp, of paper or of paperboard
NC8 49 – Printed books, newspapers, pictures and other products of the printing industry...

The main competitors of the Portuguese printing industry are Spain, Germany, France and Italy. These countries are the main source of imports of paper products (NC 48) and products of the printing industry (NC 49). In the last five years, they accounted for more than 75% of the total value of imports.

Trends in printing processes

Weboffset and sheetfed offset show decreasing trends whereas digital printing, packaging gravure and flexography show increasing trends.

More and more printing companies are adopting digital print technology to improve their output and cut unit costs.

Packaging gravure is also a growing trend due to increased pre-press automation, which can now be operated fully automatically and with faster engraving and shorter preparation time in printers. These factors have contributed significantly to increasing the productivity and cost efficiency of the process.

Flexography and large formats are still major trends in the Portuguese printing industry

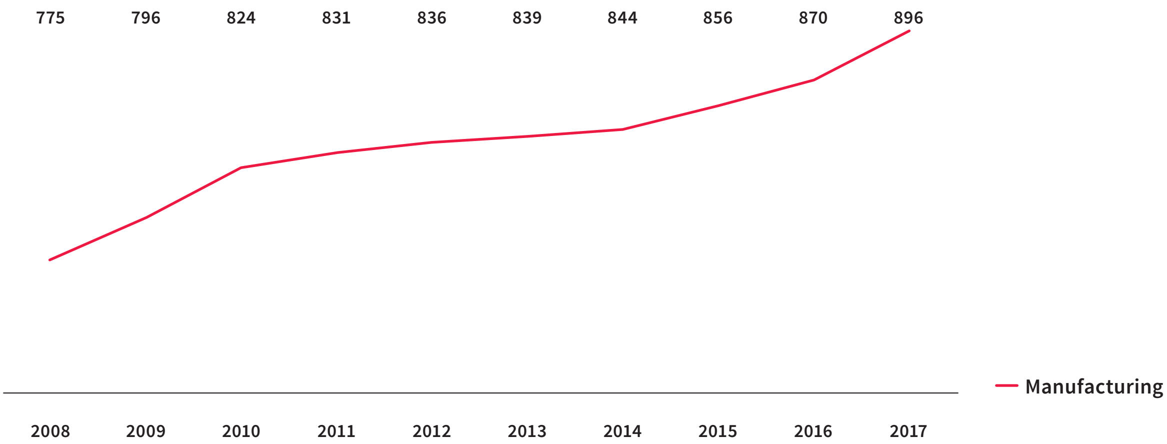
Uptake of new media

The uptake of media services is growing and the new digital services are part of the product portfolio of most Portuguese printing companies. Thus, digitisation is now viewed as complementary to traditional printing products and not so much as a competitive product. It is also viewed as a mean to increase efficiency, especially in the production of ultra-short to medium runs, to reduce resource consumption, storage costs and waste and it allows a fast response to market demands.

Trends in labour and production costs of the printing industry

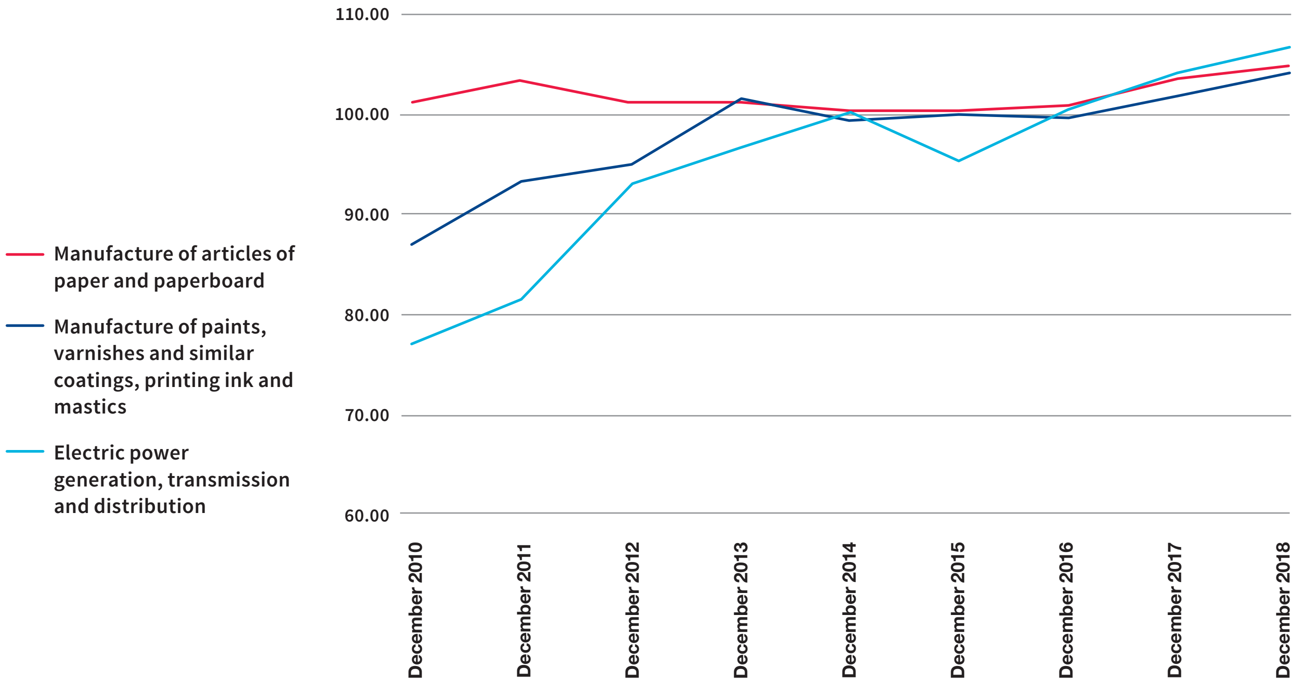
Labour costs are growing, although the average value of monthly wages remains low. In the manufacturing sector, the average monthly value reached, in 2017, €896.89 euros.

Monthly average base salary (Euros)



The evolution of the price index of paper and paperboard, printing ink and electricity is increasing. Transport costs increased due to rising fuel prices, partly reflecting the increased tax burden associated with petroleum products. Postal and insurance costs have also increased slightly.

Indexes output prices of domestic market



Source: INE (Portuguese National Statistical Institute - http://www.ine.pt)
NACE Rev. 2 – 172: Manufacture of articles of paper and paperboard; 203: Manufacture of paints, varnishes and similar coatings, printing ink and mastics; 351: Electric power generation, transmission and distribution

Developments affecting the competitiveness

One of the most important factors in Portugal is that the economic activity is expected to continue to expand up to 2020, although at a gradually slower pace. Over the next few years, the economic activity in Portugal should continue to benefit from a favourable economic and financial environment. The expansion in activity between 2018 and 2020 should hinge on the momentum behind exports and investment and the moderate growth in private consumption. However, the external environment is the source of the main risks surrounding the Portuguese economy. The uncertainty regarding the future world trade environment, associated with a potential increase in protectionism as well as the United Kingdom's departure from the EU, may translate into a postponement of investment decisions with further implications on trade.

5.12 SWEDEN

2018 turnover

For commercial printers, 2018 was very stable. The turnover increased by +0.8% in comparison to 2017.
The turnover for label printing increased by 4% and by 5% for large format printing.

Trends in specific printing market segments

For the remaining book printers in Sweden, it has been a stable year. Newspapers have declined by 5-7%. Direct mail printing and magazines were also in decline whereas other commercial printing was stable. Printed packaging increased by 4%.

Trends in the labour market

In general, there is shortage of skilled worker across all business sectors in Sweden which leads to strong competition among employers. In the past, this was not seen as a problem, companies could easily employ staff made redundant from other printers but this has now changed. Now, as the number of training facilities dedicated to the printing sector has declined fast during the last years, it is an increasing problem for employers to find skilled workers. Suppliers have taken a more active role in the training of employees. In the shift from analogue to digital printing, suppliers provide most of the needed training. Vocational training remains a key issue for the printing industry.

Trends in the number of operating companies

There is a decline in the number of operating companies (-10%/year) mainly due to continuous consolidation in the industry.

Trends in foreign trade

Sweden is exporting only small amounts of printed products, ie catalogues, books and magazines.

Book printing has largely been moved the Baltic countries over the last decade. The last years, there is also a rising interest from Danish and German printers to expand in the Swedish market. Some larger Danish printers have acquired facilities in Sweden. There have also been considerations about Norwegian printers approaching the Swedish market but this has not materialised yet.

Trends per printing process

Digital printing registered a decrease by 3%, weboffset by 1-2% and sheetfed offset by 1%. Flexography and large format are up by respectively 2-3% and 5%.

Uptake of new media

There is an increased uptake of new media services by printing companies (+4-5 % but from a small base). Those services are at a level of less than 5% of total turnover.

Digitalisation is for a fact a competition to print. However, the printing industry is very digitalised and has adapted. Most companies offer customers multiple channels of communication.

Trends in labour and production costs of the printing industry

Labour costs are steady increasing (+2%/year). All production costs have increased: inks (5-10%), solvents (10%), postal rates (4%), energy (30-40%), transport (10%) and insurance (3%).

Developments affecting the competitiveness

The new legislation on packaging and paper waste collection will require producers to collect waste in basically every households compared to today where people bring the waste to designated collection centres. The cost for collection will escalate and calculations indicate that prices for recycled paper can increase by 30-50% which will make printed products significantly more expensive. The newspaper sector is especially very worried that this will accelerate the decline in printed newspapers. Also, other sectors of the graphic industry are concerned how this will affect competitiveness with other materials.

5.13 SWITZERLAND

2018 turnover
In 2018, the turnover decreased by approximately 5% compared to 2017.

Trends in specific printing market segments
Magazines are in decline with the exception of company magazines. Newspapers are also in decline, both advertisements and subscriptions register a decreasing trend. Direct mail in increasing thanks to better digital printing presses. Other commercial printing is stable.

Trends in the labour market
The unemployment rate is decreasing. There is a shortage of skilled workers. There are new jobs in the industry, ie media technologists, mediamaticians.

Trends in the number of operating companies
The number of printing companies is still decreasing. The structural adjustments are still in progress. The number of mergers is stable.

Trends in foreign trade
Competition for Switzerland include Germany, France, Austria, Italy and Eastern countries.

Can you assess the trends per printing process?
Digital printing is growing thanks to inkjet technology. Weboffset and sheetfed offset are declining because of the competition from abroad. Packaging gravure is stable but under price pressure. Large format is growing because of the growth for posters.

Uptake of new media
Digitalisation is seen by Swiss printers as an opportunity for additional services, but in the long run it is also reducing print volumes.

Trends in labour and production costs of the printing industry
Labour costs are declining due to increased automation and decreasing number of employees. Most production costs have increased with the exception of energy which remained stable.

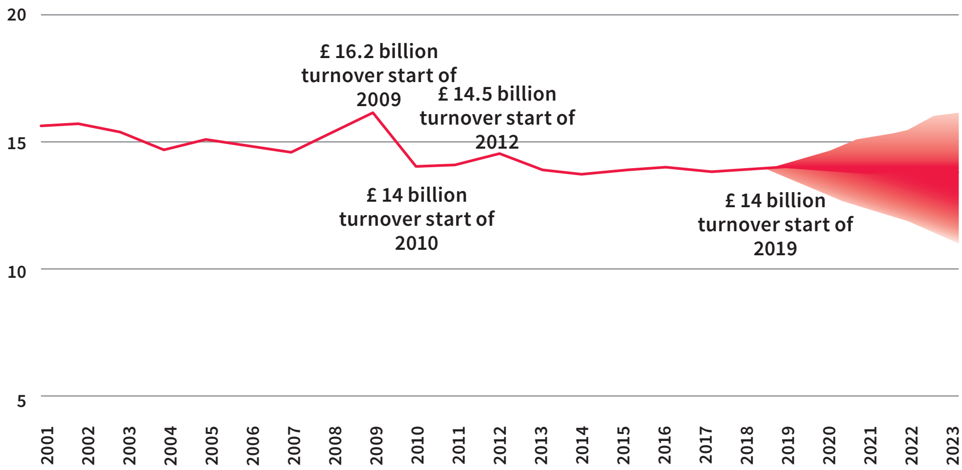
Developments affecting the competitiveness
There is a significant pressure on prices mainly due to foreign competition.

5.14 UNITED KINGDOM

2018 turnover

Preliminary data suggests that 2018 turnover data may be very slightly up (around 1%, in comparison to 2017) for the entire printing industry. The fan chart below shows turnover on recent years and expectations for the next few years.

UK Printing industry - turnover (£bn) 2001-2023



Source: BPIF Research; 2017 – 2023 forecast estimates

As in recent years, much of the headlines are often dominated by the changes that have been occurring in the newspaper and magazine sectors – which continue to face considerable disruption from the rise of digital media and changing consumer behaviour. However, other sectors have exhibited more stability and some have seen healthy growth. The charts below show that companies have been able to achieve output and order growth throughout 2018 (though not all will have achieved turnover growth).

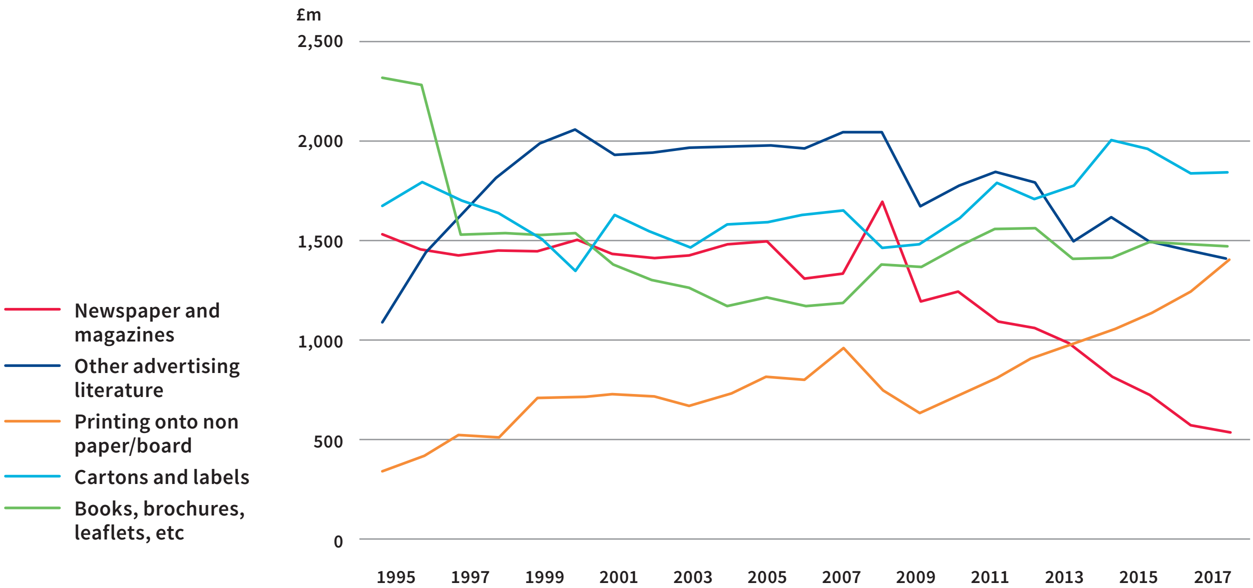
Volume of output - Q4 boost in-line with forecast, dip to come in Q1

Volume of orders - pick-up beyond Q4 expectations, Q1 sees less growth

Trends in specific market segments

The chart below shows recent turnover performance for some of the main sectors in the UK printing Industry in the last 20 years.

Printing - sector performance (turnover)



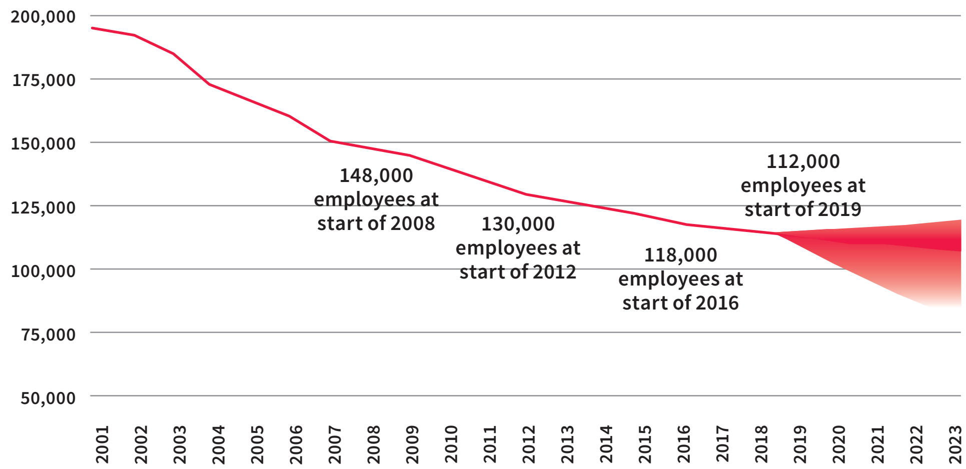
Source: BPIF Research analysis of ONS PRODCOM data

In particular the book sector has recorded healthy growth over the last 10 years, printing on to materials other than paper/board (such as signage, large format, textile and vehicle graphics) has grown considerably, and paper and board based printed packaging and labels has generally performed well. Personalised and variable data printing services are expected to grow in the coming years.

It is notable that a number of high-profile brands (Ikea, Apple, Facebook and Google being some examples) are returning to print or being highly positive of their use of print.

Trends in the labour market

UK Printing Industry - number of employees 2001-2023



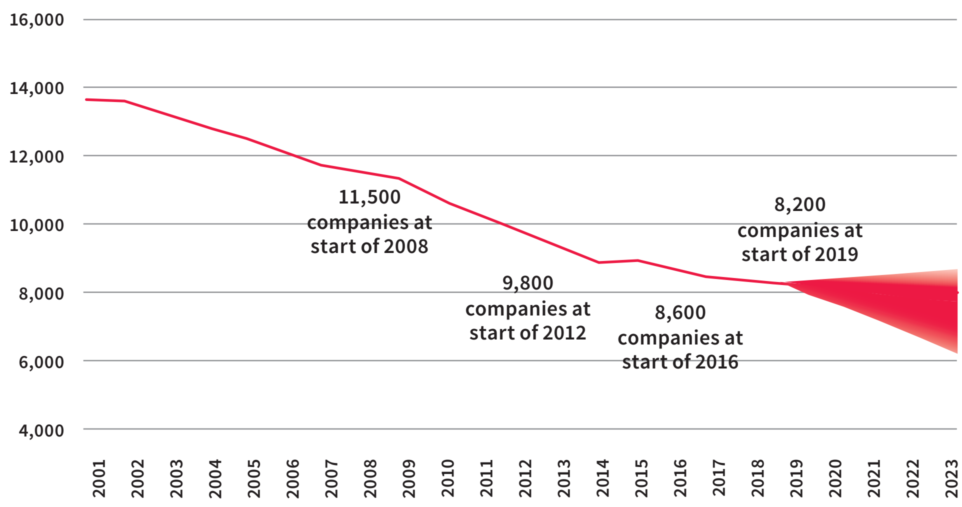
Source: BPIF Research; 2017 – 2023 forecast estimates

Whilst the overall number of employees in the industry is falling, the headline data is swamped by the decline of certain sectors. The BPIF Printing Outlook survey shows that there are companies that are experiencing positive employment growth.

Employment - Q recruitement positive and expected to remain so

Trends in the number of operating companies

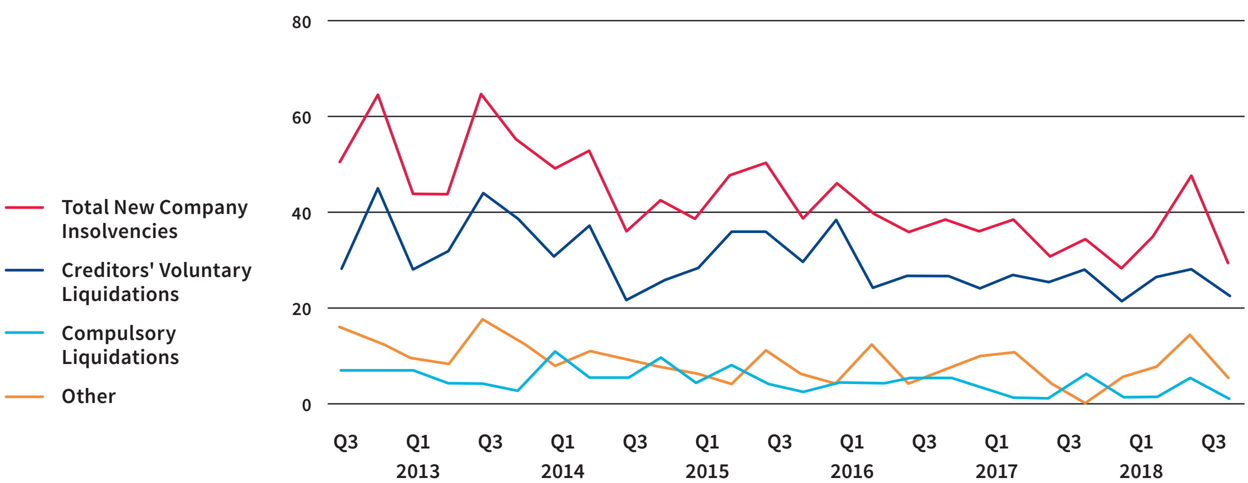
UK Printing Industry – number of companies 2001-2023



Source: BPIF Research; 2017 – 2023 forecast estimates

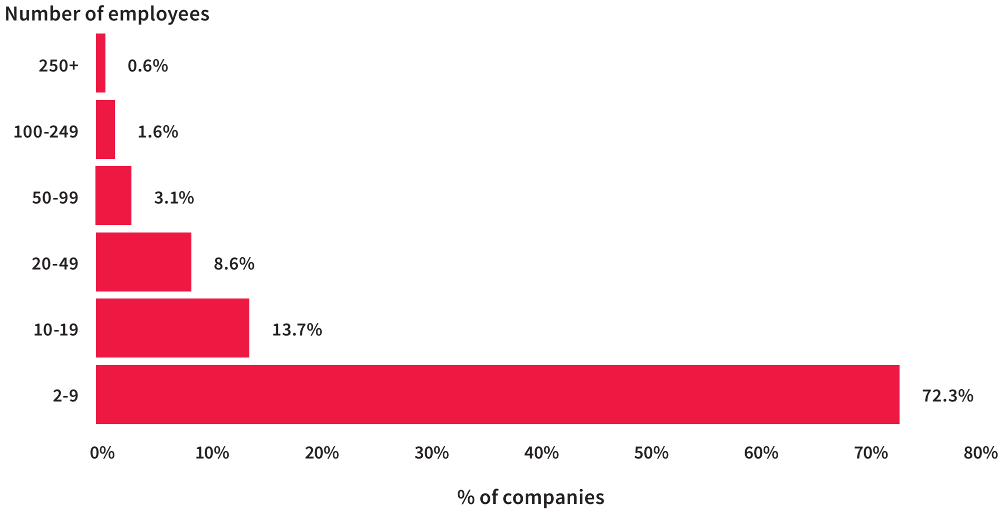
There were 106 new company insolvencies in the printing industry (SIC 181) in England, Wales and Scotland in 2018. This total is derived from 74 creditors' voluntary liquidations, seven compulsory liquidation and 20 administrations and five company voluntary arrangements. The latest total figure is very marginally up from 105 in 2017.

Company insolvencis – printing (SIC 181)

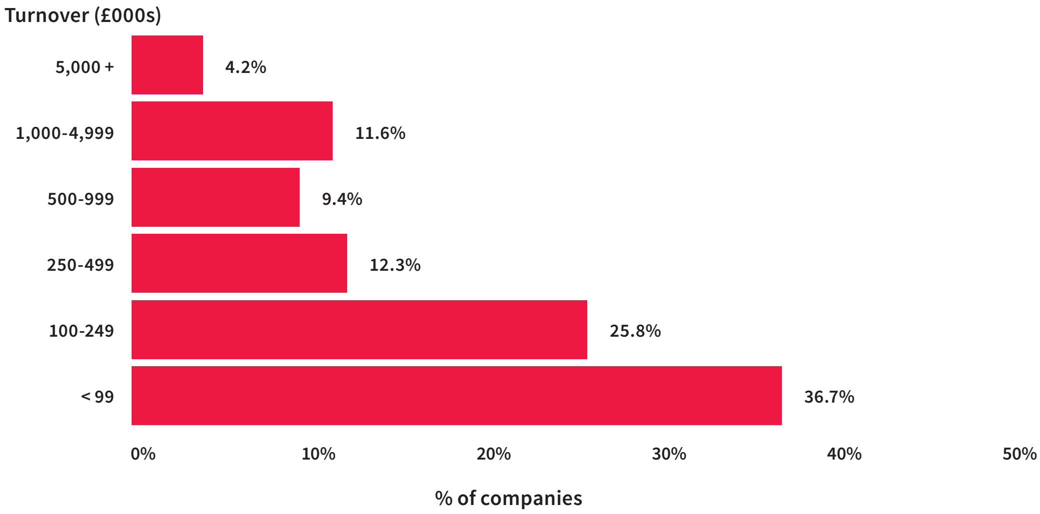


Source: The Insolvency Service

Companies by employment size, 2017



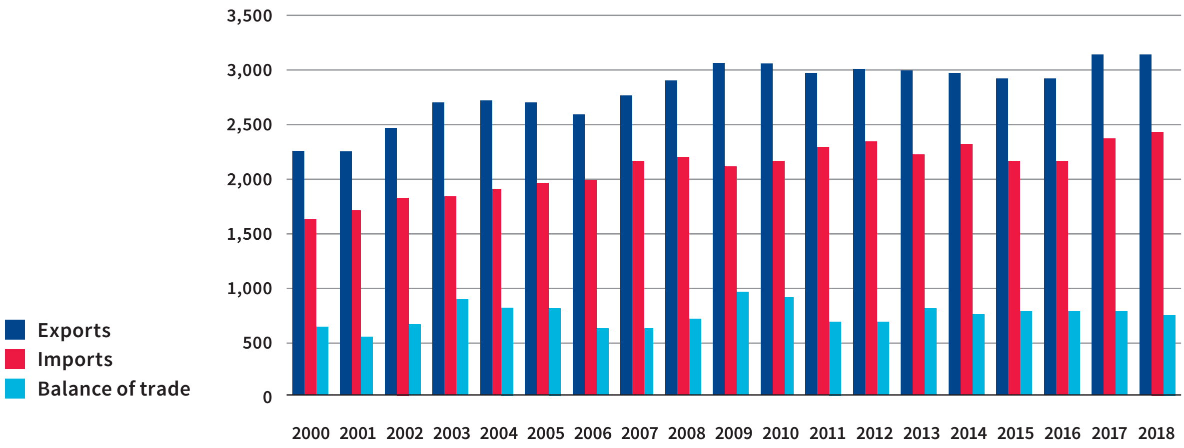
UK Printing Industry - companies by turnover size, 2017



Trends in foreign trade

Trade in printed matter has risen to record levels in 2018. Both export and import levels have reached their highest ever values though, in comparison to 2017 imports have increased to a greater proportion so that the trade balance has declined slightly. However, at £743 million it remains significantly positive.

Overseas trade in printed matter 2000-2018, in £m



Source: BPIF Research analysis of HM Revenue and Customs data

Exports - growth slowed in Q but some improvement expected in Q1

The top 20 country ranking by value of printed product imports to the UK in 2018 was: United States, China, Germany, Hong Kong, Netherlands, Italy, Poland, France, Belgium, Ireland, India, Spain, Malaysia, Turkey, Denmark, Czech Republic, Singapore, Switzerland, UAE.

The United States and China are some way ahead of the rest. In turn, Germany, Hong Kong and the Netherlands are well ahead of those countries following them.

The top 20 county ranking by value of printed product exports from the UK in 2018 was: United States, Ireland, Australia, Germany, France, Netherlands, Spain, Italy, Belgium, Poland, China, Sweden, Singapore, South Africa, Japan, UAE, India, Czech Republic, Canada.

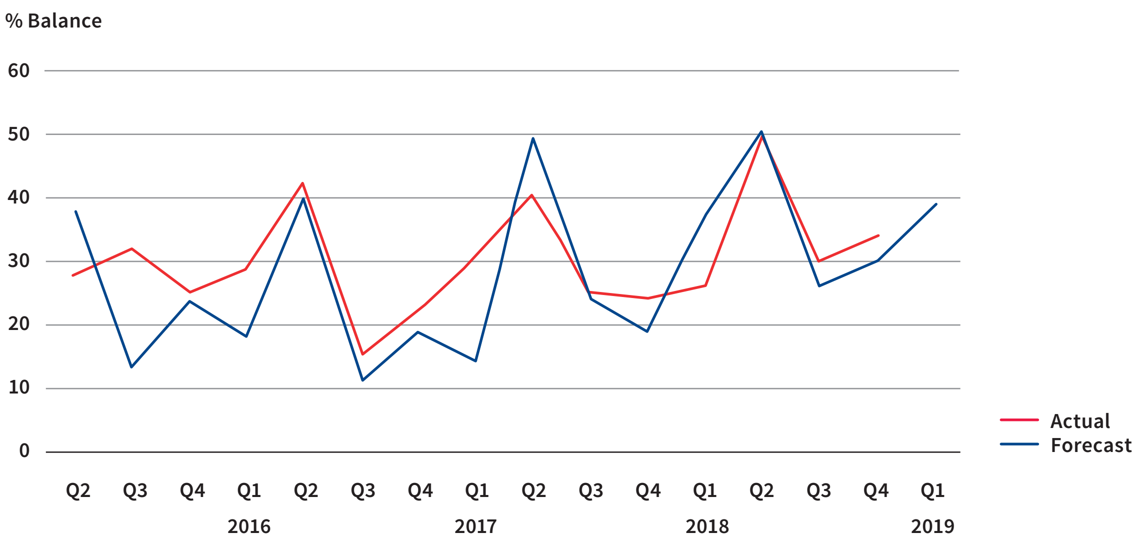
The United States was some way ahead of the rest. Then Ireland, Australia and Germany were well ahead of France, the Netherlands and Spain.

Interestingly, in 2018, there were only 11 countries that the UK had a negative trade balance of printed products with – they were: China, Hong Kong, United States, Netherlands, India, Italy, Poland, Malaysia, Turkey, Belarus, Nepal.

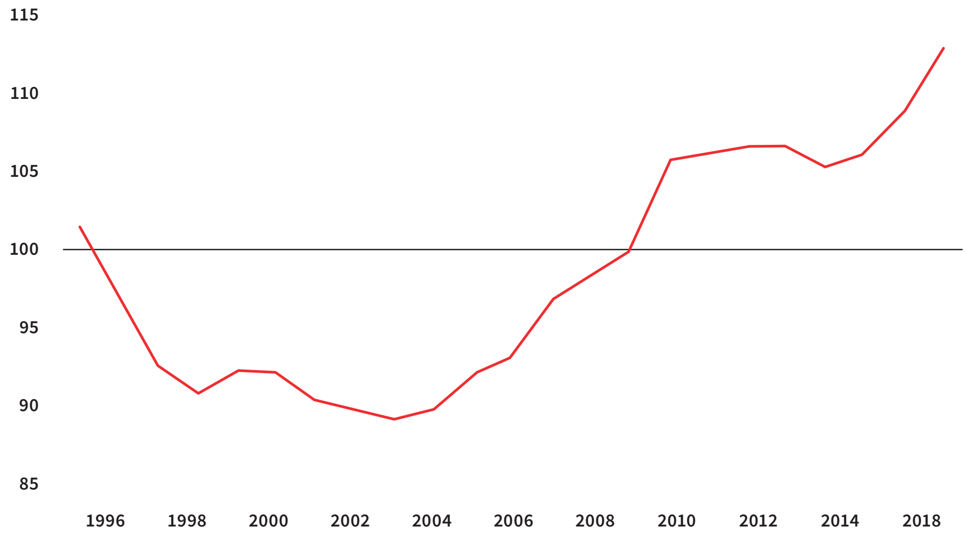
The top 10 countries that the UK had a positive trade balance of printed product with were: Australia, Irish Republic, France, Spain, Sweden, South Africa, Japan, Singapore, UAE, Mexico.

Trends in labour and production costs of the printing industry

Labour cost - increases in Q4 and Q1 but not likely to peak until Q2



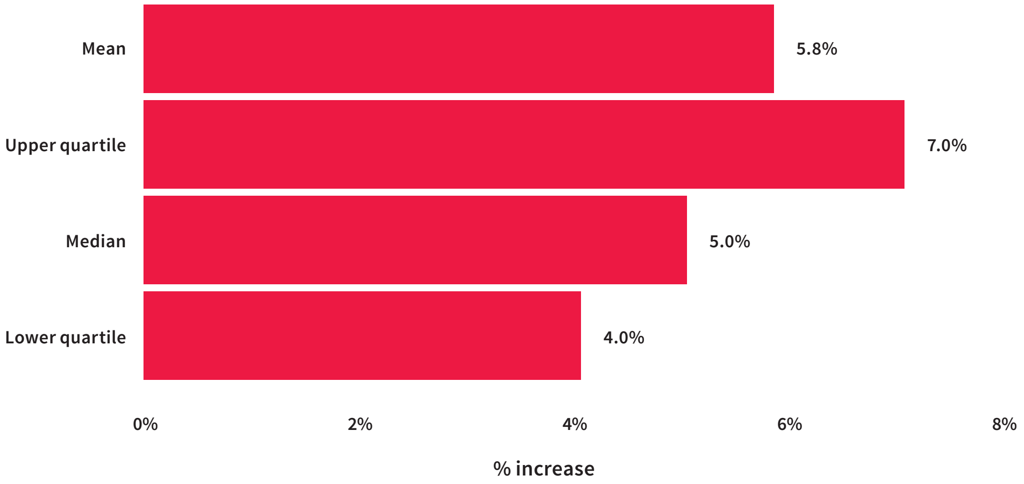
Input price: Printing and recording services (SIC 18 - 2010 = 100)



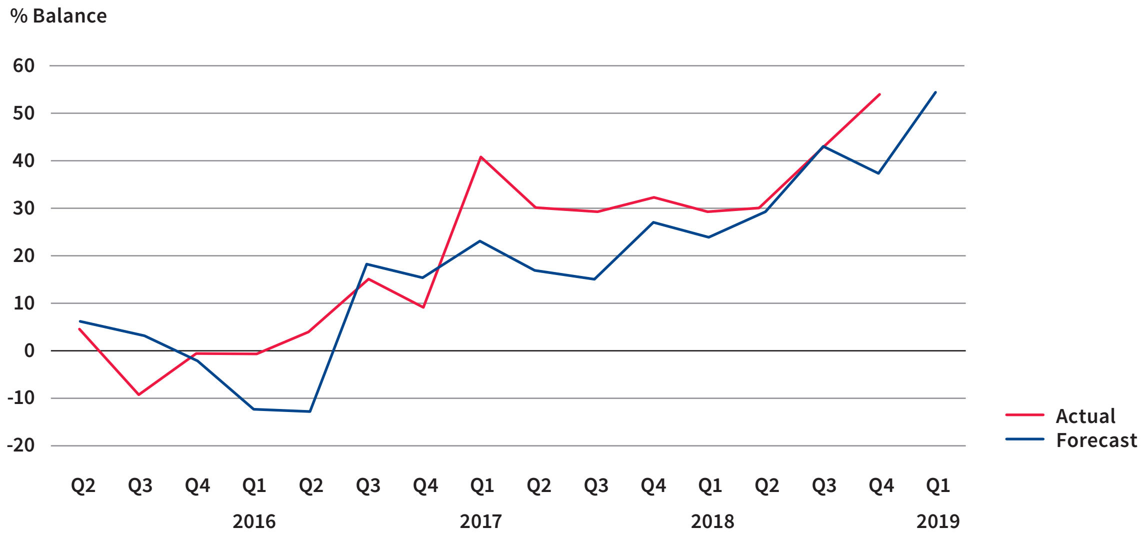
Source: BPIF Research presentation of ONS data

Cost of paper & board - no respite from the rising costs

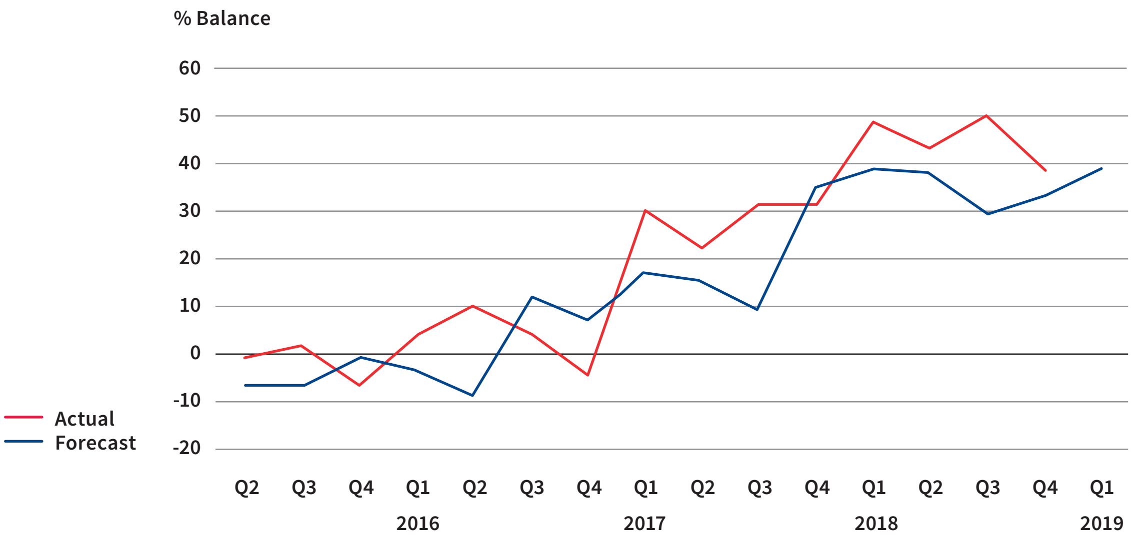
Paper and board price movements, Q4 2018



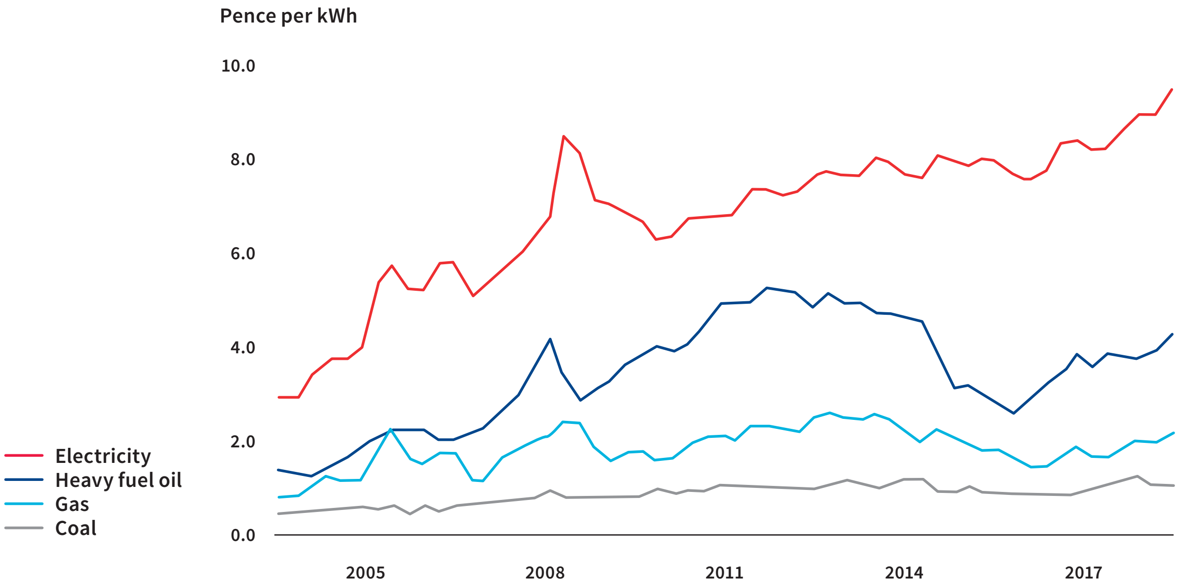
Cost of ink - pressure intensifying as price rises increase momentum



Energy costs - increases continue to come through, more expected in Q1



Manufacturing industry fuel prices - in cash terms



Source: DECC, Quarterly Energy Prices

Developments affecting the competitiveness

Current priorities include productivity (developing skills; encouraging capital investment; and promoting research and development), profitability (prompt payment; limiting pre-pack arrangement; improving ability to trade), promotion of fairness for public sector procurement and promotion of print in general, Brexit (certainty over plans; access to EU single market and customs union; stabilising exchange rates; and freedom of movement for EU workers). Furthermore, apprenticeship levy, the national living wage, the pension reform and in general the digital economy may affect the competitiveness of the industry.

Brexit and the UK Printing Industry

The printing industry makes a positive contribution to the UK's trade balance. There is also a significant amount of trade in the supply chain. The major material input is of course paper and board – almost all of which is imported (80% from Europe). Furthermore, the investment market (technology, capital equipment, software etc.) is a worldwide market. As such, there are concerns over uncertainty, exchange rate fluctuations, supply chain security, potential cash flow pressure caused by VAT payments due on imports which may not be timely recovered and the impact on costs and profits. However, some companies may be in a position to exploit opportunities arising from changes in the economy, interest rates staying lower for longer or improved exporting competitiveness and import substitution.

6.
ANNEXES

Annex to 2.1

Turnover, 2016, in million €

	18.1	18.11	18.12	18.13	18.14
	Printing and service activities related to printing	**Printing of newspaper**	**Other printing**	**Pre-press and pre-media services**	**Binding and related services**
Austria	1 900,7	144,7	1 600,4	101,6	54,1
Belgium	2 792,6	143,5	2 281,5	300,3	67,3
Bulgaria	339,1	22,5	294,8	15,1	6,7
Croatia	558,2	16,7	494,5	41,8	5,3
Cyprus	65,0	:	62,5	1,6	0,9
Czech Republic	1 220,6	:	:	:	:
Denmark	896,6	46,4	775,4	74,8	:
Estonia	236,2	0,0	227,7	8,5	:
Finland	1 060,0	112,9	896,6	45,1	5,4
France	8 670,9	175,1	6 520,1	1 685,5	290,2
Germany	18 763,2	1 219,2	14 949,1	1 590,8	1 004,2
Greece	595,7	12,4	446,0	103,8	33,5
Hungary	888,2	7,5	752,1	110,7	17,8
Ireland	713,8	:	622,3	36,7	:
Italy	10 652,5	383,4	8 791,2	862,2	615,7
Latvia	202,5	0,2	194,3	5,2	2,8
Lithuania	212,4	1,6	192,6	15,8	2,5
Luxembourg	100,3	0,0	98,0	2,3	:
Malta	137,4	:	:	:	:
Netherlands	3 467,6	:	3 028,7	:	:
Poland	3 095,6	58,9	2 721,9	212,6	102,3
Portugal	983,4	20,5	761,1	182,0	19,8
Romania	749,9	64,7	636,9	31,0	17,3
Slovakia	372,8	3,8	295,1	64,3	9,6
Slovenia	423,9	0,8	344,0	73,5	5,6
Spain	5 625,2	239,6	4 622,8	554,5	208,3
Sweden	2 132,0	232,9	1 700,3	159,1	39,7
United Kingdom	12 649,5	59,1	11 274,2	915,3	400,9
EU-28	**79 505,8**	**2 966,4**	**64 584,1**	**7 194,1**	**2 909,9**
Norway	937,1	184,3	630,7	103,4	18,7
Switzerland	4 043,0	:	:	:	:

Annex to 2.1

Number of companies, 2016

	18.1	18.11	18.12	18.13	18.14
	Printing and service activities related to printing	Printing of newspaper	Other printing	Pre-press and pre-media services	Binding and related services
Austria	856	15	646	116	79
Belgium	3 813	71	1 789	1 842	111
Bulgaria	1 013	14	716	201	82
Croatia	1 248	19	839	309	81
Cyprus	251	:	223	19	9
Czech Republic	7 571	:	:	:	:
Denmark	685	8	483	150	44
Estonia	377	0	327	40	10
Finland	814	10	619	148	37
France	17 256	40	5 191	11 374	651
Germany	10 046	179	6 521	2 527	820
Greece	2 651	49	1 543	895	164
Hungary	3 098	16	1 366	1 525	191
Ireland	1 032	:	733	237	:
Italy	15 057	40	11 773	2 096	1 148
Latvia	469	6	332	83	48
Lithuania	661	3	266	65	327
Luxembourg	79	0	47	28	4
Malta	135	:	:	:	:
Netherlands	3 375	31	2 268	516	560
Poland	8 820	364	4 910	2 730	816
Portugal	2 415	22	1 440	796	157
Romania	1 928	54	1 457	209	208
Slovakia	1 675	9	822	713	131
Slovenia	1 182	9	565	543	65
Spain	12 380	65	9 506	2 416	394
Sweden	2 782	24	1 959	638	161
United Kingdom	11 208	28	9 395	1 472	313
EU-28	**112 877**	**1 076**	**65 736**	**31 688**	**6 611**
Norway	920	35	531	332	22
Switzerland	1 131	:	:	:	:

Annex to 2.1

Number of employees, 2016

	18.1	18.11	18.12	18.13	18.14
	Printing and service activities related to printing	**Printing of newspaper**	**Other printing**	**Pre-press and pre-media services**	**Binding and related services**
Austria	10 389	602	8 670	638	479
Belgium	11 010,0	631	9 194	1 185	:
Bulgaria	8 692	249	7 711	501	231
Croatia	7 466	188	6 473	682	123
Cyprus	904,0	:	858	30	16
Czech Republic	15 145,0	:	:	:	:
Denmark	5 174,0	359	4 366	449	:
Estonia	2 871,0	0	2 796	75	:
Finland	7 047	493	5 999	463	92
France	53 832	1 195	38 864	10 842	2 932
Germany	137 342	6 697	101 593	17 686	11 365
Greece	6 602	283	4 529	1 290	500
Hungary	14 755	80	12 005	1 981	689
Ireland	5 142	:	4 637	274	:
Italy	65 632	1 844	51 921	5 814	6 053
Latvia	3 214	10	2 877	169	158
Lithuania	4 137	50	3 706	345	36
Luxembourg	599,0	0	580	19	:
Malta	1 251	:	:	:	:
Netherlands	18 942	50	15 779	1 497	1 616
Poland	38 643	651	32 365	3 392	2 235
Portugal	14 132	311	10 390	3 008	423
Romania	15 223	1 258	12 203	908	854
Slovakia	4 698	50	3 481	856	311
Slovenia	3 653	10	2 864	717	62
Spain	50 062	1 493	39 535	5 843	3 191
Sweden	11 718	985	9 229	1 120	385
United Kingdom	106 324	:	:	:	:
EU-28	**624 599,0**	**17 489,0**	**392 625,0**	**59 784,0**	**31 751,0**
Norway	5 022	754	3 498	537	233
Switzerland	18 279	:	:	:	:

Annex to 2.1

Turnover 18.1, 1995-2016, in million €

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Austria	1 947,7	:	1 750,3	1 888,7	1 981,5	2 086,2	2 126,1	2 083,7	2 019,8	2 029,3	2 017,8
Belgium	3 078,0	3 187,8	3 066,0	3 157,6	3 336,1	3 378,5	3 864,6	3 864,6	3 678,8	3 585,7	3 640,2
Bulgaria	:	83,4	79,9	78,3	84,7	94,8	114,2	141,2	147,4	171,6	189,0
Croatia	:	:	:	:	:	:	:	:	:	:	:
Cyprus	:	:	:	:	:	85,7	89,3	84,9	82,1	87,6	92,5
Czech Republic	531,3	:	:	608,3	471,6	:	:	846,5	947,7	1 026,1	:
Denmark	1 653,2	1 802,0	1 714,0	1 818,9	1 928,1	1 936,2	1 802,4	1 722,1	1 616,0	1 517,7	1 518,5
Estonia	:	:	:	:	:	:	:	94,4	101,4	114,2	132,3
Finland	1 219,9	1 273,0	1 379,7	1 460,3	1 474,6	1 543,0	1 579,1	1 536,7	1 458,9	1 457,8	1 624,6
France	:	13 147,0	12 987,2	13 543,9	13 797,0	14 135,5	14 365,4	13 993,7	13 318,7	13 136,9	13 082,8
Germany	:	:	:	:	24 754,0	21 337,8	21 275,0	20 975,8	18 805,9	20 067,7	21 115,0
Greece	:	:	:	:	:	:	:	:	1 354,3	1 504,9	1 464,4
Hungary	:	:	:	385,9	448,2	591,1	823,6	890,3	931,6	991,5	989,5
Ireland	:	:	742,9	789,3	828,0	858,9	854,5	837,3	741,3	667,4	878,2
Italy	8 889,5	9 706,5	10 128,0	10 747,9	10 996,9	12 851,9	13 223,2	13 377,5	14 058,6	14 241,1	13 426,3
Latvia	:	:	39,0	66,8	80,2	80,1	96,1	97,2	99,9	124,5	130,8
Lithuania	:	:	:	:	:	62,9	78,7	94,5	99,1	106,1	116,1
Luxembourg	103,4	95,8	98,4	103,9	117,0	134,5	139,7	140,8	154,1	151,9	152,0
Malta	:	:	:	:	71,5	90,7	81,1	96,6	105,1	:	104,5
Netherlands	5 502,9	5 836,5	5 431,9	5 572,5	5 664,7	5 886,3	5 936,8	5 599,4	5 207,4	5 228,8	5 178,3
Poland	:	819,7	1 050,8	1 253,9	1 575,0	1 868,8	2 247,9	2 295,3	2 061,0	2 193,4	2 514,8
Portugal	:	:	:	:	1 247,8	1 299,0	1 391,5	1 237,7	1 269,3	1 395,4	1 305,9
Romania	:	:	:	:	:	314,7	303,5	330,9	385,4	473,8	549,2
Slovakia	135,0	:	148,5	154,1	126,6	174,5	225,3	220,1	202,7	202,8	225,8
Slovenia	251,6	246,4	257,3	280,9	274,2	305,1	330,4	406,0	376,6	388,3	392,9
Spain	4 947,7	5 400,6	5 538,5	6 249,0	6 248,3	7 826,6	7 681,3	8 239,7	8 116,9	8 545,3	8 593,5
Sweden	2 766,5	3 044,8	3 038,6	3 086,6	3 130,3	3 284,6	2 994,0	2 904,5	2 802,9	2 870,7	2 804,9
United Kingdom	:	15 050,2	20 020,2	20 290,6	21 389,1	23 639,1	23 118,3	22 505,5	18 398,7	19 843,2	17 980,2
EU-28	**31 026,7**	**59 693,7**	**67 471,2**	**71 537,4**	**100 025,4**	**103 866,5**	**104 742,0**	**104 616,9**	**98 541,6**	**102 123,7**	**100 220,0**
Norway	:	1 151,4	1 236,9	1 295,1	1 363,7	1 505,1	1 400,1	1 424,7	1 285,7	1 316,1	1 424,3
Switzerland	:	:	:	:	:	:	:	:	:	:	:

Slovakia: include as from 2010 individual entrepreneurs

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
2 167,9	2 171,8	2 325,8	2 090,8	1 976,5	2 030,1	1 988,2	1873,9	1 852,5	1 863,7	1 900,7
3 888,0	3 963,5	3 636,0	3 636,0	3 475,4	3 382,9	4 054,1	3202,1	3 248,0	3 028,1	2 792,6
224,3	284,3	277,2	274,6	278,9	298,0	312,6	315,3	348,0	330,7	339,1
:	:	564,3	546,0	528,1	538,2	521,6	516,3	537,5	577,8	558,2
102,8	112,3	121,0	121,0	101,2	100,0	83,7	63,9	63,9	63,9	65,0
1 276,5	1 470,3	1 607,8	1 607,8	1 347,7	1 336,2	1 336,2	1227,0	1 220,6	1 220,6	1 220,6
1 521,2	1 547,2	1 535,5	1 535,5	962,7	931,8	1028,9	959,1	1 006,5	952,8	896,6
157,1	157,1	188,4	159,4	197,6	201,7	204,5	216,9	216,9	218,1	236,2
1 657,4	1 716,1	1 671,7	1 433,4	1 355,1	1 407,8	1 454,8	1343,3	1 206,2	1 119,0	1 060,0
13 019,5	12 736,8	12 447,2	10 694,9	10 554,0	10 220,0	9 491,1	8904,5	8 787,6	8 390,7	8 670,9
22 099,1	21 600,8	21 505,6	20 405,8	20 677,2	21 133,1	20 446,1	19151,3	18 260,8	17 528,9	18 763,2
1 579,7	1 629,5	888,0	862,3	862,3	862,3	595,6	509,3	493,8	616,7	595,7
970,6	1 077,9	1 086,8	850,3	889,8	893,0	881,3	871,7	890,3	926,3	888,2
711,3	686,7	971,0	742,1	827,5	758,4	891,8	711,7	640,7	652,9	713,8
14 848,3	14 512,1	14 133,5	11 422,3	11 766,5	11 617,4	10 824,8	10169,2	9 976,9	10 007,1	10 652,5
193,7	208,2	178,6	134,7	142,5	155,3	184,2	218,8	204,0	202,9	202,5
170,7	195,5	170,7	127,5	132,4	167,8	197,7	208,7	217,2	218,8	212,4
146,1	146,1	133,7	133,7	133,7	141,4	139,5	107,4	111,6	105,6	100,3
:	131,2	:	:	:	:	:	:	159,4	159,4	137,4
5 088,1	5 432,8	5 381,6	4 809,2	4 645,5	4 537,2	4 176,6	3935,3	3 748,4	3 472,5	3 467,6
2 812,2	3 453,2	2 803,8	2 080,0	2 455,3	2 556,0	2 515,9	2733,6	2 977,4	3 124,4	3 095,6
1 265,8	1 282,6	1 303,5	1 212,7	1 163,4	1 109,5	954,3	950,8	983,4	1 007,0	983,4
624,5	779,9	806,8	649,5	665,3	687,4	662,0	679,2	737,1	741,6	749,9
294,3	365,1	391,0	391,0	431,2	386,8	386,4	401,6	381,7	378,4	372,8
426,4	469,4	465,7	448,2	416,8	428,7	415,1	410,2	415,2	420,3	423,9
9 041,9	9 298,1	8 794,7	7 781,3	7 466,4	6 833,8	5 734,3	5525,2	5 559,5	5 622,1	5 625,2
2 891,3	2 918,7	2 858,1	2 363,7	2 682,9	2 706,2	2 701,5	2529,0	2 331,9	2 473,2	2 132,0
18 652,6	18 438,3	16 374,5	12 365,6	12 182,6	12 946,2	13 201,6	12008,9	13 014,9	14 693,4	12 649,5
105 831,3	**106 785,5**	**102 622,5**	**88 879,3**	**88 318,5**	**88 367,2**	**85 384,4**	**79744,2**	**79 592**	**80 392**	**79 506**
1 448,5	1 536,0	1 507,4	1 286,7	1 390,5	1 406,1	1 441,5	1294,4	1 128,2	1 128,2	937,1
:	:	:	3 340,5	3 516,5	3 649,2	3 725	3725,4	3 532,8	4 043,0	4 043,0

Annex to 2.1

Number of companies 18.1, 1995-2016, in million €

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Austria	1 065	1 141	1 110	1 129	1 016	1 045	1 010	1 088	1 095	1 070	1 032
Belgium	:	:	:	:	3 914	3 728	3 905	:	3 748	3 810	3 965
Bulgaria	:	549	588	594	643	628	672	786	818	815	857
Croatia	:	:	:	:	:	:	:	:	:	:	:
Cyprus	:	:	:	:	:	277	302	316	318	322	286
Czech Republic	2 535	2 113	2 901	3 944	2 995	4 112	3 708	5 675	6 104	6 192	6 822
Denmark	2 358	2 222	2 145	2 105	1 789	1 736	1 569	1 473	1 352	1 252	1 192
Estonia	:	:	:	:	:	140	153	168	168	195	210
Finland	1 487	1 470	1 438	1 480	1 415	1 368	1 311	1 276	1 237	1 208	1 172
France	:	17 903	17 731	17 537	17 289	17 114	16 962	16 766	17 986	17 852	17 648
Germany	:	:	:	:	13 828	13 584	14 680	12 934	12 574	11 294	12 228
Greece	:	:	:	:	:	:	:	:	4 431	4 426	4 649
Hungary	:	:	:	528	590	661	4 265	4 322	4 487	4 540	4 340
Ireland	:	333	343	343	343	353	357	380	391	357	326
Italy	19 317	19 354	19 277	19 930	20 168	20 386	20 323	20 262	19 603	19 355	19 272
Latvia	:	:	165	212	245	273	258	298	324	376	389
Lithuania	:	:	:	:	:	262	274	291	295	284	386
Luxembourg	87	84	89	90	86	86	78	77	82	84	88
Malta	:	:	:	:	200	194	198	201	167	171	162
Netherlands	4 130	4 180	4 325	4 770	4 450	4 140	3 885	3 915	3 665	3 635	3 425
Poland	:	7 742	9 357	11 290	11 601	11 001	10 333	11 416	10 426	11 626	11 023
Portugal	:	:	:	:	3 201	3 056	3 116	2 987	3 237	3 251	4 699
Romania	:	:	:	:	:	1 026	1 141	1 330	1 662	1 945	2 073
Slovakia	36	:	41	40	41	186	240	245	201	200	216
Slovenia	1 264	1 294	1 147	1 190	1 287	1 282	1 413	1 133	1 094	1 112	1 120
Spain	9 286	10 318	9 914	10 357	14 254	15 445	14 452	14 445	13 958	15 070	14 593
Sweden	3 545	3 478	4 093	4 066	3 994	3 951	3 835	3 683	3 728	3 673	3 704
United Kingdom	:	19 296	19 521	19 405	19 785	18 937	18 814	18 777	18 283	17 433	16 906
EU-28	**45 110**	**91 477**	**94 185**	**99 010**	**123 134**	**124 971**	**127 254**	**124 244**	**131 434**	**131 548**	**132 783**
Norway	:	1 158	1 253	1 208	1 054	1 100	990	961	867	1 734	1 606
Switzerland	:	:	:	:	:	:	:	:	:	:	:

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1 008	1 022	985	935	931	893	877	854	854	842	856
4 022	4 677	4 426	4 426	4 229	4 043	3 506	3480	4 158	4 032	3 813
914	988	957	1 135	1 123	1 104	1 036	1023	1 026	1 013	1 013
:	:	1 816	1 905	1 752	1 624	1 542	1490	1 399	1 300	1 248
287	288	292	292	257	256	259	248	250	248	251
8 330	9 483	9 483	8 994	8 785	7 006	7 840	7598	7 546	7 528	7 571
1 137	1 081	1 063	992	950	892	842	806	771	715	685
241	245	263	279	308	310	332	362	357	383	377
1 153	1 169	1 158	1 137	1 072	1 028	968	918	887	863	814
17 601	17 916	15 848	14 987	15 352	16 192	17 772	19065	21 320	17 920	17 256
11 967	12 224	11 982	12 206	13 014	12 243	11 330	11536	11 002	10 065	10 046
4 753	4 852	4 852	3 360	3 360	3 360	2 434	2336	2 217	2 756	2 651
4 182	4 082	3 984	3 695	3 573	3 506	3 360	3198	3 198	3 153	3 098
337	374	943	989	957	950	980	1 005	1 014	1 007	1 032
19 069	18 782	17 837	16 901	16 567	16 248	15 981	15851	15 206	14 869	15 057
433	456	444	422	425	402	441	475	471	463	469
395	375	370	349	360	418	496	537	605	625	661
91	99	97	103	102	95	90	94	90	83	79
:	152	:	:	:	:	:	:	135	135	135
3 400	3 720	3 592	3 620	3 766	3 652	3 697	3787	3 656	3 492	3 375
10 464	10 960	10 553	8 186	8 616	8 335	8 157	8629	8 254	8 423	8 820
4 276	4 013	3 299	3 183	2 962	2 833	2 654	2 519	2 467	2 451	2 415
2 128	2 227	2 313	2 165	1 964	1 786	1 845	1915	1 973	1 998	1 928
262	270	245	245	1 252	1 276	1 299	1302	1 410	1 535	1 675
1 169	1 183	1 218	1 219	1 231	1 198	1 194	1179	1 183	1 189	1 182
15 023	14 853	14 866	14 427	14 128	13 638	13 177	14041	13 649	12 340	12 380
3 573	3 406	3 321	3 178	3 122	3 099	3 006	2946	2 896	2 821	2 782
16 356	15 725	14 943	14 055	13 246	12 788	12 201	11973	11 608	11 400	11 208
132 571	**134 622**	**131 150**	**123 385**	**123 404**	**119 175**	**117 316**	**119 167**	**119 602**	**113 649**	**112 877**
1 524	1 362	1 382	1 311	1 220	1 211	1 162	1097	1 036	968	920
:	:	:	:	:	:	:	2571	2488	2416	1131

Annex to 2.1

Number of employees 18.1, 1995-2016, in million €

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Austria	18 451	:	17 075	17 075	16 550	16 803	16 560	16 066	15 196	14 572	14 270
Belgium	24 170	23 372	21 750	21 780	21 315	21 161	22 619	:	20 067	19 585	19 284
Bulgaria	:	7 154	7 238	6 680	6 599	6 391	6 520	7 895	7 952	8 549	8 697
Croatia	:	:	:	:	:	:	:	:	:	:	:
Cyprus	:	:	:	:	:	1 382	:	:	1 573	1 491	1 498
Czech Republic	19 292	:	:	18 016	15 694	:	17 531	18 457	20 272	19 676	18 957
Denmark	16 963	16 740	:	16 562	16 247	16 643	15 023	14 025	12 590	10 728	10 096
Estonia	:	:	:	:	:	:	:	2 489	2 336	2 565	2 761
Finland	12 299	11 839	12 813	13 400	13 560	13 317	13 129	12 390	11 951	11 462	11 490
France	:	124 146	122 968	121 084	121 387	120 978	119 698	115 796	109 811	104 070	100 330
Germany	:	:	:	:	195 245	196 489	191 822	186 432	165 511	161 553	160 339
Greece	:	:	:	:	:	:	:	:	7 580	7 946	8 045
Hungary	:	:	:	14 107	14 727	16 076	21 213	23 683	25 437	21 936	19 727
Ireland	:	:	8 981	8 780	9 159	8 672	8 523	7 936	7 456	6 450	6 664
Italy	95 959	93 457	91 048	92 435	91 766	99 099	98 981	93 673	94 903	92 428	91 196
Latvia	:	:	3 012	3 289	4 427	3 609	3 917	4 193	3 716	4 639	4 339
Lithuania	:	:	:	:	:	3 145	3 363	3 515	3 628	3 840	3 828
Luxembourg	987	971	1 008	1 054	1 065	1 141	1 143	1 140	1 285	1 519	1 180
Malta	:	:	:	:	1 119	1 284	1 061	1 111	1 245	:	1 192
Netherlands	49 885	45 664	44 427	44 805	45 160	45 836	43 561	39 383	36 532	36 198	34 577
Poland	:	30 073	32 198	33 792	39 093	38 653	38 233	34 684	39 549	41 816	42 213
Portugal	:	:	:	:	26 321	24 588	25 259	22 857	24 762	24 425	24 831
Romania	:	:	:	:	:	14 091	14 346	15 238	16 749	19 012	19 949
Slovakia	6 053	:	5 594	5 380	4 901	5 592	6 118	5 046	3 863	4 476	4 345
Slovenia	5 829	5 787	5 777	5 721	5 735	5 731	5 778	6 058	5 686	5 567	5 555
Spain	69 721	74 102	72 623	75 278	72 097	87 209	82 852	84 949	82 864	84 311	85 069
Sweden	23 833	23 226	25 847	25 897	25 039	24 314	23 839	22 606	20 492	19 986	19 772
United Kingdom	:	193 693	175 075	198 184	193 632	186 205	179 224	171 728	170 058	156 611	149 384
EU-28	**343 442**	**650 224**	**647 434**	**723 319**	**940 838**	**958 409**	**960 313**	**911 350**	**913 064**	**885 411**	**869 588**
Norway	:	9 982	10 491	11 090	10 330	10 456	9 490	8 820	8 355	8 318	7 927
Switzerland	:	:	:	:	:	:	:	:	:	:	:

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
14 119	14 305	14 264	13 176	12 136	11 833	11 278	10 679	10 625	10 391	10 389
18 954	18 073	16 526	16 526	14 170	13 258	15 043	13 180	13 088	12 254	11 010
9 565	9 815	9 244	9 585	9 081	8 796	8 408	8 340	8 570	8 244	8 692
:	:	9 077	8 692	7 835	7 794	7 613	7 439	7 515	7 402	7 466
1 497	1 434	1 462	1 462	1 210	1 182	1106	969	969	969	904
19 717	21 458	21 458	18 083	15 050	14 830	14 830	15 145	15 145	15 145	15 145
10 207	10 007	9 594	9 594	6 411	6 411	6 578	6 117	6 403	6 142	5 174
2 906	2 906	2 920	2 554	2 695	2 728	2 565	2 593	2 593	2 799	2 871
11 175	11 586	11 965	11 185	10 238	9 810	9 699	9 185	8 487	7 867	7 047
96 714	92 307	79 618	74 253	71 400	68 485	62 719	59 101	57 095	54 665	53 832
155 260	159 118	160 643	154 068	158 904	156 358	145 550	144 151	138 748	134 465	137 342
8 109	8 534	8 534	9 448	9 448	9 448	8 180	7 409	6 702	6 011	6 602
18 195	19 560	17 152	15 211	14 467	14 282	13 650	13 263	13 302	14 928	14 755
5 988	5 745	6 729	5 390	5 002	4 887	4 650	4 511	4 593	4 569	5 142
90 240	89 887	84 259	82 299	75 673	70 779	68 462	65 091	62 519	60 520	65 632
4 713	4 974	4 406	3 061	2 766	2 703	3 040	3 211	3 439	3 382	3 214
4 733	4 939	4 255	3 787	3 430	3 577	3 831	4 009	4 162	4 239	4 137
1 166	1 166	926	926	926	887	874	709	699	689	599
:	1 260	:	:	:	:	:	:	1260	1260	1251
34 947	34 889	34 474	31 927	28 213	26 064	24 386	22 939	20 744	19 041	18 942
42 695	45 789	34 652	32 220	32 985	34 231	32 461	34 280	35 300	38 390	38 643
23 143	22 210	20 371	18 914	17 802	16 393	14 869	14 251	14 135	14 437	14 132
19 780	20 583	20 200	18 502	16 851	16 990	16 134	15 884	15 378	15 200	15 223
4 683	5 573	6 225	6 225	6 341	5 348	5 373	5 322	5 797	5 024	4 698
5 477	5 441	4 981	4 921	4 516	4 252	4 048	3 759	3 647	3 631	3 653
83 903	81 367	78 252	69 512	65 796	61 010	55 478	49 091	48 670	49 578	50 062
18 422	18 468	18 321	16 822	16 204	15 282	14 588	13 609	12 933	12 935	11 718
147 364	142 702	137 378	106 255	104 562	97 797	97 797	97 797	106 324	106 324	106 324
853 672	**854 096**	**817 886**	**744 598**	**714 112**	**685 414**	**653 209**	**632 034**	**628 842**	**622 213**	**624 599**
7 905	7 634	7 514	7 099	6 733	6 317	6 102	5 826	5 229	5 360	5 022
:	:	:	:	:	:	:	20 076	19 213	18 279	18 279

Annex to 2.2

Printing and recorded media, labour cost per employee, full-time equivalent

	2008	2009	2010	2011	2012	2013	2014	2015	2015
Austria	52,0	50,7	53,8	54,1	56,4	58,2	58,8	61,7	59,3
Belgium	51,6	53,6	55,8	56,3	59,4	60,6	60,4	60,3	59,9
Bulgaria	4,2	4,3	4,2	4,6	4,8	5,2	5,5	5,9	6,4
Croatia	14,9	14,5	15,3	14,8	15,0	14,8	14,4	14,9	14,2
Cyprus	22,1	23,2	22,9	23,4	22,0	19,7	20,0	18,5	19,2
Czech Republic	14,2	14,1	14,8	15,3	15,1	14,8	14,2	14,8	15,2
Denmark	58,0	57,2	59,6	58,5	60,6	60,3	60,8	61,9	62,8
Estonia	14,2	13,2	13,1	13,6	14,9	15,4	16,0	16,3	17,9
Finland	43,4	43,0	44,5	46,4	47,0	47,2	48,7	48,8	50,5
France	:	49,6	51,3	52,6	51,9	52,3	53,0	55,0	53,2
Germany	40,9	41,0	40,3	39,9	41,6	41,8	41,3	43,2	42,9
Greece	23,8	34,7	29,0	28,1	25,6	22,8	22,1	21,6	21,4
Hungary	11,0	9,7	9,9	10,1	10,5	10,6	10,7	10,6	11,0
Ireland	49,4	62,3	41,4	46,1	45,6	45,0	42,0	49,4	51,5
Italy	40,0	40,6	41,2	41,6	42,2	42,4	44,5	44,7	45,5
Latvia	8,8	7,9	9,0	10,1	10,5	11,6	11,2	12,4	14,3
Lithuania	9,4	8,7	7,9	8,8	9,6	10,5	10,8	11,6	12,2
Luxemburg	:	:	:	:	50,8	48,1	48,7	50,1	49,3
Malta	:	:	:	:	23,6	22,4	22,5	22,0	23,8
Netherlands	45,0	47,2	49,5	53,5	52,8	53,5	55,5	55,6	51,6
Poland	:	:	:	12,2	12,6	13,0	14,0	13,8	13,9
Portugal	17,4	17,7	18,1	18,3	17,7	17,9	17,9	18,0	18,4
Romania	6,4	5,7	5,7	5,8	6,4	:	:	:	:
Slovakia	15,9	17,7	12,8	12,8	13,5	13,5	12,4	13,2	13,0
Slovenia	:	:	:	:	:	:	:	:	:
Spain	32,4	32,3	33,5	33,2	33,8	33,2	33,1	31,7	32,3
Sweden	49,5	45,3	51,4	54,9	59,2	61,1	59,0	58,4	59,2
United Kingdom	34,8	37,5	28,8	28,7	32,6	33,8	32,9	35,0	35,0
EU	**28,7**	**30,5**	**29,7**	**29,7**	**31,0**	**31,9**	**31,9**	**32,7**	**32,8**
Norway	57,1	57,2	66,1	66,8	74,4	74,0	67,2	:	62,0
Switzerland	:	57,5	64,0	72,5	70,8	69,7	:	:	:

Annex to 2.2

Manufacturing industry, labour cost per employee, full-time equivalent

	2008	2009	2010	2011	2012	2013	2014	2015	2016
Austria	49,3	49,9	51,6	53,3	55,5	57,1	58,4	59,7	61,0
Belgium	59,7	64,2	65,3	66,2	69,4	71,9	73,5	73,1	72,8
Bulgaria	3,7	3,9	4,1	4,4	4,7	5,0	5,3	5,8	6,4
Croatia	15,4	14,5	14,6	14,1	14,3	13,7	14,1	14,5	14,0
Cyprus	21,7	22,3	22,5	22,5	21,7	20,6	20,2	19,8	20,5
Czechia	14,6	14,2	15,3	16,3	16,4	16,1	15,7	16,3	17,2
Denmark	56,3	62,2	64,5	65,1	66,7	68,1	69,7	71,8	73,0
Estonia	12,1	11,8	12,2	13,1	13,8	14,8	15,7	16,4	17,7
Finland	50,4	49,7	51,1	53,3	55,3	55,2	56,5	58,3	58,7
France	:	52,8	54,2	55,6	56,5	57,6	58,2	59,1	60,4
Germany	49,9	49,6	50,3	51,4	53,3	54,5	56,2	58,3	58,7
Greece	27,0	28,4	28,7	28,6	26,2	24,8	24,0	23,8	23,4
Hungary	13,1	12,2	12,8	13,5	13,6	13,7	13,9	14,2	15,0
Ireland	50,7	52,8	50,8	50,9	52,5	52,3	54,7	54,9	55,0
Italy	42,9	43,4	45,2	46,5	47,0	48,1	50,9	51,4	52,0
Latvia	8,5	8,0	8,9	9,7	10,6	10,8	9,9	10,8	12,0
Lithuania	9,5	8,8	8,6	8,9	9,2	9,8	10,3	11,0	12,0
Luxembourg	:	:	:	:	55,9	56,7	57,8	58,8	58,5
Malta	:	:	:	:	:	:	:	:	19,2
Netherlands	52,9	53,9	56,1	59,1	60,2	61,0	63,7	64,0	64,2
Poland	:	:	:	11,7	12,2	12,5	13,1	13,5	13,5
Portugal	15,9	16,2	16,8	17,0	17,1	17,2	17,4	17,6	17,8
Romania	5,7	5,5	5,8	6,2	6,3	6,7	7,2	7,6	8,5
Slovakia	13,1	14,2	13,4	13,9	14,9	15,5	15,9	16,3	17,0
Slovenia	:	:	:	:	:	:	:	:	:
Spain	35,7	36,7	37,4	38,3	39,1	39,4	39,3	38,9	38,3
Sweden	56,3	51,1	58,9	64,4	68,0	69,9	68,0	67,2	68,2
United Kingdom	39,0	35,8	36,9	36,8	40,5	39,9	42,7	47,8	43,7
EU-28	**30,6**	**31,8**	**32,8**	**32,8**	**34,7**	**35,1**	**35,9**	**36,6**	**36,2**
Norway	61,0	61,6	69,1	70,8	78,1	77,3	75,4	74,9	71,5
Switzerland	:	64,2	70,6	80,8	82,3	79,8	81,6	94,2	93,0

Annex to 2.3

Detailed production value of printed products, 2016, in €

	Notebooks, letter pads, memorandum pads, of paper or paperboard	Diaries, of paper or paperboard	Engagement books, address books, telephone number books and copy books, of paper or paperboard (excluding diaries)	Exercise books, of paper or paperboard	Blotting pads and book covers, of paper or paperboard	Self-adhesive printed labels of paper or paperboard	Printed labels of paper or paperboard (excluding self-adhesive)	Printed newspapers, journals and periodicals, appearing at least four times a week	Printed new stamps, stamp-impressed paper, cheque forms, banknotes, etc	Printed commercial catalogues	Printed trade advertising material (excluding commercial catalogues)	Printed newspapers, journals and periodicals, appearing less than four times a week
Austria	17 485 300	0	0	:	:	119 415 300	37 776 700	103 433 000	61 659 900	61 480 300	462 941 100	189 207 200
Belgium	:	3 112 163	:	:	1 127 728	161 091 653	:	58 511 729	:	70 665 376	434 212 471	168 013 145
Bulgaria	482 156	:	:	2 451 503	2 092 039	10 525 166	5 598 369	17 839 247	18 273 852	4 720 682	33 223 147	11 126 905
Croatia	4 265 224	4 021	0	4 138 014	0	24 875 538	9 285 130	18 875 886	516 749	27 378 453	28 920 926	26 161 177
Cyprus	0	0	0	0	0	0	0	0	0	0	0	0
Czech Republic	3 016 258	:	1 087 784	:	0	74 666 451	33 107 042	42 663 792	36 837 119	43 694 674	223 356 948	92 019 410
Denmark	744 360	0	0	0	0	142 952 975	3 103 944	0	0	0	0	0
Estonia	1 564 572	1 215 673	3 200	13 765 742	0	17 277 490	3 561 146	12 413 812	:	776 618	31 978 140	45 648 937
Finland	25 066	0	0	8 729	734 610	24 877 834	13 616 118	109 910 427	2 478 241	7 995 098	159 243 355	137 737 318
France	:	68 581 780	4 808 682	84 340 624	10 915 525	779 171 937	110 543 650	141 118 853	466 542 210	308 598 095	1 601 096 482	403 320 397
Germany	99 229 165	:	19 775 602	27 347 717	117 259 607	968 057 052	278 511 687	875 459 288	730 939 097	1 206 226 632	3 951 952 523	1 428 339 788
Greece	828 050	0	323 049	8 802 930	0	33 282 226	3 913 706	37 611 289	24 000 953	2 456 530	25 945 486	32 158 800
Hungary	1 363 725	:	:	3 301 151	177 632	26 897 348	16 943 274	11 419 855	93 915 651	11 520 534	93 498 677	57 103 325
Ireland	1 890 000	1 043 000	0	:	:	104 184 000	:	:	22 841 000	41 601 000	36 052 000	4 752 000
Italy	4 738 000	81 566 000	144 277 000	34 765 000	1 275 000	689 662 000	71 139 000	357 029 000	:	1 165 538 000	683 246 000	317 352 000
Latvia	779 884	:	:	298 338	0	14 468 048	2 242 153	:	:	1 000 947	14 639 354	:
Lituania	26 221	0	0	2 365 682	0	57 201 683	6 309 636	2 891 325	12 012 377	1 513 766	21 612 595	24 864 548
Luxemburg	0	0	0	0	0	0	0	0	0	0	0	0
Malta	0	0	0	0	0	0	0	0	0	0	0	0
Netherlands	5 752 000	:	:	:	809 000	318 302 000	114 416 000	:	:	42 378 000	613 685 000	127 253 000
Poland	8 091 308	:	2 864 271	42 528 024	:	120 584 637	39 075 969	140 811 064	:	25 621 165	147 555 884	250 328 612
Portugal	64 032	387 914	:	4 347 028	9 938	15 127 386	21 725 741	11 084 536	17 873 415	16 822 671	113 936 432	21 384 369
Romania	209 247	8 390 299	0	8 759 696	:	22 400 995	5 741 705	7 924 887	17 660 546	34 176 709	29 501 763	64 994 843
Slovakia	:	438 303	0	:	0	13 293 375	14 029 857	:	:	470 543	8 616 699	57 495 713
Slovenia	:	0	0	:	:	13 291 781	10 482 911	:	:	6 486 716	67 650 390	4 012 199
Spain	32 605 818	18 084 219	1 953 690	36 466 727	9 851 267	503 686 720	126 442 346	148 470 052	149 961 639	327 615 924	380 202 124	144 838 633
Sweden	:	0	0	0	:	:	8 388 808	171 135 432	:	:	120 750 278	76 454 837
United Kingdom	47 593 735	19 121 220	:	11 199 197	0	938 695 290	36 045 490	97 264 649	585 933 133	228 050 464	1 612 461 930	516 326 554
EU28	312 000 000	240 000 000	200 090 761	306 209 386	154 000 000	5 326 167 067	978 000 000	2 424 321 671	2 696 062 592	3 637 800 000	10 896 279 703	4 220 000 000
Norway	0	0	0	:	:	22 678 782	0	107 900 826	0	12 030 664	85 225 474	47 527 394

Printed books, brochures, leaflets and similar printed matter, in single sheets	Printed books, brochures, leaflets and similar printed matter (excluding in single sheets)	Printed children's picture, drawing or colouring books	Printed dictionaries and encyclo-paedias, and serial instalments thereof	Printed maps, hydrographic or similar charts, in book-form	Printed maps, hydrographic or similar charts (excluding in book-form)	Printed postcards, whether or not illustrated	Printed cards bearing personal greetings, messages or announce-ments, whether or not illustrated, with or without envelopes or trimmings	Printed pictures, designs and photographs	Printed calendars of any kind, including calendar blocks	Printed music (including braille music)	Printed transfers (decalco-manias)	Other printed matter	TOTAL
14 521 900	63 931 900	0	0	0	:	5 513 700	697 300	:	:	:	21 336 100	392 009 800	**1 551 409 500**
36 224 499	93 296 569	:	0	0	0	:	:	:	3 103 502	0	0	527 516 563	**1 556 875 398**
32 322 978	11 116 167	625 831	0	0	104 305	428 469	287 350	173 331	4 809 091	14 828	:	141 219 286	**297 434 702**
2 080 535	26 384 097	214 474	162 196	36 997	22 922	174 528	40 214	14 745	1 730 808	683 101	0	171 835 632	**347 801 367**
0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
29 596 710	171 904 163	302 553	0	:	657 297	588 810	537 985	12 930 335	13 560 283	:	1 224 835	114 355 618	**896 108 067**
0	0	0	0	0	0	0	0	0	0	0	0	0	**146 801 279**
22 124 952	1 377 550	0	0	:	0	149 524	:	1 197 126	1 428 605	0	0	2 177 500	**156 660 587**
16 135 815	62 767 541	1 427 401	0	500 000	136 088	590 151	7 318 546	3 199 477	2 806 335	0	0	197 797 936	**749 306 086**
26 814 638	252 890 157	0	:	:	:	2 954 274	38 491 767	10 222 026	30 273 414	:	40 422 170	2 062 466 796	**6 443 573 477**
419 110 434	479 970 570	:	3 028 568	:	1 836 625	11 373 669	51 664 738	126 027 060	93 431 965	:	93 523 263	2 121 385 755	**13 104 450 805**
19 284 073	11 936 225	2 177 090	0	:	:	:	2 116 578	2 285 579	3 216 769	0	:	75 448 883	**285 788 216**
46 304 172	81 325 075	1 675 801	:	:	118 270	1 148	256 386	336 253	3 189 007	51 341	109 425	121 033 837	**570 541 887**
43 185 000	12 144 000	:	0	0	0	:	1 723 000	10 371 000	941 000	0	751 000	195 300 000	**476 778 000**
171 289 000	557 900 000	37 720 000	5 427 000	31 246 000	301 378 000	1 939 000	28 419 000	46 078 000	36 674 000	:	116 796 000	2 539 928 000	**7 425 381 000**
12 542 586	90 043 770	1 808 026	:	:	40 518	54 107	67 875	:	1 311 139	0	:	25 269 543	**164 566 288**
3 958 867	56 150 322	1 745	0	0	2 210	0	857 306	0	802 228	0	0	52 938 147	**243 508 658**
0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
59 464 000	147 982 000	0	0	:	0	3 532 000	:	15 874 000	34 804 000	0	:	249 936 000	**1 734 187 000**
503 700 611	156 914 776	10 582 828	25 514 353	:	:	:	5 472 986	25 482 593	19 452 760	0	2 373 362	307 389 265	**1 834 344 468**
35 345 330	77 861 055	300 572	408 768	1 367	121 368	339 718	112 540	18 496 696	791 018	0	0	296 724 488	**653 266 382**
16 138 648	20 838 023	953 864	:	:	:	248 984	7 664	:	2 252 261	0	:	317 398 370	**557 598 504**
1 522 430	62 529 155	:	0	0	0	294 370	:	0	1 306 922	0	0	90 922 143	**250 919 510**
24 182 150	40 188 714	0	0	0	0	146 017	:	:	2 232 784	0	0	38 301 318	**206 974 980**
248 298 381	339 937 458	6 538 662	3 195 492	693 080	1 599 414	10 858 850	5 005 603	36 939 457	29 167 371	:	2 115 090	152 765 079	**2 717 293 096**
115 393 094	0	0	:	:	0	15 754 377	380 899	76 746 790	:	0	:	:	**585 004 515**
468 607 344	1 208 737 609	:	:	286 311	12 168 775	5 893 894	76 981 076	61 813 453	25 536 405	5 839 141	39 810 875	1 425 973 285	**7 424 339 830**
2 368 148 147	**4 604 692 474**	**90 782 619**	**41 660 222**	**36 603 582**	**319 164 747**	**64 741 096**	**260 577 963**	**450 450 962**	**324 000 000**	**8 115 901**	**330 443 603**	**11 809 715 667**	**52 100 028 163**
9 725 957	43 915 621	:	:	:	:	151 174	305 457	3 671 813	436 904	:	:	105 587 542	**439 157 608**

Annex to 2.4

Trade of printed products, 2018, in €

	Export			Import			
	EU28 Extra	**EU28 Intra**	**Total export**	**EU28 Extra**	**EU28 Intra**	**Total export**	**Trade balance**
Austria	147 213 458	315 006 619	462 220 077	34 682 072	831 561 474	866 243 546	-404 023 469
Belgium	118 697 861	771 170 455	889 868 316	95 603 107	613 011 980	708 615 087	181 253 229
Bulgaria	6 969 793	32 563 959	39 533 752	5 553 966	26 747 384	32 301 350	7 232 402
Croatia	13 528 065	37 554 633	51 082 698	10 195 434	39 186 926	49 382 360	1 700 338
Cyprus	514 046	326 820	840 866	1 558 195	23 201 892	24 760 087	-23 919 221
Czech Republic	63 983 290	815 591 331	879 574 621	24 624 265	622 591 050	647 215 315	232 359 306
Denmark	104 815 809	140 095 491	244 911 300	22 455 415	276 386 360	298 841 775	-53 930 475
Estonia	16 521 141	79 830 310	96 351 451	4 786 647	11 283 442	16 070 089	80 281 362
Finland	47 048 993	57 543 727	104 592 720	21 146 807	103 473 387	124 620 194	-20 027 474
France	562 417 397	742 867 678	1 305 285 075	222 747 092	1 506 832 441	1 729 579 533	-424 294 458
Germany	1 321 741 855	3 081 868 561	4 403 610 416	375 809 742	2 351 100 882	2 726 910 624	1 676 699 792
Greece	31 103 535	40 332 830	71 436 365	34 623 504	75 759 402	110 382 906	-38 946 541
Hungary	23 007 981	182 985 665	205 993 646	22 695 998	105 485 024	128 181 022	77 812 624
Ireland	17 850 874	88 259 519	106 110 393	30 281 324	227 061 735	257 343 059	-151 232 666
Italy	300 442 762	814 757 540	1 115 200 302	105 702 795	445 629 028	551 331 823	563 868 479
Latvia	32 289 804	87 790 078	120 079 882	4 738 285	19 082 834	23 821 119	96 258 763
Lithuania	46 386 292	71 723 235	118 109 527	7 603 817	19 280 202	26 884 019	91 225 508
Luxembourg	2 662 123	19 252 657	21 914 780	2 241 689	77 938 596	80 180 285	-58 265 505
Malta	107 436 716	16 976 820	124 413 536	1 894 506	14 917 698	16 812 204	107 601 332
Netherlands	230 066 231	1 155 459 565	1 385 525 796	227 316 766	759 331 305	986 648 071	398 877 725
Poland	136 974 634	1 607 805 374	1 744 780 008	36 732 147	617 974 703	654 706 850	1 090 073 158
Portugal	22 925 182	32 111 110	55 036 292	11 764 178	139 358 276	151 122 454	-96 086 162
Romania	11 683 281	76 404 502	88 087 783	19 892 522	75 270 771	95 163 293	-7 075 510
Slovakia	6 419 142	182 551 540	188 970 682	6 628 873	137 689 434	144 318 307	44 652 375
Slovenia	20 281 794	141 333 908	161 615 702	31 192 174	48 600 713	79 792 887	81 822 815
Spain	321 242 880	475 865 626	797 108 506	136 528 367	413 884 569	550 412 936	246 695 570
Sweden	125 464 786	94 575 238	220 040 024	82 165 113	327 671 336	409 836 449	-189 796 425
United Kingdom	1 712 893 489	1 538 316 717	3 251 210 206	1 210 602 431	892 511 522	2 103 113 953	1 148 096 253
EU	**5 552 583 214**	**12 700 921 508**	**18 253 504 722**	**2 791 767 231**	**10 802 824 366**	**13 594 591 597**	**4 658 913 125**

Annex to 2.4

Trade of books, 2018, in €

	Export			Import			
	EU28 Extra	**EU28 Intra**	**Total export**	**EU28 Extra**	**EU28 Intra**	**Total export**	**Trade balance**
Austria	12 323 871	48 968 070	61 291 941	5 476 986	392 263 198	397 740 184	-336 448 243
Belgium	45 906 437	206 071 285	251 977 722	41 768 987	309 296 194	351 065 181	-99 087 459
Bulgaria	1 856 702	16 998 510	18 855 212	1 455 814	4 918 851	6 374 665	12 480 547
Croatia	4 099 763	15 476 667	19 576 430	3 583 038	7 493 700	11 076 738	8 499 692
Cyprus	277 963	303 967	581 930	709 857	16 336 501	17 046 358	-16 464 428
Czech Republic	10 743 207	404 587 990	415 331 197	8 169 818	257 109 087	265 278 905	150 052 292
Denmark	36 507 900	35 304 885	71 812 785	10 474 739	112 355 462	122 830 201	-51 017 416
Estonia	2 380 291	21 474 962	23 855 253	2 828 199	4 034 413	6 862 612	16 992 641
Finland	5 623 976	5 433 719	11 057 695	5 045 612	39 597 342	44 642 954	-33 585 259
France	304 052 783	307 233 501	611 286 284	103 289 708	530 093 117	633 382 825	-22 096 541
Germany	426 129 139	1 079 875 837	1 506 004 976	142 197 565	1 131 602 938	1 273 800 503	232 204 473
Greece	24 921 867	17 584 771	42 506 638	19 263 161	27 579 478	46 842 639	-4 336 001
Hungary	12 160 453	85 490 875	97 651 328	5 482 608	18 895 695	24 378 303	73 273 025
Ireland	8 009 685	32 411 480	40 421 165	12 486 396	90 964 085	103 450 481	-63 029 316
Italy	93 822 374	308 391 338	402 213 712	42 169 830	209 223 470	251 393 300	150 820 412
Latvia	26 772 544	66 423 569	93 196 113	2 350 235	6 089 311	8 439 546	84 756 567
Lithuania	15 038 252	42 590 586	57 628 838	1 896 844	5 011 815	6 908 659	50 720 179
Luxembourg	207 706	7 073 610	7 281 316	1 395 780	38 561 496	39 957 276	-32 675 960
Malta	187 790	4 493 301	4 681 091	684 481	6 739 129	7 423 610	-2 742 519
Netherlands	42 602 405	314 237 010	356 839 415	85 100 395	287 895 988	372 996 383	-16 156 968
Poland	34 458 632	860 142 568	894 601 200	8 127 805	442 651 807	450 779 612	443 821 588
Portugal	18 220 037	8 426 903	26 646 940	5 228 845	41 140 986	46 369 831	-19 722 891
Romania	4 922 624	18 255 886	23 178 510	8 572 106	28 810 838	37 382 944	-14 204 434
Slovakia	2 895 497	100 592 296	103 487 793	2 281 775	70 531 047	72 812 822	30 674 971
Slovenia	6 442 271	64 528 331	70 970 602	23 049 705	19 693 385	42 743 090	28 227 512
Spain	268 995 050	268 359 568	537 354 618	83 069 400	189 812 183	272 881 583	264 473 035
Sweden	42 752 996	30 979 630	73 732 626	35 518 390	112 154 872	147 673 262	-73 940 636
United Kingdom	1 296 583 817	931 607 295	2 228 191 112	816 120 426	369 043 251	1 185 163 677	1 043 027 435
EU	**2 748 896 032**	**5 303 318 410**	**8 052 214 442**	**1 477 798 505**	**4 769 899 639**	**6 247 698 144**	**1 804 516 298**

Annex to 2.4

Trade of newspapers and magazines, 2018, in€

	Export			Import			
	EU28 Extra	**EU28 Intra**	**Total export**	**EU28 Extra**	**EU28 Intra**	**Total export**	**Trade balance**
Austria	3 802 447	9 960 070	13 762 517	2 513 607	138 167 995	140 681 602	-126 919 085
Belgium	919 424	143 111 808	144 031 232	261 374	99 962 257	100 223 631	43 807 601
Bulgaria	64 124	1 822 419	1 886 543	32 211	927 112	959 323	927 220
Croatia	4 162 451	10 645 120	14 807 571	851 879	9 111 891	9 963 770	4 843 801
Cyprus	47 600	:	47 600	1 747	2 409 731	2 411 478	-2 363 878
Czech Republic	1 411 060	47 261 575	48 672 635	67 884	30 443 260	30 511 144	18 161 491
Denmark	24 563 842	19 127 365	43 691 207	932 256	9 429 976	10 362 232	33 328 975
Estonia	10 761 602	23 982 177	34 743 779	782 252	1 060 317	1 842 569	32 901 210
Finland	28 306 935	8 905 782	37 212 717	1 881 355	17 747 609	19 628 964	17 583 753
France	63 137 758	147 239 714	210 377 472	11 035 191	232 013 609	243 048 800	-32 671 328
Germany	122 071 811	390 535 873	512 607 684	14 748 728	215 794 126	230 542 854	282 064 830
Greece	350 927	804 468	1 155 395	2 394 519	9 666 832	12 061 351	-10 905 956
Hungary	496 538	13 168 668	13 665 206	495 772	10 000 993	10 496 765	3 168 441
Ireland	57 056	10 996 011	11 053 067	67 491	75 755 057	75 822 548	-64 769 481
Italy	17 947 514	158 854 508	176 802 022	914 418	63 611 740	64 526 158	112 275 864
Latvia	540 437	4 153 950	4 694 387	1 126 208	1 261 130	2 387 338	2 307 049
Lithuania	5 082 338	7 626 016	12 708 354	501 112	1 409 407	1 910 519	10 797 835
Luxembourg	1 170	988 123	989 293	2 396	16 394 072	16 396 468	-15 407 175
Malta	:	:	0	109 197	413 266	522 463	-522 463
Netherlands	2 668 227	111 329 371	113 997 598	4 715 816	92 094 139	96 809 955	17 187 643
Poland	29 218 117	451 483 268	480 701 385	1 231 696	28 053 969	29 285 665	451 415 720
Portugal	903 712	3 178 886	4 082 598	789 632	62 115 524	62 905 156	-58 822 558
Romania	4 370 419	23 299 287	27 669 706	2 226 065	2 607 770	4 833 835	22 835 871
Slovakia	13 573	30 046 540	30 060 113	13 578	20 136 430	20 150 008	9 910 105
Slovenia	869 487	3 099 444	3 968 931	927 528	6 602 505	7 530 033	-3 561 102
Spain	14 465 686	51 876 264	66 341 950	2 679 683	68 028 914	70 708 597	-4 366 647
Sweden	20 743 856	7 764 341	28 508 197	2 343 525	30 558 465	32 901 990	-4 393 793
United Kingdom	138 354 343	190 704 211	329 058 554	37 352 587	38 018 748	75 371 335	253 687 219
EU	**495 332 454**	**1 871 965 259**	**2 367 297 713**	**90 999 707**	**1 283 796 844**	**1 374 796 551**	**992 501 162**

Annex to 2.4

Trade of printed advertising and catalogues, 2018, in €

	Export			Import			
	EU28 Extra	**EU28 Intra**	**Total export**	**EU28 Extra**	**EU28 Intra**	**Total export**	**Trade balance**
Austria	28 980 770	108 359 899	137 340 669	5 603 191	106 166 080	111 769 271	25 571 398
Belgium	11 503 312	243 166 005	254 669 317	4 784 059	80 067 334	84 851 393	169 817 924
Bulgaria	581 035	5 422 580	6 003 615	679 732	8 423 807	9 103 539	-3 099 924
Croatia	2 182 988	7 970 412	10 153 400	2 570 853	10 638 601	13 209 454	-3 056 054
Cyprus	119 666	16 664	136 330	113 613	1 244 281	1 357 894	-1 221 564
Czech Republic	15 589 927	250 428 382	266 018 309	1 004 830	209 418 930	210 423 760	55 594 549
Denmark	27 841 499	38 287 640	66 129 139	1 172 330	92 742 159	93 914 489	-27 785 350
Estonia	2 748 890	14 515 610	17 264 500	133 817	1 447 401	1 581 218	15 683 282
Finland	4 915 692	22 444 726	27 360 418	613 331	14 720 680	15 334 011	12 026 407
France	65 754 623	105 768 343	171 522 966	15 267 062	417 746 487	433 013 549	-261 490 583
Germany	278 156 133	793 357 656	1 071 513 789	29 488 854	361 515 327	391 004 181	680 509 608
Greece	1 089 920	896 761	1 986 681	1 486 696	6 757 323	8 244 019	-6 257 338
Hungary	3 238 335	48 138 174	51 376 509	850 689	25 515 238	26 365 927	25 010 582
Ireland	548 022	207 130	755 152	604 987	5 841 628	6 446 615	-5 691 463
Italy	74 333 105	189 061 366	263 394 471	10 158 610	59 296 556	69 455 166	193 939 305
Latvia	2 780 070	5 021 304	7 801 374	149 269	4 158 140	4 307 409	3 493 965
Lithuania	3 821 623	9 359 517	13 181 140	195 660	5 265 196	5 460 856	7 720 284
Luxembourg	273 821	7 109 124	7 382 945	133 211	7 977 612	8 110 823	-727 878
Malta	14 172	1 881 527	1 895 699	61 427	281 157	342 584	1 553 115
Netherlands	82 463 430	208 403 180	290 866 610	8 574 810	178 610 190	187 185 000	103 681 610
Poland	46 952 432	182 175 026	229 127 458	1 371 863	39 056 563	40 428 426	188 699 032
Portugal	1 184 694	7 054 309	8 239 003	873 611	13 001 579	13 875 190	-5 636 187
Romania	1 444 802	24 850 792	26 295 594	3 778 430	16 975 149	20 753 579	5 542 015
Slovakia	974 590	30 315 712	31 290 302	119 620	18 581 272	18 700 892	12 589 410
Slovenia	1 400 230	48 721 451	50 121 681	3 730 313	9 269 404	12 999 717	37 121 964
Spain	13 259 990	77 938 302	91 198 292	3 781 774	31 629 026	35 410 800	55 787 492
Sweden	25 957 551	14 113 965	40 071 516	2 088 405	38 419 771	40 508 176	-436 660
United Kingdom	25 762 677	56 665 355	82 428 032	12 689 302	91 062 332	103 751 634	-21 323 602
EU	**723 873 999**	**2 501 650 912**	**3 225 524 911**	**112 080 349**	**1 855 829 223**	**1 967 909 572**	**1 257 615 339**

Annex to 2.5

Imports from China to the EU, 2018, in €

	Total printed products	Books	Postcards	Photographs	Colouring books	Calendars	Advertising and catalogues
Austria	5 133 119	1 100 187	570 096	1 729 623	227 093	111 426	205 406
Belgium	49 734 614	22 203 945	4 876 537	2 157 324	14 271 586	1 414 397	1 485 730
Bulgaria	835 716	489 019	49 828	143 162	94 106	3 328	13 692
Croatia	2 366 437	843 951	72 868	71 429	697 292	35 257	44 064
Cyprus	389 555	120 194	112 575	8 013	28 991	37 200	17 924
Czech Republic	5 862 459	1 718 493	296 811	249 391	2 455 272	401 696	116 812
Denmark	8 247 737	2 700 138	1 161 133	671 947	1 729 504	684 855	243 046
Estonia	1 010 706	499 461	2 037	141 496	207 180	2 942	41 912
Finland	5 257 417	1 833 613	685 025	247 071	1 221 914	686 888	171 482
France	81 445 355	39 649 449	4 107 212	7 556 540	13 135 685	5 002 813	2 903 419
Germany	134 761 982	53 077 429	17 822 999	12 324 952	23 449 946	7 483 598	7 725 051
Greece	6 840 663	2 217 551	127 179	264 179	1 462 126	75 713	94 720
Hungary	4 644 225	2 385 083	185 097	383 685	547 902	25 528	119 100
Ireland	5 734 982	1 505 895	1 466 724	658 273	219 944	125 480	80 527
Italy	44 377 377	25 177 233	2 530 475	2 266 294	5 478 766	551 998	4 531 510
Latvia	694 123	433 511	431	43 037	46 940	1 645	29 162
Lithuania	1 580 870	390 088	30 074	8 337	1 040 843	1 401	5 967
Luxembourg	346 179	309 819	279	9 609	64	510	8 153
Malta	627 481	189 608	5 198	255 779	78 006	:	27 824
Netherlands	86 099 637	27 717 754	21 612 885	10 875 910	6 533 687	2 810 718	3 048 081
Poland	14 861 884	3 272 588	2 575 623	764 794	4 035 081	1 585 541	275 450
Portugal	2 733 396	1 392 228	29 403	330 487	575 388	39 718	151 146
Romania	3 644 827	1 599 376	14 897	55 631	943 218	10 771	51 827
Slovakia	1 214 005	711 402	38 128	11 965	254 499	61 684	64 210
Slovenia	2 662 781	1 480 990	94 223	58 760	220 253	25 241	462 588
Spain	52 127 326	34 203 652	1 263 432	4 355 965	5 280 129	2 072 291	942 262
Sweden	15 261 656	4 010 759	3 000 754	1 119 902	1 503 474	1 912 830	174 119
United Kingdom	352 026 768	130 521 945	141 601 241	18 585 740	24 084 536	9 677 285	2 419 058
EU-28	**890 523 277**	**361 755 361**	**204 333 164**	**65 349 295**	**109 823 425**	**34 842 754**	**25 454 242**

Annex to 2.6

Trade of printed products with the US, 2018, in €

	Exports	Imports	Trade balance
Austria	5 409 085	9 022 344	-3 613 259
Belgium	25 023 687	16 070 813	8 952 874
Bulgaria	454 926	477 384	-22 458
Croatia	85 667	673 206	-587 539
Cyprus	18 862	544 977	-526 115
Czech Republic	3 191 604	6 658 659	-3 467 055
Denmark	4 343 967	6 319 893	-1 975 926
Estonia	393 803	189 956	203 847
Finland	2 121 622	3 672 447	-1 550 825
France	64 663 503	29 808 919	34 854 584
Germany	158 177 495	82 255 896	75 921 599
Greece	1 158 645	3 778 748	-2 620 103
Hungary	1 346 417	4 845 345	-3 498 928
Ireland	2 495 309	14 994 032	-12 498 723
Italy	74 094 271	30 215 614	43 878 657
Latvia	338 868	104 807	234 061
Lithuania	962 609	309 147	653 462
Luxembourg	1 859 453	1 167 294	692 159
Malta	294 593	713 565	-418 972
Netherlands	26 727 083	93 434 673	-66 707 590
Poland	17 423 729	5 821 256	11 602 473
Portugal	558 787	2 921 977	-2 363 190
Romania	549 828	895 415	-345 587
Slovakia	364 312	1 970 757	-1 606 445
Slovenia	1 487 581	626 443	861 138
Spain	29 035 752	21 367 425	7 668 327
Sweden	9 602 168	35 281 710	-25 679 542
United Kingdom	487 557 456	554 520 775	-66 963 319
EU28	**919 741 082**	**928 663 477**	**-8 922 395**

Annex to 4.2

Total graphic paper consumption (in '000 tonnes)

	1991	1995	2000	2001	2002	2003	2004	2005	2006
Newsprint	7 618	8 605	10 351	10 640	9 665	9 704	10 087	10 381	9 996
Uncoated mechanical	4 188	4 219	4 539	4 927	5 115	5 177	5 290	5 332	6 218
Coated mechanical	4 618	5 260	6 283	6 917	6 970	7 382	7 802	7 838	7 832
Uncoated woodfree	7 272	7 991	9 937	9 402	9 586	9 194	9 758	9 726	9 173
Coated woodfree	4 480	5 303	8 771	7 163	7 244	7 527	7 681	7 736	7 687
TOTAL	**28 176**	**31 378**	**39 882**	**39 050**	**38 580**	**38 984**	**40 619**	**41 013**	**40 907**

	1991	1995	2000	2001	2002	2003	2004	2005	2006
Austria	634	713	1 077	1 120	1 018	1 042	892	923	961
Belgium	1 173	1 387	1 801	1 813	1 841	1 867	1 890	1 871	2 007
Czech Republic	222	285	401	425	453	491	525	556	676
Finland									
France	4 001	4 557	5 915	5 235	5 293	5 306	5 559	5 328	5 318
Germany	7 750	8 015	9 518	9 189	8 660	8 989	9 702	9 641	9 780
Italy	3 102	3 543	4 329	4 160	4 182	4 299	4 533	4 694	4 593
Netherlands	1 661	1 298	2 093	1 804	1 614	1 720	1 702	1 673	1 670
Norway	343	418	492	404	407	563	546	575	556
Poland	272	606	1 014	987	1 057	1 112	1 332	1 251	1 414
Portugal	275	299	450	405	376	415	591	487	264
Romania	98	111	128	146	158	178	232	257	268
Slovak Republic	85	136	169	189	226	220	233	239	230
Slovenia	138	131	116	130	143	122	155	194	186
Spain	1 808	1 972	2 622	2 231	2 361	2 608	2 380	2 698	3 033
Sweden	975	664	1 094	1 238	1 137	966	1 034	993	1 093
United Kingdom	4 810	6 252	7 455	7 268	7 084	7 202	7 269	7 272	7 188
Other countries	829	991	1 208	1 572	1 156	1 190	1 190	1 081	709
TOTAL	**28 176**	**31 378**	**39 882**	**39 050**	**38 580**	**38 984**	**40 619**	**41 013**	**40 907**

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
9 794	9 488	8 284	8 442	8 269	7 560	7 255	7 061	6 606	5 999	5 259
6 256	6 057	5 322	5 345	5 430	5 017	4 843	4 646	4 623	4 700	4 715
8 188	7 845	6 035	6 764	6 479	5 711	5 172	5 143	4 926	4 611	4 379
9 410	8 599	8 379	8 298	7 867	7 501	7 175	7 247	7 036	6 974	7 075
7 698	7 480	6 187	5 977	5 816	5 606	5 163	5 083	4 754	4 565	4 244
41 345	**39 470**	**34 207**	**34 826**	**33 861**	**31 396**	**29 608**	**29 180**	**27 946**	**26 849**	**25 672**

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1 051	1 002	871	928	899	690	659	649	606	626	612
1 956	1 906	1 687	1 869	1 953	1 890	1 887	1 850	1 936	1 926	1 851
733	745	569	602	537	520	496	523	558	529	
									163	
5 294	5 004	4 201	4 343	4 119	3 792	3 586	3 619	3 282	3 232	3 162
9 941	9 481	8 489	8 695	8 860	8 837	8 622	8 659	8 484	8 027	7 920
4 766	4 324	3 726	4 047	3 886	3 467	3 248	3 210	3 062	2 995	2 899
1 943	1 573	1 264	1 193	1 138	1 278	1 208	1 041	980	1 091	920
593	546	527	490	475	400	379	379			
1 502	1 600	1 397	1 463	1 469	1 435	1 436	1 504	1 447	1 473	
374	462	665	551	358	369	300	311	345	332	
255	231	198	185	171	175	161	137	165	171	184
248	258	255	266	266	243	254	249	235		
185	176	174	179	190	208	202	115	116		119
2 652	2 580	1 961	1 989	1 872	1 643	1 433	1 480	1 479	1 382	1 307
1 059	985	777	827	783	745	604	613	479	503	450
7 009	6 626	5 501	5 468	5 079	4 684	4 488	4 510	4 217	3 694	3 398
679	748	507	688	549	404	392	516	778	914	3 357
41 345	**39 470**	**34 207**	**34 826**	**33 861**	**31 396**	**29 686**	**29 180**	**27 946**	**26 849**	**25 671**

Annex to 4.4

Profile of the European book publishing sector, 2006-2017

	2006	2007	2008	2009	2010
PUBLISHERS' REVENUE FROM SALES OF BOOKS (€ BILLION)	**23,2**	**24,5**	**23,75**	**23**	**23,5**
Educational (school) books	14,8%	18,9%	15,9%	17,6%	17,9%
Academic/Professional books	29,4%	22,5%	21,5%	20,0%	20,5%
Consumer (trade) books	47,5%	48,9%	50,6%	50,5%	49,6%
Children's books	8,3%	9,7%	12,0%	11,9%	12,0%
SALES BY AREA					
Sales in the domestic market	77,8%	82,7%	83,0%	84,4%	81,5%
Exports	22,2%	17,3%	17,0%	15,6%	18,5%
SALES BY DISTRIBUTION CHANNELS					
Trade (retail and wholesale)	77,7%	78,3%	77,5%	79,5%	78,0%
Book Clubs	7,6%	6,9%	5,9%	5,6%	5,7%
Direct	14,7%	14,8%	16,6%	14,9%	16,3%
NUMBER OF TITLES PUBLISHED IN PERIOD					
New titles	475 000	490 000	510 000	515 000	525 000
Number of titles in print (active catalogue)	5 250 000	5 600 000	6 100 000	6 400 000	7 400 000
Number of persons in full-time employment in book publishing	140 000	140 000	135 000	135 000	135 000

2011	2012	2013	2014	2015	2016	2017
22,8	**22,5**	**22,3**	**22**	**22,3**	**22,3**	**22,2**
18,7%	19,8%	18,8%	19,2%	19,9%	21,0%	21,2%
19,5%	19,7%	19,5%	19,5%	19,5%	18,7%	18,5%
49,8%	48,7%	49,5%	49,2%	48,4%	47,2%	47,4%
12,1%	11,8%	12,3%	12,2%	12,2%	13,0%	12,9%
80,5%	79,6%	81,0%	80,0%	77,1%	77,9%	78,0%
19,5%	20,4%	19,0%	20,0%	22,9%	22,1%	22,0%
80,9%	80,2%	79,3%	79,5%	83,2%	82,8%	80,7%
6,0%	4,7%	3,5%	3,3%	2,2%	1,7%	1,0%
13,1%	15,1%	17,2%	17,2%	14,6%	15,5%	18,2%
530 000	535 000	560 000	545 000	575 000	590 000	610 000
8 500 000	9 000 000	16 000 000	16 900 000	22 000 000	22 500 000	
135 000	130 000	130 000	125 000	125 000	125 000	130 000

Annex to 4.6

Electricity prices for industrial consumers, 2008-2018

	2008S1	2008S2	2009S1	2009S2	2010S1	2010S2	2011S1	2011S2	2012S1	2012S2
Austria	0,1276	0,1286	0,1421	0,1394	0,1352	0,1353	0,1351	0,1353	0,1322	0,1339
Belgium	0,1293	0,1163	0,1344	0,1305	0,1274	0,1276	0,1328	0,1381	0,1302	0,1340
Bulgaria	0,0675	0,0782	0,0777	0,0767	0,0782	0,0798	0,0778	0,0800	0,0832	0,0935
Croatia	0,0922	0,1142	0,1057	0,1110	0,1155	0,1112	0,1115	0,1094	0,1120	0,1175
Cyprus	0,1638	0,2075	0,1360	0,1715	0,1727	0,1984	0,1919	0,2419	0,2601	0,2732
Czech Republic	0,1318	0,1335	0,1271	0,1335	0,1239	0,1297	0,1330	0,1299	0,1247	0,1234
Denmark	0,2113	0,2245	0,2067	0,2140	0,2270	0,2293	0,2423	0,2343	0,2391	0,2421
Estonia	0,0669	0,0711	0,0759	0,0774	0,0833	0,0873	0,0862	0,0902	0,0941	0,0981
Finland	0,0781	0,0822	0,0841	0,0833	0,0846	0,0841	0,0930	0,0923	0,0928	0,0915
France	0,0778	0,0736	0,0865	0,0774	0,0930	0,0835	0,1014	0,0948	0,1117	0,0951
Germany	0,1410	0,1428	0,1505	0,1515	0,1507	0,1562	0,1668	0,1662	0,1703	0,1727
Greece	0,0941	0,1006	0,1037	0,1020	0,1036	0,1139	0,1182	0,1256	0,1337	0,1381
Hungary	0,1371	0,1461	0,1487	0,1618	0,1320	0,1312	0,1271	0,1317	0,1190	0,1255
Ireland	0,1489	0,1604	0,1364	0,1327	0,1263	0,1277	0,1281	0,1460	0,1488	0,1575
Italy	0,1565	0,1704	0,1773	0,1581	0,1596	0,1663	0,1741	0,1908	0,1919	0,2075
Latvia	0,0779	0,0940	0,1085	0,1082	0,1076	0,1096	0,1201	0,1344	0,1346	0,1344
Lithuania	0,0978	0,0990	0,1099	0,0954	0,1205	0,1265	0,1269	0,1256	0,1378	0,1384
Luxembourg	0,1035	0,1038	0,1227	0,1228	0,1078	0,1086	0,1063	0,1060	0,1113	0,1074
Malta	0,1282	0,1700	0,1581	0,1356	0,1809	0,1898	0,1869	0,1886	0,1881	0,1904
Netherlands	0,1252	0,1234	0,1321	0,1263	0,1205	0,1154	0,1175	0,1131	0,1159	0,1152
Poland	0,1075	0,1110	0,1100	0,1139	0,1194	0,1204	0,1247	0,1158	0,1127	0,1176
Portugal	0,0939	0,0946	0,0984	0,0989	0,0982	0,0964	0,1048	0,1146	0,1403	0,1409
Romania	0,1057	0,1134	0,0970	0,0990	0,1018	0,1008	0,1024	0,1055	0,1058	0,1091
Slovakia	0,1424	0,1533	0,1693	0,1670	0,1397	0,1426	0,1531	0,1513	0,1579	0,1525
Slovenia	0,1118	0,1182	0,1235	0,1155	0,1192	0,1206	0,1185	0,1157	0,1138	0,1129
Spain	0,1108	0,1238	0,1338	0,1299	0,1354	0,1290	0,1342	0,1364	0,1433	0,1447
Sweden	0,0866	0,0965	0,0832	0,0861	0,1005	0,1050	0,1116	0,1036	0,1012	0,0970
United Kingdom	0,1147	0,1279	0,1283	0,1164	0,1162	0,1164	0,1179	0,1253	0,1372	0,1432
EU-28	**0,1194**	**0,1248**	**0,1299**	**0,1252**	**0,1275**	**0,1284**	**0,1360**	**0,1376**	**0,1422**	**0,1439**
Norway	0,0980	0,1089	0,0987	0,0994	0,1288	0,1173	0,1381	0,1136	0,1154	0,1074

2013S1	2013S2	2014S1	2014S2	2015S1	2015S2	2016S1	2016S2	2017S1	2017S2	2018S1
0,1337	0,1329	0,1307	0,1266	0,1247	0,1260	0,1264	0,1229	0,1116	0,1196	0,1196
0,1305	0,1325	0,1283	0,1309	0,1301	0,1297	0,1349	0,1398	0,1367	0,1314	0,1313
0,0976	0,0871	0,0896	0,0909	0,0831	0,0939	0,1202	0,0946	0,0915	0,0890	0,0972
0,1186	0,1180	0,1195	0,1148	0,1150	0,1159	0,1129	0,1096	0,0987	0,1040	0,1124
0,2440	0,2367	0,2070	0,2256	0,1648	0,1668	0,1238	0,1532	0,1664	0,1637	0,1653
0,1237	0,1198	0,1003	0,0991	0,0934	0,0947	0,0884	0,0885	0,0832	0,0859	0,0887
0,2496	0,2463	0,2562	0,2606	0,2589	0,2599	0,2664	0,2651	0,2544	0,2579	0,2537
0,1169	0,1164	0,1100	0,1117	0,1066	0,1117	0,1054	0,1075	0,1044	0,1015	0,1038
0,0929	0,0929	0,0910	0,0895	0,0877	0,0875	0,0849	0,0861	0,0827	0,0838	0,0844
0,1157	0,1022	0,1183	0,1126	0,1232	0,1141	0,1191	0,1191	0,1198	0,1102	0,1174
0,1879	0,1902	0,2071	0,1992	0,1979	0,1960	0,1974	0,1958	0,1991	0,1985	0,1967
0,1411	0,1400	0,1510	0,1467	0,1460	0,1299	0,1363	0,1260	0,1215	0,1315	0,1157
0,1210	0,1229	0,1142	0,1123	0,1080	0,1084	0,1004	0,0992	0,0922	0,0957	0,1042
0,1534	0,1541	0,1541	0,1532	0,1601	0,1531	0,1498	0,1404	0,1392	0,1399	0,1491
0,1951	0,1995	0,2000	0,2033	0,1873	0,1855	0,1771	0,1807	0,1712	0,1675	0,1642
0,1362	0,1394	0,1417	0,1374	0,1425	0,1432	0,1410	0,1453	0,1427	0,1402	0,1257
0,1489	0,1485	0,1414	0,1417	0,1198	0,1205	0,1136	0,1069	0,1024	0,1000	0,1014
0,1042	0,1063	0,1067	0,1046	0,1003	0,0965	0,0943	0,0926	0,0849	0,0873	0,0905
0,1879	0,1869	0,1856	0,1870	0,1679	0,1475	0,1493	0,1469	0,1480	0,1432	0,1414
0,1144	0,1143	0,1131	0,1075	0,1091	0,1024	0,1037	0,0974	0,0995	0,0925	0,1044
0,1145	0,1079	0,1015	0,1025	0,1085	0,1059	0,0993	0,1003	0,1079	0,1061	0,1078
0,1416	0,1397	0,1427	0,1460	0,1402	0,1420	0,1384	0,1396	0,1408	0,1411	0,1381
0,1337	0,1185	0,1087	0,1001	0,1029	0,0989	0,0913	0,0926	0,0915	0,0936	0,0989
0,1543	0,1523	0,1382	0,1409	0,1351	0,1346	0,1310	0,1334	0,1378	0,1336	0,1399
0,1160	0,1153	0,1056	0,1033	0,1009	0,1061	0,1033	0,1015	0,0957	0,0956	0,1050
0,1482	0,1454	0,1507	0,1412	0,1420	0,1371	0,1337	0,1245	0,1284	0,1249	0,1282
0,1006	0,0934	0,0885	0,0833	0,0778	0,0738	0,0770	0,0820	0,0810	0,0808	0,0855
0,1375	0,1436	0,1548	0,1606	0,1788	0,1823	0,1653	0,1534	0,1512	0,1487	0,1603
0,1481	**0,1468**	**0,1529**	**0,1495**	**0,1497**	**0,1474**	**0,1453**	**0,1453**	**0,1415**	**0,1389**	**0,1414**
0,1208	0,1082	0,0998	0,1010	0,0962	0,0856	0,0930	0,1017	0,0888	0,0879	0,0973

Annex to 4.7

Letter prices, 2014-2018, in €

	Nominal price for a domestic standard letter					Nominal price for letter mail within Europe				
	2014	**2015**	**2016**	**2017**	**2018**	**2014**	**2015**	**2016**	**2017**	**2018**
Austria	0.62	0.68	0.68	0.68	0.68	0.70	0.70	0.80	0.80	0.80
Belgium	0.77	0.77	0.79	0.79	0.87	1.17	1.20	1.23	1.23	1.36
Bulgaria	0.44	0.44	0.44	0.43	0.49	0.77	0.77	0.77	0.77	1.02
Croatia	0.61	0.60	0.85	0.86	0.87	1.45	1.44	1.45	1.46	1.47
Cyprus	0.34	0.41	0.41	0.41	0.41	0.51	0.64	0.64	0.64	0.64
Czech Republic	0.50	0.47	0.48	0.59	0.72	0.96	0.91	0.92	1.18	1.33
Denmark	1.21	1.34	2.55	3.63	3.63	1.88	1.95	3.35	3.36	3.63
Estonia	0.45	0.55	0.65	0.65	0.65	1.00	1.20	1.40	1.40	1.40
Finland	1.00	1.10	1.20	1.30	1.50	1.00	1.10	1.30	1.40	1.60
France	0.66	0.76	0.80	0.85	0.95	0.83	0.95	1.00	1.10	1.20
Germany	0.60	0.62	0.70	0.70	0.70	0.75	0.80	0.90	0.90	0.90
Greece	0.72	0.72	0.72	0.72	0.72	0.90	0.90	0.90	0.90	0.90
Hungary	0.49	0.47	0.47	0.50	0.50	0.99	1.05	1.10	1.20	1.25
Ireland	0.60	0.68	0.70	1.00	1.00	0.90	1.00	1.05	1.35	1.50
Italy	0.70	0.80	2.80	2.80	2.80	0.85	0.95	3.50	3.50	3.50
Latvia	0.57	0.57	0.57	0.57	0.57	0.78	0.78	0.78	0.78	0.78
Lithuania	0.45	0.45	0.45	0.45	0.45	0.71	0.81	0.81	0.81	0.81
Luxembourg	0.60	0.60	0.70	0.70	0.70	0.85	0.85	0.95	0.95	0.95
Malta	0.26	0.26	0.26	0.26	0.26	0.59	0.59	0.59	0.59	0.59
Netherlands	0.64	0.69	0.73	0.78	0.83	1.05	1.15	1.25	1.33	1.40
Norway	1.28	1.26	1.23	1.40	1.50	1.66	1.68	1.57	1.83	1.93
Poland	0.56	0.56	0.56	0.73	0.75	1.24	1.24	1.24	1.38	1.41
Portugal	0.50	0.55	0.58	0.58	0.65	1.90	2.35	2.45	2.45	2.80
Romania	0.36	0.36	0.36	0.31	0.31	0.48	0.47	0.90	0.89	0.88
Slovakia	0.65	0.65	0.65	0.70	0.70	1.00	1.00	1.00	1.00	1.10
Slovenia	0.29	0.34	0.36	0.37	0.40	1.19	1.29	1.29	1.77	1.77
Spain	0.37	0.42	0.45	0.50	0.55	0.75	0.90	1.15	1.25	1.35
Sweden	0.69	0.77	0.70	0.74	0.93	1.62	1.54	1.39	2.22	2.18
Switzerland	0.81	0.82	0.94	0.92	0.90	1.14	1.15	1.41	1.38	1.35
United Kingdom	0.73	0.78	0.88	0.79	0.76	1.14	1.24	1.45	1.43	1.43

Annex to 4.8

VAT rates applied to printed and electronic publications, 2019

	VAT printed books	VAT printed magazines	VAT printed newspapers	VAT e-publications (before EU decision)	VAT e-publications (after EU decision)
Denmark	25%	25%	0%	25%	25%
Bulgaria	20%	20%	20%	20%	20%
Latvia	12%	12%	12%	21%	21%
Austria	10%	10%	10%	21%	21%
Slovakia	10%	10%	10%	20%	20%
Czech Republic	10%	20%	20%	20%	20%
Finland	10%	10%	10%	24%	10%
Slovenia	9.5%	9.5%	9.5%	22%	22%
Estonia	9%	9%	9%	20%	20%
Lithuania	7%	7%	7%	19%	19%
Greece	6%	6%	6%	25%	25%
Germany	6%	6%	6%	24%	24%
Belgium	6%	6%	6%	23%	23%
Netherlands	6%	0%	0%	21%	21%
Portugal	6%	6%	6%	21%	21%
Sweden	5.5%	2.1%	2.1%	5.5%	5.5%
France	5%	5%	5%	27%	27%
Malta	5%	5%	5%	21%	21%
Cyprus	5%	5%	5%	20%	20%
Romania	5%	5%	5%	19%	19%
Poland	5%	5%	5%	18%	5%
Croatia	5%	5%	8%	23%	5%
Hungary	5%	5%	5%	25%	5%
Italy	4%	4%	4%	21%	21%
Spain	4%	4%	4%	4%	4%
Luxembourg	3%	3%	3%	17%	17%
Switerland	2.5%	2.5%	2.5%	7.7%	7.7%
Ireland	0%	0%	0%	20%	20%
United Kingdom	0%	9%	9%	23%	9%
Norway	0%	0%	0%	25%	0%

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Printing Industry Union
Of Bulgaria
www.printunion-bg.org

DENMARK
GRAKOM
www.grakom.dk

ESTONIA
Association of Estonian Printing and
Packaging Industry (AEPPI)
www.etpl.ee

FINLAND
Graafinen
Teollisuus Ry
www.graafinenteollisuus.fi

FRANCE
Union Nationale des Industries
de l'Impression et de la Communication (UNIIC)
www.uniic.org

GERMANY
Bundesverband Druck und Medien e.V. (bvdm)
www.bvdm-online.de

HUNGARY
Federation of Hungarian
Printers and Papermakers
(FEDPRINT)
www.fedprint.hu

IRELAND
Irish Printing Federation
www.irishprintingfederation.ie

ITALY
Italian Association of Printing and Paper Converting
Industries (ASSOGRAFICI)
www.assografici.it

LATVIA
Latvian Printers Association
www.lpua.lv

LITHUANIA
Association of Lithuanian Printing Industries (LISPA)
www.lispa.net

LUXEMBOURG
Association Des Maitres Imprimeurs
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Norwegian Printing Federation
www.nhografisk.no

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