



Economic Study on Publications on all Physical Means of Support and Electronic Publications in the context of VAT

Final report

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Director of the study: Pau Salsas (Europe Economics)

Contributors: Xavier Le Den and Stefano Ficco (managing team), Helene Bundgaard Rohde, Sida Yin, Denisse Halm, Teresa McGarry.

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Executive Summary

Introduction

VAT is currently regulated by Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax (the "VAT Directive"). Under the current rules, Member States may apply a reduced VAT rate to books, periodicals and newspapers supplied in hard copy form (this is physically or on physical means) but not to electronically-supplied services¹ (this includes e-books, on-line newspapers and on-line periodicals).

The Commission Communication on the future of VAT adopted on 6 December 2011 announced an assessment of the current VAT rates structure.² As part of this assessment exercise, a public consultation³ was launched and this provoked a number of significant reactions in relation to the differential VAT treatment of publications delivered on physical or digital means.

The present study is motivated by the need to understand: the extent to which publications delivered on physical means of support and in electronic format should be considered as substitutable products; the impact their current VAT rate differentiation has on the market; and the potential impact of any changes in VAT in order to reduce such rate differentials.

With these aims, the study has been organised into four main objectives:

- (a) assess the substitutability between physical and electronically-supported publications;
- (b) evaluate the impact of current VAT reduced rates;
- (c) evaluate the impact of applying a standard rate for "books, periodicals and newspapers" in those countries applying a reduced rate (i.e. the "equalising-up" of rates); and
- (d) evaluate the impact of applying the same reduced rate for both kinds of "publications" (i.e. the "equalising-down" of rates).

Methodological Approach

The similarity (or dissimilarity) of products is investigated by assessing whether the products delivered through different means (print or digital⁴) are regarded by consumers as substitutable. The underlying approach to substitutability is based on the concept of cross-price elasticity and tries to establish whether there are critical price differences that make consumers switch significantly from one product to another.

¹ Article 98(2) and Annex III of the "VAT Directive".

² COM(2011) 851 final.

³ Public consultation on the review of existing legislation on VAT reduced rates (from 8 October 2012 to 4 January 2013).

⁴ The concepts are properly defined in section 1.2.



This is one of the most common concepts for measuring substitutability between products and is used extensively in competition exercises for assessing whether products belong to the same relevant market. Because the approach relies on assessing consumer reactions to a response in price changes, it is also particularly useful for analysing the impacts on the market of potential changes in VAT rates.

The conceptual framework for our analysis of impacts is based on well-established economic mechanisms used to explain the potential impact of taxes on market outcomes. Our model differentiates between demand-side effects (due to price sensitivity) and supply-side effects (to measure the “pass-on” or extent to which VAT changes are reflected in the final price). It also allows for cross-substitution effects between products.

Data Gathering

Our methodology uses different sources of information, and these include: a literature review; a review of competition cases assessing the definition of markets for publishing sectors; a consumer survey; a survey and consultation with publishers’ associations; the Global Entertainment and Media Outlook: 2013-2017; data from public sources (Eurostat and DG TAXUD); and interviews with industry stakeholders.

The consumer survey is an important part of the study and was undertaken to gather information on consumer purchasing decisions on physical and digital publications subject to different prices and price changes (the choices represent different simulated scenarios generated under ‘what-if’ market situations). The survey design followed a number of steps to ensure quality and accuracy of the responses and was previously piloted to test the validity of the questions and responsiveness of consumers. The survey was launched in 24 Member States.⁵

Substitutability

The analysis of substitutability is based on the findings from the literature, the review of competition cases and the analysis of the consumer survey.

No clear conclusion in previous literature

The academic literature studying the relationship between print and digital periodicals notes the likely cannibalisation of print by digital media, but does not offer clear conclusions on this effect as it is argued that websites can also have a positive impact in encouraging the subscriptions of publications on print.

Separated markets in competition cases

The review of the market definitions in competition cases has shown one case which delimits the market for e-books as clearly separated from publications on physical means. The conclusions are based on three technical features of e-books (storability, compatibility with electronic devices, and accessibility) and the industry’s perception of e-books belonging to a separate market segment. In another three cases the market definition was not conclusive or left open, but investigations in those cases recognised

⁵ Three Member States (Luxembourg, Malta and Cyprus) were excluded due to the high costs of survey (the small size of the populations in such countries imply that surveying costs were almost eight times higher than that of the other Member States). The choice of 24 Member States was believed to achieve a good balance between coverage and costs.



a differential feature of electronic books. The merger investigations on newspapers also concluded that the online market was a separate market.

Differences in consumers' perceptions and valuations

Our analysis of the consumer survey shows consumers' perceptions of the price differences between print and digital. Consumers' valuations of the attributes of the different supports also indicate very distinct features of print and digital products.

- More than half of respondents believed that the price of digital products should be at least 50% less than the comparable printed products.
- A large proportion of respondents also found that printed and digital publications have very different appealing attributes. Printed material has advantages in terms of being able to hold it physically, is easy for the eyes and there is no need to recharge (between 37% and 60% of respondents according to different questions). Digital material appeal to consumers because it is good for the environment, is portable; and requires less storage and saves money (between 41% and 56% of respondents).

Asymmetric relationship between products

When looking at the likely migration between different supports as a result of a simulated change in price, we observe some *asymmetric* relationship:

- the migration from print to digital material is almost non-existent when the price of print books or periodicals increases (drops in the consumption of print material are not compensated by any increase in the consumption of digital material); but
- some migration from print to digital can be observed when the price of digital decreases (price reductions in digital reduce purchases of print), although the magnitude of such migration is small.
- the asymmetry of response is different in the case of newspapers: consumers tend to perceive the digital means as a substitute of the traditional printed publications when faced with a decrease in the price of digital newspaper (equalising down), but our results show that consumers of printed news may regard the different means as complements when faced with an increase in the price of print newspapers (equalising up), so that they react by reducing the consumption of digital news too.

Differences according to socio-economic determinants

We also looked at differences in elasticities according to social-economic determinants. Different regressions show that:

- absolute own-price elasticities for print books are smaller for households with children, suggesting that consumption in such households would decrease less (compared to other households) as a result of an increase in the price of print books;
- cross-price elasticity estimates of print book publications are significantly lower in households with children, indicating less substitutability between digital and print supports in such households.

Differences for individuals having already access to e-devices

A significant difference exists in price elasticities depending on the accessibility to e-devices. We found that respondents with access to e-devices will react more quickly to digital price changes, so some substitutability may be happening in this consumer group. However, those without access to e-devices are less price-elastic to changes in digital price and this is probably due to the barriers experienced in accessing electronic



devices. The reaction of this second group is nevertheless important to understand the degree of substitutability across the whole population.

No significant changes perceived in the medium term

The publishing sector is going through rapid changes and rapid technical developments. In order to investigate how much these are influenced by the maturity of the new technologies or accessibility to the digital devices, we have analysed the relationship between elasticities and penetration rates of the devices across Member States. Our findings show that:

- there is dispersion in the own- and cross-price elasticities in both the print and digital markets, but
- there is no relationship between the estimates and the penetration rates of electronic devices.

This means that elasticities are not expected to change significantly in the medium term when take-up of digital devices increases.

It is important to stress that, even though our findings indicate that substitutability between print and digital material is very limited, we are not denying the existence of migration from print to digital material. The analysis conducted in this section is primarily concerned with migration occurring *as a result of price changes*. However, we are aware that there are other important drivers (e.g. technological product innovations, demographic changes, and customers' changing preferences) which may be responsible for the clear trends (away from print and towards digital) in the consumption of published material observed in the last decade. The impact of such effects has not been part of our analysis.

Analysis of VAT rates differences across Member States

We have found a great variation in the VAT rates for publications across Member States.

- Only two Member States (DK and BG) apply a normal rate on books. The remaining majority of Member States apply a reduced rate (ranging from 5% to 15%) with the exception of the UK and IE, which apply a zero rate.
- All but two Member States apply the normal rate for digital publications (this ranges from 18% to 27%) with the exception of FR and LU which apply a reduced rate (5.5% and 3%, respectively) without EU legal basis, in the opinion of the European Commission.

There is also great variation across the Member States in the rates for newspapers and periodicals.

- Four and five Member States apply a normal rate for newspapers and periodicals, respectively.
- The remaining Member States apply the same rates as for books with few exceptions.

The reaction of the industry

A declining sector

Revenues from print and advertising are in decline in the publishing industry. The book sector is reversing the trend with the development of digital products and revenues are expected to improve soon. The situation is less clear for newspapers and



periodicals, where print editions are still cross-subsidising digital editions. This is due to limited digital circulation, low advertising revenues, and consumers' reluctance to pay for digital products. Unlike books, the rise of the digital format is not expected to offset the loss of the print format in the newspapers and periodical sector in the short term.

Impact of VAT on prices

The analysis of the structure shows some parts of the supply chain as competitive, while others (mainly retail and distribution) show a trend towards higher concentration. It is therefore unclear whether tax changes will be passed on in full to consumers in the form of price increases or reductions. This may be particularly problematic in the equalising-down case, as the concentration in the market could mean some of the tax reductions being kept at different stages of the supply chain; which in turn would indicate that consumers do not see (or do not see fully) the effects of lowering VAT rates. There are also reasons to believe the opposite. We have learned that international retailers of digital products rely on price discounts in order to increase and maintain their market share and may have incentives to pass on fully any tax reductions.

Evaluation of impacts

To assess the potential impact of changes in VAT, we have used a model which allows for inclusion of both print and digital products, and also accounts for sales revenues from advertising (in the case of newspapers and periodicals).

Equalising up

In the equalising-up scenario, our model shows:

- A large decline in the sales for publications in print (for some large geographical markets, the decline can be as much as 30%). This is due to the large size of print publications and the high tax increase implied in the equalising-up option.
- A large increase in the tax revenue (in the order of between 100 and 300% for large geographical locations).
- The magnitude of reductions in sales of this policy option can only be compared to the loss that would be achieved after 13 years for books, 14 years for periodicals and 24 years for newspapers.

Equalising down

In the equalising-down scenario, our model shows:

- Some lost sales which are due to the emigration from print, which turn any gains in digital circulation to losses in most Member States. The resulting changes are nevertheless of a smaller magnitude: an absolute 5% change or less, across all Member States.
- A small loss (in absolute terms) in tax revenue in this case of less than 5% in most Member States, although simulations also show that some large Member State may have a reduction of 100% (UK) due to the complete drop in tax.
- The magnitude of the loss in sales is relatively small, and similar to the loss which would be sustained after one year for books and periodicals and slightly more than two years for newspapers; so it may be easier for the industry to absorb the changes.



We believe the existence of piracy will not affect our results as we assumed no migration from print to digital in the case of equalising up, and an equalising-down case should not encourage piracy. In other words, piracy will not increase due to price change.

Conclusions

In relation to the potential substitutability of print and electronic publications we have concluded that:

- Print and digital publications are not part of the same relevant market. This has been concluded from the assessment of competition cases.
- Consumers value print and digital products differently and this is linked to the different attributes and features of the different supports.
- Consumers are not likely to significantly substitute one product for another as a result of an impact in prices. The migration from print to digital material is almost non-existent when the price of print books or periodicals increases. Some migration from print to digital can be observed when the price of digital decreases although the magnitude of such migration is small.
- The asymmetry of response is different in the case of newspapers: consumers tend to perceive the digital means as a substitute of the traditional printed publications, when faced with a decrease in the price of digital newspaper, but perceive the two as complements if price of print newspapers increase and may react by reducing the consumption of digital news too.
- We see some differences in substitutability according to socio-economic factors: books on print are less substitutable in households with children.
- Households with access to e-devices are more likely to substitute but, on average overall, this may not compensate the lack of substitutability in households without e-devices.
- We do not believe substitutability will increase significantly in the medium term.

In relation to the potential impacts of VAT changes we have concluded that:

- A large decline in the sales for publications in print will result as a consequence of the equalising up scenario. The impact is comparable only to the reduction the sector would experience after a persistent decline of more than 10 years.
- A moderate decline in sales for publications in print will result as a consequence of the equalising-down scenario. The magnitude of the decline is comparable to the sectors' annual downward trend, so it may be easier for the industry to absorb the changes.



1. Introduction

VAT is currently regulated by Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax (the "VAT Directive"). The VAT Directive establishes the common system of VAT, which applies to the production and distribution of goods and services bought and sold for consumption within the EU.

Under current rules, Member States may apply a reduced VAT rate to books, periodicals and newspapers supplied in hard copy form (this is physically or on physical means of support) but not to electronically-supplied services.⁶

The scope of category 6 of Annex III of the VAT Directive and the concept of "books on all physical means of support" have been clarified by the VAT Committee⁷ in a guideline⁸ adopted unanimously by the Member States, which reads as follows:

- "Books on all physical means of support" mentioned in category 6 of Annex III of the VAT Directive following the adoption of Directive 2009/47/EC only covers traditional books printed on paper, as well as the content of books on physical means of support such as cassettes, diskettes, CDs, DVDs, CD-ROMs, USB memory sticks, etc. that predominantly reproduces the same information content as printed books.
- The supply of books in electronic format, usually called "e-books" (e.g. in PDF files) or virtual books, which have to be downloaded from a Web site to be viewed on a desktop computer, laptop, Smartphone, e-book reader or any other reading system, as well as the supply of on-line newspapers and on-line periodicals, does not fall within the scope of category 6 of Annex III of the VAT Directive. The supply of e-books as well as the supply of on-line newspapers and on-line periodicals qualifies as electronically supplied services to which the reduced rates shall not apply according to the second subparagraph of Article 98(2) of the VAT Directive.

On 1 December 2010 the Commission adopted a Green Paper⁹ on the future of VAT, inviting all stakeholders to take a critical look at all aspects of EU VAT. The European Parliament, the European Economic and Social Committee and the Tax Policy Group welcomed the Green Paper and confirmed the need to reform the EU VAT system.

The Commission Communication¹⁰ on the future of VAT adopted on 6 December 2011 announced an assessment of the current VAT rates structure based on three guiding principles: abolish reduced rates which constitute an obstacle to the proper functioning of the internal market; abolish reduced rates on goods and services whose consumption is discouraged by other EU policies; and ensure that similar goods and services are subject to the same VAT rate, particularly addressing the convergence in rates between the on-line and physical environments.

A targeted public consultation on the review of existing legislation on VAT reduced rates (from 08/10/2012 to 04/01/2013) provoked a number of significant reactions in relation to the differential treatment, for VAT purposes, of books, periodicals and

⁶ Article 98(2) and Annex III of the "VAT Directive".

⁷ The VAT Committee is an advisory committee set up under Article 398 of the VAT Directive which has not been attributed any legislative powers but which gives guidance on the application of the VAT Directive.

⁸ Document A – taxud.c.1(2011)157667 – 684.

⁹ COM(2010) 695 final.

¹⁰ COM(2011) 851 final.



newspapers on the one hand; and e-books, on-line periodicals and newspapers on the other.

1.1 Objectives

The overarching aim of the present study is to examine whether or not "e-publications" and "publications on all means of physical support" should be considered as substitutable products, to examine the impact on the market of current VAT rate differentiation between the two kinds of publications, and to assess the potential impact of changes in VAT in order to reduce such rate differentials.

The study has been organised into four main objectives:

- assess the substitutability between physical and electronically-supported books, newspapers and periodicals;
- evaluate the impact of current VAT rates applicable in the Member States;
- evaluate the impact of applying a standard rate for "books, periodicals and newspapers" in those countries applying a reduced rate (i.e. "equalising rates up"); and
- evaluate the impact of applying the same reduced rate for both kinds of "publications" (i.e. "equalising rates down").

Impacts have been evaluated in relation to sales volumes, market players, end-users, business exiting the market, and in particular the extent to which changes in VAT rates might trigger the crowding-out of paper publications. The study includes an analysis of price elasticity and cross-substitution of products supplied by physical and digital means.

1.2 Definitions used in the study

Although there is a general agreement and understanding of what constitutes "books", "newspapers" and "journals, magazines and periodicals", both by consumers and the industry, the exact definitions of what is meant by such terms can differ slightly depending on the context used. This is especially noticeable in the definitions used by organisations and market studies when collecting different data. In some cases only information on magazines is included without specifying further journals or other periodicals. In other cases there are differences in the type of consumers included and data may not account for purchases by libraries, educational institutes or government. The definitions also depend on the type of information being collected and whether this is done from the consumer or producer side (this is: expenditure or sales revenues).

As the main variable used in our analysis is turnover from Eurostat, we use the definitions provided therein. Hence, we refer to the following categories.

- **Books:** this includes books, brochures, leaflets, dictionaries, encyclopaedias and atlases, maps, charts and audio books.
- **Newspapers:** this includes the publication of newspapers and advertising newspapers, which appear at least four times a week.
- **Periodicals:** this includes the publication of periodicals and other journals, which appear less than four times a week.



The wording “magazine” is also used in the study as an alternative way to refer to periodicals.

The different definitions by other sources are all reviewed in section 3, where we also provide the steps undertaken to make the information from different sources comparable.

To refer to the means of the support of the publications we have used the definitions from the VAT Committee guideline. For practical purposes, throughout the report we refer to the generic categories of “print” and “digital” defined as follows:

- **Print:** this includes those publications printed on paper and other physical means.
- **Digital:** this covers e-books, on-line newspapers and on-line periodicals.

In cases where information is referred to as other forms of digital publications (as in the literature review) this is appropriately described.

The generic wording “publication” refers to books, newspapers and periodicals on paper and on other physical means and “e-publication” to their digital version.

It should be noted that throughout the study we use the term “print” to encompass all physical means of support, as this is how data from Eurostat and PwC Global Entertainment and Media Outlook: 2013-2017 are defined. The findings from the consumer survey, however, refer to a subset of the “print” market. This is because we use a representative short number of paper publications, chosen in order to make the survey operational. Throughout the report, we use data from the consumer survey as *proxies* to extrapolate the findings for the overall “print” and “digital” industries (which may include items related to audio books, encyclopaedias, or music books, not included in the survey). However, because these items are small compared to the overall size of the market¹¹ the bias in our results is expected to be small and insignificant and our conclusions can be made extensive to the whole sector.

1.3 Structure of the report

The structure of the report is as follows:

- Sections 2 and 3 describe our analytical methodology and approach to data-gathering;
- Section 4 provides background on the publishing industry in the EU by describing the market;
- Section 5 provides the results of our analysis of substitutability (between physical and digital means) and the estimates used for the impact analysis;
- Section 6 and 7 describe publishing industry’s structure and recent developments and trends;
- Section 8 calculates the impact of different simulated policies; and
- Section 9 concludes.

Some additional information is provided in three different Annexes.

¹¹ For example, different sources estimate the size of the audio as a small proportion of the UK consumer book industry: according to 2006 industry association surveys, “the UK market is about £70m”, 2.8% of the UK consumer book market (see “Audiobooks – an outline of the UK market” in <http://www.strathmorepublishing.co.uk/audiobooks.html>).



- Annex A contains detailed information at the Member State level. This includes the structure of the publishing sector, recent evolution of prices and turnover, and disaggregated results and estimates used in the simulations. The annex is interesting to see the results for individual countries which are sometimes aggregated in a total in the main text. There are also interesting graphs summarising the results of the consumer survey for each of the Member States that were part of the exercise.
- Annex B contains interesting information on data provided by industry associations and stakeholders. There are also summaries of the case studies conducted (these have been removed from the main body to improve the overall readability of the text).
- Annex C contains detailed information of the different questionnaires used in the surveys undertaken in the study. There is also a list of academic articles summarised as part of the literature review.



2. Methodological Approach

The similarity (or dissimilarity) of products is an important part of the study. This is investigated by assessing whether the products delivered through different means (print or digital) are regarded by consumers as substitutable, and in particular whether this determines the critical price difference which would make consumers switch significantly from one product to another.

The underlying approach to substitutability followed the terms of reference to this study which required an examination of the cross-price elasticity of type of publications (as explained further below).¹² This is one of the most common concepts for measuring substitutability between products and is increasingly being used in competition exercises for assessing whether products belong to the same relevant market. Because this approach relies on assessing substitutability based on the extent to which consumers change their behaviour in response to the prices of products, it seemed particularly useful for obtaining estimates of consumer reactions which could be used in the analysis of the potential impacts of changes in the VAT rates (which will ultimately have an impact on prices).

The analysis is undertaken using a consumer survey in order to gather information on consumer purchasing decisions on physical and electronic publications according to different prices and price changes (the choices represent different simulated scenarios generated under 'what-if' market situations). Details on the approach used for the consumer survey are described in the next chapter.

The assessment of the impact of changes in VAT rates looks at a number of potential effects separating between supply and demand impacts (in print and digital formats):

- Demand-side effects are the reactions consumers might have if faced with a change in prices. The key aspect to consider when assessing demand-side effects is the extent to which consumers are sensitive to price changes (changes in price that might result from an increase or decrease in the tax rate), and the extent to which consumers consider print and digital materials to be substitutable (including the extent to which an increase or decrease in the price of material in one support may result in migration to products delivered in the other support).
- Supply-side effects concern the supply chain of publishing material and how this might be affected by a change in the tax rate. Publishers and players within the supply chain might differ in their ability to absorb a tax rise or to react to a tax decrease. The extent to which suppliers can pass on to consumers any increases (or decreases) in their costs (including changes as a result of tax increases or decreases) is known as the 'pass-on effect'.

The impacts on the supply side, in conjunction with the demand-side effects, play a key role in determining the extent to which a change in tax is actually reflected in the final retail price.

In the remainder of this section we first describe the general conceptual framework adopted in the study, and then turn to the details used in estimating the parameters

¹² In particular, to rely on the usual competition investigation approach aimed at understanding which is the "maximum difference in prices the consumer is willing to accept before switching the consumption from one product to another".



employed for the demand and supply effects. The last heading of this section presents the formulae used to quantify the overall impacts of tax changes.

2.1 The conceptual framework

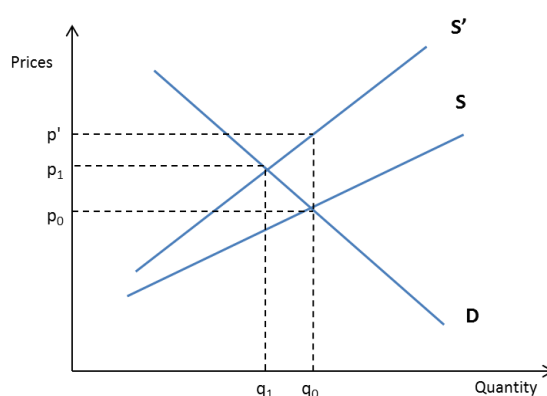
The conceptual framework adopted is based on well-established economic theory used to explain the potential impact of taxes on market outcomes. We start with a simple reduced-form model and progressively expand the analysis to account for other factors.

2.1.1 One-product, one-market model

To simplify, we consider first a single product in one market. Figure 2.1 represents an increase of taxes as a shift in the supply curve from S to S' , which simply reflects that each unit of the product in question will be more expensive to supply.¹³ The difference between the prices in pre-tax equilibrium quantities, $p' - p_0$, represents the tax increment. However, under the new price p' there will not be enough demand to clear the market, and the post-tax price would need to decrease until supply and demand (represented by line D) are equalised. That will happen at a new equilibrium price p_1 . At p_1 , the market will clear at quantity q_1 . Therefore, tax has caused an increase in price (from p_0 to p_1) and a decrease in quantity (from q_0 to q_1).

The impact of a decrease in tax would work in the opposite direction: a decrease in tax would entail a shift from S' to S . The market-clearing price would decrease from p_1 to p_0 and the quantity sold would increase from q_1 to q_0 . The distance between the two parameters would represent the relative price and quantity effects of the tax decrease.

Figure 2.1: Incidence of tax



Such impacts are not direct and depend on the extent to which suppliers and consumers react to price changes; that is, the impacts ultimately depend on the slopes of the supply and demand curves, S and D . To simplify, one can model the impact of a tax increase as the combined impact of a pass-on effect and a lost-sales effect. On the supply side, the pass-on effect would be the observed price change from p_0 to p_1 (as a result of the tax increase) or from p_1 to p_0 (as a result of a tax decrease). On the demand side, the lost-sales effect measures the extent to which

¹³ The new S' has changed slope, reflecting that tax charges are based on monetary values of the taxed item (as VAT is an *ad valorem* tax).



consumption would change as a result of increases or decreases in prices: this is the change from q_0 to q_1 in the case of a tax increase (from q_1 to q_0 in the case of a tax decrease). The reaction of demand to price changes (the elasticity of demand) is used to quantify this effect.

2.1.2 Two products, one market model

We shall now analyse the effects of tax changes when there are two products operating in the same market. This represents a case where consumers are able to substitute one product for the other (this would account, for example, for the substitution of print books for e-books).

As a first step it would be necessary to establish the degree of substitutability between different products. Applied to the present context this would establish the extent to which demand for one product is affected not only by its own price, but also by the price being charged on a substitute product (which may work as a suitable replacement). The presence or absence of tax in the price of product A will therefore have a direct impact in the demand for product A (as we have seen previously), but it is also likely to affect the demand for product B, as long as A and B are good substitutes (or complements).

The degree of substitution between products can be measured as the "cross-price elasticity of demand" which measures the change in demand (in percentage terms) for the first good (A) that occurs in response to a change in price (in per cent) of the second good (B). Substitute goods have a positive cross-price elasticity, implying that an increase in price in A will result in an increase in demand for B (as a result of a reduction in demand for A). Conversely, complement products have a negative cross-price elasticity.

The analysis of tax in the one-product one-market model (outlined in the previous section) can be easily extended to other substitute products by simply incorporating a cross-price elasticity to calculate gains or losses in sales in the substitute product. The new quantities in the substitute as a result of the change in tax can be used to estimate the effects on producers' sales revenues of substitutes.

The key element of the two-product model is to estimate the cross-price elasticity. In particular, the challenge is to be able to attribute the product demand switch from product A to product B to changes in prices in A and not to other factors, such as a change in consumer preferences or an increased appetite for high-technology products. Similarly, not all increases in product B should be regarded as a net substitution for product A, as some of the increase in demand could come from additional demand, perhaps from engaging new readers.

A different but related question is the degree to which substitution between A and B can take place from the supply side. This would consider suppliers' ability to switch production from A to B, in order to increase their sales as a result of a change in prices of A. Hence, the analysis of impact on firms should consider the lost turnover from a reduction of sales in product A, but also the fact that some of these firms may also benefit from cross-substitution increases in product B, if supply substitution (from A to B) is possible.

The analysis of price increases in product A due to the presence of a tax on product A would be analytically identical to the analysis of price decreases in product B due to



the removal of a tax on product B. The market dynamics would be the same, that is, consumers would switch from product A to product B at the new price point given the cross-price elasticity of the two products, and producers of product A would switch to producing product B for a given ability to switch production. Thus, the model presented here can also be applied to a decrease in tax.

2.1.3 Two products, two markets model

It is likely that in some cases firms will be operating in two different but inter-related markets, such that changes in one market may affect the revenues that firms receive in the other market. This is most likely to happen in newspapers and periodicals as firms obtain revenues from selling the publications, but also from complementary revenues from advertisements placed in the publications. In this case, the income firms may obtain for advertising would depend on the circulation of newspapers and periodicals. The parameters needed are the same as for the two-products one-market model, plus estimates used for quantifying the income obtained in the advertising market.

2.2 Demand-side effects: elasticities

The first source of information for assessing consumers' price sensitivity and product substitutability comes from desk-based research aimed at identifying academic studies that have estimated the elasticity of demand for published material. This research is also aimed at gathering information on the substitutability of publications provided through different formats.

The research is complemented by the consumer survey, which indicates how consumers' preferences (between print and digital) change according to different simulated prices. The results of our substitutability analysis show to what extent products are viewed by consumers as substitutable or which changes in prices would encourage consumer migration from one product to the other. The reactions of consumers to price changes can be summarised in the concept of elasticity. Its definition and the approach used for estimating elasticities are reviewed in the next paragraphs.

The own-price elasticity of an arbitrary product (ε) is defined as the percentage change in the demand of that product that results from a percentage change in the price of that same product. Formally this is¹⁴:

$$\varepsilon = \frac{\% \Delta q}{\% \Delta p} ,$$

where $\% \Delta q$ is the change in the quantity demanded in percentage terms, in relation to a percentage price change $\% \Delta p$ ($\% \Delta q = (q_1 - q_0)/q_0$ and $\% \Delta p = (p_1 - p_0)/p_0$), being q_i and p_i are the quantities and prices in different situations ($i = \{0,1\}$ can refer to different moments in time before and after a price change).

Similarly the cross-price elasticity between two products (A and B), ε_x , is defined as the percentage change in the demand of product B that results from a percentage change in the price of product A. Formally:

¹⁴ Strictly speaking, the elasticity is defined for continuous marginal changes in prices, i.e., $\varepsilon = \lim_{p_1 \rightarrow p_0} \frac{(q_1 - q_0)/q_0}{(p_1 - p_0)/p_0}$. However, for obvious practical purposes, it is empirically assessed through surveys for discrete changes in prices.



$$\varepsilon_x = \frac{\% \Delta q^B}{\% \Delta p^A},$$

where $\% \Delta q^B$ is the change in the quantity demanded of product B (in percentage terms) and $\% \Delta p^A$ is the change in the price (in percentage terms) of product A.

Because of the law of demand (i.e., *ceteris paribus*, the demand of any product decreases when the price of that product increases), the own-price elasticity is normally negative. In contrast, the cross-price elasticity between two products can be positive, negative, or zero, and this depends on whether the two products are substitutes, complements or independents. For example, if consumers perceive two products as being substitutable with each other, then a rise in the price of one product would lead some consumers to switch to the other and the cross-price elasticity would therefore be positive. If, on the contrary, two products are complements then the rise in the price of one product would lead to a drop in the demand for the other. Hence the cross-price elasticity would be negative. In case of no relationship between the two products the cross-price elasticity would be zero.

Estimating elasticities econometrically typically involves models which relate quantities to prices and measures of income.¹⁵ This approach is not feasible for the present study because it requires high-quality data over a long time-series. To overcome these problems we estimate elasticities from the consumer survey.

But estimating elasticities from the survey data implies a probabilistic approach to demand. This is because we do not ask respondents to explicitly state the number of items they would buy but rather the likelihood that they would buy such items. With such information the demand for an arbitrary product can be defined as $q = \varphi M$, where φ is the proportion (percentage) of consumers buying the product (actual consumers), and M is a measure of potential consumption (i.e. the quantity that would be demanded if all potential consumers were actually buying the product, i.e. the demand that would arise if φ was equal to one).

Hence, elasticities can be estimated by assessing how the share of consumers who state that they would buy a product (φ) changes in relation to changes in prices. More specifically, the own price elasticity can be calculated as:

$$\varepsilon = \frac{\% \Delta \varphi}{\% \Delta p} = \frac{(\varphi_1 M - \varphi_0 M) / (\varphi_0 M)}{(p_1 - p_0) / p_0}, \quad (1)$$

where, φ_0 is the share of consumers who would buy the product when the price is p_0 , and φ_1 is the share of consumers who would buy the product when the price is p_1 (the total potential consumption M has not changed after the price change).

Similarly, the cross-price elasticity between A and B can be calculated as:

$$\varepsilon_x = \frac{\% \Delta \varphi^B}{\% \Delta p^A} = \frac{(\varphi_1^B M^B - \varphi_0^B M^B) / (\varphi_0^B M^B)}{(p_1^A - p_0^A) / p_0^A}. \quad (2)$$

¹⁵ The typical functional form used for the econometric analysis of the demand of each product is the following: $q_i = \alpha + \beta p_i + \gamma p_j + \delta y + u$, where q_i is total demand (purchases) in logarithms of the i -th product, p_i and p_j are the prices (in logarithms) of the good in different supports (i or j for print or digital), y is the individual's income and u is an error term. Parameters β and γ are the own and cross-price elasticities, δ is the income elasticity, and α is a constant term to be estimated.



2.3 Supply-side effects: pass-on rate

The pass-on effect measures the extent to which suppliers can pass on to consumers any increases (or decreases) in their costs (including changes as a result of tax increases or decreases), which in turn depends on a number of factors. The pass-on rate depends on the elasticity of supply, or the sensitivity of a firm's marginal costs to changes in output (if supply is very inelastic, tax pass-on will be small, whereas pass-on will be larger in cases of elastic supply). The pass-on rate also depends on the price elasticity of demand (in cases where consumers are less price sensitive firms tend to pass on a larger part of the price change). Finally, the pass-on rate depends on the market structure, since the higher the degree of competition between suppliers the higher the pass-on rate would be (this is the case because if competition is fierce, suppliers have relatively thin profit margins and therefore their ability to absorb a tax changes is also limited).

For the same reasons, different levels of competition across the supply chain would also impact the extent to which a change in tax is distributed across the players within the supply chain. For example, if there was a high degree of competition in the upstream market (e.g. many publishers competing) but low competition downstream markets (e.g. few large distributors with significant market power) we would expect that the change in tax would be passed, to a large extent, downstream, and distributors would be absorbing most of the tax burden.

The estimation of pass-on parameters relies on different approaches. A first source of parameter estimates comes from the studies and articles found in the literature review, and from data and references provided in interviews with trade associations and market players.

The extent of pass-on is also estimated quantitatively using two approaches. First *event analysis* is used to estimate the changes in prices at or around the time of historic changes in VAT.¹⁶ Second, pass-on rates can be estimated based on the econometric relationship of historical prices and VAT rates. For this approach we propose a dynamic structure for prices based on their own past values and test the significance of adding a step variable for VAT changes. The coefficient for the VAT change variable indicates the magnitude of the step change. The significance of this coefficient can be tested statistically. Our proposed model for the analysis of pass-on is the following:

$$p_t = \alpha + \sum_{j=1}^k \beta_j p_{t-j} + \gamma \text{VAT}_t + u_t ,$$

where t indicates the time period (and $t-1, t-2, \dots$ are different past periods for different values of j and up to k , which represent the number lags chosen for the specification), p_t are the prices of the product being analysed (books, newspapers and periodicals) expressed in logarithms (specifications based on first differences could also be tried if data are shown to be non-stationary), VAT_t is the variable reflecting the change in VAT, u_t is an error term and α, β and γ denote parameters to be estimated.

¹⁶ In such analysis, one typically calculates the expected resulting price after the tax change and obtains estimates of the pass-through after comparing it with the real price observed.



2.4 Simulation of impacts on firms' turnover

Simulation of the impact of the different policy options is undertaken step-wise starting from the one-product one-market model with full pass-on of tax changes, developing in different subsequent steps the calculations for the two-products one- and two-markets models. The analysis is then extended to allow for a different pass-on rate.

2.4.1 The one-product, one-market model

The one-product one-market model simplifies the framework to a situation where there are no interactions with substitute and complement products. Hence, the impact on turnover arises only from the effects own-price has on the quantities sold for that same product. This simplified approach can be used to see the impacts on the print sector only of the equalising-up policy change, or the impacts on digital of the equalising-down option, abstracting from any changes in the digital and print markets, respectively. In this first case we assume a complete pass-on so that the change in tax rates is fully reflected in the final price.

In the one-product one-market model we calculate the total market (post-VAT) turnover in product A from a change in VAT in product A (r_1) as:¹⁷

$$r_1 = r_0(1 + \tau)(1 + \varepsilon\tau) ,$$

where r_0 is the post-VAT turnover before any change in VAT, τ is the change in prices as a result of the tax, $\tau = (t_1 - t_0)/(1 + t_0)$; and t_0 is the current tax rate and t_1 is the new tax rate. Note that if the change in taxes is an increase from zero ($t_0 = 0$) then τ reduces to t_1 .

Because r_1 includes VAT, the pre-VAT turnover r_1^* can be simply calculated as $r_1^* = r_0^*(1 + \varepsilon\tau)$, where r_0^* is the pre-VAT turnover before the VAT change ($r_0^* = r_0 \frac{1}{1+t_0}$).

2.4.2 The two-products, one-market model

The two-products one-market model incorporates the cross-effects from substitute or complement products. Now the demand for one product is affected not only by its own price, but also by the price being charged on a substitute/complement product. We denote A as the product for which the VAT rate has been changed and B the complement/substitute product. The model can be used to see the impacts on print of equalising-up or the impacts in digital of equalising-down, *including* any substitution taking place from digital and print, respectively.

In the case of an industry producing both goods A and B (with cross-substitute/complementarity effects measured with ε_x), the overall post-VAT market

¹⁷ The formula can be derived from the revenues calculated as the new post-tax price (p_1) times the new quantities sold (q_1), $r_1 = p_1 q_1$. The quantity q_1 has been replaced by an expression derived from the own-price elasticity (ε), $q_1 = q_0(1 + \varepsilon \frac{\Delta p}{p_0})$. The price p_1 is derived from the identity $p_1 = \frac{p_0}{1+t_0}(1 + t_1)$ which expresses the post-tax price as a result of applying the new tax rate t_1 to the pre-tax price $\frac{p_0}{1+t_0}$ (hence allowing for situations with a non-zero current tax t_0). The expression can be reduced to $p_1 = p_0(1 + \tau)$, after defining $\tau = (t_1 - t_0)/(1 + t_0)$ which is appealing as it shows that prices are a result of a certain change in the tax which includes t_0 to t_1 .



turnover after the tax change (R_1) can be expressed as a general case including the turnover from the A and B segments (r_1^A and r_1^B , respectively):¹⁸

$$R_1 = r_1^A + r_1^B = r_0^A(1 + \tau)(1 + \varepsilon\tau) + r_0^B(1 + \varepsilon_x\tau).$$

To calculate the pre-VAT turnover (R_1^*), these need to be discounted by the VAT rates in each segment, t_1^A and t_1^B . Noting that $(1 + \tau) = (1 + t_1^A)/(1 + t_0^A)$, and that $t_1^B = t_0^B$ (as there has been no tax change for product B) the following expression can be obtained:¹⁹

$$R_1^* = r_0^{A*}(1 + \varepsilon\tau) + r_0^{B*}(1 + \varepsilon_x\tau),$$

where r_0^{A*} and r_0^{B*} are the pre-VAT turnover in each of the product segments ($r_0^{A*} = r_0^A \frac{1}{1+t_0^A}$ and $r_0^{B*} = r_0^B \frac{1}{1+t_0^B}$).

2.4.3 The two-products, two-markets model

Finally, the two-products two-markets model extends the previous model by allowing for additional revenues coming from another market. This allows for inclusion of advertising revenues (in the case of newspapers and periodicals) in the final impact of tax-change simulations.

In this case, the expression of total pre-VAT turnover should add the changes in income from the parallel market, for both products A and B (which we denote as $r_1^{A'}$ and $r_1^{B'}$, respectively).

$$R_1^* = r_1^A + r_1^B = r_1^A + r_1^{A'} + r_1^B + r_1^{B'}.$$

To calculate the impacts in the second market we assume that they change at the same rate as in the first market.

2.4.4 Accounting for tax pass-on

So far the analysis has considered a full pass-through of the new tax. The previous formulae can be easily extended to account for a different pass-on rate, by simply replacing τ with the expression $\tau' = \theta(t_1 - t_0)/(1 + \theta t_0)$, where θ is the pass-on rate (and takes values between zero and one). Turnover (net of VAT, R_1^*) can then be expressed as:²⁰

$$R_1^* = r_1^A \frac{1}{1 + t_1^A} + r_1^B \frac{1}{1 + t_1^B} = r_0^A \frac{1}{1 + t_1^A} (1 + \tau')(1 + \varepsilon\tau') + r_0^B \frac{1}{1 + t_1^B} (1 + \varepsilon_x\tau').$$

¹⁸ Using the expression of the cross-price elasticity $q_1^B = q_0^B \left(1 + \varepsilon_x \frac{\Delta p_1^A}{p_0^A}\right)$, the revenues from product B (r_1^B) can be expressed as as: $r_1^B = r_0^B(1 + \varepsilon_x\tau)$, where ε_x is the cross-price elasticity and τ is as before (defined in terms of price changes of product A).

¹⁹ It is interesting to note that the net revenues for the producers (pre-VAT revenues), expressed as a change in total pre-tax revenue can be simplified to $\Delta R_1^* = r_0^{A*}\varepsilon\tau + r_0^{B*}\varepsilon_x\tau$, where r_0^{A*} and r_0^{B*} are the pre-VAT revenues of product A and B (before any tax rate change).

²⁰ Similarly to the case of complete pass-through, the price p_1 is derived from the identity $p_1 = \frac{p_0}{1 + \theta t_0} (1 + \theta t_1)$ which indicates the new post-tax price obtained by applying partially (i.e. according to the value of θ) the new tax rate t_1 to the pre-tax price $\frac{p_0}{1 + \theta t_0}$. The expression can be reduced to $p_1 = p_0(1 + \tau')$ after defining $\tau' = \theta(t_1 - t_0)/(1 + \theta t_0)$, which shows the new price changes as a result of the change in the tax from t_0 to t_1 .



3. Data Gathering

3.1 Introduction

Our methodology uses the following sources of information:

- Literature Review;
- Review of competition cases;
- Consumer Survey;
- Survey and consultation with publishers' associations;
- PwC Global Entertainment and Media Outlook: 2013-2017;
- Data from public sources; and
- Interviews with industry stakeholders.

A brief description of each is provided below.

3.2 Literature Review

A literature review was used to gather background information for different parts of the study. The research team reviewed academic papers and reports in thematic areas relevant to the research. The thematic areas included: definitions and classifications in the publishing industry; demand of published materials and its features (e.g. elasticity, socio-economic characteristics, etc.), substitutability and complementarity between published material delivered through different means (e.g. print vs. digital); supply of published materials and its features (e.g. structure of the supply chain, pricing strategies, advertising, bundling, etc.), the two-sidedness of the market for publications; and the impacts of new means of publication on the markets.

The search was conducted on EconLit and Google Scholar and resulted in a total of 25 relevant academic articles distributed across the following types of publications (references are provided in section 10):

- A total of 11 publications were related to the books market (6 for printed books, 3 for digital books and 2 related to both means of publication).
- A total of 10 publications addressed the periodicals market (2 for printed magazines, 1 for digital editions, 1 for printed and digital publications, 4 for printed magazines and companion websites, 1 for digital publications and websites and 1 for all three types jointly).
- A total of 12 publications covered the newspapers market (4 for printed newspapers, 1 for digital editions, 5 for printed newspapers and their websites, 1 for digital publications only and 1 for all three types jointly).

In order to facilitate project management, a master list was constructed showing, in tabular form, the different pieces of information found. This list depicted the information found by type of publication, type of support (print, digital or online), data included (prices, quantities, trends, or other parameters) and assessment of the relevance to the project. Summaries of the relevant documents were produced and then a final document was created describing the main findings from this literature review with the objective of supporting the assumptions and results of the study (these are available in Annex C).



3.3 Review of competition cases

There are a number of investigations related to anti-trust and mergers in the publishing industry. In many cases the investigations need to define the relevant market for the products being analysed, and these were used as one piece of evidence for assessing the degree of substitutability between print, digital and online publications. The research team looked at the investigations of merger and anti-trust cases in the most important markets (DG Competition and in the US, the UK, France, Germany, and Spain). The competition authorities and relevant bodies considered were the following (Table 3.1).

Table 3.1: Competition Authorities and Bodies

Jurisdiction	Organisation
EU	DG Competition (DG COMP)
FR	Autorité de la concurrence
DE	Bundeskartellamt (BKartA) Monopolkommission
ES	Comisión Nacional de la Competencia (CNC)
US	Federal Trade Commission (FTC) United States Department of Justice (USDOJ)
UK	Office of Fair Trading (OFT) Competition Commission

The research methodology followed a number of steps. We first searched through the organisations' websites and databases for relevant cases. As a second check, we carried out a keyword-based search through an internet browser. Once the cases were identified, the case documents were screened for references to market definition for the purpose of investigating the issues relevant to the case. We only included cases where an electronic dimension was considered. As a final check, we contacted the relevant case handlers and/or heads of unit at each of the competition authorities via email, asking for confirmation of the cases found and requesting references of additional cases in the publishing industry. We received replies from four of the seven authorities contacted, who confirmed the cases identified earlier.

3.4 Consumer Survey

The consumer survey was the study's main tool of analysis for assessing whether print and digital publishing materials were substitute products in the eyes of consumers. Although other approaches can also be used for reaching similar economic conclusions, a consumer survey approach was chosen as it has a number of favourable features.

First, it allows for a wide coverage in terms of geography and product segments, something that, due to data constraints (e.g. lack of data in some Member States, and/or lack of data for relatively new products such as e-books and digital periodicals) may not be feasible when undertaking a purely statistical approach. Second, it allows for a precise quantification of own-price and cross-price elasticities (if questions are appropriately developed, bias-free estimates can be obtained). Third, the inclusion of qualitative questions in the survey allows the shedding of light on the perceived



advantages and disadvantages of print and digital products, as consumers can be asked to respond on a number of characteristics.

The survey envisaged a sample size of 1,000 responses in 24 Member States (Denmark, the UK, Germany, Spain, Italy, France, the Netherlands, Estonia, Poland, Sweden, Finland, Ireland, Belgium, Greece, Austria, Bulgaria, Latvia, Lithuania, Hungary, Romania, Slovenia, Slovakia, the Czech Republic, and Portugal), hence providing almost complete coverage of the EU27. Three Member States (Luxemburg, Malta and Cyprus) were excluded due to the high costs of survey (the small size of the populations in such countries imply that surveying costs were almost eight times higher than that of the other Member States). The choice of 24 Member States was believed to achieve a good balance between coverage and costs.

From the outset, the research team identified a number of challenges to be addressed in the survey exercise, and in particular believed there were some potential difficulties in obtaining meaningful results for the analysis. This is because results were very much relying on responses by consumers and their willingness (or capability) of revealing their purchase decisions (on print and digital publications) according to different prices.

To ensure a good quality of responses and in order to test whether the questions were well-understood and that there were no major problems found in the responses, a pilot survey was run, where the questionnaire was tested on a sample of 100 respondents in the UK. The results were analysed internally by the team and changes were made to the questionnaire in situations where the team believed the questions were not well-understood.

The design and implementation of the consumer survey consisted of the following tasks:

- definition of the categories of publications materials to be considered;
- identification of representative prices;
- piloting of the questionnaire;
- final design and running the survey (in one Member State);
- preparation of survey for the remaining Member States; and
- full launch of the survey.

These are discussed below in turn.

3.4.1 Definition of categories of published materials

There were two main guiding principles for defining the categories of published materials (books, newspapers and periodicals). Categories of publications (both in terms of means of publication and genres) were identified in a way that respondents could easily relate to, while at the same time considering the optimal balance between granularity and questionnaire response (a large number of categories can, in principle, provide more insights but an excessively large number of categories may decrease the response rate and/or the quality of the responses due to fatigue of the respondents).

In terms of means of publication, it was decided to limit the printed material category to publications provided on paper only.²¹ The category of digital material required

²¹ Hence our approach excludes publishing on CDs, USB-sticks, etc.



more careful definition for each type of publication. For books, it was relatively straightforward to focus on electronic books (that is, books delivered on tablets, Amazon Kindles, and other digital reading-devices). For newspapers and periodicals the definition of electronic means was less straightforward. This is because digital newspapers and periodicals may refer to the online versions (also known as “companion websites”) which are accessible free of charge, but it may also refer to publications that can be downloaded at some cost (digital issues). The conclusions from the literature review suggested that, for the purpose of this study, the appropriate product definition was the latter, so companion websites were not considered in the survey. This implicitly assumed that consumers can always access companion websites for free, so that when they decide to quit an online subscription they have the opportunity to browse the free digital version on any computer. As companion sites allow publishers to generate some revenues from advertising, the analysis of the impacts needs to take this into account. Our model allows for the inclusion of consumers leaving the print market to be included into free-online companion websites which contribute additional advertising revenues (this is explained when analysing the impacts).

The genres of publications to be considered were selected through desk-based research from a number of internet retailers and price aggregators specialising in the sale of published material (e.g. amazon.com, booksprice.co.uk, etc).²² In order to keep the exercise as representative as possible of situations consumers may encounter when facing purchasing decisions, we originally identified a very wide set of categories. The research team identified a total of 8 categories for books and 16 for newspapers and periodicals²³ and included them in a pilot survey, targeted to a sample of 100 respondents in the UK. The analysis of the answers of this exercise indicated a very poor response rate. Following discussions within the team, questionnaire design experts, and the survey company, we concluded that a narrower set of categories (possibly reflecting the most popular categories) was needed. The categories finally adopted were three for books and four for newspapers and periodicals (these are listed further below, when describing the final questionnaire).

3.4.2 Identification of representative prices

The approach followed for identifying a set of representative prices of published material was based on desk research.

For books, we took the average price of printed book and e-books charged by a number of internet retailers and price aggregators. For newspapers and periodicals the exercise was more difficult. In contrast to books, the purchase of periodicals/newspapers is more complex as these can be purchased as single issues or through subscriptions. Mixing the two modes of purchase imposes issues of comparability since the average price of a single issue is typically lower for

²² We also reviewed a number of trade association documents to establish whether a standard classification exists for published material. However, this research indicated that such classifications are not consistent across Member States.

²³ For books we considered: Recent novel; Classic novel; Essay /non-fiction; Scientific, technical, professional; Children’s book; Comics/manga; Young reader short novel; and Other (home, travel, cooking). For newspapers and periodicals we considered: Newspapers; Arts & culture; Films/movies; Career & industry; Computer & technology; Food & home; Hobbies & literature; Kid’s magazines; Lifestyle; Men’s interests; Motoring & transport; News and current affairs; Science & nature; Sport; Travel; and Women’s interests.



subscriptions than for single-issue purchases. The problem was initially tackled in the pilot survey by focusing on subscription purchases only; however, this approach created two additional problems, which were seen as a further cause of the poor performance of the pilot survey:

- Inconsistency in the survey: as a result of respondents having to answer questions on single issues for books, but on subscriptions for newspapers and periodicals.
- Complexity of the questionnaire: due to having to account for different frequencies of subscriptions (e.g. daily, weekly, monthly, etc.).

The approach adopted for defining representative prices in the final questionnaire was based on the price of single issues for magazines and periodicals. The representative prices of printed newspapers and periodicals were based on the front-cover prices (typically printed on the cover page), whilst the prices of digital issues were based on those offered by a number of internet retailers specialising in the sale of digital periodicals and magazines (e.g. <http://gb.zinio.com>).

3.4.3 Piloting of the questionnaire

The approach implemented in the pilot survey consisted of presenting consumers with a basket of items (printed and digital) each one matched to its representative price, and asking the respondents to indicate the number of items they would purchase under a situation with given prices (see Table 3.2 for the benchmark scenario). It was believed that the options would reflect those that are found in real-world situations and would involve some form of cognitive testing in order to explore the thought processes that go into the choice exercise responses.

Table 3.2: Questionnaire designed and used in the pilot-survey in the UK (benchmark scenario)

	Printed books			Electronic books		
	£	Num.	Total	£	Num.	Total
A recent novel (fiction)	£ 5.99			£ 3.79		
A classic novel (fiction)	£ 5.51			£ 2.70		
Essay/non-fiction books (politics, philosophy, history, etc)	£ 6.79			£ 5.99		
Scientific, technical or professional book (law, dictionaries, computing)	£ 39.93			£ 31.93		
Children's books	£ 3.59			£ 2.27		
Comics/Manga	£ 7.58			£ 5.49		
Young reader short novel	£ 4.89			£ 3.99		
Other (home, travel, cooking)	£ 11.96			£ 3.99		
E-book reader				£ 99.00		
Total basket			0.00			0.00

The respondents were then asked to reconsider their purchasing decisions under two separate scenarios. An equalising-up scenario was simulated by increasing the prices of printed material (whilst the prices of digital material remained unchanged). An equalising-down scenario was simulated by lowering the prices of digital material (while prices of printed material were unchanged). Each respondent was faced with two equalising-up scenarios and two equalising-down scenarios. Overall, respondents had to answer a total of 4 different simulated scenarios.

The equalising-up and equalising-down scenarios were simulated with different price changes of 10 and 20 per cent (in relation to the initial given price). These were chosen in order to resemble as much as possible some of the price changes consumers could be facing under equalising-up and equalising-down situations, which



are of that same magnitude. Although initially the research team considered gathering data with other simulated changes, this was disregarded in order to simplify the number of questions.

The analysis of the responses of the pilot survey indicated an extremely low response rate.²⁴ After discussions within the research team we identified three possible causes of the low response rate. The large number of genres included (8 categories for books and 16 for newspapers and periodicals) meant an increased complexity in the questionnaire and in particular in the number of grids with which respondents were faced. Respondents also had to consider too many simulated scenarios (for increases and decreases), which made it difficult to understand. A low response rate was also related to the possibility of being allowed to “skip” and leave questions unanswered if these were not perceived relevant to the respondent.

3.4.4 Final design

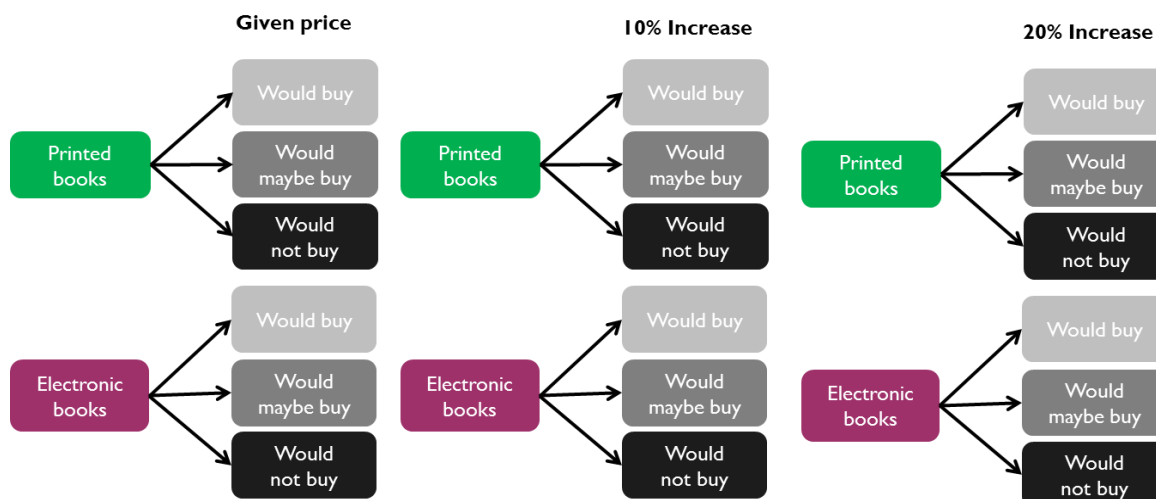
As a result, the questionnaire was significantly simplified. The following major changes were included:

- The number of publications genres was significantly decreased. Three for books and e-books (“Novel”, “Children’s book”, “Non-fiction/reference/cooking”) and another four for newspapers and periodicals (“Newspapers”, “Magazines - general interest”, “Magazines - sport and hobbies”, and “Other”).
- The questions were simplified and respondents were asked to provide, for each item separately, an indication on their likely purchasing behaviour consisting of three types of qualitative decisions: “Would definitely buy”; “Would maybe buy”; and “Would definitely not buy”. The situations were repeated under each of the simulated scenarios of price changes.
- Only two simulated scenarios were presented to each respondent. Respondents were randomly split into two separate groups. One group was faced with the two equalising-up scenarios (10 per cent and 20 per cent increase in the price of printed material, as shown in Figure 3.1); and the other group was faced with the two equalising-down scenarios (10 per cent and 20 per cent decrease in the price of electronic material, Figure not shown). Similar questions were posed for newspapers and periodicals.

²⁴ For some questions there were less than 20 responses stating non-zero purchases of publications.



Figure 3.1: Questionnaire schema: books, equalising-up scenario (final design)



The survey also gathered background information on respondents (e.g. respondents' age, income, gender, education level, reading habits, typical expenditure on books, genre of books read, etc.) aimed at gaining insights about the individual and the perceived comparative advantage of printed material versus digital material. The questionnaire was provided in a web-based platform. The different screens are shown in full in the Annex C.

A soft-launch of the questionnaire was undertaken again for the first 100 respondents. The response rates increased significantly. A preliminary analysis of the quality of the answers appeared to be adequate for the purpose of estimating own-price and cross-piece elasticities, so the full UK survey was launched.

3.4.5 Preparation of survey in rest of Member States

The setup of the survey in the remaining 23 Member States required some tailoring to the questions being asked. In constructing prices of publications, we first contacted the relevant associations. Prices of periodicals in 19 countries were provided but no information was obtained for books or newspapers. Using UK prices as a reference, we proceeded to construct prices using Purchasing Power Parities of consumer goods provided on Eurostat.²⁵ The comparison between the generated periodical prices and those given by the association showed important differences, which prompted us to explore alternative approaches.

In-house research was conducted to obtain the prices of newspapers in each Member State. We then analysed the price relationships among different items. We discovered a consistent ratio between periodical and newspaper prices, which seemed to be a good predictor of prices. Hence, we replaced the missing periodical prices from the 4 countries with the simulated prices using ratio of UK periodical to newspaper price. Finally, we generated the prices of books based on the UK books to periodical prices.

²⁵ As the latest data available were in 2011, the numbers were adjusted by inflation on books and newspapers, respectively.



Prices were then sent to translators/native speakers,²⁶ who confirmed that the majority of the prices were representative of typical publications in that country. In some cases the book prices were found to be too low and additional research was undertaken to identify more representative price levels. In other cases the translators provided the prices and these were used as a reference.

The use of only a few prices for each category is a necessary simplification in the exercise. We are aware that prices can vary significantly within each Member State or even in one region. However, the purpose here is to provide a price that consumers could relate to in order to be able to see their reaction in simulated cases. Furthermore, the interest is in the reaction in consumer behaviour to a result in price change, something we can establish in our exercise without having to rely on an exact price figure.

Finally, different income brackets were defined using income deciles from the Income, Social Inclusion and Living conditions data from Eurostat. The income levels were also sent to the translators for confirmation. Some were converted to monthly numbers according to the common salary reference used in the country. The format of currency figures was also amended according to the conventions used in the country.²⁷

3.4.6 Launch of surveys

Surveys in native languages were carefully sampled by the provider and launched in the remaining 23 Member States. As much as 1,100 or more responses were received from each Member State. To ensure the quality of data, we excluded questionnaires that were completed in less than 5 minutes, as this was believed to be the minimum reading time necessary to provide a meaningful response. The final number of responses used for analysis in each Member State is shown in Table 3.3.

Table 3.3 Number of Responses used in each Member State

MS	No. of Surveys	MS	No. of Surveys
AT	1,054	IE	1,084
BE	987	IT	1,015
BG	1,098	LT	1,086
CZ	1,065	LV	1,091
DE	983	NL	932
DK	1,078	PL	1,049
EE	1,097	PT	1,100
EL	1,095	RO	1,085
ES	1,025	SE	1,232
FI	1,220	SI	1,087
FR	953	SK	1,092
HU	1,084	UK	1,024

Note: excludes responses of less than 5 minutes' length.

²⁶ Except for French, German and Spanish languages that were translated in-house.

²⁷ For example, using "EUR" instead of "€" depending on the Member State typical conventions.



3.5 Stakeholders' consultation

In addition to the analysis of data from the consumer survey and publicly available official statistics, the analysis was complemented with information provided through consultation with a number of stakeholders. These represented another source of information, which served multiple purposes:

- gathering the views of those players who would be directly impacted by a potential review of the VAT rates regime in Europe;
- collecting data and views on future trends in the publishing industry and its evolution in the medium-long term; and
- gathering information on business models, market conduct, and features of the market structure that cannot be directly observed from quantitative data.

It also represented an opportunity to cross-check and validate some information (e.g. sales volumes in the publishing sectors) gathered through other sources.

There are four umbrella bodies that represent the interest of European trade associations in the book publishing market, the periodicals (magazines) publishing market, and the newspapers publishing markets. These are:

- The Federation of European Publishers (FEP) — the association representing 28 national associations of book publishers.
- The European Magazines Media Association (EMMA) — representing more than 15.000 magazine publishing houses across Europe.
- The European Newspapers' Publishers Association (ENPA) — representing publishers of news media and newspapers in Europe.
- The European & International Booksellers Federation (EIBF) — representing booksellers' associations in the European Union and in the world.

These associations were a natural starting point for investigating the extent to which information relevant to this study was available, and were gathered in a format which is comparable across Member States. However, after contacting them we discovered that there was a lack of a pan-European standard for classifying and presenting data on published materials. This made it necessary to approach directly the national trade associations.

The complete list of national trade associations was compiled based on the membership of the four pan-European publishing bodies. Relevant contact details within each trade associations were identified in two different ways. The research team firstly used the contact details of individuals from the trade associations that had already participated in the public consultation following the Green Paper on the future of VAT.²⁸ For trade associations that did not participate in the public consultation, the research team looked for the most relevant contact person within the organisation based on the information provided on the association's own website. Pan-European associations supported the research by delivering the questionnaire to relevant contact persons within national associations. Finally, the research team used the generic-enquiry email addresses only if no personal contact detail was available on the trade association's website.

The questionnaires were sent from a dedicated e-mail account and the request of participation was supported by a letter from the European Commission. Stakeholders

²⁸ COM(2010) 695 final, 1.12.2010.



were also encouraged to contact us either by email or by phone, had they required any clarifications on how to answer the questions. The email contained a clear deadline for answering the questionnaires, and reminders were sent out as the deadline approached.

The objective of the questionnaire was to seek information on the following areas:

- Data on current volumes and values of published material (print and digital) and views on their likely future evolutions.
- Information on the most common business models used, with a particular emphasis on the distribution models.
- Views on the strategies used by publishers for moving into the digital market.
- Data on the market structure of the publishing and the distribution segment.
- Reference to any study already conducted on the impact that VAT rates have on the publishing industry and pass-on rates.

In order to reflect the specificities of different publishing industries three separate (though similar) questionnaires were developed: one for books' publishing and booksellers' associations, one for periodicals' publishing associations, and one for newspapers' publishing associations (the full versions of the questionnaire are reported in the Annex C).

3.6 The Global Entertainment and Media Outlook

PwC's online Global Entertainment and Media Outlook 2013-2017 provides data about consumer expenditure in media. The data are broken down by medium (digital or print) and source of revenue (circulation or advertising) in 18 Member States.²⁹ All data are presented in millions of euros.

The variables of interest for the present study refer to total consumer and advertising spending in books, newspapers and magazines, which have been defined in the following way (full definitions are presented in Table 3.4):

- **Books** - includes retail spending by consumers and education institutions.
- **Newspapers** - includes spending by readers and advertisers.
- **Magazines** - includes spending by advertisers and readers.

Interestingly, PwC's Entertainment and Media Outlook 2013-2017 also contains market forecasts of the expenditures (in advertising and circulation) until 2016 for the three types of publications broken down for print and digital support.

²⁹ Data are not available for BG, LV, LT, EE, SK, MT, CY, SI and LU.

**Table 3.4 PwC Data Definition**

<p>Books: the consumer and educational book publishing market consists of:</p> <ul style="list-style-type: none"> ▪ retail spending by consumers on consumer books; ▪ spending by schools, government agencies, and students on elementary, high school, and college textbooks, including graduate school textbooks; and ▪ spending on books in electronic formats, i.e. e-books. <p>Spending includes library and institutional subscriptions to electronic book databases. Print sales include audio books. Educational books do not include supplemental educational spending, administrative software, or testing materials.</p> <p>Spending includes library and institutional subscriptions to electronic book databases. Print sales include audio books. Educational books do not include supplemental educational spending, administrative software, or testing materials.</p>
<p>Newspapers: the newspaper publishing market consists of spending:</p> <ul style="list-style-type: none"> ▪ by readers (includes newsstand purchases and subscriptions, payments for digital newspapers delivered to mobile devices and fees to access online content, and weekend editions issued by publishers of daily papers); and ▪ by advertisers on daily print newspapers, websites, tablet apps, mobile phone apps and in free daily newspapers (except for Germany, free weeklies and other weekly papers are not included).
<p>Magazines: the consumer magazines publishing market consists of:</p> <ul style="list-style-type: none"> ▪ spending by advertisers in consumer print and online magazines, on magazine online websites, on magazine mobile websites, and in magazines distributed to tablets and other mobile devices; ▪ consumer magazine publishing includes spending by readers to purchase magazines via subscriptions or at retail outlets as well as paid digital circulation - principally through downloads to tablets and smartphones; and ▪ print advertising includes magazines published under contract—known as contract publishing, customer magazines, or custom publishing. <p>Figures do not include the licensing of apparel, caps, mugs, or other merchandise, or other ancillary revenues.</p>

Source: PwC Global Entertainment and Media Outlook: 2013-2017, www.pwc.com/outlook.

3.7 Data from public sources

Publicly available data were also investigated as an additional source of information. Information on prices was sourced from Eurostat. Information on the VAT rates for different Member States was gathered from DG TAXUD's VAT rate tables. Other economic data (turnover, employment, and number of firms) were sourced from business statistics in Eurostat.

3.7.1 Prices

Eurostat provides prices in the Harmonized Indices of Consumer Prices (HICP) database. The HICPs give comparable measures of inflation in the EU, calculated according to a harmonised approach and a single set of definitions. The prices recorded in the HICP series are those paid by households to purchase individual goods and services in monetary transactions. These include any taxes less subsidies on the products.³⁰

Prices are recorded under COICOP definitions. The following categories have been used to represent the prices of books, newspapers and periodicals:³¹

³⁰ Prices are recorded after deductions for discounts for bulk or off-peak-purchases from standard prices or charges; excluding interest or services charges added under credit arrangements; excluding any extra charges incurred as a result of failing to pay within the period stated at the time the purchases were made.

³¹ Newspapers and periodicals include all printed periodic publications which are published in a particular country and made available to the public. A publication is considered to be periodic if it constitutes one



- **Printed books** include printed books, brochures, leaflets and similar printed matter, whether or not in single sheets.
- **Newspapers** are periodic publications intended for the general public, and are mainly designed to be a primary source of written information on current events connected with public affairs, international questions, politics, etc.
- **Periodicals** are those periodic publications which are either concerned with subjects of general interest or else mainly carry studies and factual information on such specialised subjects as legislation, finance, trade, medicine, fashion, sports, etc.

3.7.2 VAT rates

Data on VAT rates for different Member States of the EU are available from the "VAT Rates Applied in Member States of the European Union" publication released by DG TAXUD. The tables contained therein refer to various categories of VAT rates (zero rate, super reduced rate, reduced rate, standard rate, and parking rate), which are applied to many categories of goods and services. Along with the tables of the VAT rates are footnotes which give further explanation of certain VAT rates in Member States (although information is not complete for all the rates provided). There are also pages in the publications that describe cases where a special VAT rate is applied.

It should be noted that the purpose of the document released by DG TAXUD is to disseminate general information about the VAT rates in force in the Member States of the EU, using information supplied by the respective Member States. It is made clear in the tables that the Commission cannot be held responsible for its accuracy or completeness; neither does its publication imply any endorsement by the Commission of those Member States' legal provisions. It should also be noted that the level of accuracy in the figures is different throughout the years and this is due to the fact that any updates in national legislation are not made available to the Commission services, and that explanations and revisions to the figures are not provided by the Member States.

The research team examined the publications released by the European Commission from the year 1993 through to 2013. For each publication, the research team extracted the applicable VAT rates for books, newspapers, periodicals, and e-books. Also included were notes on which category of VAT rates a country applied to each type of good, as well as any relevant footnotes or explanations as given in the publication. Our research found out that for some Member States multiple rates were recorded. In such cases we used the rate for the most common category, as explained in Table 3.5. For some other countries both the VAT rate and category³² changed across time, but the date that this happened was not explicitly stated. The date of change in the VAT rate was taken from the "VAT rate evolution tables" in the different publications. In cases where the category changed between publications, the date of the later publication was recorded. The time series of VAT changes was sent to each of the associations for confirmation. They confirmed most of the rates and suggested a few changes, which were incorporated in our database.

issue in a continuous series under the same title, published at regular or irregular intervals, over an indefinite period, individual issues in the series being numbered consecutively or each issue being dated.

³² For example, in Finland newspapers and periodicals had the zero rate in the publication of 1/7/2011 and a reduced rate of 9% in the tables of 1/1/12.



Table 3.5: VAT rates used in MS with multiple rates

MS	Notes
BE	Books: reduced rates are used (although standard rates are also listed from 1999 onward, without specific details). Newspapers and periodicals: a zero rate is used for daily and weekly newspapers and periodicals (although reduced and standard rates are also provided).
DK	Newspapers: a zero rate is used for newspapers with more than one issue per month (although standard rates are also listed from 2001).
EE	Newspapers and periodicals: reduced rates are used from 2004 (standard rates are only applied to newspapers containing mainly publicity, private advertisements or erotic/pornographic material).
ES	Books, newspapers and periodicals: super reduced rates are used (although standard rates are also provided for 2000 to 2013 without specific details).
FI	Newspapers: a zero rate applied from 1995 to 2011 for daily newspapers and non-commercial publications sold on subscription for a period of at least one month). A reduced rate is provided from 2012 onwards. Periodicals: a zero rate is used between 1996 and 2011 (for periodicals sold on subscription). From 2012 onwards reduced rates are provided for periodicals sold on subscription.
FR	Books: a reduced rate is used (only for books, excluding those which have a pornographic character or which may incite violence, which are taxed with a standard rate). Newspapers and periodicals: a super reduced rate is used (although from 2001 the standard rate is also listed).
IT	Books and periodicals: a super reduced rate is used (although from 2003 the standard rate is also listed).
LT	Newspapers and periodicals: a reduced rate is used (other publications containing mainly paid advertisements, or erotic/pornographic publications use a standard rate).
PL*	Books: a zero rate is used from 2006 to 2010 (although rates of 7% and 22% are also listed) and a reduced rate from 2011 onwards. Newspapers: a reduced rate is used (although standard rates are also provided from 2006). Periodicals: a reduced rate is used.
SE	Periodicals: the exemption rate is used for 1995 and the reduced rate of 6% from 1996 onwards. Standard and reduced rates are listed (from 1997 to 2001, and 2002 onwards) without specific details.

Note: * In its accession treaty, Poland was granted a derogation allowing it to apply an exemption with refund of tax paid at the preceding stage (zero rate) on the supply of certain books and specialist periodicals, until 31 December 2007. The deadline was then extended until 31.12.2010 and then Poland had to apply either a reduced or the standard rate.

3.7.3 Business statistics

Eurostat's Structural Business Statistics (SBS) database provides data about businesses structure in the 27 Member States (although information is missing for some countries or years). Data are collected by means of a survey of firms in the "business economy" which includes industry, construction, distributive trades and services. The data are presented either as counts or in monetary values.

To delimit the sectors of analysis, we use "J 58.1 Publishing of books, periodicals and other publishing activities". This code comprises five activities, but for the purpose of this study we use only 58.11, 58.13 and 58.14, which refer to the following categories:³³

- **Book publishing:** includes the publication of books, brochures, leaflets, dictionaries, encyclopaedias, atlases, maps, charts and audio books in print, digital and online means of publication as well as publications in audio format. This category excludes the production of globes and the publication of advertising

³³ The remaining two activities do not fall under the scope of this project. They are "58.12 Publishing of directories and mailing lists" and "58.19 Other publishing activities".



material, music and sheet books, in addition to the activities of independent authors.

- **Publishing of newspapers:** includes the publication of newspapers and advertising newspapers, which appear at least four times a week, in print, digital and online means of publication. It excludes the activities of news agencies.
- **Publishing of journals and periodicals:** includes the publication of periodicals and other journals, which appear less than four times a week, in print, digital and online means of publication. The publication of radio and television schedules is also considered in this activity.

The variables of interest used in the study are presented as defined by Eurostat:³⁴

- **Turnover or gross premiums written:** are the totals invoiced during the reference period, corresponding to market sales of goods or services supplied to third parties. Included are all duties and taxes on the goods or services invoiced with the exception of the VAT invoiced by the unit to its customer and other similar deductible taxes directly linked to turnover.³⁵
- **Number of enterprises:** is the count of the number of active enterprises during at least a part of the reference period.
- **Number of employees in full-time equivalent units:** is the count of those persons who work for an employer under a contract of employment and receive compensation for their work.

Turnover figures were further broken down by the type of medium (print or digital) and source of revenue for newspapers and periodicals (circulation or advertising) using expenditure shares in each category. Expenditure shares were calculated using industry sources, own judgement and information from PwC Global Entertainment and Media Outlook 2013-2017.³⁶

For Member States with missing data (CZ, EE, EL, IE, LU and NL), the following methodology was used to proxy for the missing values.

- If a total figure was available for the publishing sector total ("J 58.1 Publishing of books, periodicals and other publishing activities"), the respective turnover for books, newspapers and periodicals was broken down using expenditure category shares.³⁷
- If the total publishing figure was not available for a particular year, we used the previous year's total in conjunction with the growth rate obtained (expenditure evolution).

³⁴ The definitions provided here are those published by Eurostat, based on Commission Regulation EC 250/2009.

³⁵ Other charges (transport, packaging, etc.) which are passed on to the customer are included, but price reductions, rebates, discounts and the value of returned packing are deducted.

³⁶ To make data comparable with industry data, expenditure is divided by the VAT rates to get a total pre-VAT expenditure figure. A breakdown ratio of revenues was calculated by dividing expenditure in different categories (advertising /circulation and print /digital) by total expenditure and this was used to break down turnover data from Eurostat (explained further below). For those Member States for which data are not available, we used the breakdown ratio of a comparable Member State as a proxy. Proxies were chosen on the basis of geographical proximity and similarities in income per capita. BG, LV, LT, EE, SK, MT, SI, CY and LU were proxied by RO, PL, PL, PL, CZ, EL, CZ, EL, and DE, respectively. To construct a turnover forecast, the growth rates of expenditure were applied to turnover data from Eurostat

³⁷ As the totals in Eurostat turnover data also include turnovers of Publishing of "58.12 Publishing of directories and mailing lists" and "58.19 Other publishing activities", the totals were adjusted to exclude these two categories.



- In cases where figures were missing for a particular year and totals were not available, figures were projected using available growth rates on expenditure data.

3.8 Interviews with industry stakeholders

Interviews with industry stakeholders were conducted to gather information about the industry's recent trends, its structure and performance. A case study approach was used where different topics were examined through a range of interviews shedding light on topics from different angles.

Four cases were conducted on topics from the book industry and two additional cases for each of the newspaper and periodical industries. The chosen cases were identified through the literature review and additional desk research. First, interesting topics in the industries were identified, and second the cases were exemplified by identifying major representative players in the industry. The case studies for books were approved by the Commission services. A description follows (full details in Table 3.6):

- **Case 1: The role and impact of associations in the book industry:** The case study investigates a mega trend in the industry: the organisation of players in associations, and the effects thereof. The German and French associations were interviewed along with member representatives. German and French associations operate very differently in the sense that in Germany publishers, wholesalers and retailers (who operate on a rather disaggregated market) have a joint association, while in France market players (who operate on a rather concentrated market) have different associations.
- **Case 2: Mergers within book publishing:** Case study 2 investigates another mega trend in the book publishing industry: the consolidation of larger and mid-sized publishers, and the effects thereof.
- **Case 3: Reaching customers on the e-book market:** Case study 3 identifies the different ways players of the supply chain have restructured their business and vertically integrated to reach customers on the e-book market. The large retailer Amazon was one of the interviewees.
- **Case 4: Impacts of pure online players on the market and industry:** Case study 4 examines the impact of pure online players on the market and industry of books and e-books, taking the online player Google (GoogleBooks and Google eBooks) as a starting point of discussion of the impacts.
- **Case 5: Mixed business models in newspaper publishing:** Case study 5 investigates how and why traditional news providers keep doing business in both the print and e-markets, whether the mixed business model is sustainable and how it is expected to develop in the future. The case study has taken three Danish newspapers as a starting point.
- **Case 6: Impact of online news aggregators on traditional news providers:** Case study 6 investigates the view of traditional news providers on digital news aggregators and the impact the aggregators have on the market and industry.
- **Case 7: Free online access with print subscription:** Often periodicals provide free online and/or tablet access to a magazine for print subscribers. Case study 7 allows us to investigate why and how this kind of business model is used and what is expected in the future.
- **Case 8: Publishers moving into new markets:** Case study 8 investigates a trend in the industry: periodical publishers moving into markets for new products which may be more or less related to the core business of publishing, and the effects thereof.



An average of 3.4 interviews was conducted per case study; however, some interviewees have provided input for multiple case studies. For some case studies, more interviews have been conducted, and for others less, depending on the specific topic and angle of the case in question. Stakeholders were contacted to arrange dates and times for interviews before the interviews. Interviews were then conducted in the form of structured interviews over the phone for up to 1 hour. Interviewees have been requested to approve the contents of the case studies.

Table 3.6: Interviewees cases

Case 1	Syndicat National de l'Edition (French publishers' association) Syndicat de Librairie Française (Association of small French booksellers) Börsenverein des Deutschen Buchhandels (Germany publishers', wholesalers' and retailers' association) Member of German association (Bookseller - Buchhandlung Lünebuch)
Case 2	Planeta (publisher based in Spain) Random House/ Bertelsmann (publisher based in Germany)
Case 3	Amazon Book publisher
Case 4	Syndicat National de l'Edition (French publishers' association) Syndicat de Librairie Française (Association of small French booksellers) Börsenverein des Deutschen Buchhandels (Germany publishers', wholesalers' and retailers' association) Planeta (publisher based in Spain) Random House/ Bertelsmann (publisher based in Germany)
Case 5	Jyllands-Posten (Danish newspaper with a mixed business model) Berlingske (Danish newspaper with a mixed business model) Dagbladet Børsen A/S (Danish newspaper with a mixed business model)
Case 6	Finnish newspaper publisher (publisher based in Finland which publishes both print versions and online versions of newspapers) Expressen/Bonnier (publisher based in Sweden which publishes both print versions and online versions of newspapers) Verband österreichischer zeitungen (VÖZ) (Austrian newspaper publishers' association) Vlaams Nieuwsmedia (Belgien newspaper publishers' association) Additional input has been gathered from interviewees from case 5.
Case 7	The Economist (UK periodical owned by Pearson) Future Publishing (UK publisher of periodicals) Klambt Verlag (German publisher of periodicals)
Case 8	Egmont Magasiner (originally a periodical publisher in Denmark who is currently in many businesses, e.g. film production, cinema, commercials, real estate, fitness and even weight loss courses). Gruppo Editoriale l'Espresso (originally a periodical publisher in Italy who is currently in many businesses, e.g. newspapers, radio, online services)



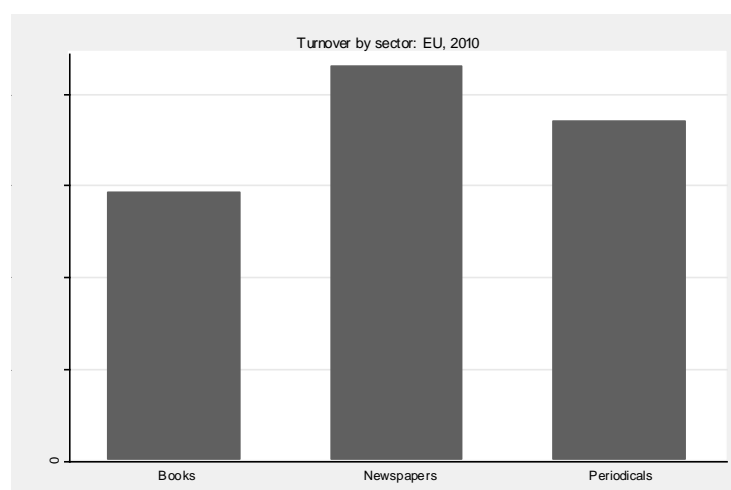
4. The EU Publishing Market

This section presents a summary of the main indicators characterising the EU market for publications. We first analyse the volume of the market and recent trends. The second part of this section shows the current VAT rates in the different Member States.

4.1 Market sales and output

The activity with the largest aggregate market value across the EU was newspaper publishing in 2010, with its value surpassing 40 billion Euro. The publication of periodicals and that of books followed closely with values nearing 37 billion and 30 billion Euro, respectively (Figure 4.1).

Figure 4.1: Total EU turnover by sector, 2010



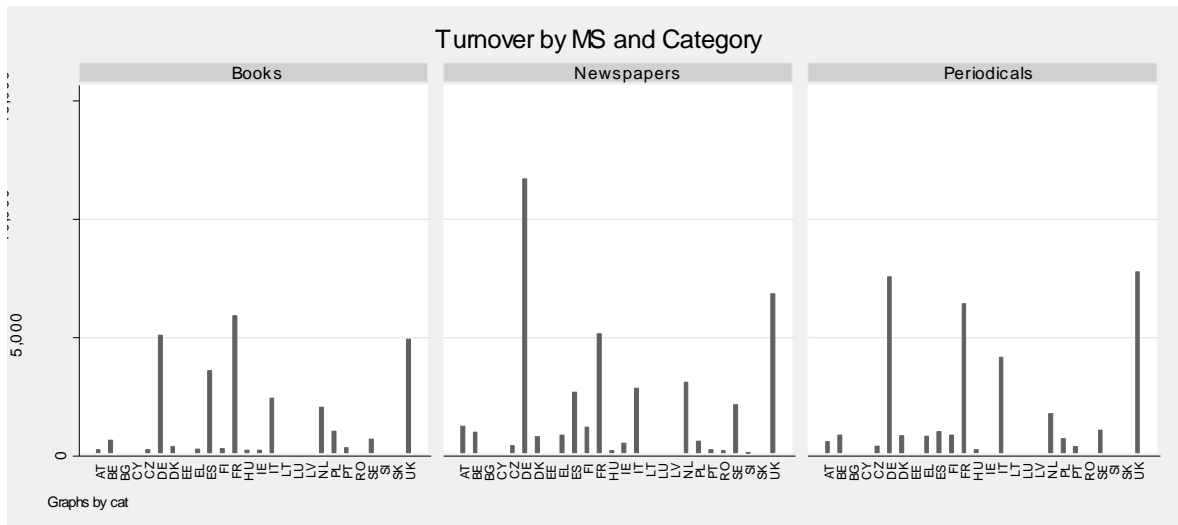
Source: Eurostat.

The book-publishing sector is the smallest of all three activities and is disproportionately larger in FR, DE and UK with turnover values around 5 billion Euro followed by ES and IT. The turnover in the market for the publication of journals and periodicals is higher than that of book publishing, with the largest output values exceeding 7.5 billion Euro in UK and DE, followed by FR, IT and NL. The activity with the largest output is noticeably newspaper publishing, where DE has the largest geographic market with a turnover exceeding 12 billion Euro, followed by UK, FR, NL and IT, although on a smaller scale (Figure 4.2).³⁸

³⁸ Some data on ES and NL are missing in Eurostat for the year 2010: approximations/apportions were made based on the expenditure data (methodology described in Chapter 3).



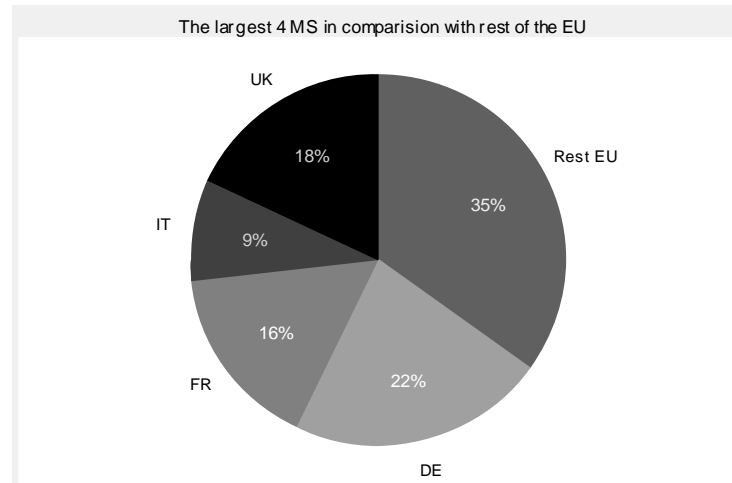
Figure 4.2 : Market turnover in the publishing sector by Member State, 2010



Source: Eurostat. Disaggregated results also presented in Annex A.

Overall, four Member States, DE, UK, IT and FR, make up 65% of the total EU publishing market (Figure 4.3).

Figure 4.3: Total EU turnover by MS, 2010

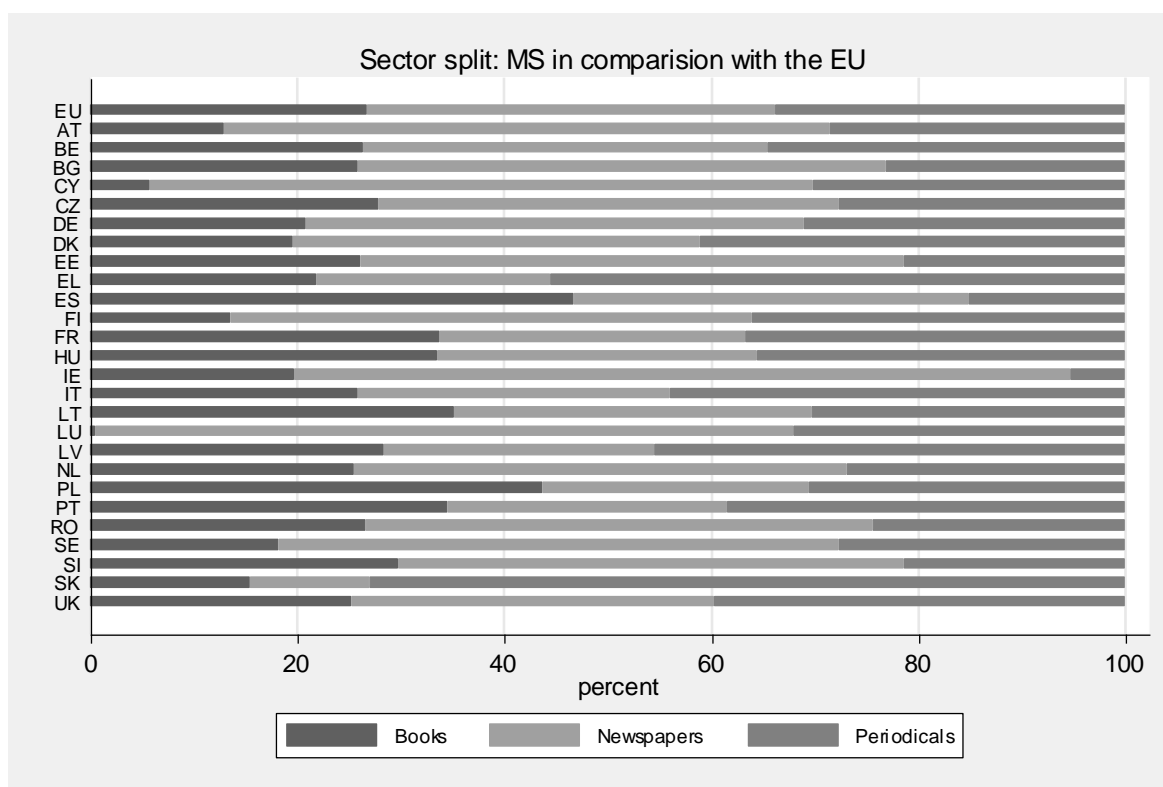


Source: Eurostat. Disaggregated results also presented in Annex A.

Most of these four largest markets have proportionally small book and newspaper publishing sectors, while a large share of total turnover comes from the publication of journals and periodicals (Figure 4.4). In contrast, the smaller geographical markets tend to have a large proportion of turnover coming from the publication of newspapers (e.g. CY, AT, SE, etc.) and book publishing (e.g. LT, PT).



Figure 4.4: Total EU turnover by sector and MS, 2010



Source: Eurostat. Disaggregated results also presented in Annex A.

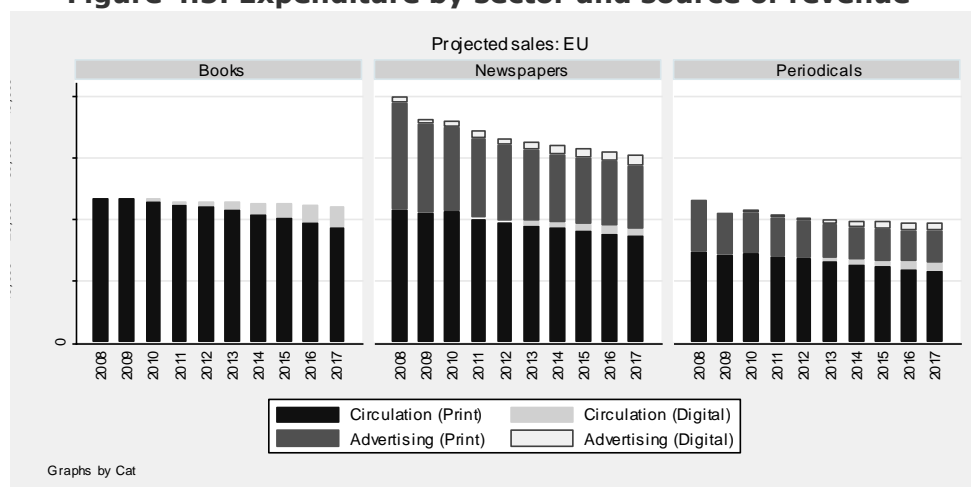
4.2 Market trends

The expenditure on books is shrinking in the EU: it has declined steadily from 23.5 billion Euro in 2008 to 22 billion Euro in 2017. Although expenditure from digital books is expected to increase over the years, this cannot compensate for the loss on printed books. The overall downward trend in the books industry is expected to continue in coming years (Figure 4.5).

Similar trends are observed in newspapers and periodicals. The expenditure on both sectors contracted sharply from 2008 to 2009. Newspaper expenditure reduced from 39.5 to 36 billion Euros in 2009 while periodicals' dropped from 23 to 21 billion Euros in the same period. Expenditure on newspapers decreased gradually thereafter to 30.3 billion Euros in 2017. The downward trend is flatter for periodicals. The decline is projected to reach 11.3 billion Euros in 2017. The digital expenditure in both newspapers and periodicals is gaining more market share.



Figure 4.5: Expenditure by sector and source of revenue*



Note: * excludes BG, LV, LT, EE, SK, MT, CY and LU. Disaggregated results also presented in Annex A.

Source: PwC Global Entertainment and Media Outlook: 2013-2017, www.pwc.com/outlook

This trend can also be confirmed by looking at employment and circulation figures from Eurostat:

- In the books market the number of employees in EU was approximately 150,000 in 2008 and approximately 140,000 in 2010. The number of book-publishing enterprises has grown from 25,225 in 2008 to 27,846 in 2010, which is an increase of 10.4%.
- In the newspaper industry the number of employees decreased slightly from 314,000 in 2008 to 309,000 in 2010. The circulation of newspapers in Europe has also been decreasing from a daily circulation of 85m daily copies in 2005 to about 74m daily copies in 2009, which corresponds to a 12.9% drop.³⁹
- In the publishing industry of periodicals, employment dropped from 220,000 in 2008 to 210,000 in 2010. The average employment per enterprise dropped by 1.2% from 10.67 in 2008 to 10.54 in 2010.

In the following sections, market trends for each of these publication categories are examined in detail.

4.3 Market trends

We will now look at some specific features and characteristics of the industry and the performance by Member States.

4.3.1 Books⁴⁰

The book market is often categorised as a mature market, in accordance with slow or declining growth. However, the number of available titles is increasing and in 2011 there were 8.5m titles available in the EU, meaning that the industry overall offers an increasing availability or range of products.⁴¹ Industry stakeholders point out that the

³⁹ European Commission (2012) JRC Technical Reports; The Newspaper Publishing Industry.

⁴⁰ It should be noted that figures for industry performance represent the period of the economic crisis in Europe and may therefore provide a somewhat distorted picture. For this reason industry development is also commented on qualitatively, based on interviews with industry stakeholders.

⁴¹ Federation of European Publishers (2012) European Book Publishing Statistics.



downward trend of turnover in book publishing, which have been enforced by the economic crisis, has been changing since 2010 and that there is currently a more positive outlook towards the future.

To some extent, this is supported by a recent report conducted by PwC which projects that the downward trend in Europe since 2008 is slowing down. However, it is forecast that the downward trend will continue at least until 2017.⁴² The print market is expected to continue to decrease.⁴³

In contrast, rapid growth is expected in the e-book market (from around €1,150m in 2012 to around €4,000m in 2017). E-books currently represent a small share of the total European book industry. In 2010, e-books had a market share in turnover of around 2%.⁴⁴ In 2012, the share was around 5%. Further increases are expected. The market share of e-books is in 2013 expected to increase to almost 17% in 2017.⁴⁵

The UK market is estimated to be the largest e-book market in Europe, with e-books representing 17% of total market value in January 2013. The market has developed from only 2% in January 2011. The growth trend has started to slow down in the UK. The growth of e-books has made up for the decrease in print books in terms of volume but not in terms of value. This is partially explained by decreasing average prices on e-books from 2011 to 2012. In December 2012 the price span between books and e-book was on average €3.8 compared to €2.8 in January 2011.⁴⁶ The price span in percentage was almost 100% in December 2012 compared to only 60% in January 2011.

The growth of the e-book market in the UK has been facilitated by a large number of available English e-book titles from the US. The same prerequisite has not been present for the other large European markets such as Germany and France.

Other drivers of growth of the e-book market (generally) have been identified: the size of the print book market (the size of the reading base), prices of e-books and the price differential between print books and e-books (which is affected by both the price-setting model and the VAT rates applied to publications). Availability of e-readers is also a driver for market growth. For instance, e-readers have not been available for purchase until 2011 in Slovenia, where the e-book market has not emerged yet.⁴⁷ To sum up, higher penetration of the e-book on national markets can be explained by one or more of the abovementioned drivers of growth.

In the other Member States the market shares of e-books in terms of turnover ranged from 1% to 8% in 2012 (see Annex A).⁴⁸

In all Member States, where figures are available, the share of e-books of the total market is growing and it is expected to continue to grow. The growth trends on national level are supported by individual firms' growth on the e-book market. The

⁴² Which is the timespan of the PwC report in which the projections are made.

⁴³ PricewaterhouseCoopers (2013) Global entertainments and media outlook: 2013-2017.

⁴⁴ Simon Barry & Philippe Martel (2011) Implications on the Reduced VAT Rate for E-books.

⁴⁵ PricewaterhouseCoopers (2013) Global entertainments and media outlook: 2013-2017.

⁴⁶ Nielsen (2013) Understanding the migration to e-books. Current and future trends. Used for EIBF conference in May 2013.

⁴⁷ Wischenbart, Rüdiger (2011) The Global eBook Market: Current Conditions & Future Projections.

⁴⁸ PricewaterhouseCoopers (2013) Global entertainments and media outlook: 2013-2017.



UK-based publisher Penguin experienced global growth in the sales of e-books of 180% from 2010 to 2011. Another UK-based publisher, Bloomsbury, experienced massive growth in e-books in 2010 (the company reported an increase in e-book sales from \$131,000 to \$2.3 million in 2010).⁴⁹

In the US, the e-book market is more evolved and therefore the US market development is a good indication of future development in the e-book market in the EU. Major trends in the US are therefore now described.

The US e-book market held a share of about 6 to 8% of the turnover of the entire book market (in consumer prices) in the US in 2011, while it accounted for 3% in 2006. The share is expected to reach around 20%-25% in 2015.⁵⁰ In 2010, e-books accounted for 9% of the total number of copies sold in the US. An increasing number of e-book titles have been made available to consumers. In the early years of e-books (around 2004) between 1,000 and 2,000 new titles were introduced each quarter in the US.⁵¹ The growth of the e-book market in the US is supported by the increasing number of e-readers sold. Eight million units were sold in the US in 2011, compared to 471,000 units in 2008. The upward trend in e-readers sales is expected to continue (reaching 9.6 mill units in 2014).⁵²

Judging by the development in the US, the European e-book market can be expected to grow continuously. The growth of the e-book market is expected to make up for the decline in turnover in the print market. Some market players claim that this has already happened for their company, even though it is not yet evident in the statistical data sources.

Overall, we see rapid growth in the digital segment, despite higher VAT rates on e-books. In addition, market players are confident that e-book growth will make up for print book decline. This is likely to happen sooner rather than later with reduced VAT rates on e-books. However, reduced VAT rates do not seem to be a prerequisite for continued e-book growth or for catching up with print book turnover decline.

4.3.2 Newspapers

The decline of the industry in Europe is not as steep as the decrease experienced in the US. The reason for the large decrease in the US is that the newspaper industry in the US mainly relies on advertising revenues (on average 85% advertising revenue and 15% sales turnover), which have been decreasing worldwide due to the global economic downturn since 2008, due to decreasing circulation and due to increasing competition from other (internet) media, whereas in Europe turnover is generated by a balanced combination of sales and advertising (on average 50% advertising revenue and 50% sales turnover).⁵³ This is confirmed by a PwC report which shows that advertising revenues have constituted around 44% to 50% of the total newspaper revenues from 2008-2012.⁵⁴

⁴⁹ Wischenbart, Rüdiger (2011) *The Global eBook Market: Current Conditions & Future Projections and Survey to industry associations.*

⁵⁰ European Commission (2012) *JRC Technical Reports; The Publishing Industry & Simon Barry & Philippe Martel (2011) Implications on the Reduced VAT Rate for E-books.*

⁵¹ European Commission (2004) *Publishing Market Watch: Sectoral Report 2: Book Publishing.*

⁵² European Commission (2012) *JRC Technical Reports; The Publishing Industry.*

⁵³ European Commission (2012) *JRC Technical Reports; The Newspaper Publishing Industry.*

⁵⁴ PricewaterhouseCoopers (2013) *Global entertainments and media outlook: 2013-2017.*



There are Member State differences, e.g. in France, advertising's share of turnover is lower than sales turnover (approximately 40% in 2011 and 2010, and approximately 35% in 2000 and 1990).⁵⁵ In Sweden in 2012, 70% of the turnover came from the circulation and 30% from advertising. Historically, advertising revenues were up to 70%, but the decreasing advertising revenues and increased subscription prices have raised the share of the circulation of combined turnover.⁵⁶

There are also differences between the print market and the digital market. In the print market, the advertising share is only slightly lower than the overall market (between 40% and 47% from 2008 to 2012), whereas in the digital market, the advertising share was 100% until 2010, when publishers generally started charging for digital contents. From 2010 to 2012, the digital advertising share fell to approximately 75% and further decrease is expected to approximately 60% in 2017. This is due to larger expected increases in digital sales turnover than in digital advertising revenues.⁵⁷

Sales of printed papers and print advertising revenue are declining in Europe, whereas sales and advertising revenues are increasing for digital papers. This trend is expected to continue at least until 2017 (after which data are not available). However, the digital growth is not expected to offset the decline in the print market during this period. This is partly due to lower advertising revenues per visitor on websites than reader per paper, and partly due to prices and sales volume of digital contents.⁵⁸

When looking at the national level, one sees that the majority of the Member States have experienced drops in circulation in recent years. Again there are notable exceptions: in Bulgaria and Romania circulation increased significantly between 2005 and 2009, by 56% and 14% respectively.⁵⁹

Online news displayed on websites and digital newspapers have become a more important part of the European newspaper industry during the past 10-15 years. In 2011 and 2012 the turnover share of digital newspapers (without digital advertising revenues) of total market turnover was estimated to be 0.5% and 1.2% respectively. The share is expected to increase to 4.55% in 2017. If digital advertising revenues are taken into account, the share is estimated to be approximately 11% in 2017.⁶⁰

Therefore potential for further growth is widely recognised, but the industry still needs to find the appropriate business model to generate sufficient turnover.⁶¹ Industry associations claim that most digital newspapers are not sustainable yet. Instead, they point out that the digital versions of newspapers are still subsidised by the corresponding print versions.

⁵⁵ Ministère de la culture et de la communication (2011) Presse Ecrite 2011 Enquête Rapide.

⁵⁶ ENPA (2012) National and regional newspapers in Sweden.

⁵⁷ PricewaterhouseCoopers (2013) Global entertainments and media outlook: 2013-2017.

⁵⁸ European Newspaper Publishers' Association (ENPA) & PwC (2012) Global entertainments and media outlook: 2013-2017.

⁵⁹ European Commission (2012) JRC Technical Reports; The Newspaper Publishing Industry.

⁶⁰ PricewaterhouseCoopers (2013) Global entertainments and media outlook: 2013-2017.

⁶¹ European Commission (2012) JRC Technical Reports; Statistical, Ecosystem and Competitiveness. Analysis of the Media and Content Industries: A Quantitative Overview.



One of the main issues for newspaper publishers is advertising revenues. Print advertising revenues are decreasing and digital advertising revenues are very low. So far, most publishers are not charging consumers for digital contents but have instead been providing it for free on its own or as part of a print subscription. As a consequence, turnover from digital newspapers have so far been limited. Charging for digital contents is one step towards a sustainable business model where print is not needed to subsidise digital.

Generalised access to the internet and steadily increasing penetration of smartphones and tablets open new business opportunities for publishers of digital news. The industry is well on its way in terms of this development.

To conclude, it seems that additional growth of digital newspapers can be expected. However, it is uncertain whether the digital turnover growth can offset print turnover decline. Unlike the book industry, the newspaper industry may need additional support to reverse the downward trend.

4.3.3 Periodicals

For Member States where data are available, circulation has been decreasing in past years and is expected to decrease further in years to come. However, the on-going appearance of new titles and removal of unsuccessful titles may slow down this development and maintain circulation at a somewhat steady level.⁶²

Advertising revenues are quite important for this industry as well as the newspaper industry. However, different sources indicate different shares. The industry association indicates that advertising revenues' share of industry turnover has been decreasing. In 1984, advertising revenues accounted for 21.5% of European periodical publishers' turnover. In 2008 the share had decreased to 9.7%, and the share is expected to further decrease to around 6.5% in 2015.⁶³ However, a recent PwC report indicates an advertising share of between 35% and 40% from 2008-2012. There are also differences between the print market and the digital market. In the print market, the advertising share is roughly the same as the overall market; whereas in the digital market, the advertising share was 100% until 2008. From 2009 to 2012, the digital advertising share fell to approximately 75% and further decrease is expected to approximately 50% in 2017. This is due to larger expected increases in digital sales turnover than in digital advertising revenues.⁶⁴

Digital periodicals currently represent a very small part of the total market. In the EU market, the turnover share of digital periodicals (without digital advertising turnover) was estimated to account for 0.4% of the total market turnover in 2011 and 1.35% in 2012. There are expectations of further growth to approximately 8% in 2017. If digital advertising revenues are included, the digital market share was about 5% in 2012 and is expected to be more than 15% in 2017.⁶⁵ It can therefore be concluded that, similar to digital newspapers, the digital market is growing for periodicals. In terms of market shares, digital periodicals have caught up with digital newspapers and

⁶² Industry associations; websites and questionnaires. National statistics websites. European Commission (2005) Publishing Market Watch, The European Magazine and Journal Market & Eurostat.

⁶³ European Federation of Magazine Publishers (2010) Challenges for Magazine Publishing & European Commission (2005) Publishing Market Watch, The European Magazine and Journal Market.

⁶⁴ PricewaterhouseCoopers (2013) Global entertainments and media outlook: 2013-2017.

⁶⁵ PricewaterhouseCoopers (2013) Global entertainments and media outlook: 2013-2017.



the market share for digital periodicals is expected to be larger than that of digital newspapers in the future. International growth is also expected which is supported by surveys on tablet user behaviour.⁶⁶

At a Member State level, estimates generally confirm the overall indications; the national markets for digital periodicals are currently small compared to those of printed periodicals and increases in the market value of digital periodicals are expected to increase in the future.⁶⁷

As is the case for newspapers, turnover from digital periodicals is also limited, as to a large extent most publishers are not yet charging consumers for digital contents. Digital periodicals are often included in a print subscription; and other digital contents, e.g. on websites, are free of charge, as it is a way of generating traffic on the publishers' websites.⁶⁸

This is confirmed by the European Magazine Media Association (EMMA) which points out that only a small percentage of the digital periodicals on the market are paid for. When the periodical is paid for, however, the cover price is usually similar to that of the printed edition. In addition, the association states that the digital reader only brings in 10% of the turnover of a print reader.⁶⁹

Overall the industry for periodicals is experiencing decreases which, with the current business models and advertising agreements, cannot be expected to be compensated for by growth in the digital market.

4.4 Differences in VAT

The EU VAT rules currently in force for publications specify that only the following supplies are eligible for a reduced VAT rate of 5% minimum: supplies "including on loan by libraries, of books on all physical means of support (including brochures, leaflets and similar printed matter, children's picture, drawing or colouring books, music printed or in manuscript form, maps and hydrographic or similar charts), newspapers and periodicals, other than material wholly or predominantly devoted to advertising". An important number of temporary derogations have also been granted to a number of Member States which enable them to apply rates under 5%. Electronically supplied services, such as e-books and other on-line publications, are however excluded from the scope of reduced VAT rates.

There is great variation in the VAT rates for publications across Member States.

Only two Member States, DK and BG, apply a normal rate on books. The majority of Member States apply a reduced rate (ranging from 5% in PL, MT, HU, and CY to 15% in CZ). Others apply a super reduced rate, although this (4% in ES and IT and 3% in LU) is not much lower than the lowest of the reduced rates in other Member States (5%). The UK and IE are the only Member States applying a zero rate (Figure 4.6).

⁶⁶ World Newsmedia Network (2012) Impact on the magazine industry.

⁶⁷ PricewaterhouseCoopers (2013) Global entertainments and media outlook: 2013-2017.

⁶⁸ PricewaterhouseCoopers (2008) The medium is the message. Outlook for Magazine Publishing in the Digital Age

⁶⁹ European Federation of Magazine Publishers (2010) Challenges for Magazine Publishing & European Commission (2005) Publishing Market Watch, The European Magazine and Journal Market.

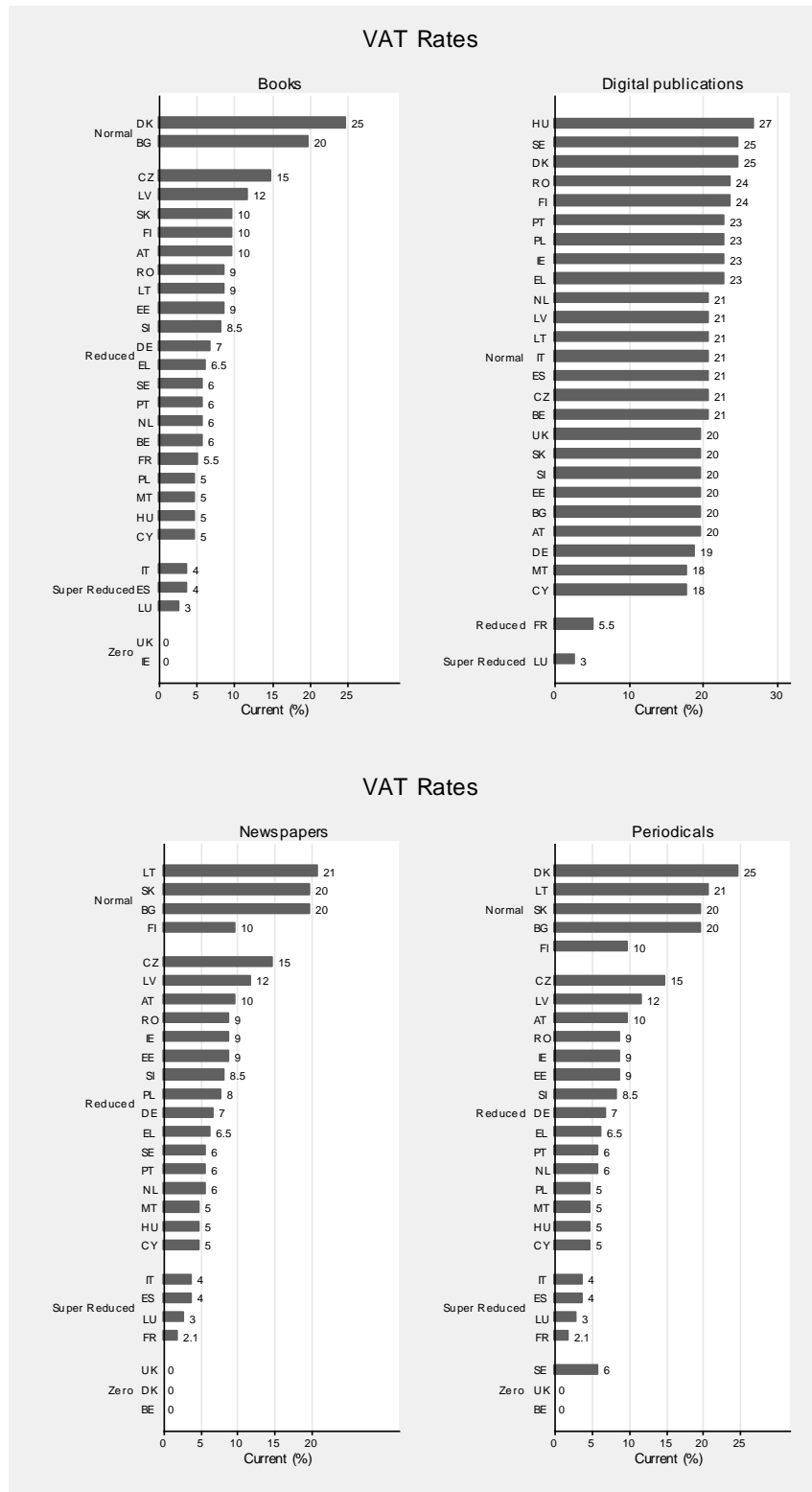


Four Member States apply a normal rate for newspapers (FI, LT, SK and BG) and five for periodicals (the previous Member States plus DK). The remaining Member States apply the same rates as for books with few exceptions: IE, FR and BE apply a reduced rate, super reduced and zero rate, respectively. DK applies a zero rate but only for newspapers, PL applies a different reduced rate for newspapers (than for books and periodicals). SE applies a reduced rate for periodicals but exempts from VAT “services with regard to production (basically printing services) of membership periodicals, staff periodicals and periodicals issued by non-profit organisations, including services related to such production, such as distribution services”.

All but two Member States apply the normal rate for digital publications. This ranges from 18% in MT and CY to 27% in HU. FR applies a reduced rate (5.5%), and LU applies a super reduced rate (3%); this is without EU legal basis, in the opinion of the European Commission.



Figure 4.6: Prevailing (2013) VAT rates mostly applied in the Member States

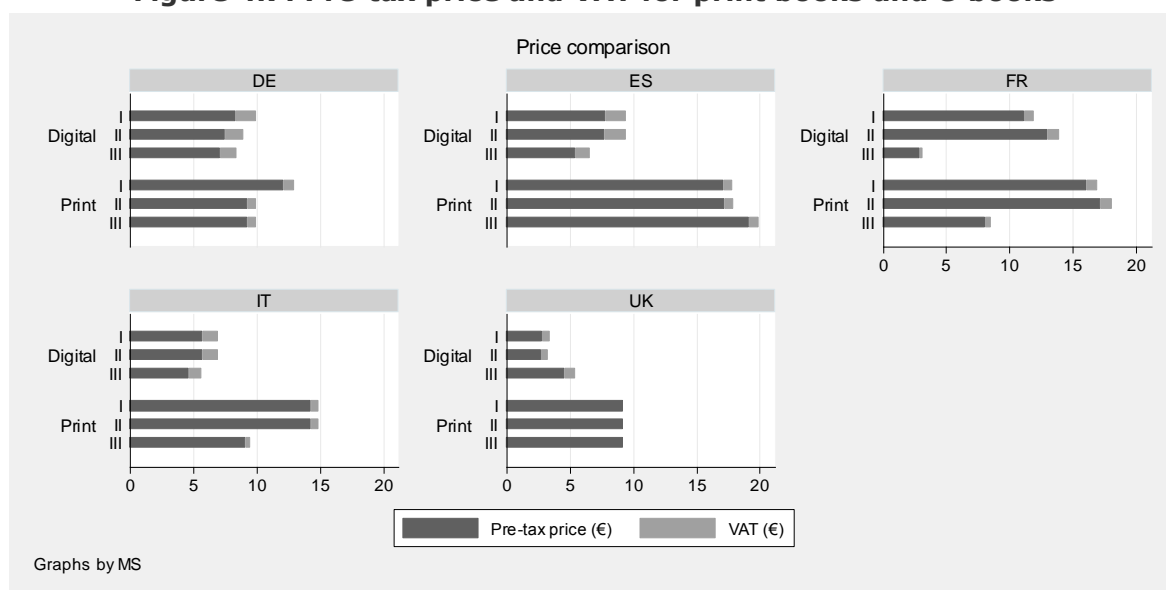


Note: several rates may be applicable for a same category depending on the conditions imposed by the Member States (we are unaware of the proportion of each subcategory, but it is known that BE applies different rates on books, newspapers and periodicals (0%, 6%, 21%), ES (4%, 21%), FR (2.1%, 19.6%), and IT (4%, 21%). SE applies a reduced rate for periodicals but exempts from VAT certain services.
 Source: DG Taxud "VAT Rates Applied in the Member States of the European Union". 2013.



To understand the burden of the rates on books and e-books, we compared prices and VAT rates of the following representative best-selling books in select Member States: 50 Shades of Grey (I), The Hunger Games (II), and The Da Vinci Code (III).⁷⁰ The amount of VAT (in €) is typically higher for e-books and this reduces the price differential print-digital books (Figure 4.7). The different VAT rate does not make the final price of an e-book higher than its print version.

Figure 4.7: Pre-tax price and VAT for print books and e-books



Note: I: 50 Shades of Grey, II: The Hunger Games, and III: The Da Vinci Code

Source: Own analysis using data from Amazon.

Looking at the absolute differentials in pre- and post-tax price for print and digital books we can see that, in all the analysed cases, the pre-tax price of a print book is higher than its e-book counterpart; and in some Member States the price difference between print and digital reduces after tax, whereas in others tax has a limited effect on the price differences. In France, for example, the difference between the pre-tax prices of print and digital publications is 24%, 30% or 64% (for the three titles) and this difference reduces only slightly when comparing the prices of publications after tax (Table 4.1). In the remaining analysed Member States the print-digital price differences become noticeably reduced when comparing pre- and post-tax prices. The largest change can be observed in the UK for The Da Vinci Code: the price difference reduces 10 points from 50% to 40% after tax. The reduction observed for the remaining Member States is between 6 and 9 points.

⁷⁰ Prices were collected from each country's respective Amazon for those countries with a local domain: DE, ES, FR, IT, and the UK.

**Table 4.1 Differences Print-Digital: absolute and % of Print prices**

MS	Title	Print Prices		Absolute Difference		Difference (% Print)	
		Pre-tax	Post-tax	Pre-tax	Post-tax	Pre-tax	Post-tax
DE	I	12.14	12.99	3.75	3	31%	23%
	II	9.34	9.99	1.79	1	19%	10%
	III	9.34	9.99	2.21	1.5	24%	15%
ES	I	17.21	17.9	9.37	8.41	54%	47%
	II	17.31	18	9.5	8.55	55%	48%
	III	19.18	19.95	13.69	13.31	71%	67%
FR	I	16.11	17	4.9	5.01	30%	29%
	II	17.2	18.15	4.13	4.16	24%	23%
	III	8.14	8.59	5.2	5.44	64%	63%
IT	I	14.33	14.9	8.55	7.91	60%	53%
	II	14.33	14.9	8.55	7.91	60%	53%
	III	9.17	9.54	4.48	3.87	49%	41%
UK	I	9.25	9.25	6.37	5.79	69%	63%
	II	9.25	9.25	6.48	5.93	70%	64%
	III	9.25	9.25	4.66	3.74	50%	40%



5. Analysis of demand and substitutability

In this section we provide our analysis on the substitutability between print and digital products. This is done by reviewing the analysis from the academic literature, the assessments on market definitions by competition authorities and the findings from the consumer survey, which are analysed qualitatively and at a high level first, followed by estimation results of elasticities.

5.1 Previous studies of demand for publications

The study of relationships between means of publication described in the economic literature uses the concepts of substitute and complement products. Products delivered on print or digital support would be substitutes if the increase in the price of one spurs demand of the other. They would be complements if their demand falls as a result of an increase in the price of one of them.

Studies of demand for books, newspapers and periodicals typically distinguish two components.⁷¹ On the one hand, demand entails a long-term component which is dependent on the population's inclination to read.⁷² This is in turn dependent on the population's ability to read, the general level of education, the amount of leisure time available, and the availability of alternative media goods such as television and radio.⁷³

On the other hand, the demand for publications is understood to vary in the short term. We found five main features affecting short-term demand consistently addressed in the literature. First, in the book sector, the demand is concentrated on titles listed as best sellers. Second, in the press sector (newspapers and magazines), there are different views on the substitutability and complementarity between print and digital editions which may depend on the type of user. Third, the demand for one type of publications is dependent on its own sensitivity to price, which is in turn linked to the degree of substitutability or complementarity between publications on different means. Fourth, the socio-economic and demographic characteristics of consumers have an influence on their demand for all types of publications. Finally, the demand for readership of a newspaper or magazine has also been related to the market for advertising space on that publication.

We explore these features in detail below.

5.1.1 Bestseller lists and the demand for books

Short-term demand for books is characterised by the uncertainty surrounding the success of any one book. This feature is known as the "*nobody knows*" principle. The success of books is measured by the sales volume reported as simple rankings of books' sales volume over a certain period of time. Such rankings are called "*bestseller lists*".

⁷¹ Hjorth-Andersen (2000) and Palma Martos *et al.* (2009).

⁷² For example, Canoy *et al.* (2005) report that only 50 per cent of Portuguese adults read, whereas adult readership ranges from 80 to 90 per cent in Belgium, Denmark, Finland, Italy, Norway, Sweden and Switzerland.

⁷³ Hjorth-Andersen (2000).



A key characteristic of the short-term demand for books is that it is concentrated on books listed as bestsellers (Sorensen, 2007). They can influence consumer behaviour through three possible mechanisms:

- **Information:** a book's listing provides both book vendors and (potential) consumers with a signal about the product's quality. For the first group, a bestseller listing may lead to the book vendor deciding to sell a book despite not being familiar with the author. For the second group, bestseller lists can provide information about the book's quality to consumers by reporting successful sales.
- **Social:** bestseller lists act as a "coordinating mechanism" through social effects.⁷⁴ In other words, consumers choose books that appear on bestseller lists because these are well-known and their peers might read them too.
- **Promotion:** books listed as bestsellers receive higher marketing and promotion by retailers and result in more "exposure" to consumers. As an indirect consequence of increased promotional efforts, demand for a listed author's future publications may also be influenced due to his or her increased popularity.

Sorensen (2007) also studied the effects on sales of a book being listed as a *New York Times*' Bestseller, and found that less-known authors whose listing came as a surprise saw the highest effect on sales as a result of the listing. By contrast, better-established authors experience a much lower impact on demand for their bestselling books. This finding suggests that only the informational mechanism (the signalling about the product's quality) has an effect on demand.

5.1.2 Substitutability and complementarity in the press sector

The complementarity or substitutability between periodical publications on print or digital format is discussed in the context of the likely cannibalisation of print publications by digital media, and in particular in establishing whether consumers substitute away from print towards digital publications if these become (even) cheaper alternatives.

When assessing the relationship between printed magazines and their companion websites it is often found that the existence of the latter is effective in cannibalising the circulation of the printed editions, an effect that is strengthened as more content is offered online. Qualitative evidence of this has been provided by Kadiyali and Simon (2006), Kaiser (2001) and Kaiser (2006) for magazines; and Deleersnyder *et al.* (2002) and Filistrucchi (2005) in the newspaper industry.⁷⁵ Some quantitative estimates have been proposed in Gentzkow (2007), where it is concluded that an increase of 10 cents in the price of the Washington Post (a 33% increase in price) increases readership of its website companion, post.com, by two per cent.

However, other studies also note the complementarity nature of website companions and printed editions. Hence, Kaiser and Kongsted (2007) found evidence of substitutability effects in the magazines market in Germany but they also noted that websites have a positive effect on the number of subscriptions. In the case of website companions, complementarity can be a result of raising awareness (consumers of online publication learning about the quality of the printed edition) and benefiting from additional service in online editions. The paper suggests that complementarity would

⁷⁴ Sorensen (2007).

⁷⁵ It is important to note that these studies look at the existence of a website companion, whose provision is free. Therefore, cross-price elasticities between printed publications and website companions are impossible to estimate.



be working for loyal consumers (hence increasing subscriptions), while casual buyers substitute between the two. The differences are also recognised in CERNA (2011) for certain groups of consumers who may choose to switch to a “hybrid press model” of complementarity between the mediums of publication.

5.1.3 The price sensitivity of demand for publications on different means

Books are generally believed to be price-sensitive goods: most studies find demand for books to be elastic, with absolute elasticity values exceeding one. This means that their demand is very responsive to a change in price, in other words the change in the quantities (in percent) are greater than the change in prices (in percent).⁷⁶

Ringstand and Loyland (2006) and Hjorth-Andersen (2000) estimate the price elasticity of books to take values between -1.59 and -2.91.⁷⁷ By contrast, when studying demand aggregately, Palma Martos *et al.* (2009) find books to be inelastic, with values ranging between -0.61 and -0.75. Also, when price elasticities are calculated separately for bestsellers and non-bestsellers, the former are found to be price elastic while the latter are price inelastic.⁷⁸

The demand for magazines and newspapers is mostly regarded as inelastic and elastic by different studies in the literature.⁷⁹ Kaiser (2006) estimated the price elasticity of German women’s magazines⁸⁰ at -0.20 when studying all age groups jointly, while values ranged between -0.14 and -0.26 for the six age groups when studied separately. Argentesi and Ivaldi (2005) estimate own-price elasticities for eight French magazines, finding a range between -0.20 and -0.36. However, when accounting for the effect of advertising, the range of elasticities varies between -0.67 and -1.22, suggesting that the demand for some magazines may be elastic. Similarly, Kaiser (2001) estimates the single own-price elasticity for 43 German magazines. The values estimated range between -0.63 and -6.20, with a median of -1.55 and a mean of -1.80. We note that 82 per cent of the 43 elasticities estimated were beyond one, suggesting that the demand in that market is mostly elastic.

Using a panel consisting of the four largest Italian newspapers, Argentesi and Filistrucchi (2005) found readers’ demand to be inelastic, with a value of -0.0004, while values for each single newspaper are found to be inelastic with values ranging between -0.47 and -0.49. Also, Filistrucchi *et al.* (2010) found the demand for subscriptions to Dutch newspapers to be inelastic, with values ranging between -0.008 and 0.0027.

A summary of the elasticities estimated in the literature is shown in Table 5.1.

⁷⁶ Ringstand and Loyland (2006), Hjorth-Andersen (2000), Van Ours (1990), Appelman and van den Broek (2002), De Grauwe en Gielens (1993).

⁷⁷ Ringstand and Loyland (2006) and Hjorth-Andersen (2000).

⁷⁸ Canoy *et al.* (2005).

⁷⁹ Kaiser (2006), Argentesi and Ivaldi (2005), Kaiser (2001), Filistrucchi *et al.* (2010), Argentesi and Filistrucchi (2005).

⁸⁰ The data covered the years 1995 to 2004 during which between 30 to 44 magazines were available in the market.

**Table 5.1: Literature review of own-price elasticities of printed publications**

Publication type	Elasticities	Author(s)	Data coverage	Description
Books	[-1.59,-2.91]	Ringstad & Løyland (2006)	1986-1999	Range of results for 4 models covering 18,000 households in Norway.
Books	-1.44	Hjorth-Andersen (2000)	1973-1993	One model using a yearly index of real book prices in Denmark.
Books	[-0.61,-0.75]	Palma Martos <i>et al.</i> (2009)	1989-2006	Range of results for 3 models of Spanish (aggregate) book market.
Magazines	-0.1948	Kaiser (2006)	1995-2004	One model covering all age groups in Germany jointly.
Magazines	[-0.20,-0.36]	Argentesi & Ivaldi (2005)	1996-2001	Range of single elasticities for 8 French magazines, without accounting for advertising.
Magazines	[-0.67,-1.22]	Argentesi & Ivaldi (2005)	1996-2001	Range of single elasticities for 8 French magazines, accounting for advertising.
Magazines	[-0.63,-6.20]	Kaiser (2001)	1990-2000	Range of single price elasticities for 43 German magazines.
Newspapers	[-0.008, 0.0027]	Filistrucchi <i>et al.</i> (2010)	1999Q3-2009Q3	Range of subscription-price elasticities of demand using 5 models for the Dutch market.
Newspapers	-0.0004	Argentesi & Filistrucchi (2005)	1976-2003	Readership demand modelled using a panel of 4 Italian newspapers.
Newspapers	[-0.47,-0.49]	Argentesi & Filistrucchi (2005)	1976-2003	Range of single price elasticities for 4 Italian newspapers.

Source: Own elaboration.

5.1.4 Socio-economic and demographic determinants

Socio-economic characteristics of consumers may have different impacts on the demand for publications by consumer group. A key aspect of demand in this respect is its income-sensitivity. Books are regarded as “luxury goods” if a consumer’s demand for it increases more than proportionally than increases in his income.⁸¹ The same could be said for the other two types of publications.

Most papers reviewed find that the demand for books is income-elastic with positive values ranging between 1.1 and 1.97 (hence a 10% increase in income would imply an increase demand for books of between 11 and 19.7%).⁸² Nevertheless, Villarolla *et al.* (2010) found demand to be income-inelastic at a value of 0.005 for books and 0.004 for newspapers and magazines suggesting that the demand for publications does not change with variations in income. This study of the Spanish market is based on a panel of data from 24,000 households gathered in 2006. These results may indicate that cultural and country-specific characteristics play a role in demand.

Another issue to consider is that the demand for books may also be affected by the availability of libraries - implying that if a consumer cannot afford to purchase a book,

⁸¹ Prieto-Rodríguez *et al.* (2005), Hjorth-Andersen (2000), Ringstad and Løyland (2006), Palma Martos *et al.* (2009).

⁸² Ringstad and Løyland (2006), Hjorth-Andersen (2000) and Palma Martos *et al.* (2009).



he can borrow it from the public library for free.⁸³ This, however, should not affect its classification as luxury goods because although libraries may enable free consumption, they do not give ownership of the book.

Given the nature of publications as cultural goods, cultural and demographic differences may have an effect on demand. For example, Ringstad and Løyland (2006) found that, in Norway, access to outlets for books, as well as sex and age have an influence on demand for books. Regarding household composition, single person households and families with small children (under 7 years old) were found to be the most frequent groups of book consumers in the country. Villarolla *et al.* (2010) conclude that the characteristics of the head of household, such as sex, age and work characteristics, have a larger impact on the household's decision to purchase books than on the purchase decision for the other two types of publications in Spain.

Socio-economic and demographic features also influence demand for digital and online publications. Kaiser (2001) found that users of website companions in the German women's magazine market are on average younger, have a higher education level and a higher income. Interestingly, the study finds that those publications that offer an online edition have a lower price elasticity of demand than their competitors who only publish on physical means. Also, Kaiser (2006) found that consumers of magazines belonging to certain age groups view companion websites as complements rather than substitutes when compared to the overall consumer population.

5.1.5 The two-sidedness of the markets for newspapers and magazines

Both the market for newspapers and that for periodicals are characterised by being two-sided in the following way: on the one hand, there is a demand for readership (as described above), and on the other there is demand by firms for advertising space in these publications. Argentesi and Ivaldi (2005) argue that the demand for the advertising side of a publication has an effect on any single publication's own-price elasticity as well as on the cross-price elasticity between publications of the same type, e.g. between different newspapers.

Depken and Wilson (2004) showed how the advertising side in circulation markets affects the demand for subscriptions. They found that, when advertising content substitutes for editorial content, it becomes a "consumer bad" by lowering the number of subscriptions and the price for them.

On the opposite side of the market, the demand for advertising space in turn depends on the readership demand for a given publication.⁸⁴ Argentesi and Filistrucchi (2005) argue that, in the case of newspapers, the type of advertising may have an effect on that side of the market's influence on the readership side.

5.1.6 Summary

In summary, the review of the literature has shown:

- Short-term demand for books concentrates on the bestsellers' list. Findings suggest that this could be mainly due to the signalling effect the bestseller list has.

⁸³ Hjorth-Andersen (2000).

⁸⁴ Argentesi and Filistrucchi (2005).



- Companion websites for magazines can cannibalise or complement the circulation of printed editions. Loyal buyers tend to view them as offering complementing services, but the casual buyers may substitute digital for print.
- Books are generally believed to be price elastic. Newspapers are found to be price inelastic. The results are mixed for magazines: some findings show that they are elastic; others show that they are inelastic, unless taking into account the effect of advertising.
- Income is also found to have an impact on the demand for publications. An increase in income usually leads to more than proportionate increase in the demand for books, but newspaper and magazines are income-inelastic. Other demographic factors such as household composition, income, sex, age and work characteristics also affect consumers' buying decisions. This is also applicable to digital publications.
- Lastly, newspapers and magazines have two streams of demand, readership and advertising, which are interlinked: demand for advertising depends on readership, which in turn also depends on how advertisement is placed in the publications.

5.2 Substitutability assessed in competition cases

Almost all competition law enforcement centres on the concept of market definition. Market definition is a tool to identify and define the boundaries of competition between seemingly related products. In the following paragraphs we provide some description of the principles used for market definition, and review a list of court cases and investigations which have provided definitions of the relevant market in the publishing sector.

5.2.1 Market definition principles

Within Community competition law, defining the relevant market is required to determine the scope of the competition rules, and this is in respect of restrictive practices and abuses of a dominant position (Regulation (EC) n° 1/2003) and merger regulations (Regulation n° 139/2004).⁸⁵

Definition of the relevant market usually involves a product and geographic definition (Commission Notice 97/C 372/03).

- The relevant market in terms of product comprises all those products and/or services which are regarded as interchangeable or substitutable by the consumer, by reason of the products' characteristics, their prices and their intended use.
- The relevant geographic market comprises the area in which the undertakings concerned are involved in the supply and demand of products or services, in which the conditions of competition are sufficiently homogeneous and which can be distinguished from neighbouring areas because the conditions of competition are appreciably different in those areas.

The main purpose of market definition is to identify actual competitors (of the undertakings involved) capable of constraining those undertakings' behaviour and of preventing them from behaving independently of effective competitive pressure. It should be noted, however, that defining the relevant market should not be an end in itself but a tool or framework of analysis. In some cases the analysis may provide

⁸⁵ COMMISSION NOTICE on the definition of relevant market for the purposes of Community competition law (97/C 372/03).



conclusions which are clear enough and do not require an exact definition of the relevant market.

5.2.2 Analysis of precedents

Market definition related to publishing has been examined by various competition authorities, mainly in the context of merger cases. We have reviewed some of such cases to provide grounds for the analysis to be used and, in particular, of the different approaches and metrics on the definition of the relevant markets. A total of 19 relevant cases were reviewed from five jurisdictions: 1 from the US, the UK, and Spain, 10 from Germany, and 6 from DG COMP:⁸⁶ 5 cases refer to the books market, 14 refer to newspapers and 3 to periodicals (some of the cases deal with more than one product).

With regard to product market definition, the main issue typically analysed is the existence of substitute electronic products. For newspapers, the distribution channel, sources of revenues (advertising) and coverage are also considered. Because of language and cultural barriers, the geographic dimension is usually taken as national or regional. It is of less relevance to the present study so we have only reviewed the analyses on product market definitions.

In *U.S. v. Apple, Inc., et al.*⁸⁷ the United States Department of Justice (USDOJ) investigated price fixing in the sale of e-books. Although a definition of the relevant market was not necessary, the USDOJ concluded that the relevant product market was trade e-books, as it considered that “no reasonable substitute exists for e-books”. This was based on the three very specific technical features of e-books: their storability (thousands of e-books “can be stored on a single small device”); compatibility with electronic devices (e-books can be “read on electronic devices, while print books cannot”); and accessibility (“e-books can be located, purchased, and downloaded anywhere a customer has an internet connection, while print books cannot”). This was also supported by the assessment of the supply side of the market: the case considered that industry firms “view e-books as a separate market segment from print books”, and believed that “the Publisher Defendants were able to impose and sustain a significant retail price increase for their trade e-books”.

In the 2011 investigation of sales of e-books, DG COMP reached a conclusion without the need of defining the relevant market.⁸⁸ In the merger assessment of News Corp and BSkyB (2010), DG COMP investigated the degree of substitutability between print newspapers and three alternative ways of delivering news: online news services, paid-for online news services and digital newspapers. This was done in response to the notifying party’s claim that printed and online news were part of the same market. DG COMP investigated the substitutability between these products by engaging with stakeholders. All three investigations proved inconclusive.⁸⁹ Nevertheless, in the end,

⁸⁶ We are grateful to DG COMP officials who confirmed the relevant cases of studies and the conclusions of our findings.

⁸⁷ *United States v. Apple, Inc., Hachette Book Group, Inc., HarperCollins Publishers L.L.C., Verlagsgruppe Georg Von Holtzbrinck GmbH, Holtzbrinck Publishers, LLC D/B/A Macmillan, The Penguin Group, a Division of Pearson PLC, Penguin Group (USA), Inc., and Simon & Schuster, Inc.*

⁸⁸ European Commission (2011) ‘Antitrust: Commission opens formal proceedings to investigate sales of e-books’, *IP/11/1509*, 6 December 2011.

⁸⁹ In the case of digital news, the notifying party and some respondents to DG COMP’s investigation pointed out that there were “very few tablets” available, which implied that such a delivery mechanism was not a



the Directorate left the definition of the market for the supply of newspapers on any of the three means of publication open as there were no “competition concerns under any of the alternative product market definitions considered”.⁹⁰

In DG COMP’s investigation of the merger between two French publishing firms (2004),⁹¹ the notifying party made reference to the publication of dictionaries, encyclopaedias and larger reference books online and digitally on CD-ROMs, which it considered to belong to the same market. DG COMP left the market definition for the first two products open, but stated that “the Commission’s investigation reveals that computerised versions are often, though not always, sold along with the hard-copy version”.⁹² In the case of larger reference books, DG COMP concluded that “the markets for paper and multimedia versions of larger reference works are distinct product markets” (multimedia includes online material, as well as CD-ROM and other software).

More recently, DG COMP (2013) investigated the merger between three book publishing houses.⁹³ Four market definitions were provided as part of the case in relation to: the acquisition of publishing rights, the sale of English language books to dealers, third-party book distribution and book production. As part of its market investigation regarding the sale of English books to dealers, the Directorate carried out a consultation exercise with publishers and customers and found that “the majority of responding customers consider that the vast majority of consumers would not switch from print books to e-books and vice-versa in case of a 5 to 10 per cent increase in the retail price.” Regardless, the market definition in this case was left open.⁹⁴

In 2009, in assessing the merger between Northcliffe Media Limited and Topper Newspapers Limited, the Office of Fair Trading (OFT) decided that online media was not “part of the same relevant market as local newspapers”. The overall assessment took into account the competitive constraint that online and other media impose on local newspapers, and concluded that these cannot be considered to be close competitors.⁹⁵

The German law firm *Luther* published a review of the assessment by the Federal Cartel Office (Bundeskartellamt, BKartA) of 10 merger cases in the German newspaper industry between 2009 and 2010.⁹⁶ According to the review, the German competition authority recognises two separate markets for newspapers: the reader market and the advertising market. In nine out of the 10 cases reviewed, the relevant market was

reasonable substitute to print newspapers. Moreover, they also suggested that this was probably going to change in the future because digital devices are the closest products to print newspapers.

⁹⁰ Case No COMP/M.5932.

⁹¹ Case No COMP/M.2978 LAGARDERE / NATEXIS / VUP.

⁹² This argument was raised by DG COMP during the investigation of the merger, but in relation to textbooks.

⁹³ Case No COMP/M.6789 BERTELSMANN / PEARSON / PENGUIN RANDOM HOUSE.

⁹⁴ The study also revealed “strong indications that publishing rights for English language print books and e-books belong to the same product market” from the supply point of view, since it found that publishers offer production services to authors for both types of books, and those acquiring publishing rights for e-books, acquire them together with rights to the printed product (in 90 per cent of cases).

⁹⁵ OFT (2012) ‘OFT clears Nottingham newspapers merger’, *Press Release 45/12*, 1 June 2012.

⁹⁶ *Luther* (2011) ‘Zeitungsfusionen in Deutschland: Zur Praxis des Bundeskartellamts in den Jahren 2009 und 2010’ by Dr Helmut Janssen.



defined as the “reader market for subscriptions to daily newspapers reporting on local and regional matters”,⁹⁷ and this excluded publications available on the internet because it is believed that the internet does not represent a competitive pressure on the readers’ market. This also includes local online information portals as readers do not consider them to be substitutes to the classic local daily newspaper.

In the merger between Godó, CCC and Planeta (2005), the Spanish competition authority excluded the publication of digital editions of newspapers on the internet from the relevant market (other activities such as distribution of press and publication of weekly supplements were also excluded).⁹⁸

In a merger investigation in the German publishing sector (1999),⁹⁹ specifically in the markets for specialised (academic) publications and professional publications, DG COMP recognises the development of new distribution means for publications, in electronic form through CD-ROMs and through online websites, which it states is regarded as a separated medium of distribution by market participants. Further, it distinguishes this from another service provided online which enables the search through the contents of several publishers. DG COMP does not conclude on these issues when defining the market.

Also in a later merger investigation (2003)¹⁰⁰ in the same markets, DG COMP considers the relationship between print and online distribution of journals, as well as the substitutability between books and CD-ROMs. It finds both to be interchangeable, specifically stating that “books and CD-ROMs are in one market since they provide the same content.” The market definition in this respect is left open as it would not affect the outcome of the investigation.

In the merger procedure of UK-based APW, GMG and EMAP (2008),¹⁰¹ DG COMP did not consider alternatives to publication on print when defining the relevant readers’ market. However, in defining the market for advertising space, which it finds constitutes a separate market, it does include the sale of online advertising space.

In summary, we have investigated 10 documents covering a total of 19 cases (Table 5.2). In 14 situations, the competition authority provided a clear definition of the relevant market including a decision on the relevant means of publication. In the remaining situations, no definition was provided either because it was not necessary (as the outcome of the investigation would have been the same, the definition was left open) and/or because the investigation was inconclusive. The main conclusions are the following:

- The e-books market investigation by the USDOJ was the only case in which the product market for e-books was clearly separated from publications on physical means (the Lagardere/Natexis/VUP case only differentiates the print and multimedia markets). In another 3 cases the market definition was not conclusive or left open

⁹⁷ Other types of printed media were also excluded from the definition (street-selling newspapers, nationwide daily newspapers, advertisement sheets, city magazine local magazine scene, and community leaves).

⁹⁸ Dirección General de Defensa de la Competencia (2005) ‘Informe del Servicio de Defensa de la Competencia’ N- 05004 GODÓ/PLANETA/CCC, 17 January 2005.

⁹⁹ Case No COMP/M.1377 BERTELSMANN / WISSENSCHAFTSVERLAG SPRINGER.

¹⁰⁰ Case No COMP/M.3197 CANDOVER / CINVEN / BERTELSMANN-SPRINGER.

¹⁰¹ Case No COMP/M.5051.



but investigations in those cases recognised a differential feature of electronic books.

- In the 12 merger investigations on newspapers and periodicals, the investigation by competition authorities concluded that the online newspaper sub-market was not part of the relevant product market.

Table 5.2: Distinction between print and electronic relevant markets (previous cases)

	Sector	Case	Auth.	Rel. Mkt.	Note
Books	Books	Bertelsmann / Pearson / Penguin Random House	DG COMP (2013)	O	Evidence of no consumer-substitutability between books and e-books
	Large reference	Lagardere / Natexis / VUP	DG COMP (2004)	Paper / multimedia	Multimedia (CD-ROM, online, software) and print separate markets
	Encyclopaedias	Lagardere / Natexis / VUP	DG COMP (2004)	O	Online and computerised versions evaluated
	E-books	U.S. v. Apple, Inc., <i>et al.</i>	USDOJ (2013)	E-books	Relevant market is e-books only
	Books	Bertelsmann / Wissenschaftsverlag Springer	DG COMP (1999)	?	Recognition of electronic (CD-ROM) and online distribution means
Newspapers/Periodicals	Magazines	Bertelsmann / Wissenschaftsverlag Springer	DG COMP (1999)	?	Recognition of electronic (CD-ROM) and online distribution means
	Newspapers, Magazines	APW, GMG and EMAP	DG COMP (2008)	?	Online means considered for advertising space
	Newspapers	10 merger cases	BKartA (2009/10)	Print	Online media not part of relevant market
	Newspapers	News Corp / BskyB	DG COMP (2010)	O	Substitutability between print and (paid-for) online news and digital
	Newspapers	Northcliffe Media / Topper Newspapers	OFT (2012)	?	Online media not part of relevant market
	Journals	Candover / Cinven / Bertelsmann-Springer	DG COMP (2003)	O	Inter-changeability was recognised between printed and online versions
	Newspapers	Godó/ CCC /Planeta	CNC (2005)	Print	Separate for newspaper and weekly supplements. Online media not part of relevant market

Note: "?" Not conclusive, "O" Left open.

5.3 Substitutability in consumer responses

This section provides an analysis of the consumer responses from the Member State consumer survey data from this study.¹⁰²

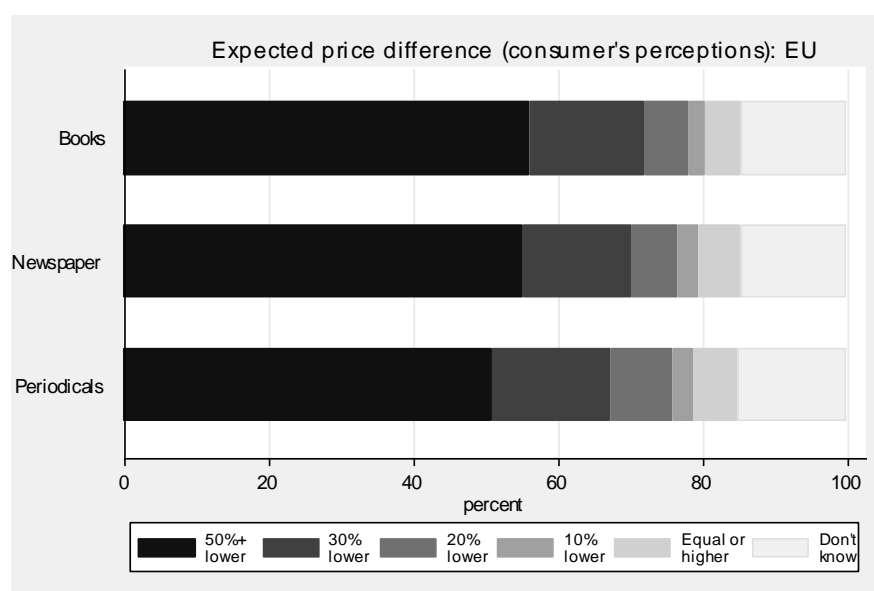
We first look at the substitutability of products by analysing the perceived price difference between printed and digital products (Figure 5.1). More than 70% of all respondents in the consumer survey thought the price of online/electronic publications should in general be less compared to the price of the paper version of the same item, with an overwhelming majority of respondents (half or more of all respondents) believing that the price of digital products should be at least 50% less than the comparable printed product. This percentage is highest for books and slightly lower

¹⁰² Using data from the 24 surveyed countries: AT, BE, BG, CZ, DE, DK, EE, EL, ES, FI, FR, HU, IE, IT, LT, LV, NL, PL, PT, RO, SE, SI, SK, and UK.



for newspapers and periodicals; the difference for newspapers and periodicals might be due to the additional functionalities and features online and digital contents are able to offer, which would make consumers believe the price difference between both means should be lower. Only 5% of the respondents perceived that electronic books should be the same or more expensive than the printed version.

Figure 5.1: Analysis perceived price difference (consumer data EU)



Note: Results of Question 11. What do you think the price of online/electronic publications should be compared to the price of the paper version of the same item? For the following items please state if the price of the online/electronic version should be lower or higher in price compared to a printed version: A digital book (online/electronic), A newspaper (online/electronic), A magazine (online/electronic): "The price should be 50% lower or more", "The price should be 30% lower", "The price should be 20% lower", "The price should be 10% lower", "The price should be the same", "The price should be 10% higher", "The price should be 20% higher", "The price should be 30% higher", "The price should be 50% higher or more", "Do not know".

Source: Europe Economics analysis of consumer survey from this report. Disaggregated results also presented in Annex A.

The evidence from the consumers' perceived price differences (between print and digital) suggests that most people do not consider digital publications as substitutes for printed publications. As their willingness to pay is different it is sensible to conclude that the characteristics they attribute to each type are different. This is now explored further.

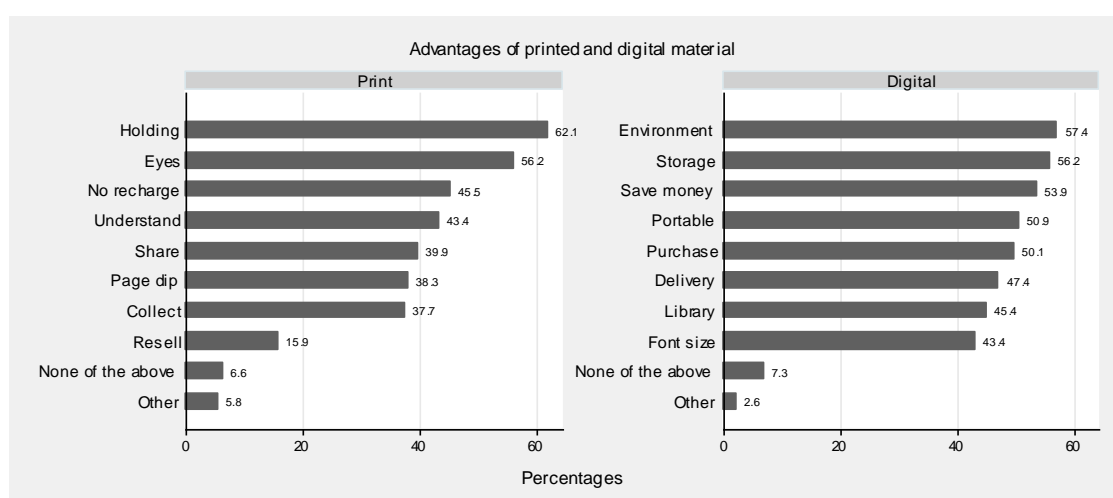
Our survey also asked respondents to qualify the attributes of both types of publications. We found that printed publications have very different attributes that appeal to consumers when compared to digital publications (Figure 5.2).

- The left panel shows that more than 60% of respondents consider the physical experience of "holding" a printed publication as an advantage over the digital version. Respondents also consider print versions are "easier for the eyes" and hence, "easier to focus and understand when reading". Other widely agreed comparative advantages of the print versions include the "no need for recharge", the ability to collect items and to share with/loan to others, and the "ability to dip into the printed material at any page".



- Quite differently, on the right panel, we find that more than 40% of all respondents think that digital publications have the advantage of supporting the environment, requiring less storage space and being cheaper and portable. People also appreciate the ability to purchase digital publications at any time and get immediate delivery which printed publications do not offer. The convenience of having a mobile library and being able to resize fonts for easy reading were also considered as positive attributes of digital materials over the printed ones by more than 40% of the respondents.

Figure 5.2: Comparative advantages of different formats (consumer data EU)



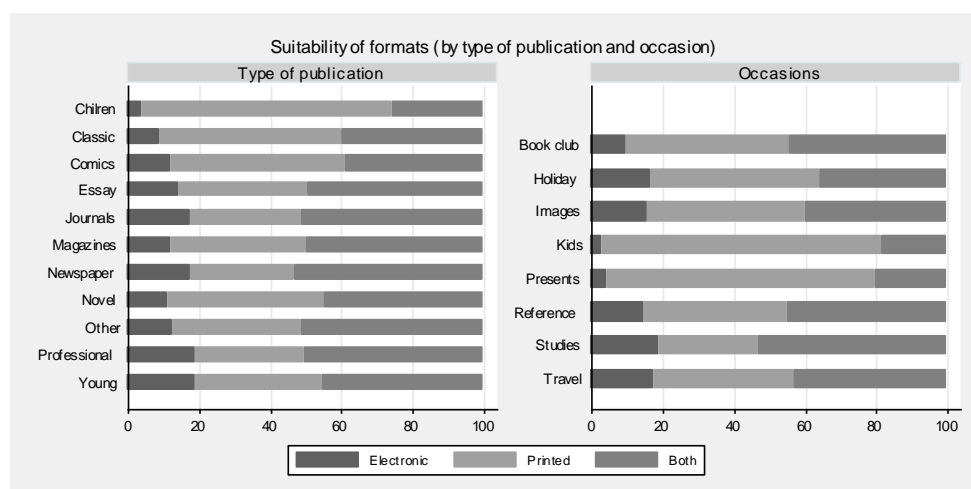
Note: Results of Questions 12 and 13. Question 12: In your opinion what are the advantages of printed material over electronic material? Please select all that apply: "I can collect items", "I can dip into the printed material at any page", "I can resell items", "It is easier for me to understand and concentrate when reading printed material", "I can share items with/ loan items to others", "I do not need to charge a device to read it", "I find it easier to read printed material than reading on a screen", "I prefer the physical experience of holding a book/newspaper/magazine", "Other", "None of the above". Question 13: In your opinion what are the advantages of electronic material over printed material? Please select all that apply: "I have a library at my fingertips", "Electronic materials require less storage space", "I can get immediate delivery", "I can resize fonts for easy reading", "I can support the environment (no waste)", "Electronic materials are portable/less bulky", "I can purchase a book/newspaper/magazine at any time (24/7)", "I can save money" "Other", "None of the above".

Source: Europe Economics analysis of consumer survey from this report. Disaggregated results also presented in Annex A.

The consumer survey asked for the suitability of formats for different types of contents and occasions. The results reveal that although for most types of contents or occasions both formats are considered suitable (40% of the responses consider both formats as suitable) there is a strong preference for printed publications when it comes to children's books/reading books with children and when giving books as presents (Figure 5.3). This is in line with our previous findings, and confirms that there are certain features of printed publications that cannot be substituted with digital formats.



Figure 5.3: Analysis of Suitability formats (consumer data EU)



Note: Results of Questions 14 and 15. Question 14: In your opinion, are there certain types of books that are better suited to being in either electronic or printed format, or are they equally suited to both formats? Electronic/Printed/Both formats: "Comics/Manga", "A classic novel (fiction)", "Scientific, technical or professional books (law, dictionaries, computing)", "Newspapers", "Scholarly journals", "Other books (home, travel, cooking)", "A recent novel (fiction)", "Magazines", "Children's books", "Young reader short novel", "Essay/non-fiction books (politics, philosophy, history, etc)". Question 15: Occasions' Impact on the Preferred Format Chosen by Consumers. Are there certain occasions where you prefer either an electronic or printed format, or are these occasions equally suited to both formats? Electronic/Printed/Both formats: "For a travel/tour guide", "For my studies or work", "Being part of a book club", "For holiday reading", "For reading with children", "Where images/illustrations are being viewed (art guide)", "For reference publications (cookery book or car maintenance)", "For presents or gifts".

Source: Europe Economics analysis of consumer survey from this report. Disaggregated results also presented in Annex A.

Another way to measure the substitutability of formats is to look at the migration patterns of purchasing by consumers when facing simulated price changes. The total sample of respondents buying the relevant type of products considered (several types of books, newspapers and magazines) has been calculated for different Member States and modes of delivery: print and digital (results for each Member State are provided in Annex A). The EU-average results showing the proportion of respondents that "Would definitely buy" the publication under the initial set of given prices are presented in Figure 5.4 in comparison with simulated increases and decreases in prices of print and digital publications (of 10% and 20%):

- The left panel shows shares for three different scenarios: the status quo scenario (showing initial prices provided) and two equalising-up scenarios referring, respectively, to a 10% increase and a 20% increase in the price of printed materials.
- The right panel shows shares for three different scenarios: the status quo scenario (showing initial prices provided) and two equalising-down scenarios referring, respectively, to a 10% decrease and a 20% decrease in the price of digital materials.

The analysis of the change in the shares under the different scenarios provides an indication of the proportion of people changing the consumption intention of one good (print or digital) as a result of a price change (increase or decrease) and the



proportion of people migrating to buy the alternative good (digital or print) as a result of such change.

Looking at the graphs we first notice that, across all three product categories, the shares for the initial situation are very similar between the right and left panels. Recalling that respondents were randomly split into two separate groups (one being faced with an increase in the price of printed material, and one with a decrease in the price of digital material), the small magnitude of such differences provides reassurance that two samples are comparable.

Second, the left panel indicates that, as one would expect, the consumption share for printed material decreases when prices of printed material increase, and it does more so with a greater price increase (the drop in consumption share is larger for a 20% price increase compared to a 10% price increase). Similarly, the right panel indicates that the share of consumption for digital material increases as the price of digital material decreases, and a higher drop in prices (20% as opposed to 10%) leads to larger rise in consumption. The findings are consistent with our expectations: the demand of any product decreases when the price of that product increases (it can equivalently be said that demand increases as price decreases) so that the own-price elasticity is always negative. The findings will be re-enforced in the next subsection when we provide elasticity estimates.

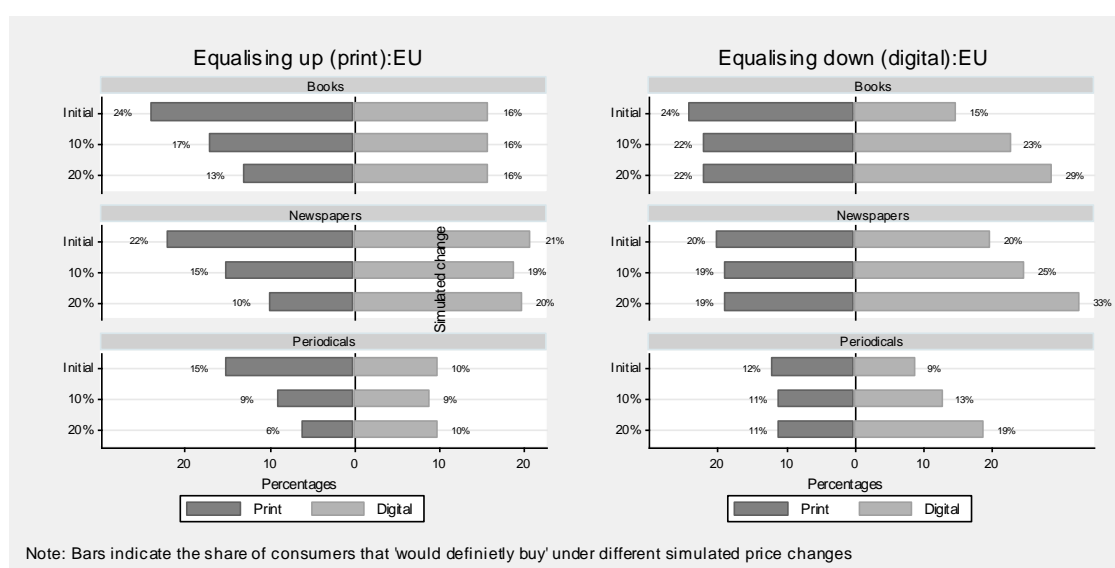
The results also show interesting insights into the degree of substitutability between print and digital materials (or migration from one form to another). The left panel shows that if the price of printed material increases (as a result of equalising up), the extent of migration towards digital material is almost non-existent: across the three products considered, drops in the consumption of printed material (represented by the shortening of the horizontal darker grey bars) are not compensated by any increase in the consumption of digital material. In fact the lighter grey bars remain unchanged (some becoming even shorter which we attribute to measurement errors and statistically insignificant differences, given the small size of such changes). This evidence suggests that an increase in the price of printed material, whilst causing a decrease in the consumption of printed products, would have a limited impact on the demand of the digital version of the corresponding products.

The situation changes slightly in the case of a price decrease of digital material (equalising down) in the right panel. Price reductions would lead to a significant increase in the consumption of digital products (own-price effect) but in this case we observe some consistent migration away from all forms of printed materials. So it seems that a decrease in the price of digital publications would make consumers shift away from formats in print, although the magnitude of such migration is small.

The extent to which such migrations take place is further detailed in the next subsection presenting the estimated values of cross-price elasticities.



Figure 5.4: Analysis substitutability: percentage of respondents that “Would definitely buy” under different simulated changes (survey data EU)



5.4 Estimates based on consumer responses

Further insights of the substitutability and the migration patterns can be gained by using consumer responses to quantify own-price and cross-price elasticities.

As a first approach we used the equation developed in (1) and (2) for the calculation of own- and cross-price elasticities (see section 2). As consumer responses refer to two simulated price changes (10% and 20%) two elasticities were estimated in each equalising-up and equalising-down scenario. Given the differences encountered, the elasticity estimate was calculated as an average of the values obtained from the two price changes.

As a second approach we used a binary choice model to explain consumer responses under the initial given prices and simulated changes. We hence assume a probit specification to model the probability, $\Pr(\cdot)$, of definitely buying a publication, as follows:

$$\Pr(y = 1|x) = \phi(x'\beta),$$

where y is binary taking two values (1 for “Would definitely buy” and 0 for “Would definitely not buy”) and x is a vector of regressors which include a constant term and a variable with the simulated percent changes $\{-20, -10, 0, 10, 20\}$. The function $\phi(\cdot)$ represents the cumulative distribution function of the standard normal and β is the parameter vector to be estimated. Maximum likelihood methods are used to estimate the probit model.¹⁰³

¹⁰³ As probit models are implemented in almost all statistical packages the only difficulty here is to note that the regressors are already expressed in percent, so changes in unitary values should be used when calculating the marginal effects. These are the values used to estimate the elasticities.



The estimates using the equation formulae (1 and 2) and those from the probit model yielded similar results. One difference was that the probit model tends to smooth the elasticity values, which in the equation formulae were more extreme. We prefer to use the probit model as this allows straightforward calculation of confidence intervals (and statistical inference) and it also facilitates the measurement of the impacts of including additional regressors (as we will see in the next sub-sections).

Own- and cross-price elasticities have been calculated using Member States' pooled data.¹⁰⁴ Results are shown un-weighted just for illustrative purposes (Table 5.3); estimates for each Member States are shown further below and in Annex A. The own-price elasticities for print and digital are relatively constant across the three product categories, and fall around -3.2 for books and -4.5 for periodicals. These are within a plausible range and only slightly higher values compared to the ones provided by the literature (the most extreme estimates found were -2.9 and -6.2 for books and magazines, respectively). Our estimates for newspapers elasticities lie between -2.3 and -3.7, which are higher than the values found in the literature (these are found to be mainly inelastic).

The cross-price elasticities associated with an increase in the price of printed books and printed periodicals (equalising up) are not statistically different from zero. However, the cross-price elasticities associated with a decrease in the price of e-books and digital periodicals (equalising down) are positive although of a very small magnitude. This is again suggestive of some sort of asymmetry of reaction to consumption, which is an interesting finding of this study: migration away from printed and towards digital material is more likely to result from a decrease in the price of digital than from an increase in the price of print. In other words, an equalising-up scenario is likely to reduce the consumption of publications in print format but will have no effect on the consumption of digital books or periodicals. On the other hand, equalising down will increase the consumption of digital publications and will also reduce the consumption of books and periodicals in print.

The asymmetry of response is different in the case of newspapers. The cross-price elasticity associated to a decrease in the price of digital newspaper (equalising down) is positive (0.38), confirming that consumers tend to perceive the digital means as a substitute of the traditional printed publications. However, the cross-price elasticity associated with an increase in the price of printed newspaper (equalising up) is negative (-0.44) and suggests that consumers of printed news regard the different means as complements, so that an increase in the price of print newspapers also pulls down the consumption of digital newspapers. This last finding is in line with evidence provided by stakeholders who confirmed to us that news consumers expect to be able to access newspapers content through different means depending on the location and time of the day. The possibility for real-time updates may also confer additional features of news digitally published, and this may help explain why print and digital services are viewed as complementary products by consumers.¹⁰⁵

¹⁰⁴ Elasticities are not constant in the probit model. We are reporting the marginal effects evaluated at 0, so that elasticities show an increase of prices of 1% from the initial situation (no price change).

¹⁰⁵ This feature is important in the newspaper market, where the time of access to information matters, while is not relevant in the book market.



Table 5.3: Elasticity estimates (pooled regressions): own- and cross-price elasticities (in squared brackets)

	Medium	Equalising up/Print	Equalising down/Digital
Books	Print	-3.14*	[0.50*]
	Digital	[-0.06]	-3.26*
Newspapers	Print	-3.73*	[0.38*]
	Digital	[-0.44*]	-2.34*
Periodicals	Print	-4.54*	[0.68*]
	Digital	[-0.08]	-4.50*

Note: * Statistically significant at 5% level or better.

Source: Europe Economics analysis of consumer survey. Disaggregated results also presented in Annex A.

5.4.1 Analysis at the Member State level

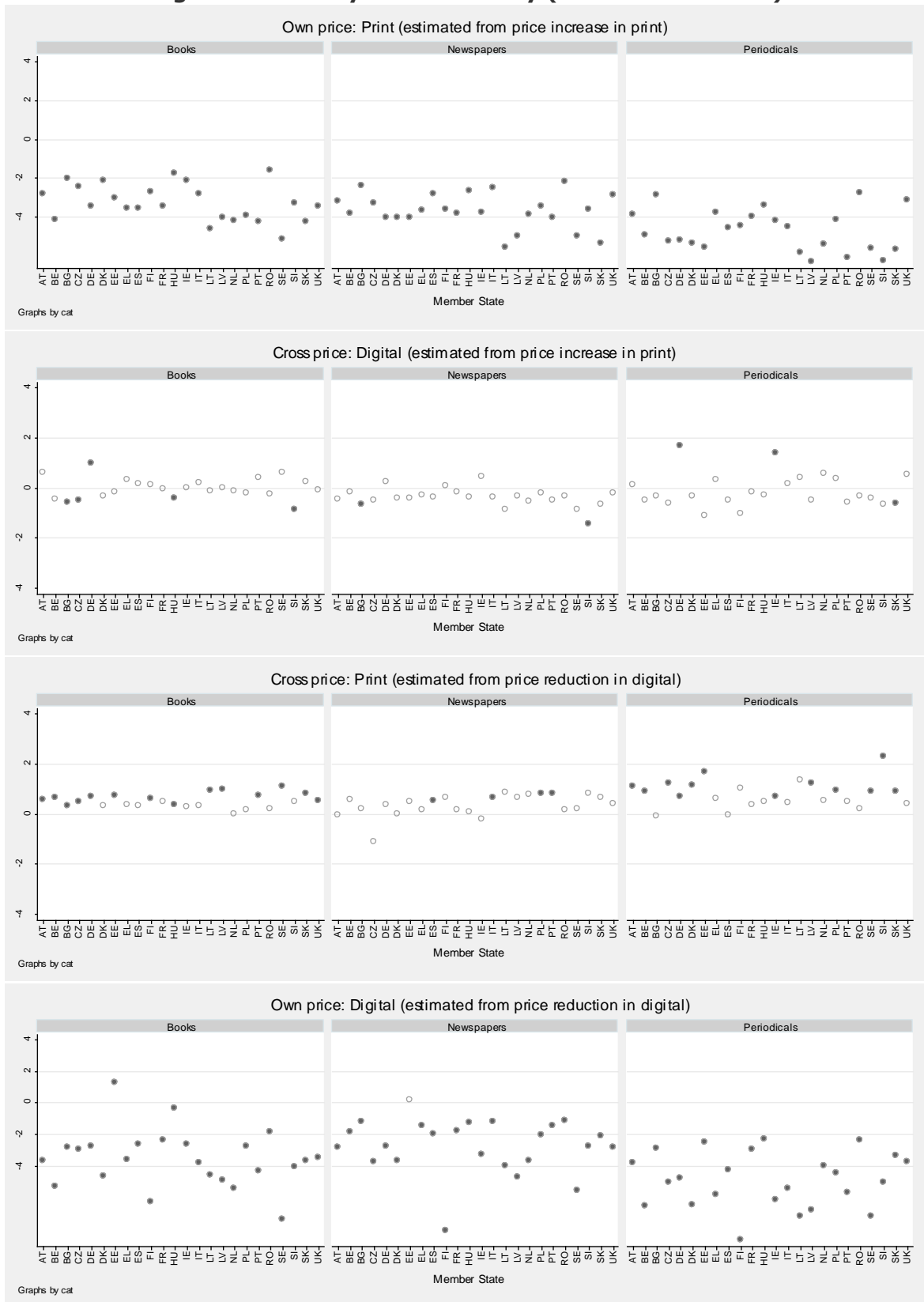
The own-price and cross-price elasticities estimates for each Member State show some additional findings. Estimates are shown in Figure 5.5 marking (with white circles) those estimates that were not significant at a 10% level.

Own-price elasticity estimates are in general negative in the print market and show significant disparities across Member States. In the digital market, own-price elasticity estimates also present significant discrepancies even showing some positive values for digital books and newspapers: in EE the own-price elasticity is positive for e-books (and statistically significant) and digital newspapers (not significant). A substantial difference is also exhibited by FI on the other side of the spectrum showing significantly negative estimates (especially for periodicals and newspapers) and by SE (books), when compared to the rest of the Member States. We do not have an explanation for such discrepancies but we note that in all these Member States responses are based on individuals that had very low access to digital reader devices, so the disparity could come from the small sample used in the estimation (this is explored further below).

Cross-price elasticities show insignificant estimates in a number of cases. This can be explained by the large variation in the responses given by consumers compared to the smaller sample size used for each Member State. In any case, the asymmetric pattern observed in the pooled regressions is maintained: cross-price elasticities in digital products are mainly insignificant (not different from zero) and are typically positive for print products, albeit of a small magnitude. Unlike the pooled estimates, a significant part of our country cross-price elasticity estimates for print is insignificant, and this may be due to the limited size of samples used in the estimates at the Member State level.



Figure 5.5: Analysis of Elasticity (consumer data EU)



Source: Europe Economics' analysis of survey data.



5.4.2 Socio-economic determinants

The relationship of the estimates to socio-economic determinants is explored in this sub-section. In particular, we look at differences in the elasticities for different compositions of the households, income levels and ownership/accessibility to reading electronic devices. These are all characteristics that we were able to gather from the consumer survey in different questions:

- Survey respondents indicated the number of children in the ranges of 0-6, 7-13 and 14-18 years of age.
- We also collected information on the income levels of each household, each constructed following the income deciles and percentiles reported in Eurostat (which were occasionally modified to give a better representation of the social strata following guidance from native researchers in our team). As a result, the different groups are a good indication of the social status of households in the different countries.
- Information on respondents' access to reading devices was also collected, including e-readers (Kindle, Nook, Kobo or other brands), phones (including iPhone, iPod, Android and others) and tablets.

Each of the socio-economic characteristics was transformed into a dummy variable $\{0,1\}$ where a 1 was assigned in cases with:

- households with any children under the age of 7;
- households with any children in the range of 7-13 years;
- households with any children in the range of 14-18 years;
- households with income declared within the first three deciles;
- households with income declared within deciles 4 to 7;
- respondent having access to e-reader;
- respondent having access to phone; and
- respondent having access to tablet.

Because we want to see the different reaction to prices, the dummies were interacted with the variable of the simulated percent changes.

Each of the elasticities was estimated in comparison with a baseline case, which by construction is indicative of households with no children, high income and no access to any of the digital devices. The baseline also includes the respondents which did not provide an income answer (we believe this would create the smallest bias as non-respondents typically tend to be high-income households).

A model including all the socio-economic determinants was estimated for the pooled sample. The estimated parameters are provided in Figure 5.6, differentiating between the values of the baseline, the household composition, income and access to digital devices. The elasticities for each of the dummy categories are calculated after adding the baseline elasticity. Elasticities are provided in bold circles, insignificant differences (in relation to the baseline) are reported as white circles.

Looking at the composition of the household, the results show that the elasticities are significantly different in the following ways.



- The own-price absolute elasticity of print books is smaller for respondents with children, which suggests that expenditure in this category would change less as a result of a price increase of print books. The own-price elasticity of digital books does not appear very different from zero for different household compositions, which indicates that households with children are not price sensitive to this type of publications.
- A remarkable dip is observed for people with children less than 7 years old in the case of the cross-price elasticity of print books, which can be interpreted as less substitutability between means of publications in the case of households with children.
- There are smaller differences in the effects of household composition in all elasticities of newspapers and periodicals, with no clear pattern emerging.

The results of elasticities according to different income group show the following:

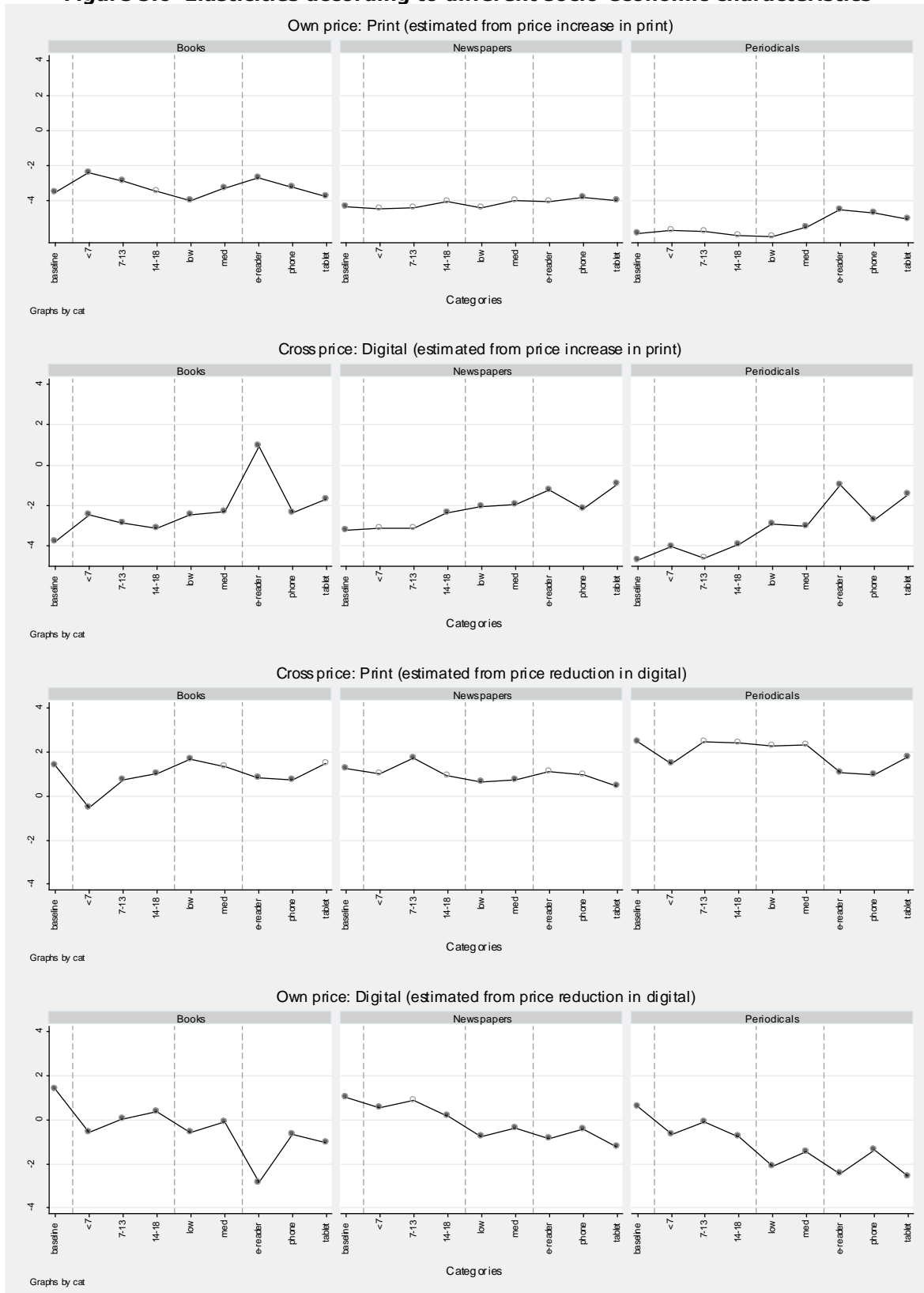
- Low- and medium-income groups are more own-price elastic in the digital market when compared to the high income group, so that changes in prices in any digital publication is likely to affect more low- and medium-income households (no significant differences are found in the print sector).
- Medium-income groups are also more willing to substitute digital for print (compared to high-income households) when the price of print publications increases, and this can be observed again in all three categories.

Consumer responses to the change in the prices of publications are different for individuals that have access to electronic reading devices.

- Own-price absolute elasticities for digital publications are generally greater for consumers with access to any device.
- In the case of e-books the elasticity is of the order of -3 when respondents have access to e-reading devices (compared to smaller absolute values in cases where respondents have access to other devices). The difference in the case of e-books can be possibly attributed to the suitability of e-readers for digital reading (compared to other devices not designed especially for e-reading) or by the fact that those owning an e-reader are already consumers which are more sensitive to changes in the prices of digital publications (this would be shown by the fact that they have pursued an alternative medium of reading books).
- Cross-price elasticities for digital books are positive for individuals with e-book readers, which shows that those consumers will tend to buy more digital books if the price of print books increases. There are no major differences in the estimated cross-price elasticities for print books for consumers with different access to reading devices, which means that consumers with and without device are not reacting differently to a price decrease.
- The reaction to price in the consumption of newspapers and periodicals seems to differ mainly for individuals with e-readers or tablets when deciding on digital products. Those with access to these devices seem to be more elastic to the price of those digital publications, and are also more likely to switch to digital as a result of an increase in the price of print publications.



Figure 5.6 Elasticities according to different socio-economic characteristics



Note: White circles denote coefficients not significant at 10% level.

Source: Europe Economics' analysis of survey data.



The differences observed in the elasticities for individuals with access to different digital devices can be used to explain further the cross-price elasticities at the Member State level. In Figure 5.7 we report the values of the elasticities of the baseline estimate compared with access to an electronic reading device. For Books we are comparing the baseline to the estimate obtained for respondents with access to an e-book reader. For Newspapers and Periodicals we are reporting the baseline and the elasticities for respondents with access to an electronic tablet.

Although no significant differences in the two estimates are observed in the case of print products across Member States, we do see a clear difference between the baseline and the e-device used in the case of digital products. Own-price absolute elasticities are larger for individuals having access to an e-device reader, and we also observe larger values for cross price elasticities. This is consistent with our expectations, and shows that individuals with e-devices will react more rapidly when the prices of digital products change. We believe that the difference with individuals without an e-device can be explained by the barrier that the e-device is causing to consumers. This could be in the form of the price of purchasing the device or the novelty and learning costs of using such devices. However, once the device is purchased, consumers will be more elastic in changes of prices and this will also have implications on the cross-substitutability effects as consumers will be more ready to migrate away from print publications if these become more expensive.

The analysis suggests some significant differences in consumer reactions (elasticities) depending on the accessibility to e-devices. This also provides some indication that the elasticities may change in the medium term depending on the increased accessibility of consumers to e-devices. We explore this issue further in the next subsection.



Figure 5.7 Elasticity difference according to different access to e-devices



Source: Europe Economics' analysis of survey data.



5.4.3 Technology maturity and trends in substitutability

The analysis so far has considered elasticities in one particular moment in time, which is related to the exact time the survey was conducted. The results are hence static and this is because of the constraints we imposed in the survey exercise: expanding the number of questions (for example, by asking respondents to reconsider their answers in different fictional moments of time) would have been at risk of limiting the comprehension of the survey and yielding unrealistic answers.

The limitation of the static approach to analysis is particularly problematic in the current case due to the rapidly evolving nature of the industry. The publishing sector is going through rapid changes also fuelled by fast technical developments, changing consumer preferences and the radical transformation of business models (as will be seen in following subsections).

This means that as the market for digital publications is still in its initial phase in most countries, the reaction of readers is likely to be very different when the new digital products and platforms mature and spread out amongst the population; a trend that is likely to increase in the next stages of the development of the products as prices of publications and reading supports start to decline.

In such cases it is likely that the demand for the digital products will increase and the migration habits from print speed up, as soon as consumers become aware of any new experience and enjoyment the new technologies are likely to bring, something that is likely to evolve in tandem with an improvement in personal income.¹⁰⁶

The results of our analysis of elasticities show some very different findings by Member State and access to e-devices (previous Figure 5.7) and it would be interesting to see how much these are influenced in each country by the maturity of the new technologies or accessibility to the digital devices. This could be used to demonstrate how consumers' substitutability (i.e. elasticities) is likely to evolve with time.

The consumer survey collected data on the respondents' access to reading devices (e-readers, phones and tablets) and we use these responses as a proxy of the penetration rate¹⁰⁷ of digital reading platforms in the households in the different Member States (as before, we use the responses of access to an e-book reader for Books and access to tablets for newspapers and periodicals). By looking together at the elasticities and penetration rates across Member States we can understand how much the maturity of the market is likely to impact on consumer responsiveness. This is done using scatter plots of the penetration rates (horizontal axis) and the elasticity estimates (vertical axis) of the different Member States (Figure 5.8). A regression line is also plotted which is flat in most cases, indicating no linear relationship between the two analysed variables. The following key points are worth noticing:

- There is some dispersion in the own-price elasticities in the market for print products, but this variation cannot be attributed to a difference in the penetration rates of e-devices. This is not surprising and it shows that the differences in elasticities may be driven by idiosyncratic factors in each Member State, but that these are unlikely to change in the medium to long term when e-devices become more wide-spread.

¹⁰⁶ We are grateful to officials from DG CNECT for pointing this out.

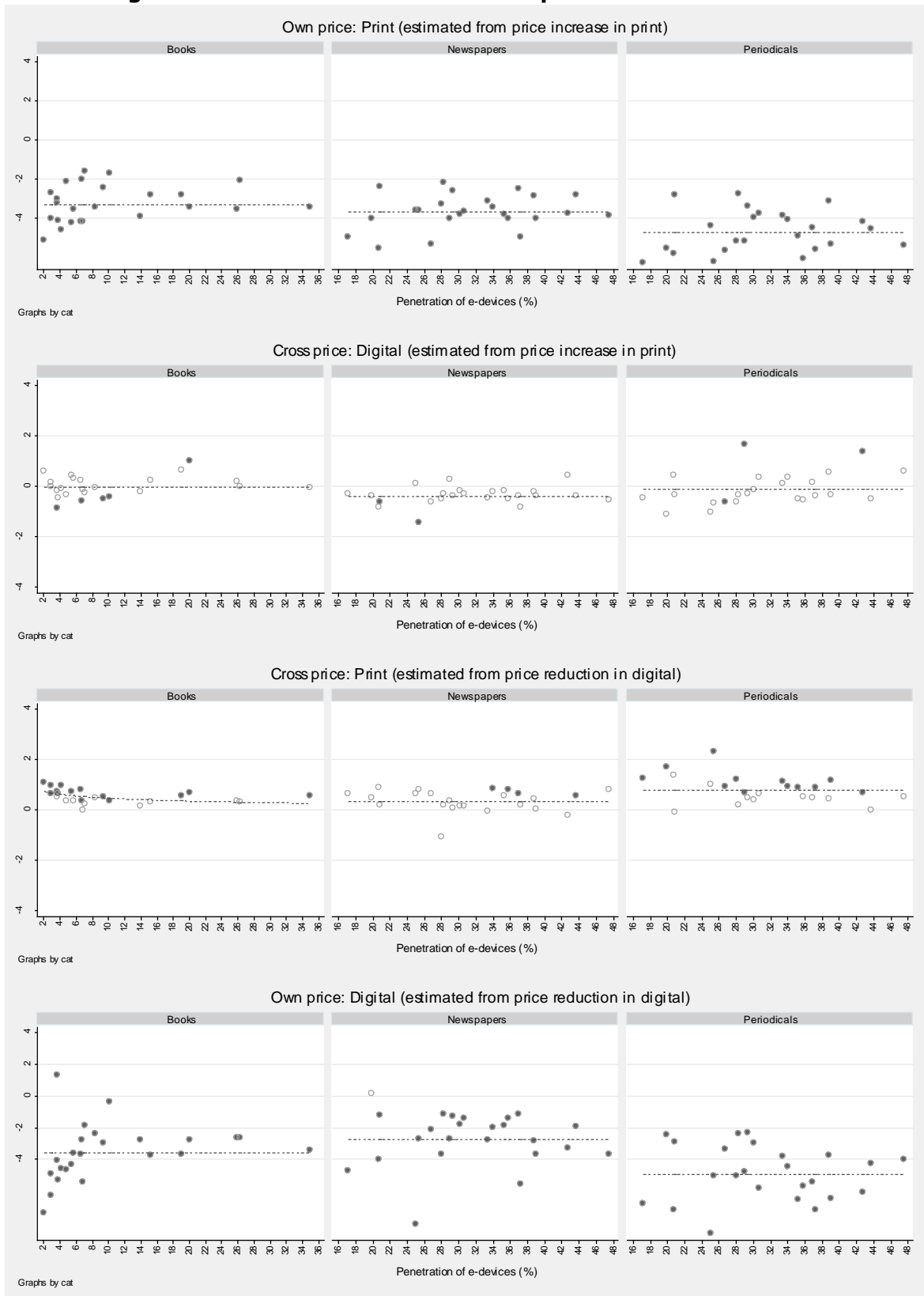
¹⁰⁷ A term we use to describe the number of e-devices users as a percentage of the analysed population.



- Cross-price elasticities also show dispersed values (in many cases not statistically significant as we had seen previously) but there is no relationship between the estimates and take-up of e-devices.
- There is also dispersion in the values of own-price elasticities for digital products. In the case of digital books the dispersion of the estimates is correlated with the penetration of e-readers in each of the markets analysed. Hence, own-price elasticities range between +2 and -6 but they seem to stabilise at around -4 in Member States where e-readers were available to 10% or more of respondents. The results show two interesting features. First, they show a high level of uncertainty around the elasticities estimated in Member States where respondents did not have access to e-readers. This can be explained by the low number of respondents in such countries which may be aware of and familiar with digital books (something which does not happen in the countries where e-readers are more widespread). Second, they also point to a different evolution of consumer responsiveness to price as the markets for e-readers mature.
- The dispersion of own-price elasticities is more constant for newspapers and periodicals, showing statistically significant values around an average of -2 and -4.5. There is no relationship with the different accessibility to tablets across countries.



Figure 5.8 Elasticities and trends in penetration of e-devices



Note: White circles denote coefficients not significant at 10% level.

Source: Europe Economics' analysis of survey data.



5.4.4 Summary of elasticity estimates

In summary, we have estimated the elasticity parameters in different Member States for the three different types of products, and according to an equalising-up and equalising-down scenario. We have explored how these estimates change according to the socio-economic characteristics of the respondents and their accessibility to electronic reading devices.

We have shown the dispersion in the own-price elasticities in the market for print products, but concluded that this variation cannot be attributed to a difference in the penetration rates of e-devices. Our estimates of medium-term elasticities are the ones obtained directly from each of the Member States' estimates.

Cross-price elasticities, on the other hand, show dispersed values but there is no relationship between the estimates and take-up of e-devices. Given the uncertainty around these parameters we believe it is safe to use the sample average from the pooled regression as a reliable estimate.

There is also dispersion in the values of own-price elasticities for digital products. In the case of digital books the dispersion of the estimates is correlated with the penetration of e-readers in each of the analysed markets. There is also dispersion in the estimates of newspapers and periodicals, but these are unrelated to the accessibility to tablets across countries. In order to give a robust measure and to account for the likely evolution of consumer responsiveness in the medium to long term, it seems appropriate to use the pooled regression average for own-price elasticities of digital products. The pooled averages are closer to the values obtained in Member States with higher penetration, and this is implicitly assuming that consumer responsiveness in different Member States should resemble those countries where penetration is higher (in particular the UK) as accessibility to electronic devices increases. This is a plausible assumption for the medium to long term.

The range of elasticities obtained after all previous considerations are provided in Table 5.4. These are the estimates we use in our analysis of impacts.

Table 5.4: Elasticity estimates – medium-term estimates: own- and cross-price elasticities (in squared brackets)

	Medium	Equalising up/Print	Equalising down/Digital
Books	Print	-5.17r* – -1.63r*	[0.50p*]
	Digital	[0p]	-3.26p*
Newspapers	Print	-5.58r* – -2.21r*	[0.38p*]
	Digital	[-0.44p*]	-2.34p*
Periodicals	Print	-6.33r* – -2.80r*	[0.68p*]
	Digital	[0p]	-4.50p*

Note: * Statistically significant at 5% level or better. "r" denotes estimates from MS regressions. "p" denotes average estimates from pooled regression.

Source: Europe Economics analysis of consumer survey. Disaggregated results also presented in Annex A.



5.5 Summary and conclusions on substitutability

The analysis of substitutability presented in this section shows different findings which we will now summarise.

The academic literature studying the relationship between print and digital periodical publications notes the likely cannibalisation of print publications by digital media, but does not offer clear conclusions on this effect as it is argued that websites can also have a positive impact in encouraging the subscriptions of publications on print.

The review also found that books are price-elastic and newspapers are generally price-inelastic. The results are mixed for periodicals. Other demographic factors such as household composition, income, sex, age and work characteristics also affect consumers' buying decisions of both print and digital publications.

The review of the market definitions in competition cases has shown one case which delimits the market for e-books as clearly separated from publications on physical means. The conclusions are based on three technical features of e-books (storability, compatibility with electronic devices, and accessibility) and the industry's perception of e-books belonging to a separate market segment. In another three cases the market definition was not conclusive or left open, but investigations in those cases recognised a differential feature of electronic books. The merger investigations on newspapers also concluded that the online market was a separate market.

Our analysis of the consumer survey shows consumers' perceptions of the price differences between print and digital. Consumers' valuations of the attributes of the different supports also indicate very distinct features of print and digital products.

- More than half of respondents believed that the price of digital products should be at least 50% less than the comparable printed products.
- A large proportion of respondents also found that printed and digital publications have very different appealing attributes. Printed material has advantages in terms of being able to hold it physically, is easy for the eyes and there is no need to recharge (between 37% and 60% of respondents according to different questions). Digital material appeal to consumers because it is good for the environment, is portable; and requires less storage and saves money (between 41% and 56% of respondents).

When looking at the likely migration between different supports as a result of a simulated change in price, we observe some *asymmetric* relationship:

- the migration from print to digital material is almost non-existent when the price of print books or periodicals increases (drops in the consumption of print material are not compensated by any increase in the consumption of digital material); but
- some migration from print to digital can be observed when the price of digital decreases (price reductions in digital reduce purchases of print), although the magnitude of such migration is small.
- the asymmetry of response is different in the case of newspapers: consumers tend to perceive the digital means as a substitute of the traditional printed publications when faced with a decrease in the price of digital newspaper (equalising down), but our results show that consumers of printed news may regard the different means as complements when faced with an increase in the price of print newspapers (equalising up), so that they react by reducing the consumption of digital news too.

Consumer responses have been used to quantify own-price and cross-price elasticities. Calculations at the Member State level show a wide disparity in the own-price



elasticities. More importantly, estimates for the cross-price elasticity are not statistically significant in a number of cases. We attribute this to the large variation in consumer responses and the small sample size in each Member State.

We also looked at differences in elasticities according to social-economic determinants: household composition, income levels and accessibility to electronic readers. Pooled regressions show that absolute own-price elasticities of print books are smaller for households with children. Low- and medium-income groups are more own-price elastic in the digital market. The cross-price elasticity estimates show less substitutability in print books in households with children. There are smaller differences in the effects of household composition for newspapers and periodicals, with no clear pattern emerging.

A significant difference exists in price elasticities depending on the accessibility to e-devices. We found that respondents with access to e-devices will react more quickly to digital price changes, so some substitutability may be happening in this consumer group. However, those without access to e-devices are less price-elastic and this is probably due to the barriers experienced in accessing electronic devices. The reaction of this second group is important to understand the degree of substitutability across the whole population.

The publishing sector is going through rapid changes and rapid technical developments. Our analysis of elasticities shows very different findings by Member State. In order to investigate how much these are influenced by the maturity of the new technologies or accessibility to the digital devices, we have analysed the relationship between elasticities and penetration rates of the devices across Member States. Our findings show that there is dispersion in the own- and cross-price elasticities in both the print and digital markets, but that there is no relationship between the estimates and the penetration rates of electronic devices. This means that elasticities are not expected to change significantly in the medium term when take-up of digital devices increases.

It is important to stress that, even though our findings indicate that substitutability between print and digital material is very limited, we are not denying the existence of migration from print to digital material. The analysis conducted in this section is primarily concerned with migration occurring as a result of price changes. However, we are aware that there are other important drivers (e.g. technological product innovations, demographic changes, and customers' changing preferences) which may be responsible for the clear trends (away from print and towards digital) in the consumption of published material observed in the last decade. The impact of such effects has not been part of our analysis.



6. Analysis of the industry and the reaction of supply

This chapter analyses key features of the publishing industry in Europe to gain insight to the industry, its development and its competitiveness in both the print segment and the digital segment. The evidence is then used to assess the likely impacts of changes in VAT rates for each of the industries.

In the first sections, structure and competition are described in each of the industries (books, newspapers and periodicals). This provides some indication on the current industry structure and state of competition which is helpful to inform our assessment of the likely pass-on. To assess the pass-on quantitatively, we estimate a statistical relationship between the series of historical prices for published materials (books, newspapers and periodicals) and VAT rates applied (for these product categories) by different Member States, and provide approximation of the tax pass-on.

6.1 Books

Despite on-going consolidation, vertically and horizontally, the industry is still fragmented and characterised by a large number of small and specialised book publishers, and many booksellers such as specialised bookstores, small retailers (kiosks etc.), supermarkets and online retailers. The many small firms, in both publishing and retailing, could be an indication that competition is strong in the EU, and many reports do indeed describe the European book-publishing and retailing industry as competitive.¹⁰⁸

The concentration of the industry in Member States is assessed by measuring the Herfindahl index (HHI).¹⁰⁹ The HHI has been calculated based on the literature reviewed and on the survey sent to industry associations. A full overview of the estimates can be found in Annex B. The HHIs are calculated using different sources of data which may contain some degree of error, given the difficulties in estimating market shares. Nevertheless, the conclusion is that the book industry is competitive across Europe overall.

However, differences can be observed between Member States and for each of the steps in the supply chain:

- The publishing industry is moderately concentrated in Latvia, Germany and Finland (HHIs ranging from 16.5% to 21.3%), competitive in Italy, Bulgaria, France and Poland, and highly competitive in Spain (HHIs are all below 10.5%).

¹⁰⁸ European Booksellers' Federation & Hive.co.uk (2013) eBook Pricing and Cost Structure, 8.3.2013, European Commission (2012) JRC Technical Reports; The Publishing Industry & MarketLine (2012) Industry Profile: Publishing in Europe.

¹⁰⁹ The Herfindahl index takes into account market shares and the number of market players.

HHI above 25% indicates a highly-concentrated industry with low competition. HHI of 15% to 25% indicates a moderately-concentrated industry (less competitive). HHI below 15% indicates an industry with low levels of concentration and with a higher degree of competition. Finally, HHI below 1% indicates a highly non-concentrated and competitive industry. Another way to read the Herfindahl index is: 20% signifies that the industry is equivalent to one with five identical firms. 10% is equivalent to one with 10 identical firms.

The HHIs are constructed on partial data with a lack of comparability. Therefore the HHI calculations are only useful if they are triangulated with other data or compared with other results before making conclusions.



- In book retailing the industry is not concentrated, and appears to be quite competitive. This seems to be indicated in the literature referred to above.¹¹⁰
- However, indications have been found of lower levels of competition in the wholesale and distribution sector. An example is wholesaling in Germany, which is handled by three players with varying regional coverage.¹¹¹ In the Netherlands, France, Finland and Denmark the situation is similar, unlike Belgium where there are more wholesalers.¹¹²
- Competition is even lower in the distribution/ retailing of e-books, with international Amazon holding a very strong position in the distribution of e-books (90% in the UK and 70% in Germany) and with other international online players moving into the segment (Google Play, Apple).¹¹³

6.1.1 Impact of technology on competition

E-book technology is part of the explanation for the dominant position of large international players who have generally been the first movers in the e-book segment. The current lack of interoperability between formats and ecosystems¹¹⁴ has been an obstacle in the development of e-books, and it has enabled the first mover to secure a strong position on the market, as in the case of the large international player Amazon and its Kindle reader. It is possible to observe an on-going convergence of e-book formats towards the EPUB3, particularly between larger players, which means that the non-interoperability of formats is reducing. This does not, however, reduce the overall level of non-interoperability as ecosystems of e-books are still closed (tight connection between platform and e-reader, difficulty in exporting e-books, legal restrictions and exclusive Digital Rights Management (DRM) systems).¹¹⁵

The distribution of e-books is currently at the centre of a vigorous battle, with both traditional and new players developing innovative strategies, open distribution platforms and more interoperable e-book formats to take on international players and to secure a share of the growing market. A recent European initiative is the launch of a new e-reader by German bookstore chains Thalia, Weltbild and Hugendubel (each of which have an existing e-bookstore), in partnership with Deutsche Telekom and Bertelsmann. Such new initiatives are described in more detail in the case study report (case study 3), which is found in Annex B.

The non-interoperability has created a consumer lock-in of which there are generally very few in the book market. Consumer lock-ins constitute barriers to proper

¹¹⁰ Among retailers, the survey sent to industry associations does not reveal clear trends. The level of competition differs within each distribution channel and from one Member State to another (data can be found in Annex B).

¹¹¹ Interview with industry association.

¹¹² Canoy, M. *et al.* (2005) *The Economics of Books*. Cesifo Working Paper No. 1414, February 2005.

¹¹³ Data for the e-book segment are generally not available; estimates were obtained from Nielsen's presentation to a conference organised by the European Booksellers Federation on 16/05/2013 in Brussels, and from industry sources.

¹¹⁴ Ecosystems of e-books include the sales platform, readers, formats, distribution channels, production tools/formats and terms and conditions imposed by the platform owner.

¹¹⁵ Bläsi, Christoph & Rothlauf, Franz (2013) *On the Interoperability of eBook Formats*.



functioning of the market.¹¹⁶ It can therefore be concluded that e-books have disrupted the market and changed the competitive environment.

6.1.2 Production costs and entry barriers

There are traditional entry barriers in the book industry, which relate to large investment costs and economies of scale which apply especially to publishers, printers and distributors. Over time, however, entry barriers and economies of scale have become less important for the industry due to the specialisation of players, technological advancement and public policy; and entry to the industry can be considered to be unrestricted for players at all steps of the supply chain. Specialisation of firms and the opportunity to diversify contents through the internet has made it easier for players at all points of the supply chain to enter the market. Moreover, governments have traditionally viewed the industry as a vital part of cultural identity and have put forward policies protecting the industry (in the form of public subsidies, resale price maintenance, lower VAT rates, protection against market consolidation in publishing and distribution, and fixed pricing on books), and this has allowed many small firms to achieve a wide range of specialisation.

In particular, fixed book price (FBP) enable entry for small retailers, and also indirectly for small publishers through diversity. With FBP (either by agreement or law), prices are set by the publishers —or by the publishers and retailers in agreement— and retailers are not allowed to lower the agreed prices and give discounts to the customers (there are some exceptions). FBP ensure that the same prices are available to all customers. The FBP therefore change the competitive environment within the industry by eliminating retail price competition. This allows for a larger number of retailers and a larger number of new book titles (although in reality many other factors impact on the number of retailers or the number of new book titles). However, the FBP also lead to higher book prices and lower numbers of copies sold per title on the retail level as no discounts are allowed.¹¹⁷

There are FBP laws in around one third of the Member States (Table 6.1).¹¹⁸ However, such different regimes do not seem to affect the level of prices across countries: there are no apparent price differences in the pre- and post-tax prices between Member States applying FBP (Germany, Spain, France and Italy) and those not (the UK), when looking at the prices three best-selling books in print and electronic format (this was shown in Figure 4.7, in previous pages). A similar conclusion has been observed in Wischenbart (2011).

¹¹⁶ Canoy, M. *et al.* (2005) *The Economics of Books*. Cesifo Working Paper No. 1414, February 2005.

¹¹⁷ Wischenbart, Rüdiger (2011) *The Global eBook Market: Current Conditions & Future Projections*.

¹¹⁸ In some other Member States there are business agreements between publishers and retailers regulating prices.

**Table 6.1: Fixed Book Price (FBP) in the EU**

No FBP law	FBP laws
Belgium	Austria
Bulgaria	France
Denmark	Germany
Cyprus	Greece
Czech Republic	Italy
Estonia	Netherlands
Finland	Portugal
Hungary	Spain
Ireland	
Latvia	
Lithuania	
Luxembourg	
Malta	
Poland	
Romania	
Slovakia	
Slovenia	
Sweden	
UK	

Source: http://eibf-booksellers.org/sites/default/files/press_release/2012-06-05/vat_rates_june_2012_pdf_55280.pdf.

Entry barriers in the e-book industry are even lower than for the print industry since investment costs are lower and economies of scale less important. Obviously initial investment costs still exist and should not be ignored, as they can be heavy, especially for publishers or retailers who set up their own platform for distribution and retailing of e-books and who create their own e-reader. The investment cost barrier is generally greater for the retailing step of the supply chain, making entry barriers higher and competition lower for this sector in particular. This applies to new players and traditional players. In publishing, initial investment costs and per unit costs for e-books are lower compared to print books. Despite this, investments may not be covered in the short term when sales are limited. This needs to be taken into account when comparing the costs of publishing e-books with the costs of publishing print books.

Overall, digitalisation alters the cost structure of the production of books. Some costs disappear (e.g. printing, physical logistics for distribution and returns, storage), some costs are partly shifted to other players (e.g. promotion, which is increasingly occurring through blogs and social media), new costs appear (typically related to technology: file conversion, cataloguing, security, etc.) and some costs remain unchanged (e.g. authors).¹¹⁹ Interestingly, the cost structure of e-books is characterised by a higher share of fixed costs, since production and distribution costs especially (networks, servers, record retentions, etc.) are fixed for e-books.¹²⁰ The unit cost of e-books is therefore expected to decrease over time with increasing market penetration.

¹¹⁹ European Commission (2012) JRC Technical Reports; The Publishing Industry & interviews with industry stakeholders.

¹²⁰ Barry, Formagne and Martel (2011) Implications of the reduced VAT rates for E-books.



E-books are not subject to the same regulatory policies as print books which support the industry, e.g. lower VAT rates and price regulation, which can also be regarded as an entry barrier. There are FBP laws applying specifically to e-books in only a few Member States: in Germany (as confirmed by the Federation of European Publishers) and in France and Spain (conversations with the Syndicat National de l'Édition).

Prices of e-books are set in two different ways: by publishers using the agency/commissionaire model or by retailers using the reseller model. In the agency/commissionaire model, publishers determine retail prices and also determine the allowed level of discounting (if any). Different agency prices can be set by publishers for different countries or even different retailers within the same country, and multiple country retailers must apply the correct VAT rates according to the "place of supply" rule. When prices are set by retailers, the price-setting mechanism is very similar to price setting for print books.

This means that price competition for e-books is higher and prices should be lower. The pricing methods for e-books, combined with lower production costs, typically result in price differences of 20% to 50% for the reader – the price being higher when the agency/commissionaire model is used.¹²¹ Customers who expect lower prices on e-books therefore benefit from price competition, and retailers are able to use retail price as a differentiator.¹²²

In addition to the regulatory situation, e-books are more sensitive to piracy than print books. Despite this, entry barriers are still assessed as lower in the e-book industry than in the print industry.¹²³

6.1.3 The role of industry associations

The book industry in Europe is represented by industry associations. The associations represent their members and offer a variety of services to them in terms of negotiating industry framework agreements, legal support, technical support (e.g. online payment systems, logistical platforms, setting up webpages), promotion and marketing, etc.

In all Member States, at least one association represents the interests of the book industry. Frequently more than one association exists, representing publishers and retailers separately or representing industry niches. Associations in the book industry generally have extensive coverage of the industry; their membership generally reflects the composition of the national industries and has extensive coverage. In addition, two umbrella associations exist which represent booksellers and book publishers, respectively, on the EU level: the European Booksellers Federation (EBF) and the Federation of European Publishers (FEP).¹²⁴

The role and impact of the associations are examined in a case study. From the examples analysed, it appears that industry associations play a large role in shaping the legal, economic and technological framework of the industry. For instance, industry associations are involved in ensuring the enforcement of the fixed price laws. Another good example is given by the French booksellers' association, which was

¹²¹ European Booksellers' Federation & Hive.co.uk (2013) eBook Pricing and Cost Structure, 8.3.2013.

¹²² Interviews with industry stakeholders.

¹²³ European Commission (2012) JRC Technical Reports; The Publishing Industry.

¹²⁴ Websites of industry association.



actively involved in the government's development of a new financial mechanism in support of small independent booksellers.

Importantly, the associations are positively impacting industry development in the area of digitalisation —both at the political and legal level, and at the level of their individual members— and are therefore believed to support the development of e-books under good conditions. The full case study (case study 1) is found in Annex B.

6.2 Newspapers

The industry for newspaper publishing (covering publishers only) has historically been quite concentrated and dominated by a few large organisations. Regional monopolies, duopolies and oligopolies were not uncommon. This has changed over the years, however, and the publishing industry is currently less concentrated both in comparison to past levels from the 1920s to the 1980s and in comparison to other media content industries. There are now a few very big publishers, and many small and medium-sized publishers.¹²⁵ Figures on the number and average size of the other supply chain steps (printers, distributors, retailers) are not generally available, but there are indications of the presence of many retailers but fewer printers and distributors.¹²⁶

Due to consolidation, the industry is becoming more concentrated. Consolidation of firms in the industry has been taking place since the 1980s as a response to increasing competition from other media, and the trend is expected to continue.¹²⁷ According to a study carried out in 2006, half of the top 42 newspaper publishers expected to be involved in mergers or acquisitions in the future.¹²⁸ However, competition is high due to differentiated products competing for the readers' rather limited time for news consumption.

The industry for newspaper publishing tends to be more concentrated than the industry for book publishing, although the situation varies significantly from one Member State to another.

- HHI calculations (see annex B) indicate that competition is high in some Member States (Bulgaria and Italy) which have HHIs of around 6%, and much lower in others (Finland, Austria and Flanders) where the markets are dominated by a few publishers and where the HHIs are 25% or above.
- The traditional distribution channels, such as *small retailers*, *other physical retailers* and *institutional and commercial bodies*, are characterised by higher levels of competition compared to the less traditional distribution channel *internet retailers*. This is the case for Member States such as Austria, the French part of Belgium, and Finland.¹²⁹

More importantly, the collected data indicate that the industry is restructuring as a result of the new challenges and opportunities that the digital technologies have brought to the sector. This creates completely new situations and levels of

¹²⁵ European Commission (2012) JRC Technical Reports; The Newspaper Publishing Industry.

¹²⁶ Industry stakeholders.

¹²⁷ European Commission (2012) JRC Technical Reports; The Newspaper Publishing Industry.

¹²⁸ Ifra (2006) Business Models of Newspaper Publishing Companies.

¹²⁹ Data from the survey to industry associations.



competition in the digital segment. The impact of technology on competition is discussed in more detail below.

6.2.1 Impact of technology on competition

Newspaper publishing has traditionally been a very national-driven industry (due to language and distribution issues). With the rise of internet retailing, the industry is becoming more international as it is easy to access the homepage of a foreign news publisher. Consumers are, however, expected to have a preference for news in their native tongue.

In addition, international players are entering the market, e.g. news aggregators (Google News, Yahoo News, Facebook) and distributors (iTunes Newsstand); and these new players hold highly competitive positions. Meanwhile, some online, small and specialised news providers are also emerging, e.g. Mediapart in France.

Another characteristic of the market is the recent rise of large online players, especially in the retail of digital newspapers. They hold strong positions in the retailing of digital newspapers due to technology. All major players like Google, Apple and Amazon have increased their competitive position in the distribution of digital newspapers mainly by controlling subscriptions for readers. An iPad or iPhone user, for example, can only purchase a newspaper through the Apple Newsstand or Apple Store. As a result, the newspapers industry associations claim that publishers are banned from taking subscriptions from readers via their own websites. The industry also claims that they have lost access to their subscribers' personal information, since the large distributors will not share this information with newspaper publishers. Finally, price setting is also seen as a problem according to industry sources as it secures the strong position of international players, an example being Apple dictating a range of prices from which to choose, and also securing large shares of the turnover with a margin on advertising and subscription.

6.2.2 Production costs and entry barriers

The newspaper industry is characterised by having low marginal costs and high sunk costs, e.g. for investments in a printing press, ink and paper.¹³⁰ This means that economies of scale have an influence on the structure of the industry and is also one of the reasons for the relatively high concentration in some markets. However, support for the industry, new production technologies and new ways of reaching the consumer are lessening these entry barriers and making new entrants more likely, which explain markets with lower concentration levels.

Industry support exists in the form of production and distribution subsidies (e.g. in Italy, Sweden and France), in the form of tax redemption (e.g. in Denmark where VAT on newspapers is 0%), in the form of regulation or restriction on market shares (e.g. in France and Italy) and cross-media ownership (Germany, France, Italy and the UK).¹³¹ The newspaper industry, unlike the book industry, is not price regulated. Publishers of printed newspapers set a cover price on single copies which is printed on the front page. The cover price is a recommended retail price and in reality retailers are free to provide discounts on the cover price. However, the majority of single copy sales are made at the printed cover price thereby showing that publishers also have

¹³⁰ European Commission (2012) JRC Technical Reports; The Publishing Industry.

¹³¹ European Commission (2012) JRC Technical Reports; The Publishing Industry.



influence over pricing of wholesalers and retailers. Subscription prices are typically much lower than the cover price of newspapers and periodicals. Discounts are also decided by the publisher. Discounting and promotional activity are also led by the publisher.¹³²

The overall probability of entrants is moderate, and this probability will only increase through new production methods and distribution channels.¹³³

Digital newspapers represent a new technology and a new way of reaching consumers. Entry barriers to the digital newspaper market could therefore be believed to be lower than those of the print market. However, digital publishing comes with costs of its own.

In particular, costs of additional editorial contents are high for creating an enriched digital paper which may be published multiple times a day. There are costs of investing in the required technology and skills to handle the creative and advertising contents for the platform, ensuring on-going development and interoperability with reading devices, developing marketing strategies and communication campaign, and for tackling piracy, etc. Lower advertising revenues can also be considered as additional costs of digital products: online advertising typically brings in less than 20% of a newspaper's advertising revenue, and rates on all but the most prominent pages are falling, mainly due to higher competition on the online advertising market.¹³⁴ Finally, there are costs to internet retailers which can be as high as or even higher than the costs of distribution, since intermediaries such as Apple, Amazon and Google take a significant margin on the final price. In addition, the large international players dictate price ranges for digital newspapers sold via their platform. Therefore, the distributors have significant influence over price setting of digital newspapers. As a result, the industry reveals data indicating that the unit cost of digital newspapers can be higher than that of print.¹³⁵

However, similar to what is seen in the book market, the costs of producing digital newspapers are mainly fixed costs, and the unit costs of producing newspapers is expected to decrease when circulation and turnover increase. Such additional costs are also higher for "traditional" publishers moving from the print to the digital market, as they need to change processes and technologies; which is not the case for new, pure digital players, who overall tend to face lower costs than in the print market. Many publishers still need to restructure their editorial teams, since historically editorial teams for the print and digital editions have been separated, hence generating double costs. Efficiency gains can be expected while publishers search for a sustainable business model.¹³⁶

Overall, it is estimated that barriers to entry are lower on the digital publishing market for newspapers, and new players are certainly entering the industry. Among these

¹³² Office of Fair Trading (2008) Newspaper and magazine distribution in the United Kingdom. Introductory overview paper on the newspaper and magazine supply chains.

¹³³ MarketLine (2012) Industry Profile: Publishing in Europe.

¹³⁴ European Commission (2012) JRC Technical Reports; The Newspaper Publishing Industry.

¹³⁵ Data provided by NDP Nieuwsmedia indicate that the unit costs of digital newspapers are 15% higher than for print newspapers (and 40% higher when including VAT – which is a consumer-experienced cost and not a cost for publishers). The difference is mainly due to higher editorial and technology costs, as well as the new share for internet-retailers, which more than offset disappearance of delivery, paper and printing costs (source: yearly sector research performed by Deloitte).

¹³⁶ Interview with ENPA & NDP Nieuwsmedia (2013) Cost structure Dutch Newspapers.



new entrants are pure online players such as the Google News and the Huffington Post; but there are also small and innovative players, such as MediaPart or L'Opinion¹³⁷ in France, which are companies with very different business models and cost structures compared to the traditional newspaper publishers.¹³⁸ This increasing diversity of news publishers should, however, be balanced with the rise of giant — mainly American— players, which have a strong impact on the competition, especially in the retail sector where entry barriers are higher.

6.2.3 The role of industry associations

Industry associations represent the newspaper publishers in the EU in a similar manner as the book publishers are represented by industry associations. The EU level organisation is called the European Newspaper Publishers' Association (ENPA). Member State associations, which are members of ENPA, represent the national publishers. However, not all Member States have an association representing this particular industry. In some Member States, one association represents both newspaper and periodical publishers (e.g. in Austria and Hungary), while other Member States simply do not have an industry association. The associations represent their members in political and legislative issues, provide economic data and offer a variety of services to members similar to those offered by industry associations in the book-publishing industry.¹³⁹

6.3 Periodicals

Overall, the European periodical publishing industry (covering publishers only) is considered rather concentrated, in the sense that it is dominated by a few large publishers such as Egmont and Aller (Denmark), WAZ and ADAC (Germany) and Bonnier (Sweden).¹⁴⁰ The market is dynamic and competitive due to a high number of firms, many published titles and many specialised market niches. Titles appear and disappear regularly. Competition is intense within niches and between titles, and many publishers are catering to the same audience. Despite a high level of concentration in some Member States (more on this below), new entrants or new titles can compete with the current market leaders.¹⁴¹ Competition is therefore assessed to be high.

Consolidation is taking place in the industry, and mergers and acquisitions therefore provide one explanation for the decreasing number of firms within publishing of periodicals. This trend is supported by the literature; mergers and acquisitions are occurring in the industry typically in order to gain market share, to acquire new titles, perhaps within a new market niche, or to exploit economies of scale. Mergers and acquisitions are also taking place across Member States and therefore cross-border

¹³⁷ L'Opinion was created in May 2013.

¹³⁸ European Commission (2012) JRC Technical Reports; The Newspaper Publishing Industry & European Commission (2012) JRC Technical Reports; Statistical, Ecosystem and Competitiveness. Analysis of the Media and Content Industries: A Quantitative Overview.

¹³⁹ Websites of industry associations.

¹⁴⁰ MarketLine (2012) Industry Profile: Publishing in Europe.

¹⁴¹ European Commission (2005) Publishing Market Watch, The European Magazine and Journal Market.



ownership of periodicals is quite common. Many of the large European publishers of periodicals entered the new Member States in the 1990s.¹⁴²

Similar to the newspaper industry, market concentration and levels of competition in the periodical industry differ among Member States, in both publishing and retailing. In some Member States the industry is more fragmented, e.g. in Germany and the UK, while in other Member States large players are operating, e.g. Prisma Presse in France.¹⁴³

- In publishing, the calculated HHIs show large differences between the Member States and range from very concentrated industries to highly competitive industries. Finland is close to the 25% threshold which indicates a highly concentrated market. This is due to the high market shares of the four dominating firms (Sanoma, Otavamedia, A-lehdet and Aller Media). On the other hand, Bulgaria and Austria have a low level of concentration with HHIs at 2.5% and 12.8%.
- In retail, qualitative indications of competition have been calculated for different distribution channels from the survey to industry associations (Annex B). Similar to the newspapers, there is a tendency towards stronger competition among *small retailers*, *other physical retailers* and *institutional and commercial bodies* than among *internet retailers*. The opposite picture is, however, evident in Finland, where competition is stronger among *internet retailers* than among the other distribution channels. This is due to a more widespread use of subscription models in Finland and less use of pay-per-edition and, as a consequence, fewer small retailers.¹⁴⁴

6.3.1 Impact of technology on competition

The periodical industry is impacted by technology, the internet and emergence of digital periodicals in a similar way as the newspaper publishing industry is. The industry is first of all facing higher competition from international products due to increased internet retailing and access. However, most readers are expected to have a preference for their own national language for consumption.

In addition, large international players are dominating the retailing of digital periodicals. The dominant players are the same as in the newspaper industry: Google, Apple and Amazon. This is changing the competitive environment for digital newspapers, especially in retailing where competition is believed to be lower for the digital segment.

6.3.2 Production costs and entry barriers

Historically, there have been entry barriers for the industry similar to those in the other publishing industries. However, similar to the books and newspapers segments, these barriers are no longer decisive for the industry, due to technological advancements. The internet in particular has paved the way for new ways of production and distribution. There is also no price regulation for periodicals as there is

¹⁴² PricewaterhouseCoopers (2008) The medium is the message. Outlook for Magazine Publishing in the Digital Age.

¹⁴³ European Commission (2005) Publishing Market Watch, The European Magazine and Journal Market.

¹⁴⁴ According to the industry association in Finland, 95% of periodicals are delivered directly to the consumers from the publishers.



for books; instead, retailers set prices. Price setting, however, is largely influenced by the publisher, who sets a cover price. Overall, entry barriers are considered rather low in the industry and multiple reports support this.¹⁴⁵

Periodical publishers entering the digital market face new, additional direct costs and investment costs. Digital editions do not require printing but there are significant investments involved in creating and sustaining the digital platforms.¹⁴⁶ As a result, the industry indicates at least similar unit costs for digital periodicals. Similar to the newspapers, however, these costs cannot be seen as higher entry barriers, since initial investment costs remain lower in the digital segment and unit costs are expected to decrease when circulation rises.

Some country-specific entry barriers are pointed out by industry associations. In Finland, costs of distribution are considered an entry barrier for publishers of periodicals as it is costly to reach the consumers due to very low population density. In France, the highly regulated press distribution is considered an entry barrier. These costs, however, disappear in the digital market.

6.3.3 The role of industry associations

The periodical publishing industry is represented by industry associations just as well as the other industries. On the EU level the European Magazine Media Association (EMMA) represents the industry. As mentioned earlier, some Member States have an association representing both newspaper and magazine publishers while others have none. The services provided by the associations are similar to those offered by industry associations in the book- and newspaper-publishing industries.¹⁴⁷

6.4 Statistical analysis of pass-on

To assess the pass-on we test for a statistical relationship between the series of historical prices for published materials (books, newspapers and periodicals) and VAT rates applied (for these product categories) by different Member States.

For each Member State, information on the historic prices of published materials is available from Eurostat, which provides from 1995 the monthly consumer price index (CPI) of books, and the CPI of periodicals and newspapers (grouped as one category). These series were used to construct the real price indexes.¹⁴⁸ The relevant VAT rates applied by each Member State since 1995 were provided by the European Commission and are available separately for books, e-books, newspapers and periodicals. Figure 6.1¹⁴⁹ provides a summarised picture of the data used in the analysis, detailed graphs are provided in Annex A for each Member State.

¹⁴⁵ European Commission (2012) JRC Technical Reports; Statistical, Ecosystems and Competitive Analysis of the Media and Content Industries: A quantitative overview & MarketLine (2012) Industry Profile: Publishing in Europe.

¹⁴⁶ PricewaterhouseCoopers (2008) The medium is the message. Outlook for Magazine Publishing in the Digital Age.

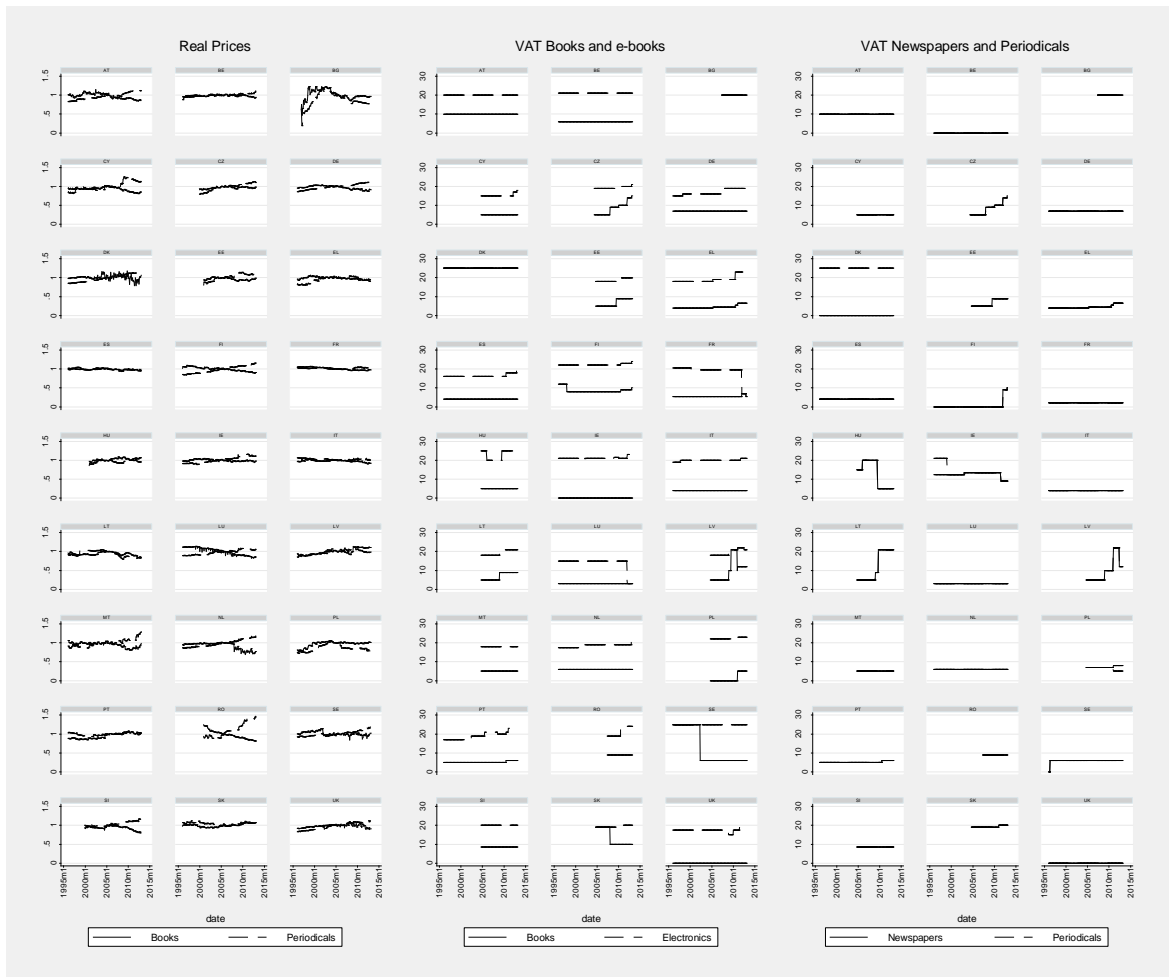
¹⁴⁷ Websites of industry associations.

¹⁴⁸ Real prices indexes for publishing material are constructed by dividing the nominal CPIs by the overall CPI.

¹⁴⁹ Information on VAT rates at DG TAXUD has been supplied by the respective Member States and the Commission cannot be held responsible for its accuracy or completeness.



Figure 6.1: Evolution of prices and VAT rates, by Member State¹⁵⁰



The pass-on rate for books can be estimated using a statistical relationship between historic (real) prices of books and historic VAT rates for books. As newspapers and periodicals are provided jointly in a single variable, the relationship between these prices and VAT rates is estimated using the VAT rates for newspapers only.¹⁵¹ The estimation requires that VAT rates change at least once over the time period considered: this happens in CZ, EE, EL, FI, FR, HU, IE, LT, LV, PL, PT, SE, and SK, although in some cases the magnitude of the change is small. We also observe that price variability in new Member States could not be fully explained by our statistical models. We attribute this mainly to the reduced size of VAT series (and possibly other structural changes taking place in such Member States) and these have therefore been excluded from the analysis.

We have expressed price variables in logarithmic form and in differences (so that differences in prices are explained by changes in VAT rates). The models analyse separately the effects of increases and decreases in VAT rates. Hence, two different variables are incorporated in the models to denote positive and negative VAT

¹⁵⁰ The industry associations corroborated most of the time series of VAT changes and suggested a few changes, which were incorporated in our series. Price of periodicals includes newspapers.

¹⁵¹ Results including a variable for periodical VAT rates yielded identical results.



differences: VAT+ and VAT-, respectively. Two different specifications were used: M0 and M1.

Our first model (M0) include only the changes in VAT as explanatory variable (in Figure 6.2, below) and the results did not show any statistical significant relationship between the increases in VAT (either positive or negative) and real prices of books. This is unsurprising for many of the Member States included, as the VAT changes analysed were very small. The results are nevertheless surprising for SE because it experienced a drop in the VAT rate of 19 points percentage (from 25% to 6%). The price graphs presented for this Member State show a big price drop (see details Annex A), although this happened *before* the VAT change and is the reason this is not captured in our models. The fact the price change happens before the tax change can be explained by the fact that the industry anticipated (in the form of price reductions) the change in VAT.

To be able to incorporate this into our models we have included additional lag specifications, allowing for past period lags (L1 for one lag and L2 for two lags) and forward periods (F1 for one period ahead, F2 for two). The results are presented in a second model (M1) in Figure 6.2 and show a positive coefficient for the VAT- variable of two periods ahead (F2) in SE (although this is only significant at a 10% level of significance). M1 also shows a significant coefficient for PT (for VAT+, in the second lag, L2) but we attribute this to spurious relationship, as it has been estimated using a very small VAT change in that country (a 1 point increase in the VAT rate).



Figure 6.2: Estimated pass-on models (books prices)

Models M0

Variable	EL	FI	FR	IE	PT	SE
VAT+	0.0070	-0.0022	0.0042	(omitted)	-0.0055	(omitted)
VAT-	(omitted)	-0.0006	-0.0029	(omitted)	(omitted)	-0.0006
_cons	-0.0003	-0.0006	-0.0004	-0.0000	0.0008	0.0000
N	204	204	204	204	204	204
r2	0.0037	0.0007	0.0235	0.0000	0.0009	0.0008

legend: * p<0.05; ** p<0.01; *** p<0.001

Models M1

Variable	EL	FI	FR	IE	PT	SE
VAT+						
--.	0.0068	-0.0052	0.0041	(omitted)	-0.0053	(omitted)
F1.	-0.0066	0.0019	-0.0031	(omitted)	0.0024	(omitted)
F2.	0.0002	0.0099	-0.0002	(omitted)	-0.0081	(omitted)
L1.	0.0089	-0.0144	-0.0014	(omitted)	0.0017	(omitted)
L2.	-0.0117	0.0061	-0.0044	(omitted)	0.0298*	(omitted)
VAT-						
--.	(omitted)	-0.0007	(omitted)	(omitted)	(omitted)	-0.0006
F1.	(omitted)	-0.0002	0.0034	(omitted)	(omitted)	0.0007
F2.	(omitted)	-0.0005	-0.0014	(omitted)	(omitted)	0.0026*
L1.	(omitted)	-0.0002	(omitted)	(omitted)	(omitted)	0.0006
L2.	(omitted)	0.0003	(omitted)	(omitted)	(omitted)	-0.0001
_cons	-0.0002	-0.0008	-0.0003	-0.0000	0.0006	0.0004
N	201	201	201	201	201	201
r2	0.0244	0.0269	0.0574	0.0000	0.0296	0.0185

legend: * p<0.1; * p<0.05; ** p<0.01; *** p<0.001

Note: Dependent variable first difference of the logarithm of real prices. VAT+ and VAT- are first differences of VAT rates (positive and negative, respectively).

The models for newspapers and periodicals are estimated in a similar way, after including monthly dummy variables (m2-m12). The results of M0 show a positive coefficient for the positive VAT changes in FI and for negative VAT changes in IE. The results do not change when changing the specification in M1 (Figure 6.3).



Figure 6.3: Estimated pass-on models (newspapers and periodicals prices)

Models M0

Variable	EL	FI	FR	IE	PT	SE
m2	0.0139***	-0.0168***	-0.0060**	-0.0147***	-0.0135***	-0.0067**
m3	-0.0348***	-0.0164***	-0.0093***	-0.0130***	-0.0247***	-0.0109***
m4	-0.0200***	-0.0106***	-0.0068***	-0.0117**	-0.0227***	-0.0083***
m5	-0.0127**	-0.0165***	-0.0053**	-0.0157***	-0.0216***	-0.0047
m6	-0.0091*	-0.0139***	-0.0063**	-0.0090*	-0.0180***	-0.0043
m7	0.0071	-0.0035	-0.0046*	-0.0064	-0.0163***	0.0051*
m8	-0.0063	-0.0133***	-0.0047*	-0.0132***	-0.0158***	-0.0033
m9	-0.0316***	-0.0190***	-0.0024	-0.0095**	-0.0192***	-0.0154***
m10	-0.0154***	-0.0070**	-0.0068***	-0.0071*	-0.0187***	-0.0101***
m11	-0.0135***	-0.0114***	-0.0039*	-0.0073*	-0.0188***	-0.0014
m12	-0.0125**	-0.0141***	-0.0069***	-0.0056	-0.0147***	-0.0029
VAT+	-0.0076	0.0042***	(omitted)	0.0153	-0.0002	-0.0003
VAT-	(omitted)	(omitted)	(omitted)	0.0097***	(omitted)	(omitted)
_cons	0.0121***	0.0132***	0.0054***	0.0106***	0.0171***	0.0065***
N	204	204	204	204	204	204
r2	0.5977	0.4736	0.1509	0.2284	0.4091	0.3599

legend: * p<0.05; ** p<0.01; *** p<0.001

Models M1

Variable	EL	FI	FR	IE	PT	SE
m2	0.0140***	-0.0170***	-0.0051**	-0.0148***	-0.0129***	-0.0061*
m3	-0.0341***	-0.0166***	-0.0076***	-0.0125**	-0.0262***	-0.0103***
m4	-0.0199***	-0.0108***	-0.0057**	-0.0118**	-0.0226***	-0.0080**
m5	-0.0120**	-0.0167***	-0.0042*	-0.0158***	-0.0217***	-0.0043
m6	-0.0088*	-0.0141***	-0.0051**	-0.0092*	-0.0181***	-0.0040
m7	0.0072	-0.0038	-0.0035	-0.0065	-0.0161***	0.0050
m8	-0.0059	-0.0136***	-0.0036	-0.0140***	-0.0160***	-0.0029
m9	-0.0314***	-0.0192***	-0.0013	-0.0090*	-0.0193***	-0.0149***
m10	-0.0153***	-0.0073**	-0.0057**	-0.0071	-0.0186***	-0.0096***
m11	-0.0131**	-0.0113***	-0.0028	-0.0078*	-0.0187***	-0.0009
m12	-0.0121**	-0.0143***	-0.0058**	-0.0049	-0.0146***	-0.0024
VAT+						
--	-0.0075	0.0042***	(omitted)	0.0152	-0.0002	-0.0003
F1.	-0.0035	0.0001	(omitted)	-0.0121	0.0040	0.0005
F2.	-0.0058	-0.0005	(omitted)	0.0070	0.0029	(omitted)
L1.	-0.0059	0.0000	(omitted)	-0.0023	0.0060	0.0003
L2.	-0.0017	-0.0002	(omitted)	-0.0129	0.0043	0.0017
VAT-						
--	(omitted)	(omitted)	(omitted)	0.0097***	(omitted)	(omitted)
F1.	(omitted)	(omitted)	(omitted)	-0.0006	(omitted)	(omitted)
F2.	(omitted)	(omitted)	(omitted)	-0.0004	(omitted)	(omitted)
L1.	(omitted)	(omitted)	(omitted)	-0.0026	(omitted)	(omitted)
L2.	(omitted)	(omitted)	(omitted)	0.0023	(omitted)	(omitted)
_cons	0.0120***	0.0134***	0.0043**	0.0107***	0.0170***	0.0060**
N	201	201	201	201	201	201
r2	0.5880	0.4700	0.1251	0.2491	0.4359	0.3613

legend: * p<0.05; ** p<0.01; *** p<0.001

Note: Dependent variable first difference of the logarithm of real prices. VAT+ and VAT- are first differences of VAT rates (positive and negative, respectively).

Table 6.2 presents the summary results for the estimated pass-on on books, and newspapers and periodicals, respectively. The parameters are not statistically significant for a large number of the cases which indicates that a pass-on of zero cannot be rejected. We have found a 42% and 97% pass-on in FI and IE as a result of a VAT increase and decrease, of 9 and -4.5 points, respectively; and a pass-on of



26% in the books in SE as a result of the VAT reduction of 19 points in that country, although this was only significant at a 10% level.¹⁵²

Table 6.2: Estimated pass-on of VAT rate changes (% of VAT change).

Member State	Books	Periodicals
EL	.	.
FI	.	42+%
FR	.	.
IE	.	97-%
PT	.	.
SE	26-% ^x	.

Note: "." Not significant. "x" significant at 10% level only. "+" denotes increase in VAT estimated, "-" denotes decrease in VAT estimated.

6.4.1 Insights on the pass-on for electronic publications

Investigating the pass-on for electronic publications is a difficult task due to the lack of consistent time-series data on electronic publications (in part this can be explained by the novelty of such products). There is some evidence which tries to explain the changes in prices that took place in France and the relationship this has with the changes in VAT that took place in that country between 2011 and 2013. In January 2011, VAT was reduced from 19.6% to 5%; then increased to 7% on April 1, 2012 and subsequently brought back to 5% by January 2013. During the same period, a reduction in the prices of ebooks could be observed by some analysts.

In the Global eBook (Fall, 2013) it is noted how "as a result of the lowered VAT and general market developments, some publishers (notably Gallimard, but also Denoël and Mercure de France) lowered ebook prices in December 2011". This was followed by Hachette titles in spring 2012 and overall resulted in "ebooks being sold at prices around 30% less than the print edition of the same work".

The same publication shows how prices of ebooks in France experienced a significant decrease in the period Aug/Sep 2011 to Aug/Sep 2013. The prices shown reflect the equivalent ebook price (including any discount) of the top 10 or 20 print bestselling fiction titles, from each market's most authoritative bestseller list.¹⁵³

The evidence provided indicates some sort of correlation between the drop of VAT rates and the reduction in prices for ebooks in France. This is indicative of a reduction in the prices of the best-sellers list but it is difficult to infer conclusions to the overall market. This is because of the wide disparity in the type of books (effectively, there is no overlap in titles between years) used to construct an average price for each year (so these differ in terms of book category, number of pages or prices).

In conversations with industry sources we were told of the significant competitive pressures on prices by e-distributors (Amazon, in particular) to drive prices down. This

¹⁵² Pass-on estimates can vary depending on the point of evaluation. Re-calculating the estimates at prevailing rates before the change did not yield significant differences.

¹⁵³ Conversations with the author of the report.



is a result of several factors. Firstly, consumers are accustomed to low prices (or even free access) when buying digital content, and this is being offered extensively to ebooks. This is reinforced by a persisting perception that ebooks remain expensive, in the eyes of consumers. Finally, distributors like Amazon are putting of pressure on raising consumer awareness on the price of ebooks, as can be observed from the price comparisons being shown in the different web-catalogues.

As a result, the consulted sources believe that it will not be surprising to see a downward trend in the prices of best-selling books in the next two years, as driven by the strong competitive pressure in the sector. This would most likely include passing fully any VAT reduction to retail prices in the short run (although the reaction could be different in a medium term). The same industry sources, however, warn on the dissimilar reaction for different type of books, and in particular, for those books which are in the mid-range of copies (print runs of around 7.000) which do not see similar drops in price. As a consequence, all these competitive pressures will not be homogeneous across the range of books and are perceived as potentially harming the less popular books (unable to match the price discounts). It could be that, as a result, the choice of books is reduced in the medium term.

In summary, our research has been unable to find robust data series for the prices of ebooks in France.¹⁵⁴ Some sparse data does exist but these contain a wide range of titles that make a comparison across time difficult. This makes any statistical or robust test unfeasible. Some evidence has been gathered from industry sources, and this indicates that the competitive environment in the distribution of ebooks imply that VAT reductions would be passed on to retail prices, in the short run. This is consistent with the economic theory. There remains some degree of uncertainty on a robust measure of pass-on for ebooks, especially in relation to the ebooks not included on the best-seller lists. The report deals with this by presenting sensitivity analyses in the results.

6.5 Summary

Our review has assessed the structure of competition in the different sectors and how this has changed due to the progressive digitalisation of products.

- The print segment is assessed to be quite competitive in all three markets, with a high number of firms in publishing and in retailing. There are fewer firms in physical production, wholesaling and distribution.
- There are also many firms in the production of digital products, which contribute to increase the availability of titles and expand the range of prices set by firms. Entry barriers are assessed to be low and competition, as a result, is likely to be higher. However, retailing is assessed to be more concentrated due to dominant international players, who were first movers in the segment.

The analysis of the structure shows some parts of the supply chain as competitive, while others (mainly retail and distribution) show a trend towards higher concentration. It is therefore unclear whether tax changes will be passed fully to

¹⁵⁴ We emailed a wide range of market research companies (GfK, IDATE, Edistat, Nielsen) seeking for data but were told the data is not available in France. We have emailed the Syndicat de la librairie française (SLF) and the Federation of European Publishers but did not received any response. We also contacted contact persons at Gallimard and Editis but did not reply to us.



consumers in the form of price increases or reductions. In the equalising-down case this could mean that some of the tax reductions could be kept at different stages of the supply chain, which would mean that consumers do not see (or do not see fully) the effects of lowering VAT rates.

The econometric analysis of the pass-on rates did not show conclusive evidence towards full pass-on. It has been difficult to obtain meaningful estimates because of the small changes observed in some Member States (which makes it very difficult to disentangle the VAT change from pure statistical noise). In the new Member States the results were disperse and inconclusive, which we attributed to possible structural changes occurring in these countries. The analysis for ebooks indicates a high likelihood of pass-on of VAT reductions for best-sellers in the short run, but we have been unable to obtain a robust measure of pass-on for the whole market.

The lack of robust estimates confers some uncertainty around the pass-on parameter to be used in our analysis. We have not been able to obtain any other robust measure estimated by industry sources, but note that the study by the Swedish book industry concluded that the industry and others expected the change to be passed on to consumers as a reduction in tax (although no quantified measure is given). We have gathered similar qualitative indications from stakeholder's interviews and case studies. Given the structure of the industry we do not think it is credible to assume a full pass-on in prices. We have therefore decided to use a 50% pass-on rate, but because of the imprecision of this estimate the analysis is also conducted for a 100% pass-on rate to see the sensitivity of the results to such an assumption.



7. Recent developments and trends in the sector

This section contains an analysis of the publishing industry, and the role and the impacts that new developments in digital editions have had or are expected to have in the near future. We then turn to the strategies and business models of different types of players to see how these are likely to evolve in the near future.

7.1 Developments in the supply chain

The publishing industry has been transforming recently and evolving into new forms of business in response to technological development and to development of the digital format. In the following paragraphs we look at the supply chain and costs structure of:

- books;
- e-books;
- newspapers;
- digital newspapers;
- periodicals; and
- digital periodicals.

7.1.1 Books

Creation of print books of course includes the actual writing of the book/content. The task is handled by authors who supply content directly to the publisher or indirectly through an agent. Publishing includes the tasks of aggregation, presentation (such as reading, editing and designing), pricing and marketing of books. Technical production includes specialised tasks such as proofreading and phototypesetting, as well as printing and binding. Distribution of books covers the physical transportation of books to wholesalers, retailers or directly to readers who might have bought a book online. Wholesaling includes the building of a book catalogue and resale from the catalogue to retailers. Finally, retailing includes the direct sales to readers.

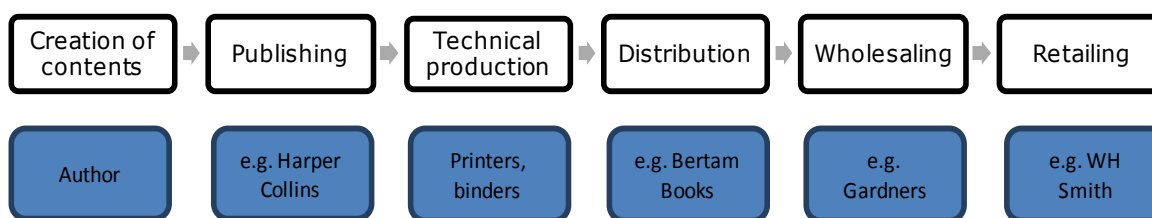
A vertically separated supply chain is common within the book industry where players only handle one task in the supply chain, as illustrated in Figure 7.1. In addition it is common that a specialised online retailer is handling sales to readers (e.g. Amazon and Saxo) instead of the traditional book stores. This version of the supply chain is called an *internet retail supply chain*.¹⁵⁵

Figure 7.1 shows the tasks in the generic supply chain for publishing of books which have been exemplified by UK players.

¹⁵⁵ Survey to industry associations.



Figure 7.1: Vertically separated supply chain – books



Source: Own compilation based on European Commission (2012) JRC Technical Reports; *The Publishing Industry*, European Commission (2012) JRC Technical Reports; *The Newspaper Publishing Industry & European Commission (2003) The EU Publishing Industry: an assessment of competitiveness*.

A *vertically integrated supply chain* also exists, where one firm is responsible for multiple steps. Integration within the supply chain can happen through mergers and acquisitions. Acquisitions are typically made by publishers who, as described above, are at the core of the business.¹⁵⁶ This trend has been investigated in a case study (case study 2 in Annex B) which explores both vertical and horizontal mergers and acquisitions. The case study concludes that mergers and acquisitions can be a way for companies to increase their relative power and to become a more important player in the supply chain. Mergers and acquisitions are also a way of diversifying risk and exploring economies of scale and scope. Integration is, however, not seen as a means of increasing market share which is highly dependent on the success of authors. The trend of mergers and acquisition impacts industry structure towards more large players.

According to the industry associations the *vertically integrated supply chain* is not common in the book sector in Europe.¹⁵⁷ However, examples can be found of a vertically integrated supply chain where publishers are at the core, handling most tasks including retail through an online platform (called an *integrated internet retail supply chain*).

Another supply chain model is called a *digital age supply chain*. However, it is not yet widely used. In this model most tasks are handled by a specialised online retailer. This is the case with Amazon who offers self-publishing to authors. Within this supply chain, the author creates the content and publishes it through Amazon who then deals with printing, distribution and retailing. This is another case of vertical integration. However, in this example retailers are at the core of the process. Vertical integration from the retail step may involve integration of less steps, e.g. the distribution and wholesale steps. In this case, the supply chain could be referred to as an *aggregator supply chain*. It should be noted that the aggregator supply chain is not a common model within the industry either.¹⁵⁸

7.1.2 E-books

The rise of the digital format has resulted in changes in the tasks of the traditional supply chain. Due to the elimination of the physical unit, all activities are digitalised. Technical production therefore no longer includes printing and binding but instead

¹⁵⁶ European Commission (2012) JRC Technical Reports; *The Publishing Industry*.

¹⁵⁷ Survey of industry associations.

¹⁵⁸ Survey of industry associations.

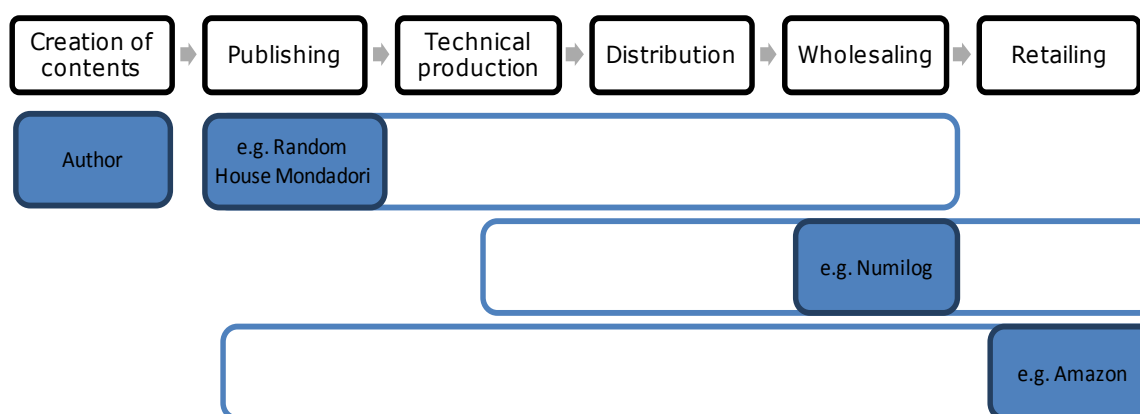


includes digital writing,¹⁵⁹ data storage (development of websites and apps), device production and the provision of Digital Rights Management (DRM).¹⁶⁰

Activities within distribution, wholesaling and retailing have also changed. Distribution occurs by clicks of a button rather than by physical logistics. Wholesaling includes building up a digital catalogue instead of a physical catalogue. Retailing is also highly digitalised as well and typically takes place through websites or app stores. However, an e-book license can be purchased in a physical book shop for downloading at home. In this situation the digital platform is still needed for download.

In the e-book supply chain, unlike the supply chain for print books, players present in almost all steps are vertically integrating and are taking on new tasks. In some cases wholesalers are removed from the supply chain (this is also seen in the print supply chain) but not in all cases, as new wholesalers, retailers and service providers are appearing who specialise in e-books.¹⁶¹ Examples of the evolving role of players in the e-book supply chain are illustrated below:

Figure 7.2: Vertically integrated supply chain – e-books



Source: Own compilation based on a range of sources mentioned below.

The figure shows that traditional publishers are vertically integrating down the supply chain. Publishers do this by, e.g. establishing a digital platform for technical production, distribution and wholesaling of e-books. One example is the digital platform Librandia, which was set up in 2010 by the large Spanish publishing houses Planeta, Santillana and Random House Mondadori.¹⁶²

Wholesalers are integrating both upwards and downwards. An example is Numilog in France which is an e-book wholesaler established by the French publisher Hachette Livre. Numilog is, in addition to wholesaling, handling retailing directly to readers and is also a store provider who has developed an app, the Club Reader, which can be used on PC, iPad and Android.¹⁶³

¹⁵⁹ European Commission (2012) JRC Technical Reports; The Publishing Industry.

¹⁶⁰ Interviews with industry stakeholders.

¹⁶¹ European Commission (2012) JRC Technical Reports; Statistical, Ecosystem and Competitiveness. Analysis of the Media and Content Industries: A Quantitative Overview.

¹⁶² European Commission (2012) JRC Technical Reports; The Publishing Industry.

¹⁶³ European Commission (2012) JRC Technical Reports; The Publishing Industry.



Amazon, the major player in the e-book market, was originally a retailer but has become a wholesaler, distributor, and technical intermediate: and a publisher of e-books with products and services such as the Kindle e-reader, apps and self-publishing services provided to authors. Retailers are therefore integrating upwards.

Despite a certain amount of vertical integration publishers, wholesalers, distributors and retailers are still doing business as usual, e.g. publishers are still doing business with wholesalers and retailers and *vice versa*.

A case study has been conducted on reaching customers on the e-book market to investigate the different trends and implications of such activity. The case study shows that the retail step in the supply chain has become very dynamic with the rise of e-books. But traditional and new players are responding by developing vertical integration strategies to reach the end-consumer directly and thereby compete with major players who, to a large extent, are international companies. Overall we see that almost all players in the e-book supply chain are trying to reach the readers directly. In this context, the usability of the online platform is key. The full case study (case study 3) is found in Annex B.

Basically, we see the same kinds of vertical integration in the e-book supply chain as in the supply chain of printed books, but to a much larger extent due to the possibilities offered by the new format. The consequence of these changes is that the competitive position of the traditional players is challenged, especially in the retailer step by large international players, but also to some extent in the publisher step.

Digitalisation has altered the cost structure of e-books compared to print books. A significant share of variable costs disappear (e.g. printing, physical logistics for distribution and returns, storage), some costs are partly shifted to other players (e.g. promotion which is increasingly occurring through blogs and social media), new costs appear (typically related to the technology side: file conversion, cataloguing, security etc.) and also some costs remain unchanged (e.g. authors).¹⁶⁴

Overall, this results in a larger *share* of the total costs for creation and promotion, but also and most importantly it results in lower unit costs of production for e-books (this does not account for the cost of producing the readers). In addition some of the costs, such as distribution and retail costs, decrease compared to the printed books industry. This is reflected in the current prices of e-books, which are generally 20% to 30% lower in Europe than the prices of printed editions.¹⁶⁵ Another factor, also reflected in the lower prices, is increased possibilities of price competition due to less price regulation for e-books compared to print books.

7.1.3 Newspapers

The supply chain for newspapers mimics that of books to a large extent. However, newspapers are distributed directly to retailers without the wholesaling step.

Content creation for newspapers includes writing articles, photography and selling advertising articles. There are many contributors: journalists and photographers – freelance or in-house (with the publisher), PR agencies, corporate and public institutions, photo and video agencies and repro houses. Several trends have been

¹⁶⁴ European Commission (2012) JRC Technical Reports; The Newspaper Publishing Industry.

¹⁶⁵ Barry, Formagne and Martel (2011) Implications on the Reduced VAT Rate for E-books.



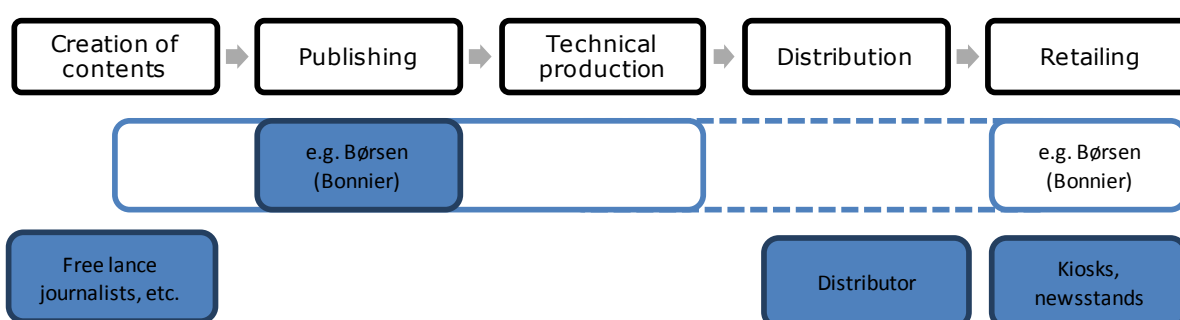
observed in relation to content creation. First, journalists are to an increasing degree working freelance. This is a way for publishers (content aggregators) of cutting fixed costs and gaining larger flexibility in their cost structure. Second, technological advancement has paved the way for publishers to make greater use of reader-generated content in their papers, a trend called citizen journalism. Citizen journalism is changing the creation process as readers become an active part of the news-creating process, either by supplying direct contents (stories, pictures, videos) or by commenting on content. The use of citizen journalism is more common amongst pure online publishers, such as Rue89 in France and NU.nl in the Netherlands.

Publishing of newspapers includes aggregation and editing of news content. Technical production includes printing of the newspaper. This function can be performed in-house by publishers who have acquired a printing subsidiary or the function can be outsourced. Distribution is very similar to the equivalent tasks in the book supply chain and is not explained further.

Retailing includes selling single copies in kiosks, news agencies and supermarkets as well as selling subscriptions. An in-house department of the publisher typically manages subscription sales or in some cases the function is outsourced.¹⁶⁶

As is evident from the text and supported by a survey of industry associations, both a *vertically separated supply chain* and a *vertically integrated supply chain* are widely used. Vertical integration of the supply chain is fairly common within the industry. Usually the publisher is also responsible for printing and retail (in the case of subscriptions). However, there are differences between Member States and in some countries vertical integration of the supply chain is not common. The vertically integrated supply chain is shown in Figure 7.3:

Figure 7.3: Vertically integrated supply chain – newspapers



Source: Own compilation based on European Commission (2012) JRC Technical Reports; *The Newspaper Publishing Industry*.

The figure shows that the publisher is integrated upwards and downwards in the supply chain. Newspapers typically employ in-house journalists and photographers, and in many cases are also responsible for selling advertising space (upwards integration). Newspapers also often handle subscription sales and are therefore handling retailing tasks (downwards integration).

The survey of industry associations shows that an *internet retail supply chain* is widely used across Member States. Internet retailing is either managed by the publisher

¹⁶⁶ European Commission (2012) JRC Technical Reports; *The Newspaper Publishing Industry*.



(*integrated*) or by a specialised firm (*separate*). Examples of online retailers include www.isubscribe.com in the UK. There is no indication on which supply chain (integrated or separate) is more common due to significant discrepancies between Member States. Newer supply chain models such as a *digital-age supply chain* and an *aggregator supply chain* (see section 8.1.1 for definitions) are not widely used.

7.1.4 Digital newspapers

Content creation and publishing for digital newspapers involves the same tasks as for printed newspapers. Technical production is different and includes digital formatting, digital editing, data storage, provision of devices and readers and providing of DRM. Digital formatting and editing is similar to the formatting and editing of the printed paper. However, the digital formatting and editing requires different skills compared to the formatting of the printed paper. This task is typically handled in-house by the publisher.

Distribution and retail is carried out online as is the case for e-books. A digital version of a newspaper only has to be uploaded online to be distributed.¹⁶⁷ However, the retail and distribution steps have not disappeared. Publishers are still handling retailing task, e.g. through desktop sales. However, device providers, who have developed their own distribution and retail platforms, such as Apple Newsstand, Google Play and Amazon's Kindle Newsstand, are indispensable partners. The publishing industry is constantly pointing to the fact that platforms usually make it difficult if not impossible for publishers to take subscriptions directly from the consumer, which make the distribution and retail steps costly and outsourcing difficult to avoid. Due to online retailers who are also distributors and device providers, such as Apple, the supply chain for digital newspapers is even more integrated than the supply chain for printed newspapers. Hence the competitive environment is changing and, especially within the tasks of technical production, distribution and retailing, competition is believed to be higher for digital newspapers compared to printed newspapers. The online retailers in particular are gaining power.

New players are also emerging in the retailing step. These new players are online news aggregators who compile the news from publishers' websites but do not generate content themselves. Examples of news aggregators include Google News, Yahoo News and MSN news; and increasingly social media such as Facebook, Twitter and LinkedIn are considered news aggregators.¹⁶⁸

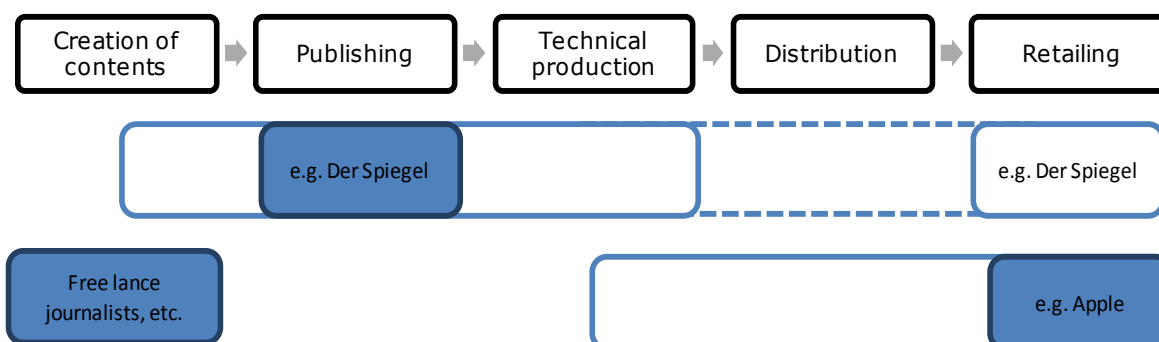
The supply chain is shown below:

¹⁶⁷ European Commission (2012) JRC Technical Reports; The Newspaper Publishing Industry.

¹⁶⁸ European Commission (2012) JRC Technical Reports; The Newspaper Publishing Industry & Interviews with industry stakeholders.



Figure 7.4: Vertically integrated supply chain – digital newspapers



Source: Own compilation based on European Commission (2012) JRC Technical Reports; *The Newspaper Publishing Industry*.

The cost structure of the supply chain has changed with the emergence of digital newspapers. First, editorial costs are generally higher as more content is added (extra photos or videos) and content is updated multiple times a day. Printing and delivery costs are no longer present but there are additional costs, mainly technology associated costs (digital formatting and editing, development of apps and pay-walls and hosting). Another new and significant cost relates to the distribution fee paid to online retailers, which, according to publishers, can amount to as much as 30% of the retail price in the case of Apple.

The industry exhibits data indicating that the unit cost of production can be about 10-20% higher for digital newspapers (without VAT), but most of the additional costs are fixed costs.¹⁶⁹ Because the share of variable costs in the production of digital newspapers is significantly lower than for print newspapers, unit costs are expected to decline in the future, when circulation increases and the publishing industry better integrates its print and digital activities. This, however, does not apply to the internet retailers' margin, which in the case of Apple represents up to 30% of the total price for a single-copy subscription. This of course does not apply to VAT either, when accounted for as a cost.

7.1.5 Periodicals

The supply chain for periodicals is nearly identical to the supply chain for newspapers (see Figure 7.3). The main difference is the content itself; however, the way in which content is created is generally the same.

A *vertically separated supply chain* and a *vertically integrated supply chain* are both common for printed periodicals. Also an *internet retailing supply chain*, where a specialised online retailer is handling the retailing task, is common but an *aggregator supply chain* is not used in any of the Member States where information is available¹⁷⁰

¹⁶⁹ Data provided by NDP Nieuwsmedia indicates that digital newspapers are 15% higher than print newspapers (and 40% higher when including VAT). The difference is mainly due to higher editorial and technology costs, as well as the new share for internet retailers, which more than offset disappearance of delivery, paper and printing costs (source: yearly sector research performed by Deloitte).

¹⁷⁰ Survey to industry associations.



(the same as for newspapers). The literature has also provided evidence that publishers vertically integrate into printing, distribution or retailing.¹⁷¹

It is not uncommon for publishers to be operating in many businesses at once. Some businesses are directly related to periodical publishing, e.g. printing and advertising. Others are related in the sense that they are media businesses, e.g. publishing of newspapers and books as well as TV, film and radio production. Some businesses seem quite unrelated to the periodical or media business, e.g. real estate, cinema, fitness and corporate communication (the latter is common among business-to-business periodicals). Diversification into related and unrelated businesses can be motivated by a need to acquire a critical mass and multiple sources of turnover that may or may not support each other.¹⁷²

The motivation of publishers for moving into new businesses has been investigated through a case study (case study 8 in Annex B). The case study concludes that this process of development happens quite naturally for publishing companies. They grow from publishers via a single media to publishers via multiple media. The process is powered by changing markets, technology and preferences for consuming news and entertainment. Development comes at a cost but seems to have paid off for the case study participants.

7.1.6 Digital periodicals

The supply chain for digital periodicals is basically the same as the supply chain for digital newspapers (see Figure 7.4). In addition to vertical integration of publishers, we also see vertical integration of retailers into the distribution steps. Moreover, similar to the newspaper segment, new online players have emerged within distribution and retailing tasks (Apple Newsstand, Kindle Newsstand, Google Play), and they have a significant impact on the competition within the supply chain and on production costs.¹⁷³

The cost structure of the supply chain has changed with digitalisation. Generally it shows similar changes to that of digital newspapers. Costs of editorial content and staff are higher for the digital editions. Paper, printing, binding and wholesale charges no longer exist, but additional editorial and technological production costs and distribution fees are added. Overall, the industry exhibits unit costs of production similar or slightly higher for their digital products compared with those of their print products;¹⁷⁴ but, similar to newspapers, the unit cost of production of a digital newspaper is expected to decrease in the future.

7.1.7 Summary: supply chain

Generally, the supply chain analysis supports the conclusions of previous chapters well. It explains and exemplifies changes in the supply chains of digital products in comparison to the printed products, which overall results in increased competition from new players and from traditional players performing new tasks. It is clear that

¹⁷¹ European Commission (2004): Publishing Market Watch, Sector Report 3, The European Magazine and Journal Market.

¹⁷² PricewaterhouseCoopers (2008) The medium is the message. Outlook for Magazine Publishing in the Digital Age.

¹⁷³ Interviews with industry stakeholders.

¹⁷⁴ Data provided by EMMA for the UK indicate a unit cost of production 3% higher for a digital magazine compared with a print magazine.



there has been a need for traditional players to reinvent their strategies and restructure their businesses. A large degree of vertical integration is the result of traditional players' new strategies to ensure a share of the e-book segment and to compete with new players, especially in the retailing step of the supply chain.

7.2 Strategies and trends

Strategies and business models are defined by the range of formats provided by players.¹⁷⁵ Overall, one can distinguish between pure players who operate on one market only (either print or digital) and mixed players who operate in both markets. In addition, business models are defined by the way products are offered to readers (for free, in a bundle, etc.).

7.2.1 Books

Publishing

Mixed players

The majority of the larger players in the European book publishing industry are mixed players, present in both the print and the e-book markets.¹⁷⁶ It is expected that in time more traditional companies in all steps of the supply chain will move into the e-book market thereby becoming mixed players. There are different pieces of evidence that support the emergence of this trend.

A survey from Austria, conducted by the industry association in 2010, confirms that publishers are increasingly moving into the e-book market and becoming mixed players. A little less than 17% of Austrian publishers were mixed players in 2010 publishing both print books and e-books and more had plans to become mixed players in the future, whilst 36% had no intentions of becoming mixed players. In Germany, 35% of publishers were already mixed players in 2010 and an additional 43% planned to move into the e-book market in the future.¹⁷⁷

Mixed players are publishing both new and old titles on the e-book format. A striking example in terms of publishing old e-book titles is a project initiated by Swedish Bonnier. The publishing group started to digitalise a large number of old titles in 2012 in order to start reselling them as e-books. The initiative includes 1,000 titles and will increase the number of available e-books in Sweden by 20%. Bonnier has not yet made public how the e-books will be sold.¹⁷⁸

However, it is unlikely that mixed players will exit the print market and only operate in the e-book market, according to industry stakeholders. Hence, e-books and print books will coexist in the long term, as stakeholders believe that some readers will

¹⁷⁵ One can also think of business models in terms of revenues provided for products. Newspapers and periodicals are supported by advertising, since advertising revenues and direct sales revenues together cover the costs of production. However, this is not the definition of strategies and business models used in the following sections. Advertising revenues are covered in sections 5.3.2 and 5.3.3.

¹⁷⁶ Examples include RCSMediaGroup, Il Gruppo Messaggerie and Gruppo Feltrinelli (who are retailing through their own distribution platform). Other examples are Hachette Livres, La Martinière and Harper Collins (who are using online retailers).

¹⁷⁷ Wischenbart, Rüdiger (2011) *The Global eBook Market: Current Conditions & Future Projections*.

¹⁷⁸ Nyttell, Magnus (2012) *A Thousand Old Books Made New*.



continue to value the experience that the printed book provides.¹⁷⁹ This is supported by the literature, which states that digital transformation will not eliminate paper books but will create new formats for publishers, with new responsibilities and opportunities.¹⁸⁰ Recent data on the development of market also show that share of e-books in the UK has started to slow down, after a very rapid initial take-up (it increased rapidly during recent years up to 17%).

Pure players (digital and print)

Pure players exist in the e-book segment (pure digital); however, there are less pure players than mixed players. Although operating in both markets seems to be the dominant model, an increasing number of pure e-book players are expected in the future. Only very few examples of pure e-book publishers can be found, supporting that this business model is not yet widely used at least within the publishing step of the supply chain. One example is Stealth in Italy.¹⁸¹

In spite of recent changes and technological advancements, pure print players remain a wide-spread business model, although more common for retailers than for publishers. Examples of large pure print publishers include Les Editions Lefèbvre-Sarrut in France and Weka in Germany.¹⁸² As most of the larger publishers and increasing numbers of medium-sized and small publishers become mixed players, it is expected that the pure print players will mainly be smaller in size, of which there are many in the EU (there were around 28,000 publishing firms in 2010).¹⁸³

Distribution and retail

Mixed players

Mixed players also exist in distribution and retail and include large online companies, such as Amazon and Saxo, who sell print books and e-books from websites and large bookstores. Bookstores have typically developed an online platform from which consumers can purchase print books and e-books, in addition to their traditional physical outlet. Examples of the latter are WHSmith and Waterstone's in the UK, FNAC in Spain, Italy and France, Virgin in France and the UK, and Thalia and Weltbild in Germany.¹⁸⁴

Mixed players include small bookstores to a lesser extent. A few examples can be found of small bookstores joining forces to be able to compete on the digital market. Examples include Libreka! in Germany. A similar initiative is being developed in France. In the UK, the wholesaler Gardners has set up the platform Hive for retailing of books and e-books.

Mixed players generally sell books and e-books separately. Contents are the same and the formats are basically competing for readers who typically only purchase one

¹⁷⁹ Interview with industry stakeholders.

¹⁸⁰ Hoffelder, Nate (2013) Tolino (aka Germany's Response to the Kindle) is Getting Off to a Rocky Start (2010) Turning the Page of The Future of eBooks.

¹⁸¹ European Commission (2012) JRC Technical Reports; The Publishing Industry.

¹⁸² Publishers' websites.

¹⁸³ Eurostat.

¹⁸⁴ European Commission (2012) JRC Technical Reports; The Publishing Industry & Rüdiger Wischenbart (2011) The Global eBook Market.



format or the other. Seen from the industry perspective, the formats are substitutable. The typical business model used by mixed players is one where consumers pay per product bought (single copy sales). Subscription models are not yet commonly used for books or e-books but are expected by market players to be more widely used for e-books in the future. Another example of a business model for e-books is a US example where educational e-books are leased to students for a semester at a time.¹⁸⁵ Since the formats are sold in similar ways, pricing of the formats are also very similar. However, there is less use of FBP laws for e-books so more price competition can be expected on e-books.

Pure players (print and digital)

GoogleBooks, Google eBooks and Apple iBooks are examples of pure digital retailers.¹⁸⁶ Different business models also exist among these retailers: GoogleBooks offers samples of scanned books to read online for free or at a minor subscription cost or transaction cost, whereas Google eBooks and Apple iBooks offer e-books for download at a higher subscription cost or transaction cost.¹⁸⁷

The impacts of pure online distributors and retailers on the market and industry have been investigated with a case study which takes GoogleBooks and Google eBooks as a starting point for discussion. Overall, interviewees point to two impacts of the pure players such as Google. According to interviewees, an initiative such as GoogleBooks contributed to the widespread idea that e-books should be cheap products, and largely free of charge for readers. Lower willingness to pay for e-books is considerably hindering the growth of the e-book segment, as e-books are generally considered too expensive by consumers. On the other hand, interviewees also believe that GoogleBooks might affect consumer reading habits and preferences, as it promotes e-books. In this sense, Google may have also stimulated the growth of the market. The full case study (case study 4) can be found in Annex B.

In addition to the mentioned players, many online distribution platforms exist, some of which offer e-books only while others offer both print books and e-books. The majority of these platforms are owned by publishers operating in the print book segment and e-book segment, and therefore cannot be classified as pure e-book players. Examples include Edigita in Italy, Eden in France, Librandia in Spain and Skobe in Germany.¹⁸⁸ Some sales platforms are, however, not owned by companies in the print market and can therefore be classified as pure e-book players. Examples include e-book.it and Bookrepublic in Italy, FeedBooks, Zebook, eBooksurf and DigiBidi in France, and Ciando in Germany.^{189,190}

As is the case for publishers, the number of distributors and retailers of only print books is expected to decrease in the future. Examples of pure players in the print market have been difficult to find as most of the larger distributors and retailers are

¹⁸⁶ Simon Barry & Philippe Martel (2011) Implications on the Reduced VAT Rate for E-books.

¹⁸⁷ Websites of Google and Apple.

¹⁸⁸ European Commission (2012) JRC Technical Reports; The Publishing Industry.

¹⁸⁹ Simon Barry & Philippe Martel (2011) Implications on the Reduced VAT Rate for E-books.

¹⁹⁰ European Commission (2012) JRC Technical Reports; The Newspaper Publishing Industry & Publishers' websites.



already mixed players. Pure players in the print market are therefore likely to be small, independent book stores, as well as kiosks and other small retail outlets.

Summary of trends in the book industry

The summary of our findings is presented in Table 7.1. Briefly, we have found that:

- In the publishing sector the pure player model (e-books or pure print) is not very common. More pure digital players are expected in the future whereas less pure print players are expected in the future. Most of the current publishing players are using the mixed model and it is expected that more companies will move into the e-book market, but it is unlikely that companies exit the print market altogether.
- Large companies and bookstores are present in the mixed distribution models, although these also include some small bookstores. Many online platforms exist for the distribution of e-books but these mainly also distribute books in print.

Table 7.1: Summary of trends – Books industry

	Publishing	Distribution and retail
Mixed	Mainly the large publishing houses. In time more traditional companies will move into the e-book market. Unlikely that mixed players will exit the print market.	Mixed players also exist in distribution and retail (large online companies and large bookstores). Also include small bookstores to a lesser extent.
E-books	Only very few examples of pure e-book publishers can be found. More are expected in the future.	GoogleBooks, Google eBooks and Apple iBooks are examples of pure digital retailers. Many online distribution platforms exist (some of which offer e-books only while others offer both print books and e-books). <ul style="list-style-type: none"> - The majority of these platforms are owned by publishers using a mixed business model. - Some sales platforms are, however, not owned by companies in the print market and can therefore be classified as pure e-book players.
Print	Less in the future. Will mainly be smaller players.	Less in the future. Will mainly be smaller players.



7.2.2 Newspapers

Publishing

Mixed players

A large share of players in the newspaper industry is mixed players, as is the case for the book industry. The newspaper industry is, however, slightly further behind the book industry and therefore the share of mixed players is not expected to be as large within this industry as within the book industry.

Most of the large European newspaper publishers are currently mixed players. Examples include Sanoma (Finland), Der Spiegel (Germany), The Stampen Group (Sweden), GMG Guardian Media Group, JP/Politikens Hus (Denmark) and many more.¹⁹¹

Typically, mixed players offer a range of digital products¹⁹² along with their print newspapers; and often formats are sold in a bundle and considered complementary. This is typically the case, regardless of whether the print and digital contents are exactly the same, largely similar or largely different. Increasing amounts of additional or premium digital news contents are published in the digital format, typically on the publishers' websites protected by a pay-wall.

Many newspaper publishers have at some point used a business model where digital content is provided free of charge, either on its own or as part of a print subscription. Some publishers have also tried to introduce pay models for digital contents, but so far many have been unsuccessful as direct turnover could not compensate for the loss of advertising revenues. As publishers face the challenge of a combined decrease in digital advertising revenues (due to the economic downturn, but also increasing competition for advertising revenue on the internet) and in print sales and subscriptions turnover, the search for sustainable business models for digital newspapers continues for many mixed players. A favoured model includes pay-walls for premium contents (examples of European publishers include Berliner Morgenpost and Hamburger Abendblatt in Germany, as well as Le Figaro in France¹⁹³).

To examine more closely the use of mixed business models, a case study has been conducted specifically on mixed business models of newspaper publishers in Denmark. The case investigates how and why traditional news providers do business in both the print and the digital markets, and whether the mixed business model is expected to develop in the future. The case study finds that one of the main motivations behind the mixed business model is mainly to service existing readers by making their products available in different formats and through different supports. Attracting new digital subscribers is also an objective, but less of a priority. A sustainable business model is yet to be found among the interviewees, which acknowledge that much work remains to be done to increase consumer interest and willingness to pay for digital contents. Preferred strategies of the interviewees are bundled print and digital subscriptions, and the development of premium digital versions.

¹⁹¹ European Commission (2012) JRC Technical Reports; The Newspaper Publishing Industry & Publishers' websites.

¹⁹² Digital products include the digital newspaper (in PDF or tablet version) and website contents.

¹⁹³ European Commission (2012) JRC Technical Reports; The Newspaper Publishing Industry.



The case study also shows that it has been common for publishers to set up a separate division for their digital version, but as the products (print and digital) have become increasingly intertwined so has the publishers' organisation. The full case study (case study 5) can be found in the Annex B.

The mixed-model has brought organisational challenges to publishers. Historically, print and digital newspapers have been produced separately. Besides the double costs of upholding two organisations, the literature also refers to double costs as costs of using two technical intermediates (printing and digital formatting and editing). The situation has, however, been changing, and publishers now see their print and digital products as the same or as similar products available in different formats, and production activities have been increasingly intertwined. Hence, in order to avoid double costs, there has been a tendency among publishers to merge their editorial teams in a single "newsroom". Examples include Die Welt in Germany and Le Figaro in France. This obviously has been done at some cost, not to mention the challenge of merging teams that have separate cultures.¹⁹⁴

Pure players (digital and print)

Currently, there are some pure players in the segments for digital and print newspapers, and more pure digital players are expected in the future (examples of pure digital publishers include international publishers such as Huffington Post and Slate which so far have been very successful in terms of securing profits; European examples exist such as Rue89 in France and NU.nl in the Netherlands).

Pure digital players have another cost structure which has possible advantages over the mixed model. Pure digital-news publishers work with different business models compared to the mixed players: instead of offering bundled print and digital subscriptions, some digital publishers are offering subscriptions to a selection of articles or a number of articles.

The digital news publishers are applying user-generated content to a larger extent than are mixed players. This is done by providing options for users of sharing and commenting on news, e.g. through social media such as Facebook and Twitter. For that reason, social media is also viewed as a digital distributor/ aggregators of news. There are more details on the digital distributors and retailers in the section below.

There are still a number of pure players in the print newspaper segment, but these are increasingly less. With more publishers becoming mixed players, the number of pure print publishers is expected to be continuously decreasing (in fact, currently almost all newspapers have a website). There are, however, still many publishers, mainly regional or local, who do not issue a digital paper.

Distribution and retail

Mixed players

Becoming a mixed player in distribution and retailing typically involves vertical integration in the supply chain (as some publishers distribute and retail their own

¹⁹⁴ There are some examples in the literature indicating that the double organisations can be successful. The German newspaper Der Spiegel has an independent web edition with journalists dedicated to digital news production. The web edition has little overlap with the print edition, and therefore there is only small overlap in print and digital readership. European Commission (2012) JRC Technical Reports; The Newspaper Publishing Industry.



subscriptions). Therefore, some of the publishers mentioned above are also mixed players in terms of distribution and retail. We see that distributors and retailers of printed newspapers are becoming mixed players, e.g. online subscription services where tablet editions of newspapers are included in a print subscription. An example of such a player is *isubscribe.co.uk* in the UK.

Pure players (digital and print)

Some pure digital players have emerged within distribution and retail. Examples include Apple Newsstand, Google Play and Amazon's Kindle Newsstand. These distributors/ retailers sell digital contents on behalf of publishers.

Another kind of pure digital player is the news aggregator. Digital news aggregators are news providers who do not create news but aggregate and display content from news publishers' websites, typically in the form of a headline and a short description to provide an overview of the particular article. For more information, readers must enter the actual publisher's webpage. Examples of digital news aggregators include Google News, Yahoo News and MSN News.

Digital news aggregators work with business models similar to those of digital publishers where a subscription to a selection or number of articles is possible. Some aggregators, such as eLinea30, Pulse, Zite and Flipboard, are offering subscriptions to a selection of contents from different sources. Readers are then free to choose contents from different sources within the limits of their subscriptions. The digital news aggregators are also applying user-generated content to a larger extent than mixed players.¹⁹⁵

A case study has been conducted on the impact of digital news aggregators on traditional news publishers. Publishers generally regard online news aggregators as disloyal competitors, who reuse the news produced elsewhere to generate revenues from advertising without generating any value for the readers. Also, publishers consider aggregators' practices to be detrimental to the overall quality of the news that can be found on the internet, and believe that this contributes to lower consumers' preferences and willingness to pay for quality journalism. In contrast, some publishers view news aggregators as potential business partners with whom cooperation can be formed to support the publishers digital business models. The full case study (case study 6) can be found in Annex B.

Many distributors and retailers of newspapers are still pure print players. These include the companies who undertake physical distribution of newspapers, and kiosks, supermarkets etc. who retail newspapers.

Summary of trends in the newspaper industry

The summary of our findings is presented in Table 7.2. Briefly, we have found that:

- In the newspaper-publishing industry, the mixed player model is the most popular. Publishers are currently exploring different types of business models (such as bundling and introducing pay-walls for premium contents) to combat the decreasing advertising revenue from digital products and subscription turnover from print products. The main focus is allowing customers to access

¹⁹⁵ European Commission (2012) JRC Technical Reports; The Newspaper Publishing Industry.



- products via different formats and supports. The number of pure players is expected to increase on the digital side, but to decrease on the print side.
- The distribution and retail of newspapers is also mixed, but has seen the emergence of two types of pure players: those that sell digital contents on behalf of publishers, and news aggregators who offer subscriptions to selected contents from different sources. Many of the print distributors and retailers (in kiosks, supermarkets, etc) are also pure players.

Table 7.2: Summary of trends – Newspapers industry

	Publishing	Distribution and retail
Mixed	<p>Most of the large European newspaper publishers are currently mixed players.</p> <ul style="list-style-type: none"> - Digital content is provided free of charge (own or as part of a print subscription). - Tried to introduce pay models for digital contents, but many have so far been unsuccessful as direct turnover could not compensate for the loss of advertising revenues. - Search for sustainable business models. A favoured model includes pay-walls for premium contents. - Other strategies include bundled subscriptions (print and digital) <p>The mixed-model has brought organisational challenges to publishers. Publishers now see their print and digital products as the same, or as similar products available in a different format; and production activities have become increasingly intertwined.</p>	<p>Publishers are also mixed players in terms of distribution and retail.</p>
Digital	<p>Some pure players, both international and national, more are expected in the future.</p>	<p>Some pure digital players within distribution and retail have emerged (Apple Newsstand, Google Play and Amazon's Kindle Newsstand). These distributors/ retailers sell digital contents on behalf of publishers.</p> <p>Another kind of pure digital player is the news aggregator.</p>
Print	<p>Mainly regional and local publishers.</p> <p>The number of pure print publishers is expected to continuously decrease.</p>	<p>Many distributors and retailers of newspapers are pure print players.</p> <p>Mainly smaller, local retailers (Kiosks).</p>

7.2.3 Periodicals

Publishing

Mixed players



There are less mixed players in the periodical industry compared to the other industries, due to the fact that digital periodicals are not as developed as e-books and digital newspapers. However, the trends are the same as for the newspaper industry, with more and more publishers becoming mixed players. Examples of mixed publishers include the Economist, Popular Science, Veja, Aller and Hearst. Some publishers of newspapers are also in the industry for periodicals such as Bonnier and Samona.

The publishers are responding much like newspaper publishers building business models where products are bundled, enriched content is appearing (such as content enriched with videos, extra photos, slide shows, audio and flash animation) and digital contents is to an increasing degree paid for.

Due to digitalisation, traditional business models (which are supported by advertising for the periodical industry as well as the newspaper industry) are less viable. However, most European publishers see the digital periodical as a by-product or add-on for print subscribers and the digital periodical is typically published with the same contents as the printed edition. This might be because the market is not yet ready for premium contents. This is supported by a study in 2011 showing that 65% of tablet owners preferred a simple electronic reproduction of a magazine to a version with many features.¹⁹⁶

The digital periodical is often made available for print subscribers free of additional charge. Other business models are also used where readers pay for a subscription, single copy or selection of articles. The reasons for the widespread use of the "free digital with print" business model and expectations for future development of business models are investigated through a case study (case study 7 in Annex B). The case study shows that the business model is used to a lesser extent now than previously in favour of business models where readers pay for digital contents. However, prices are still on average lower for digital editions than for print editions. Publishers are exploring many new kinds of business models built on, e.g. multiple platform access, premium contents and interactive advertising.

The literature predicts that once the market for digital periodicals really starts to develop, mixed publishers of periodicals will need to make organisational changes that mirror a diversified business model. Instead of organising the business around each media type, e.g. print and digital, publishers will need to integrate their businesses and the skills of both businesses to stay close to the consumers who use multiple media without distinguishing between them.¹⁹⁷ This is the same trend as is already seen for newspapers.

In the future, the mixed publishers of periodicals will need to work more within the field of consumer tracking to be able to make specialised offers to the consumers instead of having a "one size fits all" business model. Publishers of periodicals have already started doing so with digital websites that differ in content from the printed product; however, this also needs to be transferred to the digital periodical. In this respect, selling products through Google Play or Apple Newsstand is a challenge for the publishers of periodicals: while the latter build heavily on the identity of their

¹⁹⁶ World Newsmedia Network (2012) Impact of the magazine industry.

¹⁹⁷ PricewaterhouseCoopers (2008) The medium is the message. Outlook for Magazine Publishing in the Digital Age.



brand and their proximity with their community of readers, the former does not share customers' information.¹⁹⁸

Pure players (digital and print)

As is the trend for the other industries, more and more pure players are appearing within the digital periodical segment but total numbers are still low. There are currently very few pure digital publishers of periodicals. An example is auFeminin.com in France. In 2008, the French web portal was said to be the leading publisher of interactive women's magazines. In the five years from 2003 to 2007 the publisher's turnover quadrupled and the publisher was making profits.¹⁹⁹

It seems that digital periodicals can be a profitable market with the right business model. This is again much in line with trends and developments in the digital newspaper-publishing market; where pure digital players, such as the Huffington Post, are also making profits.

Since the market for digital periodicals is not yet fully developed, the majority of publishers, wholesalers, distributors and retailers of periodicals are working in the print market only. This number is expected to fall in the future as the digital market grows, which it is expected to do rapidly in coming years.

Distribution and retail

Mixed players

Mixed players within distribution and retail of periodicals are publishers who have vertically integrated, and who distribute and retail their own subscriptions. In addition, subscriptions also service retail printed and digital periodicals; one example is magazine-shop.dk.

Pure players (digital and print)

Generally we see the same players and trends as for newspaper distribution and retail. Examples of players include Apple Newsstand, Google Play, Amazon's Kindle Newsstand and Zinio where digital periodicals as well as newspapers are distributed and sold.²⁰⁰

There are also pure online aggregators of periodical content, as is the case for the newspaper industry. American examples include Pulse and Zite which are also aggregators of news.

As for newspapers, a large number of distributors and retailers of periodicals are pure print players. These include the companies who undertake physical distribution of newspapers and kiosks, supermarkets etc. who retail newspapers both nationally and regionally.

Summary of trends in the periodicals industry

The summary of our findings is presented in Table 7.3. Briefly, we have found that:

¹⁹⁸ Interviews with industry stakeholders.

¹⁹⁹ PricewaterhouseCoopers (2008) The medium is the message. Outlook for Magazine Publishing in the Digital Age.

²⁰⁰ World Newsmedia Network (2012) Impact of the magazine industry.



- Most players in the periodicals market are pure print players due to the slow development of the digital market so far, although increasingly there are more pure digital publishers and fewer pure print publishers. At the moment, the number of mixed players in periodicals market is not as high as compared to the other two. This number, however, is expected to grow with digitalisation. Mixed players are trying different models to find the most suitable one to tailor to different consumers' needs.
- The trends for distribution and retail for periodicals are very similar to those for newspapers. Vertically integrated publishers distribute and retail their own subscriptions; subscriptions services also retail print and digital periodicals. The pure digital players of periodicals are similar to those in the newspaper industry.

Table 7.3: Summary of trends – Periodicals industry

	Publishing	Distribution and retail
Mixed	<p>Increasingly more mixed players.</p> <p>Typically national publishers.</p> <p>Digital products are often made available for print subscribers free of additional charge.</p> <p>Other business models are also used where readers pay for a subscription, single copy or a selection of articles.</p>	<p>Mixed players within distribution and retail of periodicals are publishers who have vertically integrated, and who distribute and retail their own subscriptions. In addition, subscriptions services also retail printed and digital periodicals.</p>
Digital	<p>Very few pure digital publishers of periodicals. More pure players will appear.</p>	<p>Generally we see the same players and trends as for newspaper distribution and retail (Apple Newsstand, Google Play, Amazon's Kindle Newsstand and Zinio) where digital periodicals as well as newspapers are distributed and sold.</p> <p>There are also pure online aggregators of periodical content, as is the case for the newspaper industry.</p>
Print	<p>Still the majority of players.</p> <p>Both large and small, national and regional.</p> <p>This number is expected to fall in the future.</p>	<p>Many distributors and retailers of periodicals are pure print players.</p> <p>Mainly smaller, local retailers (Kiosks)</p>

7.3 Summary

The mixed business model is well on its way to being the dominant business model in all three industries; but with the periodical industry being furthest behind. This is in accordance with results from previous sections which show that the digital periodical industry is the least developed in terms of market share.

It can also be concluded from previous sections that the industries have different views of the substitutability of the formats. Whereas the strategies of the book industry generally support a view of books and e-books as substitutable, the newspaper and periodical industries so far use strategies which regard both types of publications as complementing each other. The newspaper and periodical industries



are also the ones struggling the most to find sustainable business models, and seem to be progressing towards a view of products as substitutable to develop sustainable business models.

Table 7.4: Overview strategies and trends - Publishing

	Books	Newspapers	Periodicals
Mixed	The majority of players. More players in the future. Mainly large national and international publishers (Bonnier, Hachette Livre).	A large share of players. More players in the future. Mainly large national publishers (Der Spiegel, Sanoma)	Some players already. Many more players in the future. Mainly large national publishers (The Economist, Aller).
Pure Digital	Still very few (Stealth). Mainly national. More players in the future.	Some players already. Some international players (Huffington Post and Slate). Few national players (Rue89, NU.nl). More players in the future.	Small share of players. Some international players. Few national players (auFeminin.com). More players in the future.
Pure print	Mainly smaller publishers. A few large publishers (Les Editions Lefèbvre-Sarrut, Weka). Fewer players in the future.	Very few players. Mainly smaller publishers, regional and local rather than national. Fewer players in the future.	The majority of players. Fewer players in the future. Small and large publishers. Both national and regional.

Table 7.5: Overview strategies and trends - Distribution

	Books	Newspapers	Periodicals
Mixed	Mainly larger retailers. International and national. Online retail only of print and e-books (Amazon, Saxo). Physical and online retail of print and e-books (FNAC, Virgin, Thalia). Smaller booksellers using platforms set up by industry associations (Libreka!)	Publishers through vertical integration. Online subscription services (isubscribe.co.uk). Mainly national.	Publishers through vertical integration. Online subscription services (magazine-shop.dk). Mainly national.
Pure Digital	Large international players (Google eBooks, Apple eBooks). National players (E-book.it, Bookrepublic, FeedBooks, Zebook, eBooksurf, DigiBidi, Ciando).	Large international players (Google Play, Apple's Newsstand, Amazon's Kindle Newsstand).	Large international players (Google Play, Apple's Newsstand, Amazon's Kindle Newsstand).
Pure print	Mainly smaller, local retailers (book stores and kiosks).	Mainly smaller, local retailers (kiosks).	Mainly smaller, local retailers (kiosks).



8. Simulation of impacts

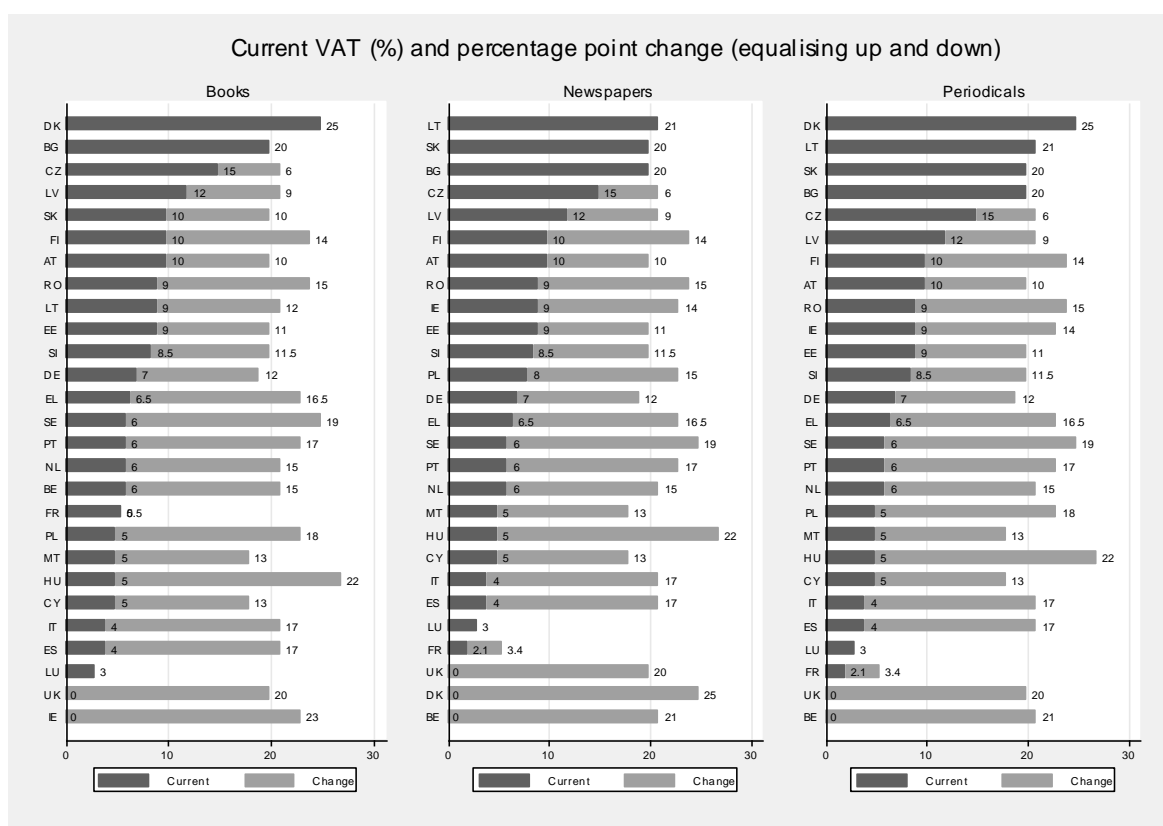
In this section we analyse the impact of the two policy options: applying a standard rate, and applying the same reduced rate for both kinds of publications. The analysis uses the formulae shown in section 2 and the parameters estimates from section 5 and 6, assuming a pass-on of 50%. The section is organised in the following way: we first present the 2013 prevailing VAT rates and the required changes to meet the policy options. We then present the results starting with the simple reduced-form one-product one-market model, and go on to progressively expand the analysis to account for cross-product effects and to include the turnover from advertising. The last subsections explain and discuss the results.

8.1 VAT changes analysed

Reduced rates and rates applied in digital publications are presented in Figure 8.1, for different product categories and Member States. The light grey bars show the difference between the rates, and this difference is what is used in the policy options analysed. In the case of equalising-up, the prevailing 2013 reduced VAT rates are increased to the level of digital publications hence the light grey bars represent the difference to be added to the reduced VAT rates. In the case of equalising-down the VAT rate for digital publications needs to equalise the reduced VAT rates, hence the light grey bars represent the difference to be subtracted from the digital VAT rates.



Figure 8.1: Changes in VAT of policy options



Note: several rates may be applicable for a same category depending on the conditions imposed by the Member States (we are unaware of the proportion of each subcategory, but it is known that BE applies different rates on books, newspapers and periodicals (0%, 6%, 21%), ES (4%, 21%), FR (2.1%, 19.6%), and IT (4%, 21%). SE applies a reduced rate for periodicals but exempts from VAT certain services. Source: DG Taxud "VAT Rates Applied in the Member States of the European Union". 2013.

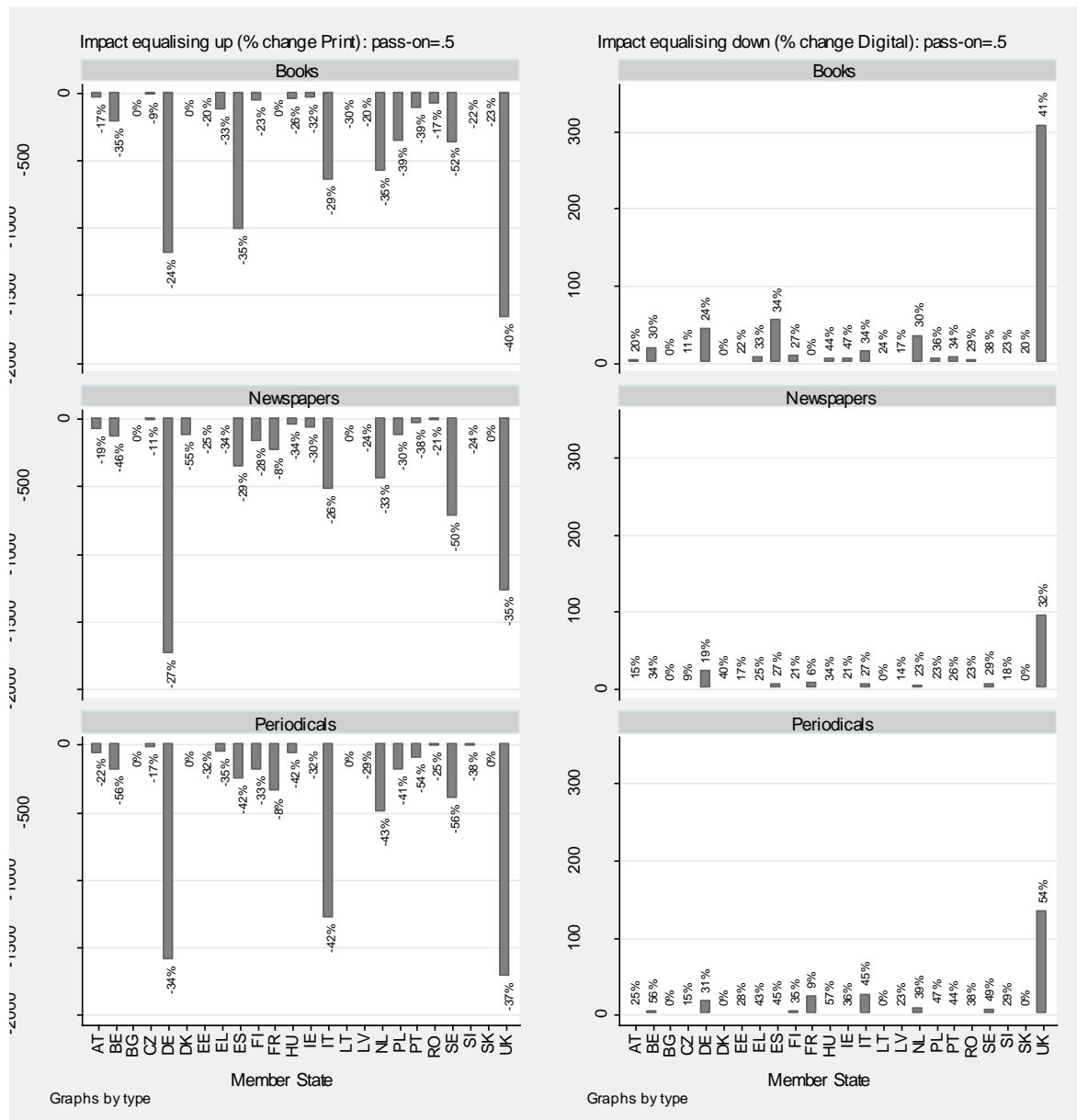
8.2 Impacts in the one-product, one-market model

The results of the one-product one-market analysis simplify the analysis to a situation where there are no interactions with substitute and complement products. Hence, the impact on turnover (of physical books, and from circulation of newspapers and periodicals on print) as a result of an equalising-up option arises only from the effects own-price elasticities have on the quantities sold for print products. Seemingly, the impact on the digital market of an equalising-down option arises from the change in sales (in e-books, and the circulation of digital newspapers and publications) as a result of the price change in digital products only.

The results for equalising up show a very important decline in the turnover of publications in print (Figure 8.2). For books and periodicals in the UK, the decrease can reach up to €1.7 billion in each market. This is equivalent to a 40% decrease in turnover. The newspaper industry in DE also shows an absolute reduction of similar magnitude. These results are a consequence of the large market the different publications represent in each Member State and the high increase imposed by the equalising-up option in the UK for books and periodicals (going from 0 to 20%) and DE for newspapers (going from 7 to 12%). The results for equalising down show a significant increase in the turnover of digital products (in percentage terms), even though the absolute increase is much smaller (mostly less than 100m).



Figure 8.2: Impact in circulation: Print and Digital



Source: Europe Economics analysis of consumer survey from this report.

The following table presents a summary of the impact ranges experienced by the Member States in each of the two scenarios (Table 8.1). It is first noticeable that some countries did not experience any impact as a result of the simulations, and this is due to the common VAT levels in both print and digital (this can be seen in Figure 8.1, in previous pages). The bulk of Member States, however, face a reduction of turnover in the range of 20%-35% in the equalising up scenario and in a few cases the impacts are greater than a 35% decrease: in PL, PT, SE, UK (books); in BE, DK, PT, SE (newspapers); and BE, ES, HU, IT, NL, PL, PT, SE, SI, UK (periodicals).



In the equalising down case, in the books and newspapers markets most Member States experience increases of between 5%-25% and between 25%-35% (HU, IE and UK face an impact greater than 40% in books and DK an impact greater than 35% in newspapers). It is surprising to see how the effects on sales are larger in the periodicals market, with half of the Member States experiencing an increase greater than 35%.

Table 8.1: Summary total impact: affected Member States (one-product, one-market)

	Impacts	Books	Newspapers	Periodicals
Equalising up	No impact	BG, DK, FR	BG, LT, SK	BG, DK, LT, SK
	Between -5% and -20%	AT, CZ, EE, LV, RO	AT, CZ, FR	CZ, FR
	Between -20% and -35%	BE, DE, EL, ES, FI, HU, IE, IT, LV, NL, SI, SK	DE, EE, EL, ES, FI, HU, IE, IT, LV, NL, PL, RO, SI, UK	AT, DE, EE, EL, FI, IE, LV, RO
	More than -35%	PL, PT, SE, UK	BE, DK, PT, SE	BE, ES, HU, IT, NL, PL, PT, SE, SI, UK
Equalising down	No impact	BG, DK, FR	BG, LT, SK	BG, DK, LT, SK
	Between 5% and 25%	AT, CZ, DE, EE, LT, LV, SI, SK	AT, CZ, DE, EE, EL, FI, FR, IE, LV, NL, PL, RO, SI	AT, CZ, FR, LV
	Between 25% and 35%	BE, EL, ES, FI, IT, NL, PT, RO	BE, ES, HU, IT, PT, SE, UK	DE, EE, FI, LV
	More than 35%	HU, IE, PL, SE, UK	DK	BE, EL, ES, HU, IE, IT, NL, PL, PT, RO, SE, UK

Source: Figure 8.2.

8.3 The two-product, one-market model

The two-product one-market model incorporates the cross-effects from substitute or complement products. We use the cross-price elasticities to account for migration between the two products. Hence we quantify the changes in sales for digital products as a result of equalising up the rates for print publications, and the changes in sales of print as a result of equalising down the rates of digital publications.

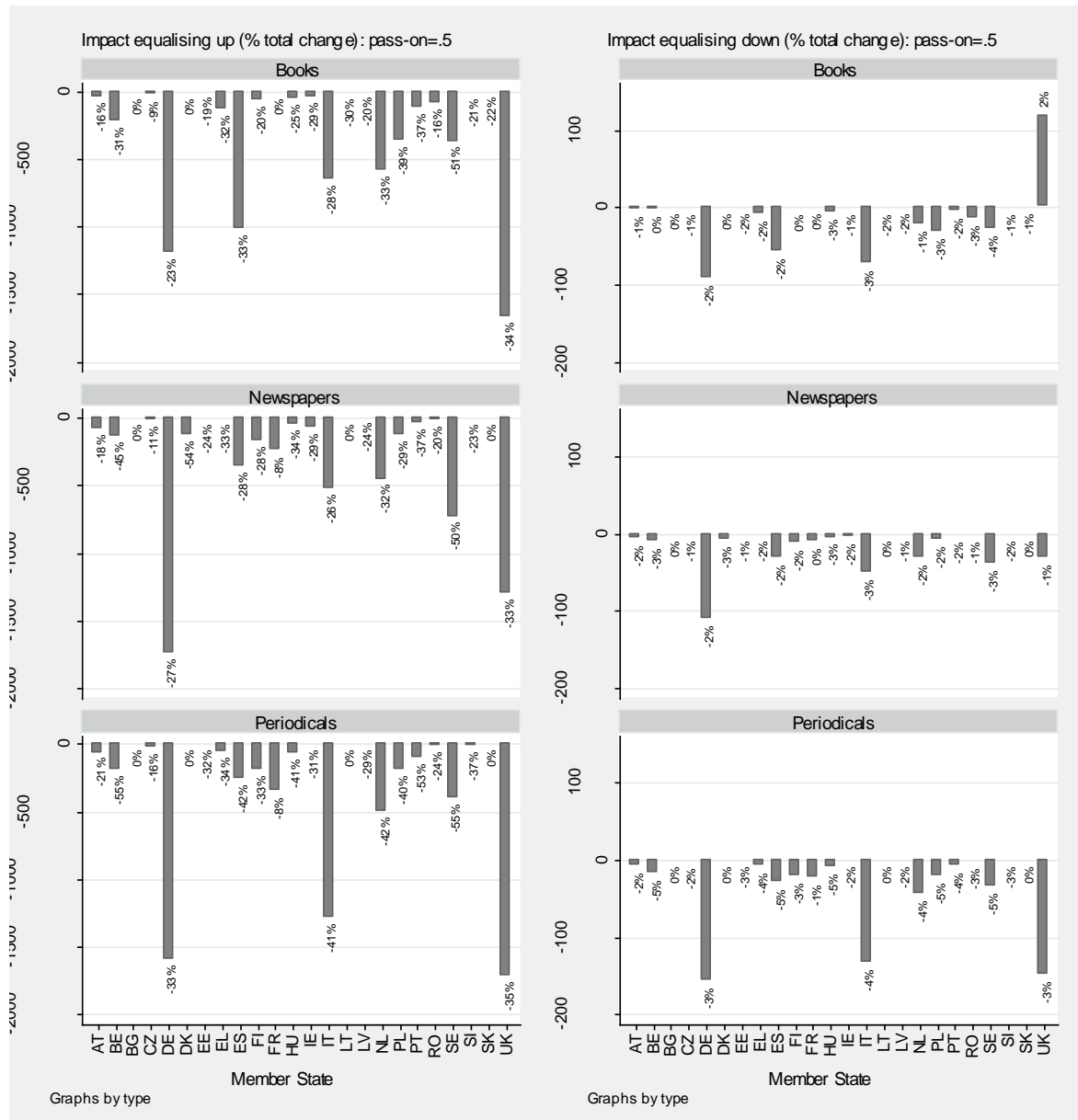
The impact of an equalising-up policy does not show significant differences with the results presented previously (in Figure 8.2). In the case of books and periodicals, this is because the migration from print to digital is null and the results only include the increase in turnover from digital publications. In the case of newspapers, where the cross-price elasticity is negative²⁰¹, the results of a tax increase in print reduce the sales volumes in digital circulation. The result for equalising down takes into account the migration from print to digital and this has a negative impact on the turnover of digital products. The lost sales as a result of the emigration from print are enough to turn the gains in digital circulation to losses in most Member States (Figure 8.3). There is an exception in the UK books market which shows an overall positive change. This is because in the UK the change in digital consumption as a result of the digital own-price effects is able to offset the overall losses from the print segment (due to emigration). As the consumption of digital products is smaller in the remaining Member States, the own-price reactions of digital consumers cannot compensate for

²⁰¹ We recall this is consistent with complementarity between print and digital which implies that increases in price of print will reduce the quantities of digital.



the losses due to consumer migration from print. In any case, the migration from print to digital is of a small scale when compared to the overall size of the market, so that the resulting losses are less than 5%.

Figure 8.3: Impact circulation including cross-product effects (digital in print and print in digital)



Source: Europe Economics analysis of consumer survey from this report.

Table 8.2, provides a summary of impact ranges for all Member States. Similarly to the findings in the one-product, one-market case, the bulk of Member States face a 20%-35% decrease in the equalising up scenario. Periodicals are an exception with significantly more Member States experiencing reductions greater than 35% (BE, ES, HU, IT, NL, PL, PT, SE, SI).



In the equalising down case, the impacts now show decreases in turnover (with the only exception of the UK). The majority of the estimates for books and newspapers can be found in the 1%-2% decrease range (the remaining Member States experience drops under 5%). The changes in periodicals are larger, with a significantly larger number of Member States showing a reduction in sales greater than 2%.

Table 8.2: Summary total impact: affected Member States (two-product, one-market)

	Impacts	Books	Newspapers	Periodicals
Equalising up	No impact	BG, DK, FR	BG, LT, SK	BG, DK, LT, SK
	Between -5% and -20%	AT, CZ, EE, FI, LV, RO	AT, CZ, FR, RO	CZ, FR
	Between -20% and -35%	BE, DE, EL, ES, HU, IE, IT, LT, NL, SI, SK, UK	DE, EE, EL, ES, FI, HU, IE, IT, LV, NL, PL, SI, UK	AT, DE, EE, EL, FI, IE, LV, RO, UK
	More than -35%	PL, PT, SE	BE, DK, PT, SE	BE, ES, HU, IT, NL, PL, PT, SE, SI
Equalising down	No impact	BE, BG, DK, FI, FR	BG, DK, FR, LT, SK	BG, DK, LT, SK
	Between -1% and -2%	AT, CZ, DE, EE, EL, ES, IE, LT, LV, NL, SI, SK, PT	AT, CZ, DE, EE, EL, ES, FI, IE, LV, NL, PL, PT, RO	AT, CZ, FR, IE, LV
	More than -2%	HU, IT, PL, RO, SE	BE, HU, IT, SE, SI, UK	BE, DE, EE, EL, ES, FI, HU, IT, NL, PL, PT, RO, SE, SI, UK
	Positive Impact	UK	--	--

Source: Figure 8.3.

8.4 Two-product, two-market model

We finally analyse the implications of advertising in the newspaper and periodical sectors (books are also provided in the charts for completeness, although the results are the same as shown in the two-product one-market model). This last situation allows for the inclusion of turnover obtained from advertisement in publications. The impacts of advertisements have been calculated adding two dimensions. Firstly, the policy change will have an impact on advertising from circulation of newspapers and periodicals in different mediums (print and digital). We have assumed that such turnover will change at the same rate as the change in circulation sales.

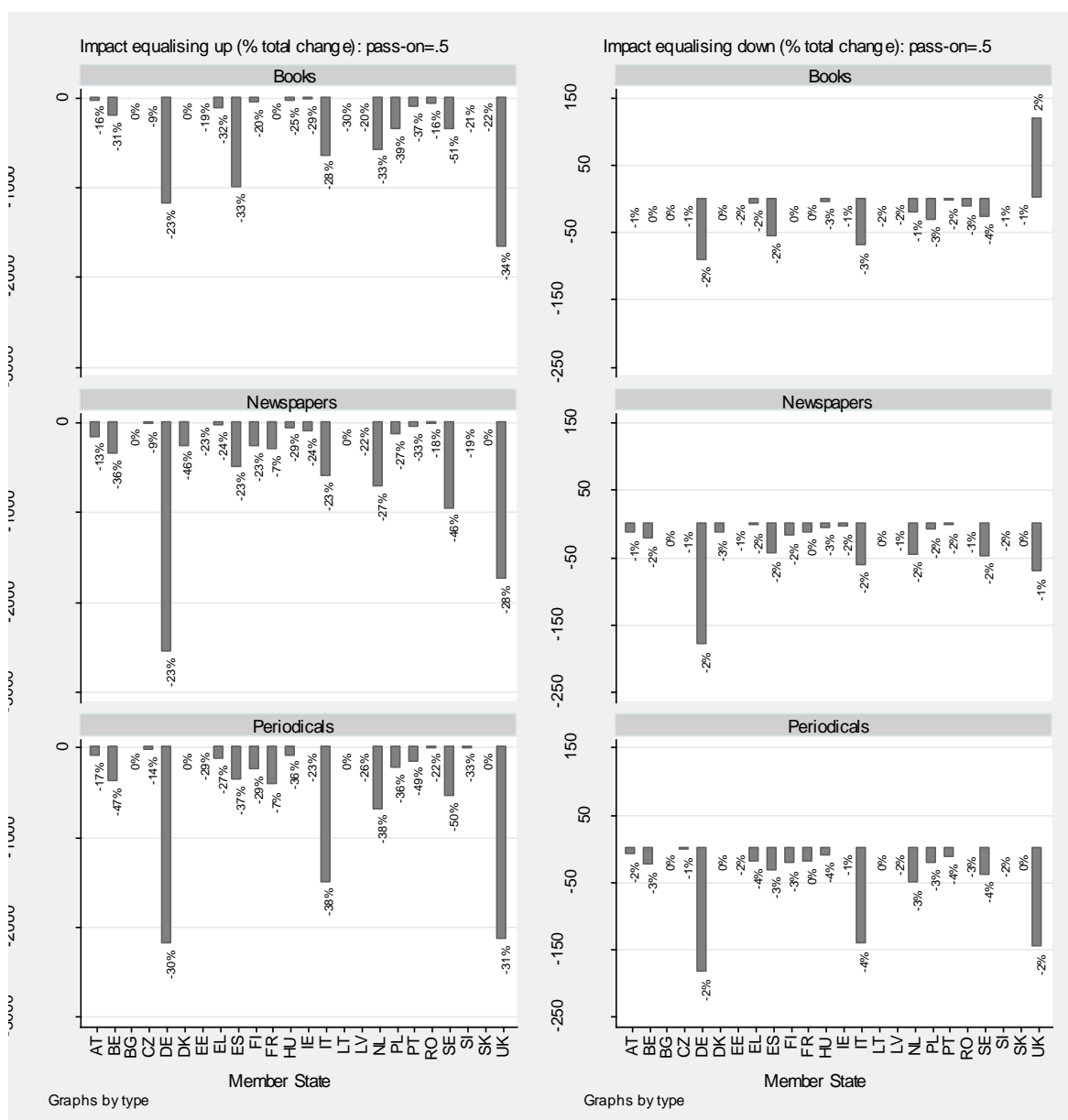
However, not all advertising turnover in the print markets may be lost if some of the readers decide to shift to the free-online companion websites of newspapers and periodicals. Hence some of the turnover lost may appear as a gain in the form of digital advertising turnover. However, the income received from print advertising is not the same as from digital publications. On conversations with the industry we learned that advertising is far less valuable in digital than in print publications. Industry sources mentioned that the ratio between digital to print is 1:10, in the sense that for each cent earned in advertising in digital publishers earn 10 in print. We have used this ratio to calculate the increased advertisement sales in digital that accrue due to the lost advertising turnover in print. Implicitly, we are assuming that all consumers lost in the print will be going to the on-line companion website. This assumption has minimal effects on the results.

The impacts in percentage terms show very similar results when compared to the circulation turnover. But the change in absolute turnover is more important when



including advertising: as advertising typically accounts for part of the total turnover, the impact of equalising up increases even further the lost sales in print. The impact of advertising in the digital market as a result of equalising down is much less, and this is because of the reduced size of this market.

Figure 8.4: Total impact including advertising



Source: Europe Economics analysis of consumer survey from this report.

The calculations for the two-product, two-market model generate similar results to the previous case (Table 8.3). For the equalizing up scenario the categorisation of Member States is identical for books and shows only two changes for newspapers (SI and PT) and periodicals (AT and SI). As seen previously, most Member States experience decreases of between 20% and 35% in the markets of books and newspapers and



between 20% and 50% in the market of periodicals. Overall, SE is the most affected Member State in all three markets, DK experiences significant decreases in the newspapers market (46%) and BE and PT in the periodicals market (47% and 49%, respectively).

In the equalizing down scenario, the results observed are also similar to the previous model. Most Member States are within the 0%-4% range, with the only exception of the UK that exhibits a positive 2% impact in the market for books.

Table 8.3: Summary total impact: affected Member States (two-product, two-market model)

Impacts	Books	Newspapers	Periodicals
Equalising up	No impact	BG, DK, FR	BG, LT, SK
	Between -5% and -20%	AT, CZ, EE, FI, LV, RO	AT, CZ, FR, RO, SI
	Between -20% and -35%	BE, DE, EL, ES, HU, IE, IT, LT, NL, SI, SK, UK	DE, EE, EL, ES, FI, HU, IE, IT, LV, NL, PL, PT, UK
	More than -35%	PL, PT, SE	BE, DK, SE
Equalising down	No impact	BE, BG, DK, FI, FR	BG, FR, LT, SK
	Between -1% and -2%	AT, CZ, DE, EE, EL, ES, IE, LT, LV, NL, PT, SI, SK	AT, BE, CZ, DE, EE, EL, ES, FI, IE, IT, LV, NL, PL, PT, RO, SE, SI, UK
	More than -2%	HU, IT, PL, RO, SE	DK, HU
	Positive Impact	UK	--

Source: Figure 8.4

8.5 Impacts on tax revenues

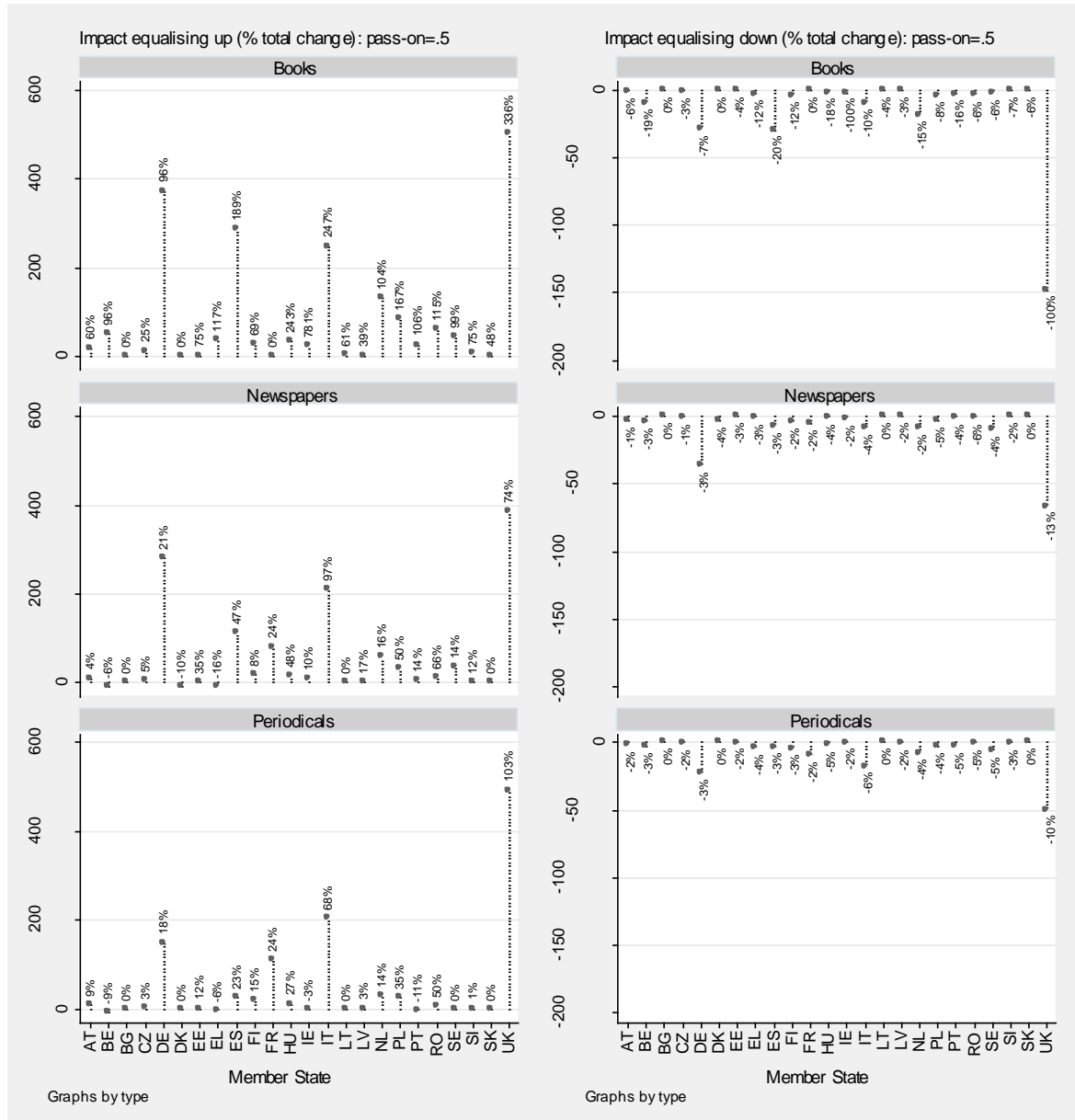
The impacts on tax revenues are calculated by comparing the original tax revenue with the simulated tax revenue as a result of a VAT change (equalising up or equalising down). It includes revenues from print and digital which consist of both advertising and circulation. The results are shown in Figure 8.5.

The first item worth noticing is that, unsurprisingly, tax revenues increase in all Member States when VAT is increased (equalising-up scenario) and decrease when VAT is reduced (equalising-down case). In the equalising-up case, significant changes are observed in DE, IT and the UK, and this can be explained by the large taxable base in these countries. The magnitude of the change (from reduced to standard rate) also plays a role in the final impact. In the UK, where VAT increases from zero to 20 per cent, simulations show that tax revenue triplicate in the books market, reaching more than €400 million. In Italy's periodicals market, tax revenue shows a 97% increase following a VAT change from 4 to 17 per cent.

The absolute reduction in tax revenue is of a smaller magnitude in the equalising-down scenario. This can be explained by a smaller change in turnover (shown in Figure 8.4) but also reflects the fact that migration from print to digital is very small. The most striking change takes place in the UK and this is because the VAT reduction is complete (from 20% to 0%). In other Member States, the reduction in tax revenue is less than 5% in most cases, with drops of up to 20% in a few Member States.



Figure 8.5 Impact on Tax Revenues using Two-Product, Two-Market Model



Source: Europe Economics analysis of consumer survey from this report.

Table 8.4 summarises the impacts on tax revenues. In the equalising up scenario, most Member States experience an increase in tax revenues from books of an order of 50% or more, with just a few seeing changes under 50% (CZ, FI, LV and SK) or no changes at all (BG, DK and FR). The increase in tax revenues is less pronounced for periodicals and newspapers: in most cases the simulated tax revenue increases are in the range of 1%-50%. Only a few countries show increases greater than 50% (IT, RO and UK, in both newspapers and periodicals); or decreases (BE, DK, EL, in newspapers, and BE, EL, IE, PT, in periodicals).



The equalising down scenario shows the majority of Member States experiencing decreases between 5% and 15% in the books market, and between 1% and 5% in the newspapers and periodicals markets.

Table 8.4: Summary impact on tax revenues: affected Member States (two-product, two-market model)

Impacts	Books	Newspapers	Periodicals
Equalising up	No impact	BG, DK, FR	BG, LT, SK
	Negative impact	--	BE, DK, EL
	Between 1% and 50%	CZ, FI, LV, SK	AT, CZ, DE, EE, ES, FI, FR, HU, IE, LV, NL, PL, PT, SE, SI
	More than 50%	AT, BE, DE, EE, EL, ES, HU, IE, IT, LT, NL, PL, PT, RO, SE, SI, UK	IT, RO, UK
Equalising down	No impact	BG, DK, FR	BG, LT, SK
	Between -1% and -5%	CZ, EE, LT, LV	AT, BE, CZ, DE, DK, EE, EL, ES, FI, FR, HU, IE, IT, LV, NL, PL, PT, SE, SI
	Between -5% and -15%	AT, DE, EL, FI, IT, NL, PL, RO, SE, SI, SK	RO, UK
	More than -15%	BE, ES, HU, IE, PT, UK	--

Source: Figure 8.5

8.6 Explaining the results: sensitivity of the parameters used

We now investigate the main drivers of the results obtained. The results for different Member States are shown in a scatter plot against different components of the model. We analyse the effects of the tax change (measured by τ , as defined in section 2) and the own-price elasticities on the results we obtained. We also show the effect of using a different pass-on rate and discuss the likely implications of illegal downloads in our estimations of impacts.

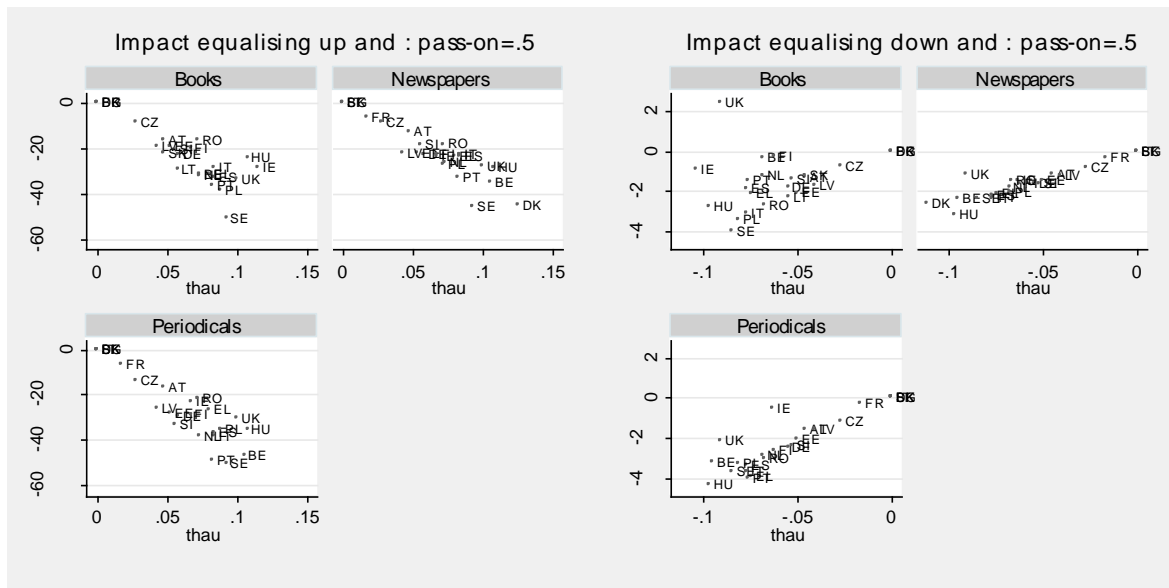
8.6.1 Elasticities

In equalising up, a greater change in VAT (measured by τ) implies a higher impact in total turnover loss. This finding is hardly surprising and shows that the very large disparities in VAT changes (shown in the horizontal axis of the graphs, "thau") across Member States are explaining most of the differences in the results obtained (Figure 8.6).

The analysis of equalising down shows different findings. In this case the change in VAT also appears correlated with the losses observed, but the correlation is inverted. This means that a greater reduction in VAT is associated with larger reductions in turnover. This finding may seem surprising but can be explained by the losses from the print segment (migration) towards digital products (as explained when introducing Figure 8.3, earlier).



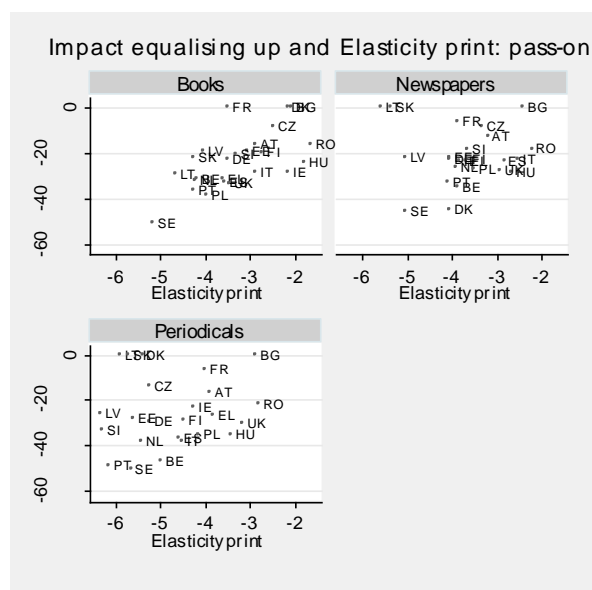
Figure 8.6: Sensitivity to change in tax rate



Source: Europe Economics analysis of consumer survey from this report.

The range of effects compared to the different elasticities used show that the own-price elasticities used for print materials hardly have an impact on the results: no apparent correlation can be seen in the results shown in Figure 8.7. This is because elasticities do not vary significantly across Member States compared to the large differences in simulated VAT changes: the latter explains most of the differences in results across Member States. There is no variation in cross-price elasticities as these have been assumed to be the same across Member States (results not shown).

Figure 8.7: Sensitivity to elasticity



Source: Europe Economics analysis of consumer survey from this report.



8.6.2 Pass on

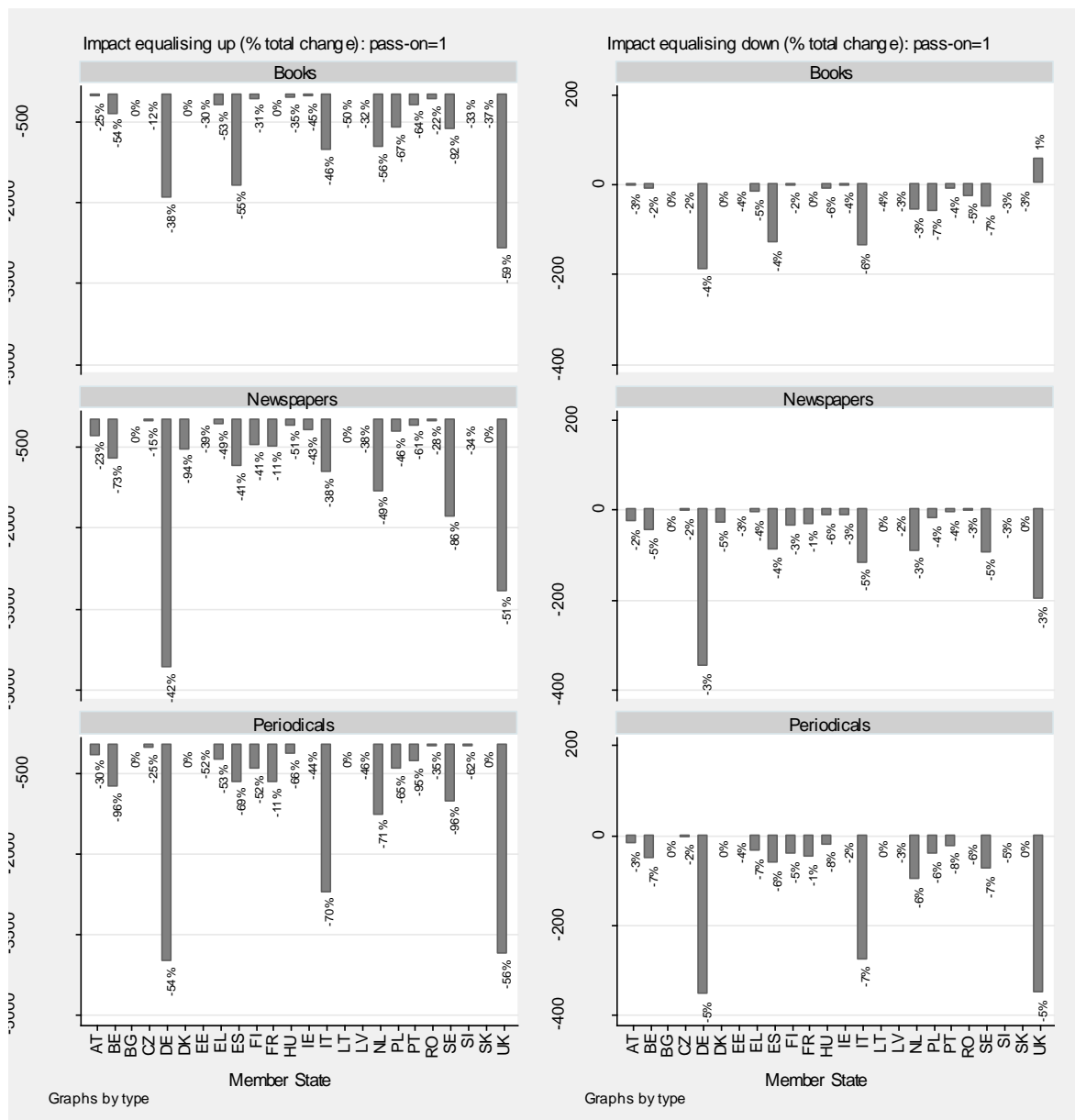
We have assumed a pass-on rate of 0.5 in our calculations and this has some influence on the results obtained. Some studies have suggested pass-on rates close to one, which could only be explained within a very competitive market.

The analysis of impacts when the pass-on is one shows an even greater reduction in publisher's turnover (Figure 8.8). In most cases the impacts almost double the results obtained previously in Figure 8.4. This can be explained by the large absolute own-price elasticity so that, when the full tax burden is passed onto consumers, the reduction in turnover is greater than the increase in price due to tax.

In the equalising-down scenario, the migration from print to digital leads to a reduction in total turnover and this is even greater when the tax reduction is fully reflected in prices.



Figure 8.8 Two-product, two-market model with Pass on = 1



Source: Europe Economics analysis of consumer survey from this report.

With full pass on the decreases in sales are magnified and most Member States can now be categorised as experiencing a reduction greater than 35% (equalising up) and more than 2% reduction (equalising down, see Table 8.5).



**Table 8.5: Summary total impact: affected Member States
(two-product, two-market with Pass on=1)**

	Impacts	Books	Newspapers	Periodicals
Equalising up	No impact	BG, DK, FR	BG, LT, SK	BG, DK, LT, SK
	Between -5% and -20%	CZ	CZ, FR	FR
	Between -20% and -35%	AT, EE, FI, HU, LV, RO, SI	AT, RO, SI	AT, CZ,
	More than -35%	BE, DE, EL, ES, IE, IT, LT, NL, PL, PT, SE, UK	BE, DE, DK, EE, EL, ES, FI, HU, IE, IT, NL, PL, PT, SE, UK	BE, DE, EE, EL, ES, FI, HU, IE, IT, LV, NL, PL, PT, SE, SI, UK
Equalising down	No impact	BG, DK, FR	BG, LT, SK	BG, DK, LT, SK
	Between -1% and -2%	BE, CZ, FI	AT, CZ, FR, LV	CZ, FR, IE
	More than -2%	AT, DE, EE, EL, ES, HU, IE, IT, LT, LV, NL, PL, PT, RO, SE, SI, SK	BE, DE, DK, EE, EL, ES, FI, HU, IE, IT, NL, PL, PT, RO, SE, SI, UK	AT, BE, DE, EE, EL, ES, FI, HU, IT, LV, NL, PL, PT, RO, SE, SI, UK
	Positive Impact	UK	--	--

Source: Figure 8.8.

8.6.3 Piracy

There is increasing concern in the publishing sector of the proliferation of pirated book versions; that is books which are illegally purchased at low or no cost without rewarding the editors for copyrights and editorial costs.

Due to its illegal nature, figures on the current extent of piracy in the publishing sector are scant and approximate. Studies attempting to estimate the prevalence of illegal downloading for electronic publishing material suggest that illegal downloads may account for up to 12 per cent of the total amount of e-books accessed by consumers in the UK²⁰², or approximately 2 per cent of the total printed supply in France²⁰³ (including pirated printed books and legal copies of e-books) or 5% of the total sector turnover.²⁰⁴

It is relevant therefore to ask how much the estimated impacts need to be corrected to account for pirated material. In the next paragraphs we argue that the effect of piracy on the impacts is negligible.

In the equalising-down scenario we calculate the impacts in the digital market from a decrease in the prices of digital publications. Although the precise effects are difficult to quantify, it seems reasonable that such a policy would not affect the number of consumers accessing illegal material, and this is because such an option works in the direction of reducing the price of legal material. If anything, this could be working towards a reduction of the number of illegal downloads as consumers can now access publications at a lower price.

There is a possibility of an increase in piracy in the equalising-up scenario if, as a reaction to price increases, consumers decide to drop out their print consumption and

²⁰² Kantar Media (2012) "OCI Tracker Benchmark Study Q3 2012", Prepared for Ofcom.

²⁰³ HH (2012) "2 % des livres disponibles sont piratés", published on 15 March 2012.

²⁰⁴ Mathias Daval | LE MOTif (2009) "EbookZ ?", October 2009.



go to the illegal digital market. Our estimates of impact do not quantify this effect and treat all drop-outs in the same way (this is, consumers are lost without distinguishing whether they have stopped purchasing or become consumers of illegal material). In theory, our model allows for the calculation of migration to digital material as a result of an equalising-up scenario and the results would be biased if they did not subtract any non-paid revenues from the digital segment. However, we have established that there is no migration from print to digital as a result of changes in the prices of print, so the results of the impact are not affected by potential consumption of pirated material.

We recognise that piracy of e-books is increasing and will go in tandem with the take-up and deepening of the digital sector. More illegal copies should be expected in the future (mimicking perhaps the trends observed in the digital music sector). However, we cannot foresee any change in such behaviour stemming from a change in VAT rates, whether this is equalising up or down.

8.7 Simulation of normal rates in France

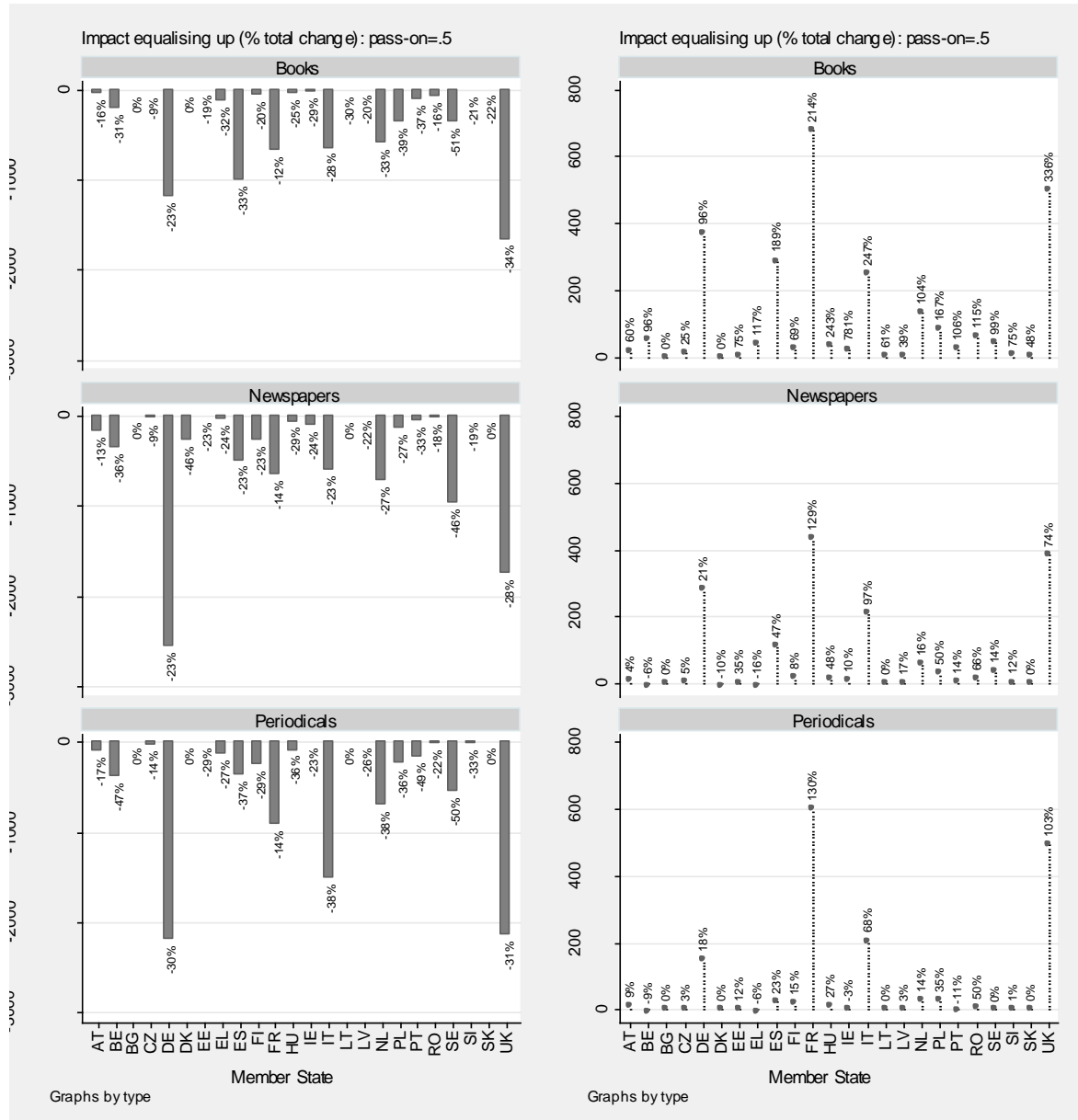
As already noted, the current reduced and super reduced rates applied on digital publications in FR and LU are without legal basis, according to the European Commission. Our results have reflected the change in turnover as a result of equalising up the current VAT rates. For FR this is no change in the VAT for books and a VAT change from 2.1% to 5.5% for both newspapers and periodicals (LU is out of our analysis as data is not available from the consumer survey). In order to be able to assess how would results change following a change in VAT in line of the EU law, we have simulated the impact of applying a normal rate in the equalising up scenario in FR. This implies analysing the effects of increasing VAT rates from 5.5% to 19.6%, in the case of books, and from 2.1% and 5.5% (for digital and print, respectively) to 19.6%, in the case of newspapers and periodicals.

The results of increasing the tax (from reduced to normal) are illustrated in the left panel of Figure 8.9. In absolute terms, the drop in FR's turnover for both books and newspapers are in the order of 650 million Euros (comparable to that of IT); in periodicals the reduction is larger: about 915 million Euros (slightly below the impact for IT, the third largest drop in the sector). In relative terms, the equalising up scenario implies a 12% and 14% drop in total turnover in books, and newspapers and periodicals, respectively (these are equivalent to approximately half of the percentage change observed for DE).

The impact of equalising taxes to the normal rate is more pronounced when looking at tax revenues (Figure 8.9, right panel). In absolute terms, the increase (680, 432 and 600 million Euros for books, newspapers and periodicals, respectively) is even larger than that of the UK in absolute terms, a country that had shown the largest increase in tax revenue in the simulations (the change in percentage terms is of a similar magnitude of the one experienced by the UK). This large impact is due to the significant increase in tax of the option considered: from 2.1% and 5.5%, to 19.6%.



Figure 8.9: Total impact circulation and tax revenues (using normal rate for France)



8.8 Understanding the predicted change

The analysis presented has shown different results for the equalising-up and equalising-down policies. In order to understand the magnitude of the results we now calculate the predicted turnover in 2013 as a result of the policy change, with the evolution in turnover which would have taken place without any policy change or what we call a “no-policy” scenario.

For comparison purposes we use the evolution of print turnover only, forecast with a simple linear trend (the dashed lines in Figure 8.10) which we compare to the “estimated impact” (solid horizontal lines in Figure 8.10) calculated as the revenue



drop forecast for 2013 following each of the policy options (equalising up and down).²⁰⁵

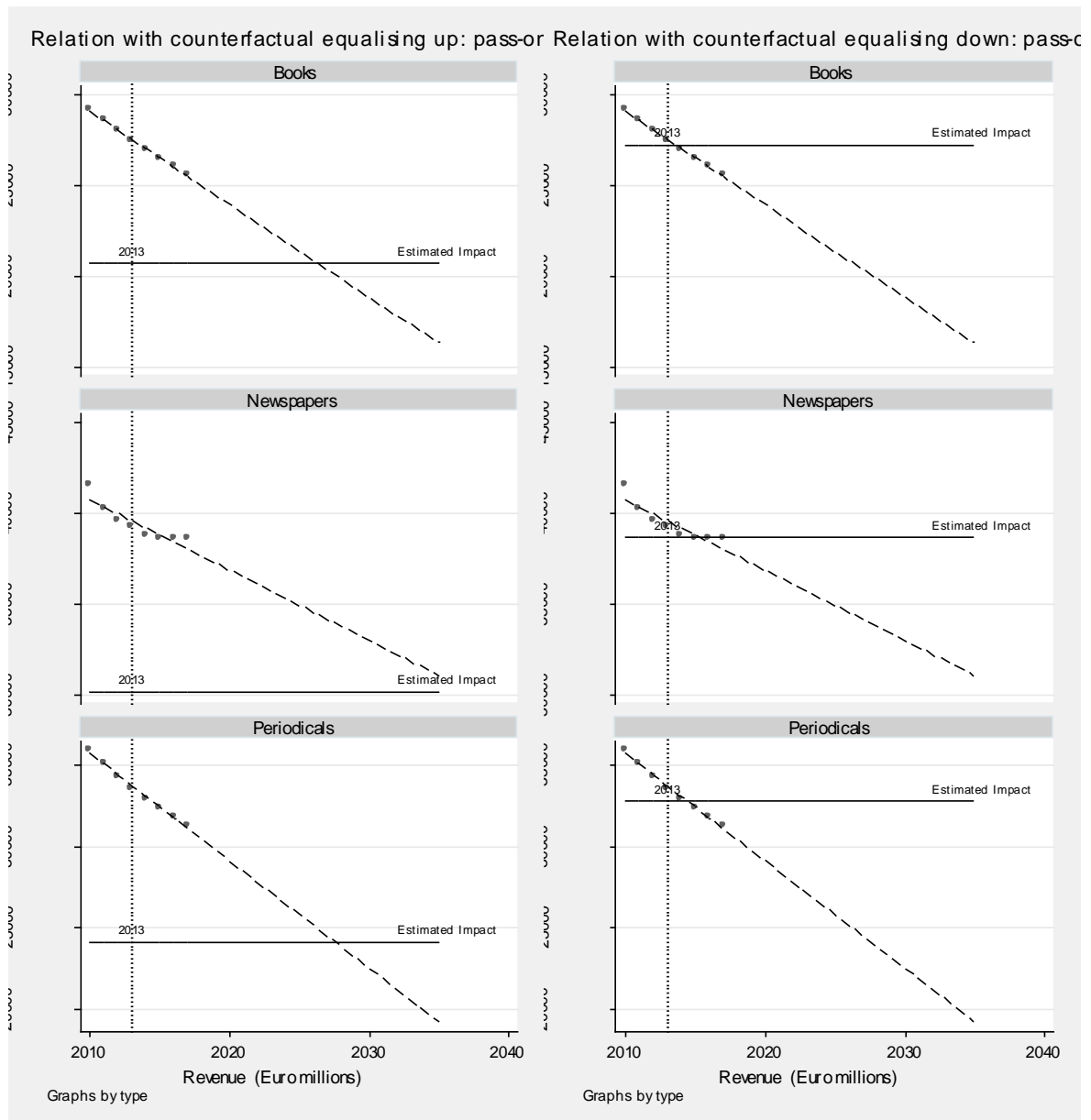
The results of the equalising-up scenario show large drops in turnover in 2013 estimated as a result of the policy change. Compared to the sector downward trend, the estimated impacts appear of a similar magnitude of the turnover decline that would be observed after 13 years (books), 14 years (periodicals) and 24 years (newspapers), in a situation without changes in VAT (“no-policy” scenario).

The losses in turnover of an equalising-down scenario predicted for 2013 are much smaller. More importantly, they are of a similar scale to the changes that would be achieved after one year (in the case of books and periodicals) and slightly more than two years (for newspapers). These are changes which it may be easier for the industry to absorb.

²⁰⁵ The analysis excludes the change in taxation that will take place from 1 January 2015 to reflect the “country of destination” principle (the supply of electronic services, including e-publications, will be taxed at the rate of the Member State where the consumer, not the supplier, is established).



Figure 8.10: Magnitude of the change compared to a “no-policy” scenario



Source: Europe Economics analysis of consumer survey from this report.



9. Conclusions

The purpose of this study has been to examine whether or not "e-publications" and "publications on all means of physical support" should be considered as substitutable products, to examine the impact on the market of current VAT rate differentiation between the two kinds of publications, and to assess the potential impact of changes in VAT in order to reduce such rate differentials.

The study had four main objectives:

- (a) to assess the substitutability between physical and electronically-supported publications;
- (b) to evaluate the impact of current VAT reduced rates;
- (c) to evaluate the impact of applying a standard rate for "books, periodicals and newspapers" in those countries applying a reduced rate (i.e. the "equalising-up" of rates); and
- (d) to evaluate the impact of applying the same reduced rate for both kinds of "publications" (i.e. the "equalising-down" of rates).

Our conclusions give answers to these objectives.

Substitutability

In terms of substitutability, our study has shown that print and digital products constitute two separate markets. Because of their different technical characteristics, consumers' perception of the price differential between the two markets, and the attributes and perceived uses for different types or for different occasions, the products are viewed as hardly replaceable by consumers.

There are different pieces of evidence substantiating this conclusion.

- The review of competition cases has found one case which delimits the market for e-books as clearly separated from publications on physical means. The conclusions are based on three technical features of e-books (storability, compatibility with electronic devices, and accessibility) and the industry's perception of e-books belonging to a separate market segment. In another three cases the market definition was inconclusive or left open, but investigations in those cases recognised a differential feature of electronic books. The merger investigations on newspapers also concluded that the online market was a separate market.
- Our analysis of the consumer survey shows consumers' perceptions of the price differences between print and digital. Consumers' valuations of the attributes of the different supports indicate very distinct features of print and digital products.
 - More than half of respondents believed that the price of digital products should be at least 50% less than the comparable printed products.
 - A large proportion of respondents also indicated that printed and digital publications appeal in very different ways. Printed material has advantages in terms of being able to hold it physically, it is easy for the eyes and there is no need to recharge a device (the proportion of respondents with this view varied between 37% and 60% according to different questions). On the other hand, digital material appeals to consumers because it is good for the environment, is portable, requires less storage and also saves money (between 41% and 56% of respondents).



- Consumer responses have been used to quantify own-price and cross-price elasticities. The pooled regression shows that the own-price elasticities are all negative and in the range of -4.5 to -2.3. Cross-price elasticity estimates confirm the findings of asymmetry between print and digital publications.

There are some differences in elasticities according to social-economic determinants, and these constitute another important conclusion of our study. The cross-price elasticity estimates show less substitutability in print books in households with children, and more substitutability in digital books in households with access to electronic reading devices. The lower own-price elasticity encountered for books in households with children implies that an increase in price of print books is likely to result in a smaller reaction. In turn this implies that the consumption of print books is likely to reduce less (compared to other households) but it also means that these households will feel more acutely the effects on their spending (again, compared to other households).

There may be differences in the reaction of consumers depending on their accessibility to an e-device. We found that respondents with access to e-devices will react more quickly to digital price changes. However, those without access to e-devices are less price-elastic to digital price changes and this is probably due to the barriers experienced when accessing electronic devices.

We have also found dispersion in the elasticities across Member States, but we believe there is no significant relationship between the estimates and the penetration rates of electronic devices. Therefore we do not expect elasticities to change significantly in the medium term when take-up of digital devices increases.

We note that our findings have been based on consumer substitutability as a result of a price change, and we have concluded that this is small and asymmetric. We are aware that there may be other important drivers (such as technological innovations, demographic changes, and customers' changing preferences) which may be responsible for other types of substitutability in the form of trends moving consumers away from print and towards digital, as observed in recent years.

Our conclusions rely on the concept of cross-price elasticity and we believe this confers robustness to the findings of the study. The assessment of elasticities is not only one of the most common concepts for measuring substitutability between products, but it is also very appropriate in the present context as it aligns perfectly with the policy options under evaluation (equalising up and equalising down of VAT rates).

Analysis of VAT rates differences across Member States

We have found a great variation in the VAT rates for publications across Member States.

Only two Member States (DK and BG) apply a normal rate on books. The remaining majority of Member States apply a reduced rate (ranging from 5% to 15%) with the exception of the UK and IE, which apply a zero rate.

All but two Member States apply the normal rate for digital publications (this ranges from 18% to 27%) with the exception of FR and LU which apply a reduced rate (5.5% and 3%, respectively) without EU legal basis, in the opinion of the European Commission.



There is also great variation across the Member States in the rates for newspapers and periodicals. Four and five Member States apply a normal rate for newspapers and periodicals, respectively. The remaining Member States apply the same rates as for books with few exceptions.

The reaction of the industry

Printed circulation and turnover are in decline and, as far as newspapers and periodicals are concerned, advertising turnover is also decreasing in both the print and digital markets. Digital products are countering this trend and have, for books, made up for the circulation decrease; however, this has not yet reversed the decline in revenues mainly due to lower prices for digital products.

Turnover is expected to improve soon for books. The situation is less clear for newspapers and periodicals, where print editions are still cross-subsidising digital editions. This is due to limited digital circulation, low advertising revenues, and consumers' reluctance to pay. Unlike books, the rise of the digital format is not expected to offset the loss of the print format in the newspapers and periodical sector in the short term.

The analysis of the structure shows some parts of the supply chain as competitive, while others (mainly retail and distribution) show a trend towards higher concentration. It is therefore unclear whether tax changes will be passed on in full to consumers in the form of price increases or reductions. This may be particularly problematic in the equalising-down case, as the concentration in the market could mean some of the tax reductions being kept at different stages of the supply chain; which in turn would indicate that consumers do not see (or do not see fully) the effects of lowering VAT rates. There are also reasons to believe the opposite. We have learned that international retailers of digital products rely on price discounts in order to increase and maintain their market share and may have incentives to pass on fully any tax reductions.

Evaluation of impacts

To assess the potential impact of changes in VAT, we have used a model which allows for inclusion of both print and digital products, and also accounts for sales revenues from advertising (in the case of newspapers and periodicals).

In the equalising-up scenario, our model shows:

- A large decline in the sales for publications in print (for some large geographical markets, the decline can be as much as 30%). This is due to the large size of print publications and the high tax increase implied in the equalising-up option.
- A large increase in the tax revenue (in the order of between 100 and 300% for large geographical locations).
- The magnitude of reductions in sales of this policy option can only be compared to the loss that would be achieved after 13 years for books, 14 years for periodicals and 24 years for newspapers.

In the equalising-down scenario, our model shows:



- Some lost sales which are due to the emigration from print, which turn any gains in digital circulation to losses in most Member States. The resulting changes are nevertheless of a smaller magnitude: an absolute 5% change or less, across all Member States.
- A small loss (in absolute terms) in tax revenue in this case of less than 5% in most Member States, although simulations also show that some large Member State may have a reduction of 100% (UK) due to the complete drop in tax.
- The magnitude of the loss in sales is relatively small, and similar to the loss which would be sustained after one year for books and periodicals and slightly more than two years for newspapers; so it may be easier for the industry to absorb the changes.

We believe the existence of piracy will not affect our results as we assumed no migration from print to digital in the case of equalising up, and an equalising-down case should not encourage piracy. In other words, piracy will not increase due to price change.



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