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ECONOMICS



# THE ECONOMIC IMPACT OF MUSIC IN EUROPE

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# FOREWORD



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**recording industry worldwide**

European music is an essential part of our lives.

Whether in good times or tough times, music is there for us. It thrills us at life's great moments. It fosters our well-being and helps us heal when we're down. It shapes our identity and culture.

Music also has a powerful economic impact on Europe - supporting jobs, boosting gross domestic product and tax payments, and driving exports.

This report by Oxford Economics provides, for the first time, an authoritative analysis of these key economic aspects of music's vital contribution to the economies of the European Union (EU) and the UK.

The numbers are impressive. Across the 27 Member States of the EU and the UK (based on 2018 data), the music sector:

- Supports two million jobs;
- Contributes €81.9 billion gross value added (GVA) annually to the EU 28's GDP; and
- Exports €9.7 billion worth of goods and services to countries outside the EU 28.

To put these into perspective, music's economic contribution to the EU 28 was larger than the GDP of nine EU countries, and its music exports were even greater than those of its world-famous GI protected wines.

And at the heart of it all are the EU's 7,400 record companies - helping to create the music that fans love and working to help artists achieve their greatest creative and commercial potential.

By quantifying these vital economic contributions, even above and beyond music's artistic and human benefits, this report is intended to help guide EU and UK policymakers in support of a healthy and robust European music ecosystem.

## Acknowledgments

In addition to the work carried out by Oxford Economics, this report would not be possible without the significant input of the music community in Europe. I have no doubt that our community will continue to work together to ensure that music's contribution - both cultural and economic - remains as relevant and as vital to Europe as ever.

Specifically, we would like to thank the many organisations and companies who provided data and assistance, not least of all the many record labels, music publishers, digital audio streaming services as well as colleagues at IFPI National Groups, the Independent Music Companies Association (IMPALA), the European Grouping of Societies of Authors and Composers (GESAC) and their member collective management societies, the International Confederation of Societies of Authors and Composers (CISAC), music licensing companies of producers and performers, the European Network for Live Music Associations (Live DMA), the International Federation of Musicians (FIM), the European Music Managers Alliance (EMMA), Music Industries Association (MIA), Association Européenne des Conservatoires, Académies de Musique et Musikhochschulen (AEC), the Performing Arts Employers' Association League Europe (PEARLE), as well as many others whose names or studies have been referenced in the Bibliography and Methodology sections of the report.

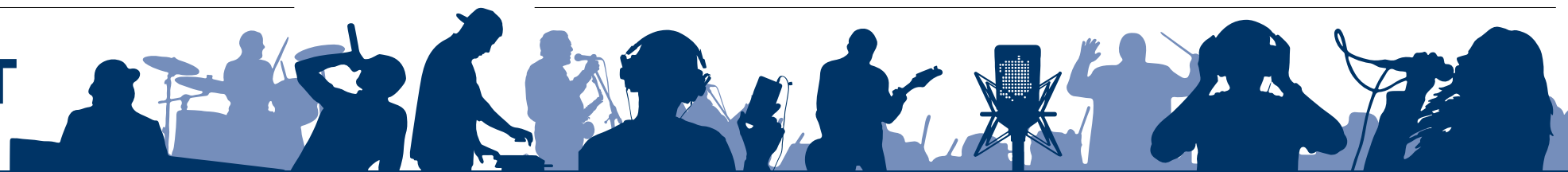




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# THE ECONOMIC IMPACT OF MUSIC IN EUROPE



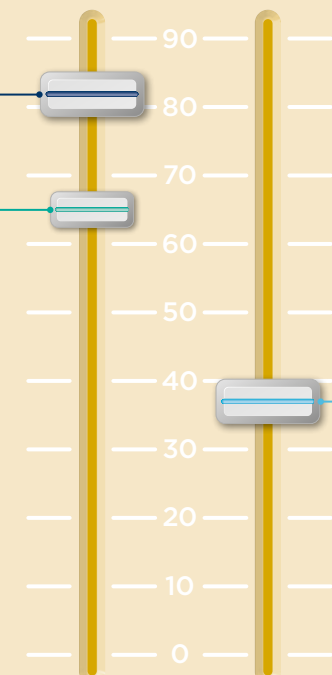
**€81.9 billion**

Music sector's total GVA contribution to GDP in the EU27+UK

Larger than the GDP of 9 of the 28 EU countries (Luxembourg, Bulgaria, Croatia, Slovenia, Lithuania, Latvia, Estonia, Cyprus, Malta)

**€66.3 billion**

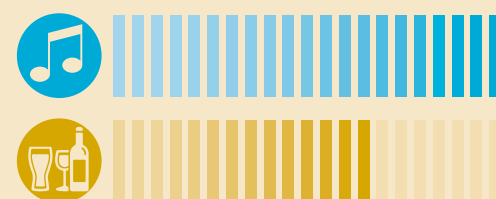
The music sector's GVA contribution to GDP in the EU27 alone



**€37.5 billion**

Direct impact of the music sector

**1.5 x larger** than the GDP contribution of the **wine and beer manufacturing sectors**



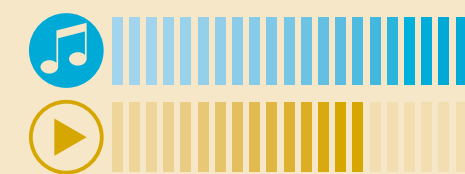
**2.0 million** Total jobs supported

This is **1 in every 119** jobs



**1.3 million** directly employed by the music sector

**24%** higher than the European **audiovisual sector**



**€9.7 billion**

Export revenue (conservative estimate)



**13%** more than exports of all **European GI-protected wines\***

\* Protected Designation of Origin + Protected Geographical Indication



**€31.0 billion** Total tax contribution

Equivalent to **19.4%** of the entire EU budget

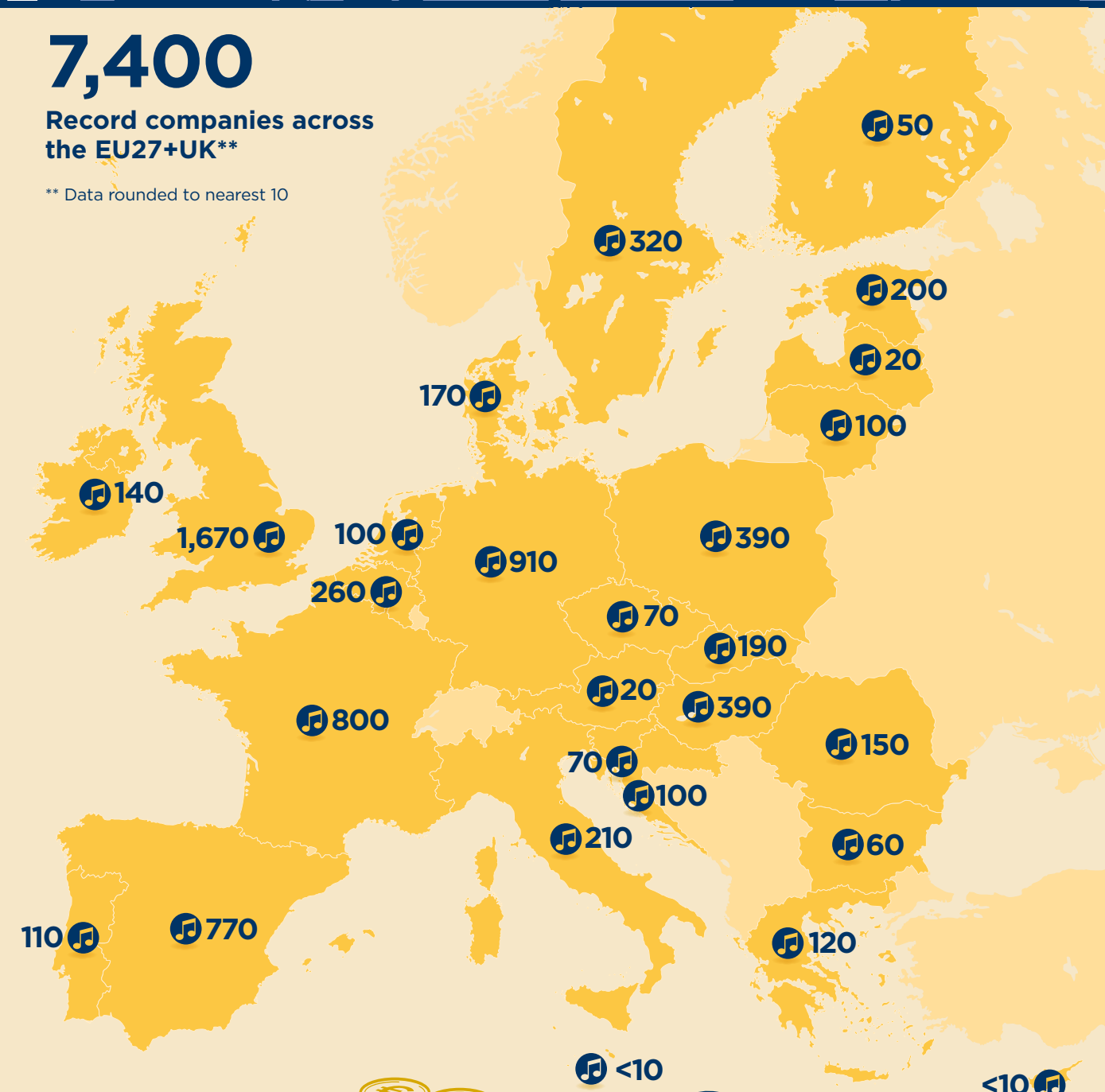
**€26.2 billion**

contribution to the EU27 alone

**7,400**

Record companies across the EU27+UK\*\*

\*\* Data rounded to nearest 10



Every **€1** directly generated or invested by record companies led to an additional **€1.8** GDP contribution in other parts of the music sector value chain.



**€2.3 billion**

Record companies' revenues from European music exports

Data from 2018 and covers the EU27 and the UK unless stated otherwise.



# EXECUTIVE SUMMARY

**This report quantifies the gross value added, employment and tax contributions the music sector made to the economies of the 27 Member States of the European Union (EU27) and the UK in 2018.<sup>1</sup>** This is an important task because the music sector, as with other creative industries, is poorly captured by national statistical agencies' data. So this report should help to better inform firms within the sector, policymakers, and other stakeholders as to the music sector's economic importance both in absolute terms and relative to other industries.

For the purposes of this study, the 'music sector' is defined as encompassing the following entities and segments, in accordance with the *WIPO Guide*<sup>2</sup> methodology: record companies; music publishers; recording studios; authors; performers; artist management; collective management organisations; music radio; music television; digital music services; physical music retail; live music event production; concert venues; manufacturing and retailing of musical instruments and music equipment; music merchandising; and music teachers.

The scope of this exercise and the metrics used to quantify the impacts of the music sector do not represent the sector's aggregated revenue or sales. In the simplest terms, the key metric

analysed in this report, the Gross Value Added (GVA) contribution to the GDP, is the value of goods or services produced minus the value of materials and services used in the production thereof. The calculation of the sector's GVA guarantees that it is the actual economic contribution to the GDP that is measured – something that is not achieved by adding up the sector's turnover for example.

To produce this report, Oxford Economics conducted an economic impact assessment on the music sector across the EU27 and UK. This involved analysing the impact of the sector itself, its procurement of goods and services from European suppliers, and the payment of wages both by the sector itself and along its supply chain. Estimates of the sector's impact are made for four metrics:

- its gross value added contribution to GDP;
- employment;
- tax receipts; and
- export earnings.

The report was commissioned by IFPI, which is the trade body representing the recording industry worldwide.



<sup>1</sup> At the time of the study, 2018 was the last full year for which data were consistently available.

<sup>2</sup> *WIPO Guide on Surveying the Economic Contribution of the Copyright Industries* (2015, revised edition): [https://www.wipo.int/edocs/pubdocs/en/copyright/893/wipo\\_pub\\_893.pdf](https://www.wipo.int/edocs/pubdocs/en/copyright/893/wipo_pub_893.pdf)

## THE GDP SUPPORTED BY THE MUSIC SECTOR IN EUROPE

### Total GVA contribution

We calculate that in 2018 the **music sector supported a €81.9 billion gross value added contribution to GDP in the EU27 and UK**. The estimate of €81.9 bn in total economic impact should be taken as a minimum overall contribution to the GDP, which would be considerably higher if we were able to better estimate the value that music contributes to the economic activity generated by film, television, advertising, and video gaming. To give an indication of scale, this is larger than the GDP of 9 out of the 28 EU countries (Luxembourg, Bulgaria, Croatia, Slovenia, Lithuania, Latvia, Estonia, Cyprus, Malta) in the same year.

### Direct economic impact

The music sector's direct GVA contribution amounted to **€37.5 billion**. This was 1.5 larger than the GDP contribution of the EU's historic and world-famous wine and beer manufacturing sectors in the EU27 and the UK in the same year.

The study finds that **for every €1 in GDP the music sector directly generated in 2018, it supported the creation of an additional €1.20 in GDP elsewhere in the European economy**. The music sector is therefore said to have a 'GDP multiplier' of 2.2. The size of this multiplier reflects the high level of music sector firms' procurement from other firms within the music sector itself. Record companies alone, however, had a higher GDP multiplier of 2.8 which means that every €1 in GDP directly generated by record companies led to the stimulation of a further €1.80 in GDP elsewhere in the economy (including other parts of the music sector). This higher multiplier reflects the high level of record company investment in other parts of the music sector value chain.

### Indirect and induced economic impact

In addition to the direct contribution, the music sector also contributed to the European economy through its procurement of goods and services (the indirect impact), as well as the wages it paid, which were subsequently used to buy consumer goods and services (the induced impact). Both of these types of expenditure stimulated economic activity elsewhere in the 28 countries. We estimate that in 2018 further GVA contributions to EU27 and UK GDP of €22.8 billion and €21.6 billion were stimulated by this procurement and wage financed consumer spending, respectively.

**€81.9 billion**  
The music sector supported a €81.9 billion gross value added contribution to EU27 and UK GDP in 2018.



**€37.5 billion**  
The music sector's direct GVA contribution.



**2.2×**  
**GDP multiplier**  
for every €1 in GDP the music sector directly generated in 2018, it supported the creation of an additional €1.20 in GDP elsewhere in the European economy.

**€66.3 billion**

GVA contribution to GDP in the EU27 alone.

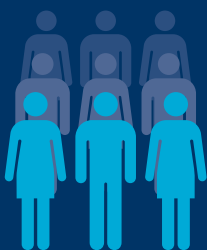


#### EU27 findings

Taking the **EU27 economies without the UK**, we find that the **music sector supported a €66.3 billion GVA contribution to EU27 GDP in 2018**. The difference between this EU27 figure and our €81.9 billion total for the EU27 and UK consists of the economic impact of the music sector in the UK, plus the additional impact of any purchases made by EU27 entities from UK suppliers and vice versa, and comparable cross-border wage-financed consumption. Consequently, this difference between the two figures cannot be interpreted as the size of the UK music sector's economic impact on the EU27 and UK economies.

**2.0 million**

The music sector supported 2.0 million people in employment across the EU27 and UK in 2018— so 1 in every 119 jobs depended on the music sector.



#### THE MUSIC SECTOR'S IMPACT ON EMPLOYMENT IN EUROPE

In 2018, the music sector directly or indirectly supported the employment of two million people across the EU27 and UK economies, including people in full-time, part-time, and self-employed roles. This means that one in every 119 persons' employment in the 28 countries was dependent on the music sector in some way.

#### Direct employment

Of the two million people whose jobs were supported by the music sector, **65% (1.3 million) worked in the music sector itself in 2018 - i.e. the sector directly contributed 1.3 million jobs**. This was 2.1 times higher than the number of people who were employed in the EU27 and UK's information service activities sector in 2018<sup>3</sup> and 24% higher than the direct employment in the European audiovisual sector in the same year.<sup>4</sup>

#### TAX RECEIPTS

The music sector is estimated to have supported - i.e. either contributed or stimulated other sectors to contribute - **€31 billion in tax receipts in the EU27 and UK in 2018**. This €31 billion in tax revenues was equivalent to 19.4% of the entire EU budget in the same year.<sup>5</sup> Within the EU27 alone, the sector supported €26.2 billion in tax contributions.

**€31.0 billion**

In 2018, the music sector supported €31.0 billion in tax receipts across the EU27 and UK.



<sup>3</sup>Source: Eurostat: Annual detailed enterprise statistics for services. (Information service activities includes firms that undertake data processing, web hosting, internet search facilities, and news agencies)

<sup>4</sup>AVdata4Europe figures, available at: <https://avdata4europe.eu/key-data/>

<sup>5</sup>Available at: <https://www.consilium.europa.eu/en/press/press-releases/2017/11/30/2018-eu-budget-adopted/#:~:text=The%202018%20EU%20budget%20is,to%20react%20to%20unforeseen%20needs.>

#### EXPORT EARNINGS

In 2018, the music sector was conservatively estimated to have earned **€9.7 billion in revenue from exports to countries outside the EU27 and UK**. This amount was around 2.3 times larger than the amount the EU27 and UK earned from audiovisual exports to the rest of the world.<sup>6</sup> Alternatively, at €9.7bn, EU27 and UK music exports generated 13% more in revenues than extra-EU exports of all European GI-protected wines in 2017.<sup>7</sup>

**EU27 and UK record companies, music publishers, and audio streaming services generated €4.7 billion (49%) of this export figure**. The exports of certain music-related goods (sound recording and reproduction apparatus, musical instruments and devices for playing music such as radios, etc) generated a further €5.0 billion in exports revenue for the EU27 and UK trade balances.

The extra-EU exports estimate is conservative because not all export revenue streams were included in the study because of data availability (e.g. data was unavailable for all collectively managed music export revenues or revenues from international concerts/tours in non-EU countries).

**€9.7 billion**

In 2018, the music sector exported €9.7 billion worth of goods and services to countries outside the EU27 and UK.



<sup>6</sup>Available at: <https://avdata4europe.eu/key-data/>

<sup>7</sup>Source: European Commission, 2019. Study on the economic value of EU quality Schemes, geographical indications (GIs) and traditional specialties guaranteed (TSGs). Table 5, Page 18.







# 1. INTRODUCTION

## 1.1 OBJECTIVE OF THE REPORT

This report quantifies the contribution the music sector made to the EU27 and the UK economies in 2018. To achieve that task we have undertaken an economic impact appraisal of the sector. This involves quantifying the contribution made by the music sector<sup>8</sup>, and the economic activity it stimulates across the rest of the EU27 and UK economies by its procurement and payment of wages, which are subsequently spent in the consumer economy. The results of the economic impact appraisal are presented for three metrics:

- 1) Gross domestic product (GDP)
- 2) Employment
- 3) Tax receipts

This exercise, and the metrics used, are very different in scope from studies or reports analysing turnover or the aggregated revenue of the music sector or of any one part thereof.<sup>9</sup> Each segment's GDP contribution is typically less than the revenue that sector earns, as purchases of goods and services used in the production of the sector's output (and by its suppliers) are not included. A GVA calculation is the only way of analysing a sector's contribution to GDP because, unlike turnover data, it eliminates any double-counting of revenues within the sector's supply chain.

The report also estimates the export earnings generated by the music sector. Exports are important from an economic perspective as they bring additional income into the European economy, helping to support extra employment, generate higher GDP and tax receipts.

Quantifying the size of the music sector is important so that its participants, governments, and other stakeholders are aware of its contribution to the EU's and UK's GDP, job creation, fiscal receipts and trade balance. This report provides data about the sector that is often not captured in data collected by national statistical agencies. Such agencies tend to be better at quantifying traditional industrial sectors (like manufacturing) which produce tangible goods than industries producing intangibles (like the music sector) and the new digital service sectors (like audio and music video platforms).

## 1.2 DEFINITION OF THE MUSIC SECTOR

There is no single, generally accepted definition of the music sector. We have chosen to be guided by the World Intellectual Property Organization's (2015) *Guide on Surveying the Economic Contribution of the Copyright Industries*.<sup>10</sup> This defines the core copyright industries as “industries which are wholly engaged in the creation, production and manufacture, performance, broadcasting, communication and exhibition, or distribution and sale of works and other protected subject matter.”<sup>11</sup> For the music sector we have interpreted that to include those segments identified in the left hand column of Fig 1. We have also used the WIPO Guide's definition of the 'Interdependent copyright industries' as “industries which are engaged in the production, manufacture and sale, and renting or leasing of equipment. Their function is wholly or primarily to facilitate the creation, production, or use of works and other protected subject matter.”<sup>12</sup> The parts of the music sector we believe that correspond to that definition are included in the right hand column of Fig 1.

Fig. 1. Definition of the music sector used in the report

Core	Interdependent (and other related services)
Record companies	Musical instrument manufacturing
Music publishers	Musical instrument retail
Recording studios	Music merchandise production and services
Authors/Songwriters	Music merchandise retail
Performers	Music teachers
Artist management	Manufacture of music (consumer) equipment
Collective Management Organisations (CMOs)	Retail of music (consumer) equipment
Radio	Manufacture of studio/recording equipment
Music television	Retail of studio/recording equipment
Digital music services (audio and video)	
Physical music retail	
Live music event production	
Concert venues and festivals (where the primary activity is music)	

Source: World Intellectual Property Organization

## 1.3 CHALLENGES IN ESTIMATING THE SIZE OF THE MUSIC SECTOR

As in every economic impact study, the main challenges relate to data availability. For the purposes of this study, we developed a bespoke survey that was completed confidentially by an array of firms within the sector across Europe. We also drew on data from trade bodies, published annual accounts, other studies, and a number of other sources, including government statistics where available and appropriate. These are summarised in the Data and Methodology Appendix for transparency.

A further challenge relates to estimating the number of people employed in the sector. Some people who work within the music sector undertake multiple roles. This is most obvious in the case of songwriters who perform their own material. Data from Grouping of Societies of Authors and Composers (GESAC) members show that 459,000 people across the EU27 and UK received income in 2018 for having the songs or musical compositions they had written being performed, played on the radio or television, or used

in another way. In addition, based on information from the neighbouring rights collective management organisations, some 349,000 performers received income when the recordings were broadcast or played in public.<sup>13</sup> Given one individual can be both a songwriter and a performer these two groups include a large number of the same people. When calculating the total number of people employed in the music sector, we ensured that the people believed to be both a performer and a songwriter or author were counted only once.

<sup>8</sup>For the purposes of this study, the “music sector” is defined as encompassing the following entities and segments: record companies; music publishers; recording studios; authors; performers; artist management; collective management organisations; as well as music radio; music television; digital music services; physical music retail; live music event production; concert venues; manufacturing and retailing of musical instruments and music equipment; music merchandising; and music teachers.

<sup>9</sup>This economic impact appraisal is very different in scope and the metrics used and cannot be compared e.g. to the IFPI *Global Music Report* which analyses the recording industry's trade revenues.

<sup>10</sup>WIPO Guide on Surveying the Economic Contribution of the Copyright Industries (2015, revised edition): [https://www.wipo.int/edocs/pubdocs/en/copyright/893/wipo\\_pub\\_893.pdf](https://www.wipo.int/edocs/pubdocs/en/copyright/893/wipo_pub_893.pdf)

<sup>11</sup>Quotation from paragraph 127 of World Intellectual Property Organization (2015).

<sup>12</sup>Quotation from paragraph 145 of World Intellectual Property Organization (2015).

<sup>13</sup>In addition to their income from CMOs, performers also get revenue from elsewhere. For example, their digital revenues based on their contracts with the record companies.



As part of this study, we estimate the economic activity the music sector supported by its procurement across its EU27 and UK supply chain. A high proportion of this expenditure was intra-music sector purchases meaning that parts of the sector, e.g. record companies, were spending large parts of their revenue on other parts of the music sector.<sup>14</sup> For example, the 7,400 record companies in the EU27 and UK are estimated to have spent 61% of their expenditure on inputs of goods and services from other segments of the music sector, such as performers/recording artists (see the box on page 20). In estimating the economic impact of the music sector as a whole, we strip out the impact of these intra-music sector purchases. This is necessary in order to prevent double counting of a participant in the sector itself and elsewhere in another segment's supply chain and, as such, is required for reliable calculation of the sector's GDP, employment and tax contribution.

## AN INTRODUCTION TO OUR ECONOMIC IMPACT ASSESSMENT

In this report the contribution the music sector makes to the EU27 and UK economies is investigated using an economic impact assessment. This involves quantifying the value of the work undertaken by the music sector itself, plus the knock-on effects of its spending on business supplies and wages in the course of undertaking those activities. Three 'channels of impact' are therefore captured, as follows (and are also summarised in Fig. 2):

- The **direct impact** relates to economic activity and employment generated by the music sector itself, at its recording companies and studios, publishing companies, offices and other locations in the 28 countries covered by the study.
- The **indirect impact** refers to the economic activity stimulated along the music sector's European supply chain outside of the music sector, by its procurement of non-music related inputs of goods and services from EU27 and UK suppliers (e.g. travel, IT, accounting services not provided in-house).
- The **induced impact** comprises the wider economic benefits that arise from the payment of wages by the music sector, and the firms in their supply chain, to its workers—who spend these earnings in retail, leisure and other outlets. This channel of impact also includes the activity stimulated in these outlets' supply chains, and that supported by the spending of those working in these consumer-facing industries.

The **total economic impact** or contribution is simply the sum of these three impacts.

The economic impact of music sector activities is measured using three metrics:

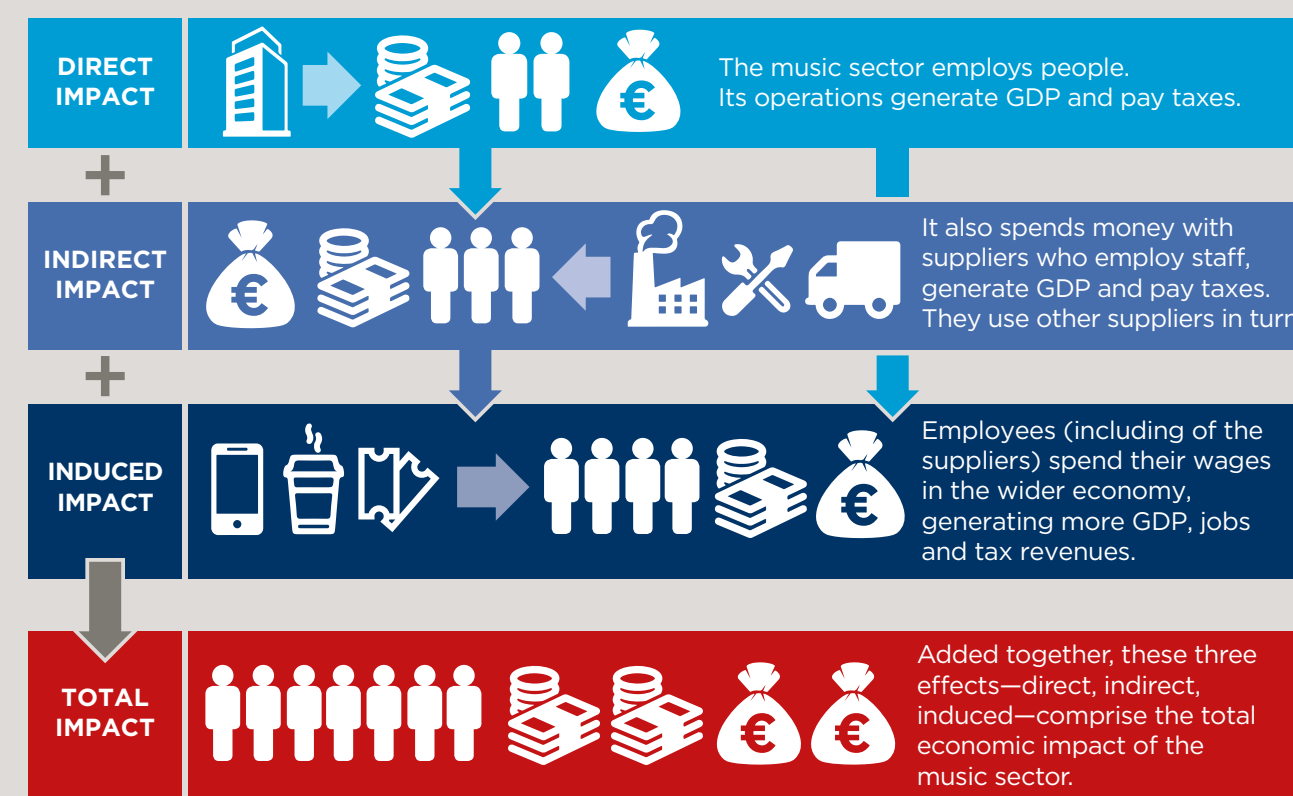
- **gross value added contribution to GDP.** This is easiest to conceive as the value of the output produced by a firm minus its expenditure on inputs of bought-in goods and services used up in the production of that output. Aggregated across all firms and other economic operators it forms GDP (plus production taxes and subsidies). GDP measures the total economic output of a country. It is used to judge the rate of a country's economic growth and to define whether it enters a recession;

- **employment** measured on a headcount basis to facilitate comparisons with national statistical agencies' employment data. It therefore includes anyone who is paid wages regardless of the length of their working week or whether they work all year round. Those who are paid as part of a contract for the provision of services will be included in the supply chain; and,
- **tax receipts** generated by the economic activity undertaken by firms and employment incomes of their workers.

All results are presented for the calendar year 2018. This was selected as it was the most recent year for which all the data sources were available.

Our results are presented on a gross basis. They therefore ignore any displacement of activity from other genres of entertainment or industries. Nor do they consider what the resources currently used by the music sector, or by their suppliers, could produce in the absence of the music sector's activity.

**Fig. 2. The contribution the music sector makes to the European economy**

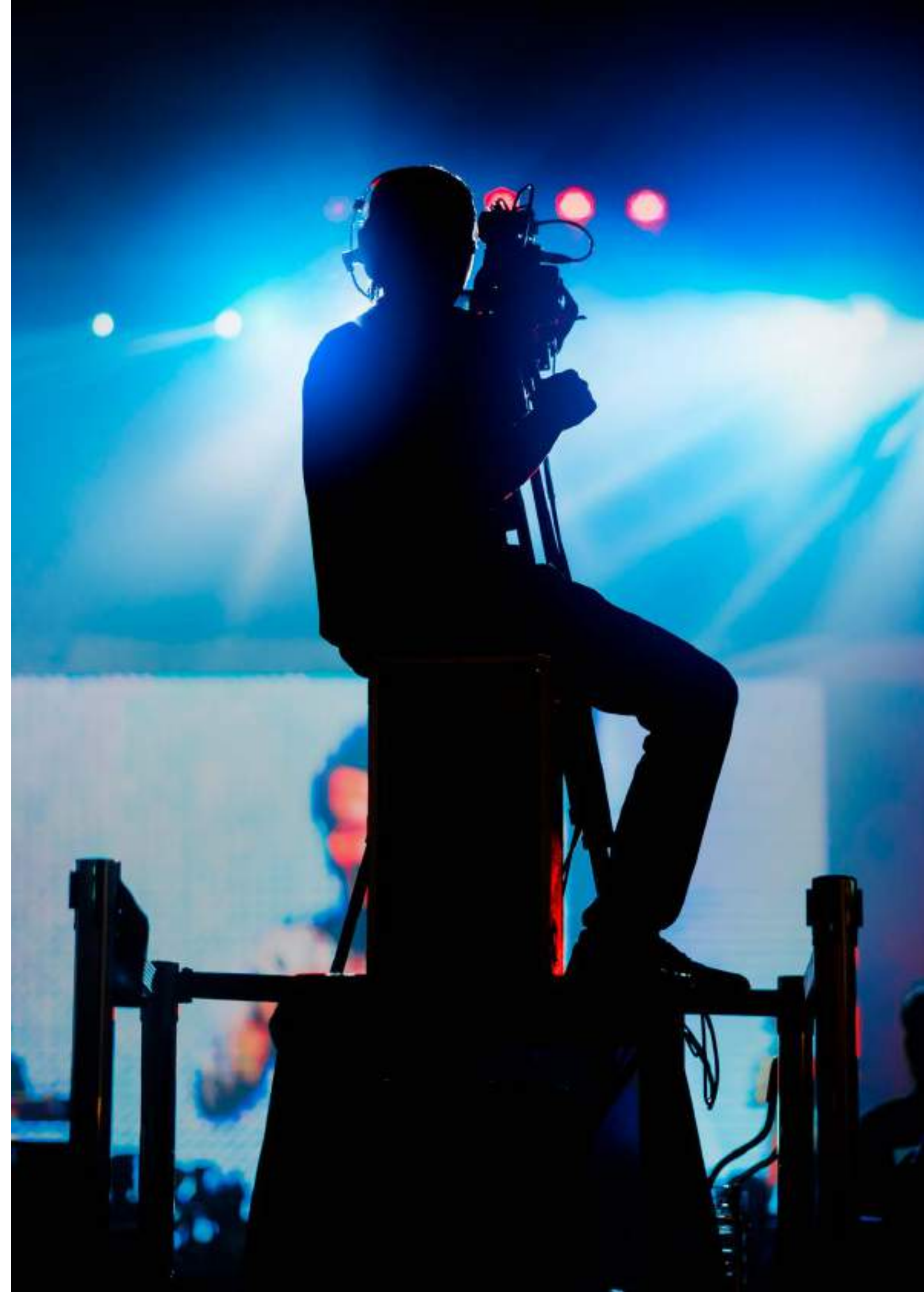




#### 1.4 THE STRUCTURE OF THE REPORT

The report is organised into the following chapters:

- Chapter 2 investigates the contribution to GDP the music sector generated itself ('direct contribution') in 2018, and stimulated elsewhere in the European economy through its procurement and payment of wages ('indirect and induced' impact respectively);
- Chapter 3 follows the same approach to analyse the jobs supported around Europe in 2018 by the music sector;
- Chapter 4 quantifies the music sector's contribution to government finances in the EU27 and the UK through the payment of taxes in 2018;
- Chapter 5 highlights the export earnings generated by the European music sector from sales to businesses and consumers outside the EU in 2018;
- The Data and Methodology Appendix summarises the data sources used for each segment of the music sector and how we modelled their contribution to gross value added, employment, tax receipts, and exports.





## 2. CONTRIBUTION TO GDP

At every stage of the value chain in all parts of the music sector, from artists and record companies, to music retailers and instrument makers, economic value is being created. Through generating profits, paying wages, and purchasing goods and services, the music sector has a positive impact on GDP in Europe. This chapter quantifies the GDP supported by the music sector in the EU27 and UK economies in 2018. The estimates are disaggregated by the three channels of economic impact (direct, indirect and induced).

This study looks at the GVA contribution to GDP, rather than total revenues, as this more accurately reflects the economic contribution made by a sector or industry to an economy. In a highly vertical sector like music, a total revenues metric would see us counting revenues multiple times along the music sector supply chain, whereas GVA captures only the value created at each stage, thus not being subject to any double counting issues.

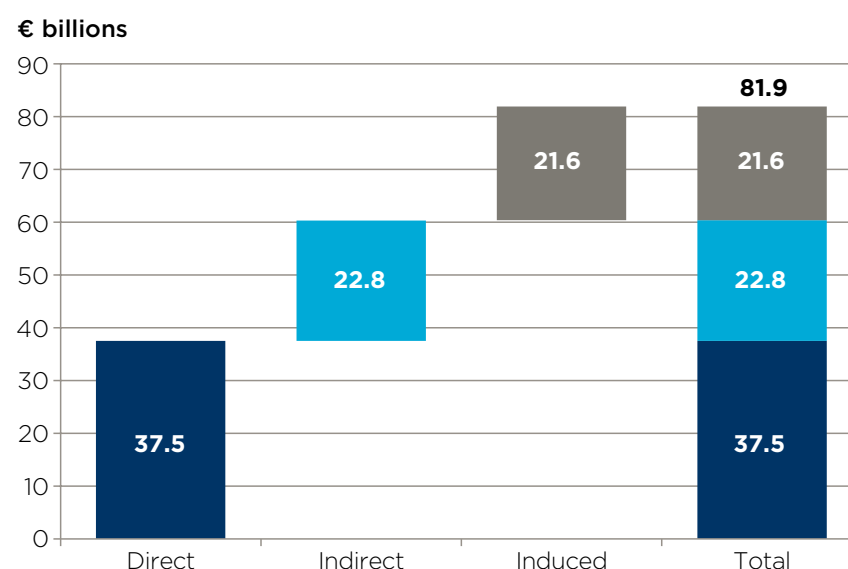
### 2.1 THE MUSIC SECTOR'S TOTAL CONTRIBUTION TO GDP

We estimate the music sector supported a €81.9 billion gross value added contribution to GDP in the EU27 and UK in 2018. To give an indication of scale, this is larger than the GDP of 9 out of the 28 EU countries (Luxembourg, Bulgaria, Croatia, Slovenia, Lithuania, Latvia, Estonia, Cyprus, Malta) in the same year.<sup>15</sup>

Within the EU27 countries the music sector supported a €66.3 billion contribution to GDP. The difference between the estimates for the EU27 and for the 28 countries is the GDP generated by the music sector in the UK, the impact of the UK music sector's

procurement and payment of wages on GDP in the EU27, and the GDP supported by the EU27 music sector's supply chains that passed through the UK. The supply chains of the EU27 music sector that included UK firms as one or multiple links mean that subtracting our estimates for the EU27 from the EU27 and UK combined do not give the results for the impact of the UK's music sector on the UK and EU27.

**Fig. 3. The gross value added contribution to GDP supported by the music sector in the EU27 and UK in 2018**



Source: Oxford Economics

### 2.2 THE MUSIC SECTOR'S DIRECT CONTRIBUTION TO GDP

Analysis of the GVA contribution to EU27 and UK GDP supported by the music sector by impact channel, shows that 46% or €37.5 billion (Fig. 3) was generated by the sector itself (its direct impact). To give a sense of scale, this is 1.5 times larger than the GDP contribution of the wine and beer manufacturing sectors in the EU27 and UK in the

same year.<sup>16</sup> It was estimated to have made a €31.9 billion contribution within the European Union, with 81% of the total contribution in 2018 within the EU27 and 19% within the UK.

### 2.3 THE GDP SUPPORTED BY THE MUSIC SECTOR'S INDIRECT AND INDUCED IMPACTS

The music sector's expenditure on inputs of goods and services from the rest of the economy stimulated a €22.8 billion contribution to GDP at firms in the sector's European supply chain. This indirect impact was 28% of the total impact.

The remaining 26% (€21.6 billion) of the total impact was supported by the payment of wages by firms in the music sector and along its supply chain (known as the induced impact). A proportion of the wages paid are onward spent in the consumer economy, for example, buying food, clothing, and leisure items, and along all these outlets' supply chains.

The GDP multiplier is typically used to assess the extent to which a sector stimulates economic activity in the wider economy. A high multiplier can be indicative of sectors that are not vertically integrated but rely principally on

procurement from outside the sector (e.g. the purchase of raw materials for industrial manufacturing). On the other hand, a low multiplier number can be indicative of sectors that are highly vertically integrated in their procurement chain or, in other words, undertake most of their procurement spending within the sector itself. The music sector is a typical example of such a highly intensive or vertically integrated sector, meaning that it will feature a higher direct impact and a lower indirect impact, leading to a lower multiplier.

This report estimated the music sector's GDP multiplier (the ratio between the total GDP it supports and the sector's own contribution) to be 2.2. This means that for every €1 the music sector contributed to GDP in the EU27 and UK, its procurement and payment

of wages stimulated another €1.20 in GDP contribution elsewhere in the economy. This multiplier reflected the high level of intra-music sector procurement (for example, the investment of record companies in artists and their managers) compared to procurement spending with suppliers from outside of the sector. This is consistent with the fact that companies or entities in the music sector tend to purchase a lot of goods (e.g. licensing copyrights, purchasing recording equipment, etc) and services (e.g. the services of session musicians, sound engineers, etc) from other parts of the music sector itself, and so much of the sector's economic impact contribution is captured in our definition of direct GVA, rather than in the indirect or induced economic impact figures.



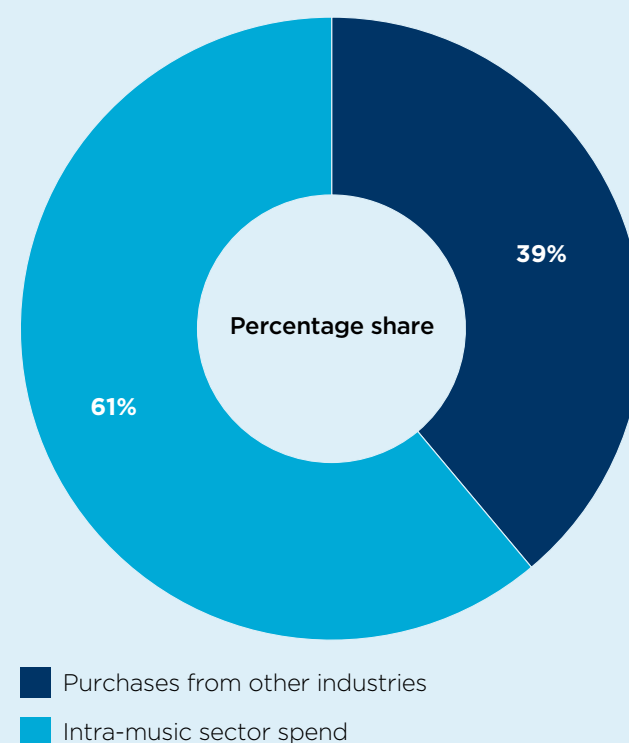
### THE RECORDING INDUSTRY'S INTRA-MUSIC SECTOR PROCUREMENT

Within the bespoke survey we sent to firms in the music sector was a request for details on their procurement. We asked firms to split their expenditure on inputs of goods and services into those that came from the rest of the music sector versus a list of other industries. We found that for record companies, a high proportion of their procurement was from within the music sector – i.e. spending on other parts of the music industry's value chain. Record companies were estimated to have spent 61% of their procurement expenditure in 2018 on inputs of goods and services from within the music sector (e.g. payments to recording artists, performers, authors or publishers, recording studios (Fig. 4)). This shows that record companies are highly integrated into the music sector and are responsible for a relatively high level of spending with businesses working within the sector. The remaining 39% of record company procurement consisted of spending on goods and services from entities outside the music sector itself such as legal services, utilities, etc. It is the impact of this spending with entities outside of the music sector that is captured in the indirect and induced impact sections of this report.

If we focus only on the impact of record companies on the economies of the EU27 and UK, we would include other parts of the music sector within the supply chains of the record companies. Consequently, the gross value added multiplier was estimated to be 2.8.

This means that for every €1 in gross value added that record companies contributed to GDP, record companies supported another €1.80 elsewhere in the economy (including other parts of the music sector).

**Fig. 4. Record companies' procurement by purchase type in 2018**



Source: Oxford Economics





## 3. EMPLOYMENT

This chapter quantifies the employment supported by the music sector in the EU27 and UK economies in 2018. The estimates in this chapter cover all forms of employment; full-time, part-time, and freelancers, and are disaggregated by the three channels of economic impact (direct, indirect, and induced).

### 3.1 THE MUSIC SECTOR'S TOTAL IMPACT ON EMPLOYMENT

In 2018, the music sector was estimated to have supported a total of 2.0 million people in employment in the EU27 and UK. To put it another way, in 2018 the employment of 1 in every 119 people in the EU27 and UK was dependent on the music sector.<sup>17</sup>

Within the EU27 economies, the music sector supported the employment of an estimated 1.7 million people, equivalent to 1 in every 121 people employed in the EU27. As before, the total employment estimates do not yield themselves to a simple mathematical sum of EU27 and UK estimates. However, this comparison can be made for the sector's direct employment estimates discussed further below.

### 3.2 THE MUSIC SECTOR'S DIRECT EMPLOYMENT

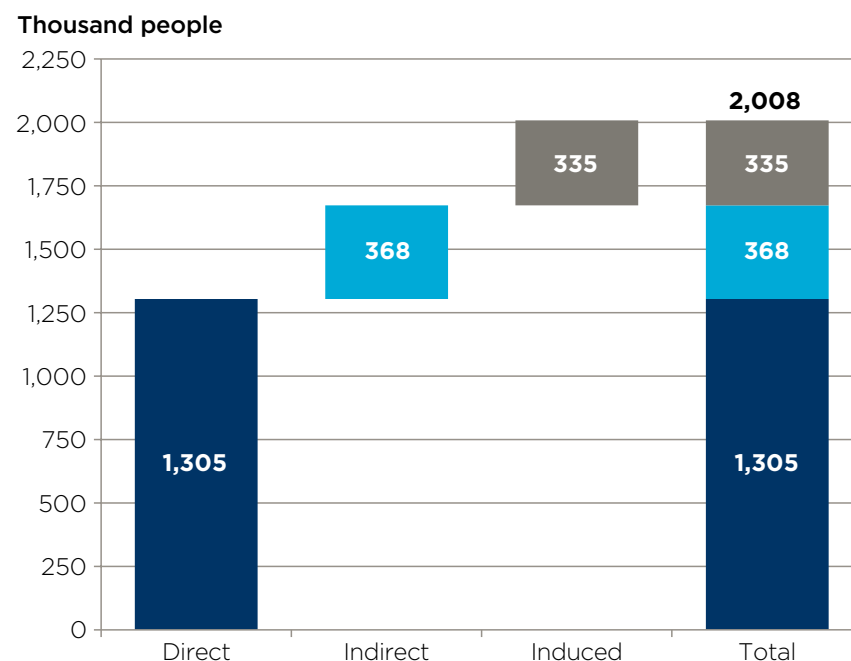
The music sector itself was estimated to have employed 1,305,000 people across the EU27 and UK in 2018 (Fig. 5). To put this into context, this was 2.1 times higher than the number of people that were employed in the information service activities sector in 2018,<sup>18</sup> 24% higher than the direct employment in the European audiovisual sector<sup>19</sup>, and 16% larger than employment in the motor vehicle manufacturing sector in the EU27 and UK in the same year.

Of the people employed in the music sector in the EU27 and UK in 2018, the highest number of people (50%) were employed as performers

and music authors across the EU27 and UK.<sup>20</sup> In the same year, record companies and recording studios were estimated to employ 44,850 and 13,800 people, respectively.

It is worth noting that the number of jobs or roles in the music sector was higher than the number of people employed (1,434,000 versus 1,305,000). This is because some people fulfilled more than one role (for example, authors who performed their own songs). When calculating the total number of people employed in the music sector, people who were both a performer and a songwriter or author were counted only once.

**Fig. 5. The employment supported by the music sector in the EU27 and UK in 2018**



Source: Oxford Economics

### 3.3 THE EMPLOYMENT SUPPORTED BY THE MUSIC SECTOR'S INDIRECT AND INDUCED IMPACTS

The music sector's procurement from the rest of the economy (excluding intra-sector purchases) was estimated to have supported a total of 368,000 jobs throughout its external supply chain in the EU27 and UK in 2018. The consumer spending financed by the payment of wages by firms in the music sector and its supply chain was estimated to have stimulated 336,000 jobs across the EU27 and UK.

We estimate the music sector in Europe had an employment multiplier of 1.5 in 2018. This means that for every thousand people employed in the music sector, a further 500 people's jobs were supported elsewhere in the EU27 and UK economies. This reflects the labour-intensive nature of the sector and the high degree of intra-music sector procurement. Some of the sub-segments in the music sector are estimated to have a

higher employment multiplier. For instance, the employment multiplier for record companies was 2.7, meaning that for every 1,000 jobs at record companies, 1,700 other jobs are supported elsewhere in the economy.

#### ESTIMATING THE VALUE OF MUSIC TO FILM, TV, ADVERTISING, AND VIDEO GAMES

Music plays a major role in supporting products and programmes created for other mediums. Practically all film, television, advertising, and video game content includes music that is used to set the mood, create emphasis, and move the audience. Whilst it is self-evident that music is an essential component of such content, assessing how much of the economic activity generated by these mediums can be attributed to the music they contain is conceptually problematic and hamstrung by data issues. There is no economic consensus as to the best approach and there are a number of studies looking at each of the relevant mediums, but the present study does not attempt to provide a reconciliation or analysis of the various methodological approaches.

Yet, the issue is important as some of film, television, advertising and video games sectors make a large economic contribution across Europe, generating considerable numbers of jobs, GDP, and tax receipts. For example, the television programming

and broadcasting sector made a direct contribution to GDP of €20.8 billion in 2017 and employed 204,000 people.<sup>21</sup> The present study included only the contribution of dedicated music TV channels and did not attempt to quantify the economic contribution made by music to those sectors in general.

There are two main approaches in deciding how much of the economic activity in these sectors could be attributed to music. These are (i) calculating the time for which music is present in programs and broadcasts, video games or advertising; and (ii) calculating the amount that is paid to right holders for the use of music. Both, however, have significant flaws, which we illustrate below using television as an example. Moreover, even small variations in the assumptions made for a potential share of that contribution that was attributed to music could change the estimated impact of the music sector by hundreds of millions of euros and thousands of jobs.

<sup>17</sup> Source: Eurostat.

<sup>18</sup> Source: Eurostat: Annual detailed enterprise statistics for services. (Information service activities includes firms that undertake data processing, web hosting, internet search facilities, and news agencies)

<sup>19</sup> AVdata4Europe figures, available at: <https://avdata4europe.eu/key-data/>

<sup>20</sup> The numbers of authors and music performers were sourced from CMOs and thus do not include "DIY artists" who have not signed up with CMOs.

<sup>21</sup> Source: Eurostat: Annual detailed enterprise statistics for services.



One way to attribute the proportion of television broadcasting activity that is due to music is to use data from a provider that monitors the amount of broadcast time that includes music on each channel. Soundmouse, a music cue sheet reporting and programme metadata management company, carried out a music density analysis on a cross-genre sample of EU and UK TV channels in 2019. In the EU sample of 32 television channels across the EU27 countries, 48% of total broadcast time contained music. A similar music density analysis was carried out on five television channels in the UK for 2019 which estimated that 56% of broadcast time contained music. Soundmouse selected channels with high audience shares across a number of countries including France, Germany, Italy, Sweden and the UK. The samples were taken across all broadcast production types, including advertising, and measured the total amount of music (which was not limited by matching specific recording types e.g. production library music, commercial music etc). This method is appealing as it allows a researcher to capture all types of television channels and a much broader mix of programme genres. However, while the data reveal what proportion of TV broadcasters' total airtime contained music, it provides no clear insight into the economic importance of the music relative to the images shown, or whether that comparison varies depending on how the music was used.

The second approach is to take the amount paid to music rights holders by the broadcasters. In theory, a market forces-based approach would be most appropriate for capturing the economic value placed by broadcasters on music. However, such an approach cannot be applied where no free or arms' length commercial agreements are possible due to compulsory licensing of certain music rights which is implicit in their legal status as remuneration rights.

With respect to music in film, video games and advertising, it is evident that music is present in a vast majority of such work and the synchronisation revenues paid to music right holders are captured in the analysis of the music sectors' direct contribution to the GDP and tax receipts. However, due to the broader business considerations involved in synchronisation deals (e.g. cross-product promotion, marketing value, vertical industry integration, etc) it is not clear that this method of valuation would capture the full extent of economic value of music to the advertising, film or video game industries.

Estimating the value that music contributes to the economic activity generated by film, television, advertising, and video gaming is therefore a very complicated challenge. As we do not believe it can be done with any significant degree of confidence, we have omitted some of these sectors from our analysis and the resulting economic impact figures. As such, the estimate of €81.9 bn in total economic impact should be taken as a minimum overall contribution to the GDP, which would be considerably higher with the development of a reliable and accurate methodology to calculate music's contribution to other sectors.





## 4. TAX RECEIPTS

Taxation is a vital part of the operation of governments around the world, allowing them to undertake infrastructure projects, provide valuable public services, and meet their fiscal commitments. This chapter investigates the tax receipts supported by the music sector. It contains estimates of tax revenue due to the payment of labour income taxes, taxes on corporate profits, national insurance and security payments, VAT or sales taxes and other taxes paid by entities within the music sector and its supply chain. The estimates are disaggregated by the three impact channels, with results driven by the relative incomes received by labour and capital in each, and the tax rates they are subject to.

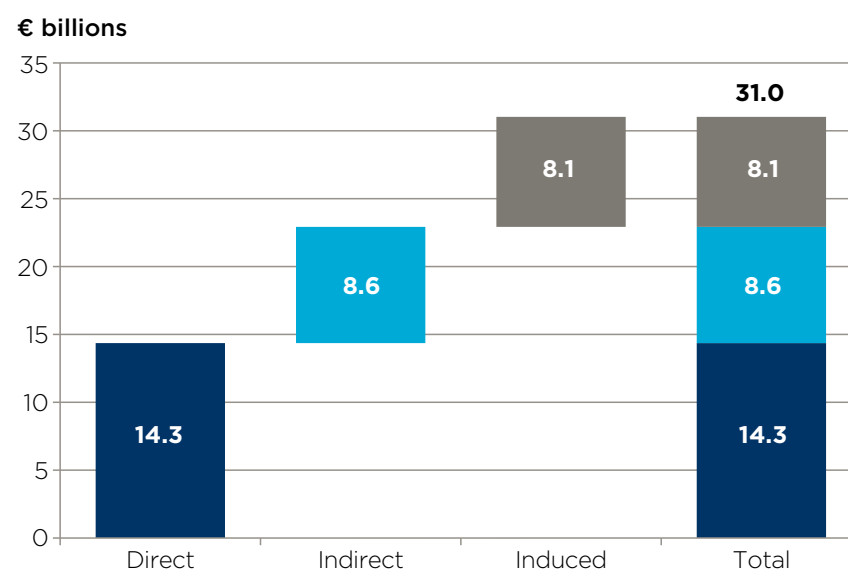
### 4.1 THE MUSIC SECTOR'S TOTAL CONTRIBUTION TO TAX RECEIPTS

In 2018, the music sector was estimated to have supported €31.0 billion in tax receipts in the EU27 and UK. Within the EU27, it was estimated to support €26.2 billion. This €31.0 billion of tax revenue was equivalent to 19.4% of the entire EU budget for 2018.<sup>22</sup>

Analysed by channel of impact, the music sector itself (the direct impact) made the largest contribution to tax receipts in 2018 at €14.3 billion, or 46% of the total

(Fig. 6). The music sector's tax multiplier was therefore estimated to be 2.2. So for every €1 of tax paid by the music sector itself, the music sector supported another €1.20 in tax receipts elsewhere in the EU27 and UK economies through its procurement and wage consumption impacts.

**Fig. 6. Tax receipts supported by the music sector across the EU27 and UK in 2018**



Source: Oxford Economics





## 5. EXPORTS

Exports play an important role in the European economy. The sale of goods and services, both tangible and intangible, to customers – whether companies or consumers – in the rest of the world creates income for the EU27 and UK. This is additional income for those countries, and when received stimulates extra economic activity and employment that would not otherwise have taken place.

This chapter presents conservative estimates of export earnings generated by the music sector in the EU27 and UK selling to individual and business customers elsewhere in the world. As the previous chapters have shown, the European music sector is large and diverse, stretching from content creation to instrument manufacture. Consequently, the exports generated by the music sector encompass the sale of goods, and services produced by the music sector in the EU27 and UK.

The quantification of the music sector's exports earnings is not an easy task and is becoming more difficult. The products of the music sector have a large digital component, with the majority of recorded music revenues derived from digital sources. Traditionally, trade data is far more detailed and available for physical goods. Unfortunately, physical goods are a small and declining proportion of the music sector's revenue, including exports revenue. Indeed, the vast majority of the music sector's exports – be they, for example, digital streams, downloads or live music concerts outside of Europe – involve intangible goods and services exports.

To overcome these data challenges, our estimates of music sector exports to outside of the EU27 and UK include estimates based on Eurostat's COMEXT database for physical goods and data from our bespoke survey of companies for digital goods and services. As we only surveyed record companies, music publishers, and providers of music streaming services (audio), our estimates for service and digital goods exports only cover these three export sectors. They do however reflect information provided by the firms themselves, so the data have a high level of accuracy.

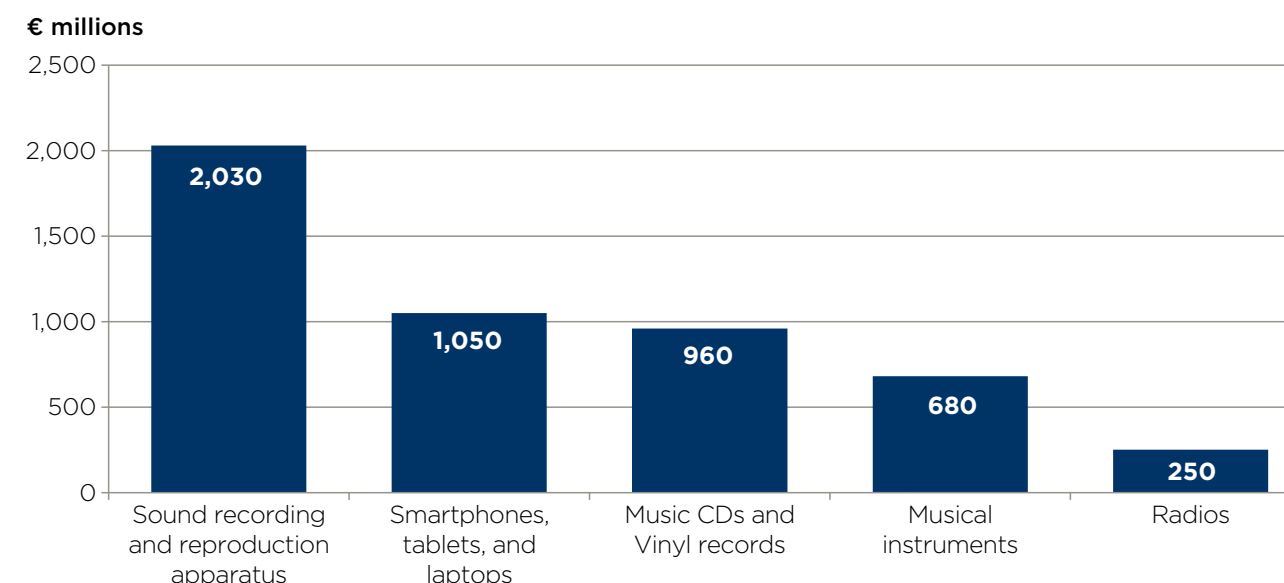
### 5.1 EXPORTS OF GOODS

Generally, data on the exports of physical goods are readily available and detailed, due to the relative simplicity of tracking the movement of tangible goods across borders. Because of this, we are able to use the Eurostat COMEXT database for data on the value of physical goods exports to outside of the EU27 and UK in 2018.

As some of the goods included in this section may have multiple uses that extend beyond music, we have taken a percentage of their value that we can attribute to the music sector, based on their final uses. The estimation technique used and the COMEXT database are described in greater detail in the Appendix.

In 2018, the export value of physical goods attributable to the EU27 and UK music sector totalled €5.0 billion. Of this total, €2.0 billion came from the export of sound recording and reproduction apparatus, which includes headphones, speakers, microphones, and other equipment for the recording of sound (Fig. 7). An additional €1.0 billion was earned from the music-related export of smartphones, tablets, and laptop computers. EU27 and UK exports of recorded CDs and Vinyl records were worth a combined €960 million. The sale of musical instruments generated €680 million in export revenues for EU27 and UK manufacturers in the same year.

**Fig. 7. Export earnings from the sale of physical goods produced by the EU27 and UK music sector to the rest of the world in 2018 (share of value attributable to the music sector)**



Source: Eurostat COMEXT

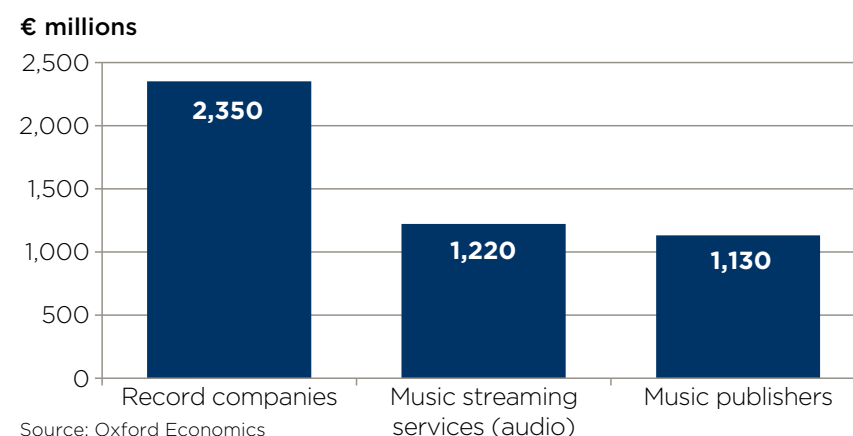
### 5.2 EXPORTS OF DIGITAL GOODS AND SERVICES

In this section we present estimates of digital goods (digital music) and music-related services exports from the EU27 and UK to the rest of the world. As mentioned in the chapter introduction above, estimating the value of digital goods and services exports presents more of a challenge than that of physical goods. Data from official sources do not provide the necessary information to allow us to reliably isolate the exports of digital music and music-related services as the data are generally included in broader categories such as Audiovisual services or Personal, cultural, and recreational services (e.g. in the case of live music concerts abroad).

Due to these limitations in the national and EU-level statistical data, our estimates for the exports of digital goods and music-related services were calculated based on the bespoke survey data we received directly from firms in the music sector. The estimates reflected the income that these European firms stated they earned from customers located outside of the EU27 and UK. As such, the value of exports in this category were limited to those of record companies, music publishers, and providers of music streaming services (audio).

In 2018, record companies, music publishers, and music streaming services collectively earned €4.7 billion from the exports of their digital goods and services to the rest of the world. Out of this total, we estimated that record companies earned €2.3 billion in exports, and music publishers received a further €1.1 billion. Firms involved in the streaming of audio music services earned just over €1.2 billion from customers elsewhere around the globe (Fig. 8).<sup>23</sup>

**Fig. 8. Export earnings from the sale of services and digital goods produced by the EU27 and UK music sector to the rest of the world in 2018**



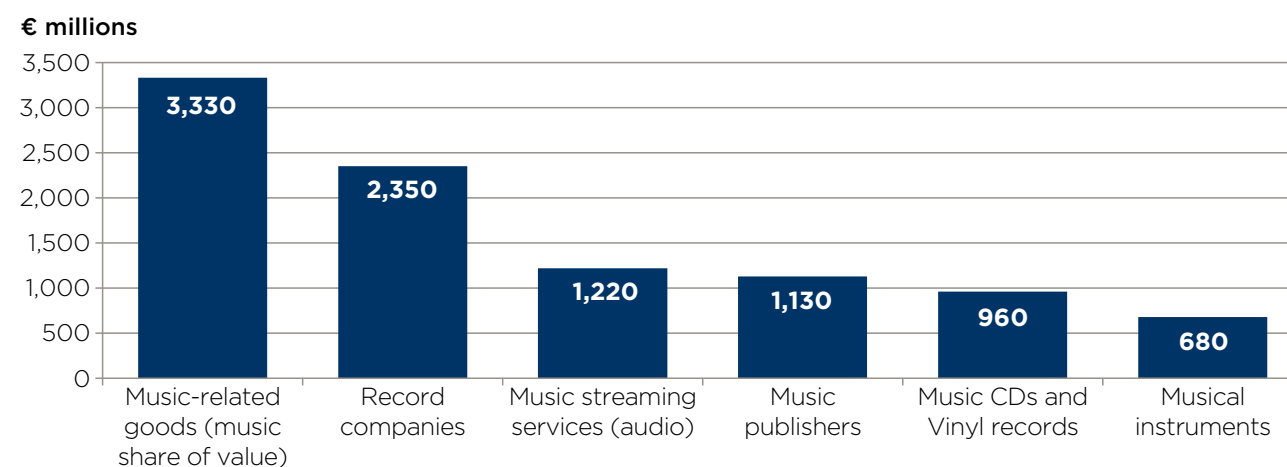
### 5.3 TOTAL EXPORTS

Given the estimates presented in Sections 5.1 and 5.2, we found that the music sector in the EU27 and UK generated some €9.7 billion in export earnings from the rest of the world in 2018. A more detailed breakdown by exports category can be found in Fig. 9.

To give a sense of scale, this €9.7 billion figure is around 1.9 times larger than exports made by the European audiovisual sector in 2018.<sup>24</sup> Alternatively, at €9.7 billion, EU27 and UK music exports generated 13% more in revenues than extra-EU exports of all European GI-protected wines in 2017.<sup>25</sup>

The extra-EU exports estimate is conservative because not all export revenue streams were included in the study (e.g. data was not available for all collectively managed music export revenues or revenues from international concerts/tours in non-EU countries).

**Fig. 9. Export earnings from the sale of goods, digital goods and services produced by the EU27 and UK music sector to the rest of the world in 2018**



<sup>24</sup> AVdata4Europe figures, available at: <https://avdata4europe.eu/key-data/>

<sup>25</sup> Source: European Commission, 2019. Study on the economic value of EU quality Schemes, geographical indications (GIs) and traditional specialties guaranteed (TSGs). Table 5, Page 18.





## 6. CONCLUSION

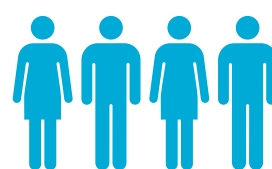
The music sector makes a substantial contribution to the European economy. Across the EU27 and UK, it was estimated to have supported a €81.9 billion GVA contribution to GDP in 2018. The sector sustained the employment of some 2.0 million people, equivalent to 1 in 119 jobs across EU27 and the UK. It also supported €31.0 billion in tax receipts and generated €9.7 billion in export revenues.

Within the EU27 countries, excluding the UK, the music sector made a similarly significant contribution. In 2018, the sector supported €66.3 billion gross value added contribution to GDP. Some 1.7 million people's employment depended on music, equivalent to 1 in every 121 people employed in the EU27. The music sector contributed €26.2 billion in tax receipts in 2018.



**€81.9 billion**

Total GVA contribution to GDP in the EU27+UK



**2.0 million**

Total jobs supported by the music sector in the EU27+UK



**€31.0 billion**

Total tax contribution of the music sector in the EU27+UK



**€9.7 billion**

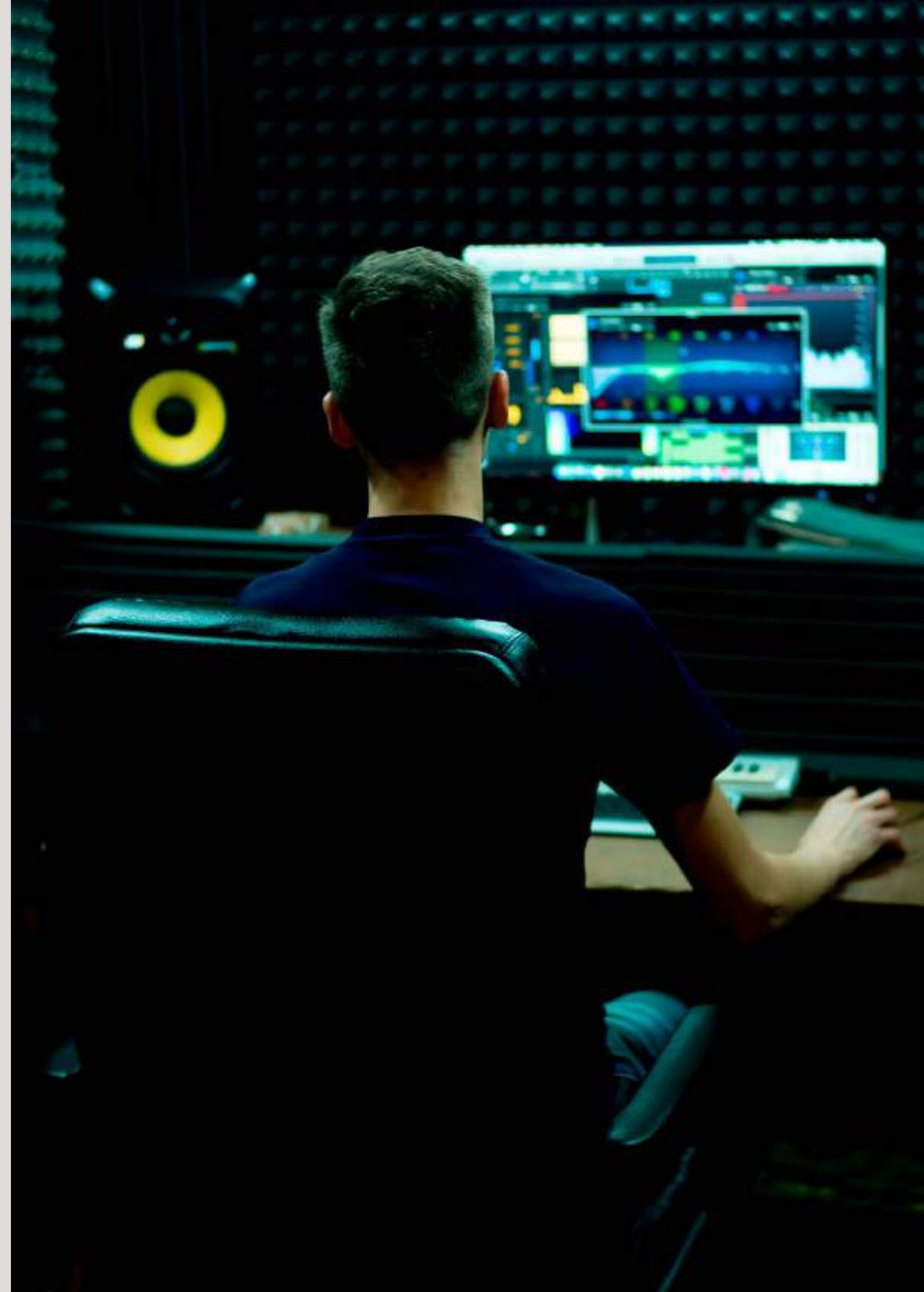
Export revenue  
(conservative estimate)





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# APPENDIX: DATA AND METHODOLOGY

## DATA SOURCES

### Record companies

A bespoke data request was completed by the three major record companies (Sony Music Entertainment, Universal Music Group and Warner Music Group) and a range of independent record companies across Europe that were members of IMPALA. The data request asked for financial information about their operations (including their export earnings from outside of the EU and UK), their employment, and procurement from the rest of the music sector and other industrial sectors. They were asked to disaggregate the information they provided by the operations resident in the EU27 and the UK. The record companies were asked to provide information by type of activity and to isolate the contribution they make from producing music as opposed to their other activities (such as merchandising and publishing).

In addition, IFPI asked its national trade association members and IMPALA colleagues to provide information on the number of record companies in each of the 28 countries (including locally incorporated subsidiaries of the majors). This resulted in identifying some 7,400 record companies established and trading in the 28 countries.

The data from the three major record companies were aggregated. Averages were taken from the data supplied by the independent record companies and combined with IFPI data on the total revenue which the independents are calculated to have earned. The two sets of data were individually modelled and combined into an estimate for record companies as a whole.

To estimate employment within independent record companies in the EU27 and the UK, we utilised data returns from our bespoke survey, combined with the aforementioned list of 7,400 record companies.

The European Commission defines a large firm as having 250 or more employees, earning an annual turnover more than €50 million, or a balance sheet total greater than €43 million.<sup>26</sup> On this basis, we split the independent record companies into large and those that are small and medium-sized enterprises (SME). For these large independent companies, we used the mean average estimate of the survey respondents' headcount of 612 people. For the SME record companies, we applied the most commonly appearing headcount number from our set of survey returns, which was 2 people, to reflect the large number of very small record companies across the EU27 and the UK.

### Music publishing

Similar to our analysis of record companies, a bespoke data request was the primary data source for the music publishing segment. Data returns were received from the publishing arms of the three major record companies, as well as a selection of independent publishers both large and small. The data we received from the sample of independent publishers were scaled up to represent the whole independent sector of the market by using market share data sourced from Music and Copyright.<sup>27</sup> The data returns from independent publishers were used to model the employment and procurement profiles of a typical independent publisher by calculating the average of ratios of GVA to procurement, employee compensation, and employment. This was scaled up to reflect the total market size and used in modelling alongside the major publishers' data.

### Recording studios

Data on recording studios was sourced from Eurostat. Data was extracted for NACE code 59.2, sound recording and music publishing activities, which included the activities of sound recording studios. To isolate the recording studio component of these data, we used the 2015 "Musikwirtschaft in Deutschland" study carried out by the Institute for

Communication Studies at Friedrich-Schiller-Universität Jena (IfKWJ). This study estimated gross value added for recording studios in Germany, and this was compared with the Eurostat gross value added data for recording studios' parent category, NACE code 59.2. The ratio of recording studio GVA to the broader NACE category of sound recording and music publishing activities' GVA generated by this German study was then applied to the remaining nations' Eurostat data to estimate the impact of recording studios across the EU27 and UK. The same methodology was applied with respect to employment.

### Performers

As music performers are people rather than corporate entities and their main economic impact involves their earnings, we obtained data on the number of performers (i.e. recording artists and musicians, not including dancers or other categories of performers) from CMOs' (joint societies or performers' CMOs) distribution lists across the EU27 and UK. These CMOs provided data on both the number of domestic performers that they distributed revenue to in 2018, as well as data on the aggregate monetary value of those distributions to domestically resident performers, thus payments to non-resident members (who might be members of several

CMOs at the same time) were counted only once in their country of residence. This avoided the problem of double or indeed multiple-counting of all members). The number of music performers was sourced from CMOs and therefore do not include performers who have not signed up with CMOs.

To calculate the performers' direct gross value added, IFPI spoke to the International Federation of Musicians (FIM) and we made use of two previous music industry studies. These were the 2019 "Music by Numbers" report by UK Music, and the 2015 "Musikwirtschaft in Deutschland" study. Both studies present estimates of GVA and employment for music performers, allowing us to calculate a productivity estimate for them. We then applied the average of these productivity estimates (GVA per head), adjusted using Eurostat purchasing power parity (PPP) data on a country by country basis, to performer numbers across the remaining EU nations to create EU27 and UK totals. We then applied ratios for GVA to performers' spending on goods and services, as well as GVA to employment costs, both sourced from the "Musikwirtschaft in Deutschland" study in order to model the indirect and induced impacts of music performers.

### Authors

Like performers, music authors analysed in this study are people whose main economic impact involved the earning of income from the licensing of their musical works or compositions. To estimate this group's aggregate income within the EU27 and UK, we surveyed GESAC/CISAC member organisations. These CMOs provided data on both the number of domestic songwriters/authors that they distributed to in 2018, as well as data on the aggregate monetary value of those distributions to domestically resident authors (thus avoiding double-counting of all members). As the number of authors were sourced from CMOs they do not include composers or songwriters who have not signed up with CMOs.

To estimate the direct gross value added impact authors generate we first calculated their estimated total revenue. The 2015 "Musikwirtschaft in Deutschland" study, provided a breakdown of the different income streams for music authors, which listed distributions from CMOs as 58.4% of their income. We therefore scaled up the GESAC members' distributions data for 2018 to reflect the total income of songwriters/authors within the EU27 and UK and compared that with the data on procurement within the sector provided by music publishers. We then applied

<sup>26</sup> <https://ec.europa.eu/eurostat/web/structural-business-statistics/structural-business-statistics/sme#:text=SMEs%20are%20defined%20by%20the,Recommendation%20of%206%20May%202003>.

<sup>27</sup> Available at: <https://musicandcopyright.wordpress.com/tag/market-share/#:text=Music%20%26%20Copyright%20estimates%20the%20company's,publisher%20to%20increase%20its%20share>.



a total revenue to gross value added ratio, also provided by the “Musikwirtschaft in Deutschland” study, to calculate music authors’ GVA contribution to GDP across Europe.

### Artist managers

In order to estimate the economic impact of music artist managers across Europe, we held interviews with the European Music Managers Association (EMMA). We also made use of the highly detailed information contained within the 2015 “Musikwirtschaft in Deutschland” study to calculate a ratio of music artist managers to music performers in Germany. We then applied this ratio of manager to registered performers to the total numbers of performers that appear on MLCs distribution lists. This allowed us to estimate the number of music artist managers across the EU27 and UK. To calculate the gross value added the managers generated, we used an average productivity figure provided in the German study. In order to calculate the supply chain and wage-induced spending impact of artist managers, we applied ratios of gross value added to procurement, and to employee compensation sourced from the German study.

### Collective management organisations (CMO)

In this report, we estimated the impact of Author CMOs, Performer CMOs, Producer CMOs and Joint (producer-performer) CMOs who collectively managed certain uses of music rights. For Author CMOs, GESAC member organisations were surveyed, and information was provided by them on employment and personnel costs in 2018. These individual responses were aggregated and modelled.

For performer and producer CMOs, data on employee compensation and purchases of inputs of goods and services were taken from responses provided by IFPI affiliated music licensing companies (MLCs) and annual reports published by the CMOs. The relevant financial and employment data were extracted from these individual reports or were provided directly by the CMOs in question.

### Live event producers

To estimate the economic contribution of promoting and putting on live music events we looked in the first instance at LiveNation’s annual accounts for 2018. The company is by far the largest in the live music industry. LiveNation’s annual accounts split the company’s revenue and costs into three segments: concerts; sponsorship; and ticketing. As LiveNation sells

tickets for a wide range of entertainment genres through Ticketmaster, which they own, we conservatively looked at its revenue and costs for the first two segments plus the estimated number of fans attending LiveNation’s concerts as a share of their total tickets sold (19% of all tickets sold). LiveNation’s accounts revealed that in 2018 it held 30.9% of the concerts which it promoted outside of North America but provided no further geographical details. Looking at country-by-country data on the spend on live music in the countries where LiveNation has subsidiaries outside of North America, 65% occurred in the EU27 and the UK. So we estimated that 20% of the economic activity LiveNation undertook, in its concerts and sponsorship segments - in the EU27 and the UK, as well as 4% of the economic activity in its ticketing segment in 2018 - was attributable to the promotion and staging of live music events in the same geographic markets. We pro-rata the financial data of Live Nation accordingly, splitting the company’s costs data in each segment into employee compensation and procurement using information published by the Office for National Statistics on Standard Industrial Classification 79.9. LiveNation’s 2018 accounts reveal that the company employed 3,300 full-time employees outside of North America. We formed an estimate of the location of these staff using employment data from national statistical

offices in the countries where the company has subsidiaries. We therefore estimated that in 2018 LiveNation employed about 1,700 and 450 permanent staff in the EU27 and the UK, respectively. Using the same methodology, we estimated the company employed an average of 3,700 and 1,000 seasonal and part-time employees in the two geographies across the year, respectively.

Pollstar (2019) estimated that LiveNation was responsible for 59% of all ticket sales by the top 100 promoters in 2018. In the absence of additional information on ticket sales for live music events by other companies, all of which are privately held, we scale up our estimates for the company by 1.69 (1/59%) to estimate the scale of the whole industry.

### The activities of music venues and festival organisers

The starting point for these estimates was provided by Live DMA and a 2017 survey of its members concerned with the revenues, spending and employment at the live music performance venues in its membership network across Europe.<sup>28</sup> The results in the survey had been scaled up by Live DMA from the 600 responding organisations, to be representative of the 2,600 organisations, across 15 countries, in its membership at that time. The survey was concerned only with the venues’ music-related activities.

Using the Live DMA report, Oxford Economics identified these 2017 metrics for the full Live DMA membership:

- **Employment.** This is taken to be the number of paid workers (including interns and trainees, etc), excluding the comparatively large number of volunteers.
- **Direct GVA.** This is taken to be the sum of personnel costs and the surplus of all revenues (including ticketing, catering, other audience revenues, and public funding) over all outlays.
- **Total procurement.** This is taken to be the sum of the three non-personnel cost categories, namely direct programme costs (payments to musicians and music production companies, etc), accommodation costs (property rental, building maintenance, utilities, etc), and other outlays (for e.g. catering supplies, transport, and professional and business services).

The results were then re-scaled to be representative of the EU27 and the UK, with non-EU states in the survey excluded, and EU countries not covered added in on the basis of country shares in total consumer spending in 2017. These results were then grown forward to 2018 on the basis of changes in each nation’s consumer spending, with tax impacts worked out at that stage based on various tax-to-income ratios from official sources. The taxes covered here are employers’ and employees’ social security contributions, employees’ income tax, and corporation tax.

The next step was to scale the results upwards to reflect activities not covered, such as large festivals. This relied on a large-scale literature review, with scaling ratios worked out using those economic studies of national music industries where a ‘concert venue and festival organiser’ sector was specifically identified (as distinct from the wider ‘live music sector’ of which it forms a part). This allowed the sector results for direct employment, direct GVA, and direct taxation to be estimated.



Finally, the starting point for this sub-sector's wider economic footprint was also worked out:

- Procurement by industry of supplier was estimated based on the non-personnel cost categories in the Live DMA survey. Spending on accommodation and 'other' items provided the starting point for this sector's contribution to the indirect impact, but spending on direct programme costs was excluded as these suppliers are themselves part of the music industry.
- The spending power of workers in the sector, which contributes to the induced impact, was calculated as total personnel costs, net of all social security contributions and employees' income tax.

### Music merchandising

One of the major music-specific merchandising companies in Europe was approached confidentially and asked to complete a bespoke data questionnaire. Their response contained financial information (including export earnings from the rest of the world), employment and procurement information. As elsewhere, the data supplied was split by the location of its operations into those located in the EU27 and the UK. The results were grossed up to the entire segment by the company's market share, calculated from Licensing International data.

The estimates of the music merchandising's procurement and payment of employee compensation was entered into Oxford Economics' Global Economic Impact Model to estimate the indirect (supply chain) and induced (wage consumption) impacts.

### Digital service providers

In 2018, there were 108 licensed digital music services in the EU27 and the UK (not counting separately the national subsidiaries).<sup>29</sup> IFPI provided data on the market share of audio streaming subscription services, such as Spotify, Apple Music, Deezer, Amazon Music Unlimited and YouTube Music.

IFPI's Music Consumer Insight report 2019<sup>30</sup> provided data on the share of music listening time in key EU markets in 2018. At the time, 86% of music online was consumed through on-demand streaming – both audio and AV streaming.

### Music streaming – audio

Data for the audio music streaming services part of the digital music distribution sector were based on the bespoke survey return sent to companies in the sector. The data request asked for financial information about their operations (including their export earnings from outside of the EU27 and the UK), their employment, and procurement from the rest of

the music sector and other industrial sectors. The data from the returns was scaled up by the responding firms' market share to estimate the size of the whole sector.

### Music streaming – video

Data on the economic activities of the music video streaming services is very hard to obtain. We know that in 2018, YouTube was the only major supplier of music video streaming services in the EU27 and the UK, estimated to account for almost 100% of the legitimate (licensed by music right holders) music video streaming market. YouTube's ultimate owner is Alphabet Inc. In 2018, the company published global consolidated accounts, which covered all their services (including Android, Chrome, Gmail, Google Drive, Google Maps, Google Play, Search, and YouTube). The company did not, and still does not, disclose information on the income and number of employees involved in providing its individual services, let alone one of its services by content type. Our methodology was therefore based on some data and assumptions.

YouTube claims to have paid the music business as a whole US\$3 billion in 2019.<sup>31</sup> YouTube has also stated that its typical costs of acquiring all types of content, including music, is 55% of its revenue (YouTube generates most of its revenue

by placing advertising alongside video content and is believed to pay the creators of those videos, or the rights owners of the music used in those videos, 55% of the advertising revenue).<sup>32</sup> Dividing US\$3 billion by 55% suggests YouTube earned around \$5.45 billion in revenue on advertising accompanying music videos globally. This estimate relates only to monetised (through advertising) videos and does not include estimates for the value of other Alphabet owned services that might have derived revenue from the internet traffic generated by the music videos available on YouTube. In the absence of any disclosures about the location of YouTube's advertising revenue generating viewers, we assumed these revenues reflected the geographical split of Alphabet's total revenue. Alphabet's 2018 annual report stated that the company earned 33% of all of their revenue from the Europe, the Middle East and Africa (EMEA) region. To estimate the scale of their revenues from the EU27 and the UK, we used those markets' share of recording industry's video streaming revenues from the EMEA region (at 64% and 26%, respectively) using IFPI's "Global Music Report" data for 2018. However, we recognise that the above methodology is not perfect, given that not all music videos available on YouTube are monetised through advertising, not all

monetised music videos are licensed by music right holders and, finally, unlike in the case of audio streaming music services, YouTube does not seek licences to all the rights in the music content prior to making that content available on its platform.

In the absence of any further data about Alphabet's European operations and staff working on YouTube in Europe, we assumed that Alphabet's various business functions were equally efficient, so we used the ratios from within its 2018 annual accounts to estimate employment and gross value added. We combined Alphabet's accounts data on type of spending, with input-output data to derive its procurement and employee compensation associated with streaming music videos to estimate the indirect and induced impacts.

### Physical music retail

Data on the retail value of purchases of physical music (CDs, vinyl, etc) in four countries (Austria, Germany, Portugal, and UK) in 2018 was sourced from Verband der österreichischen Musikwirtschaft, Bundesverband Musikindustrie, Associação Fonográfica Portuguesa and the Entertainment Retailers Association (2019), respectively. The Entertainment Retailers Association's data for the UK

showed that in 2018, 10.7% of consumer spending on music was at specialist over-the-counter shops (i.e. record stores), supermarkets had a 6.7% market share and home delivery a further 11.3% share. Eurostat publishes data on various aspects of retailing (employment, revenue, procurement, employee compensation, etc) for specialised audio and video equipment stores, non-specialised stores with food, beverages or tobacco predominating (i.e. supermarkets), and non-specialised retailers. We weighted together the ratios for the three retailing sectors in proportion to their share of consumer spending at 10.7%, 6.7% and 11.3%. This enabled us to derive estimates of the direct impact of selling physical music, the retailers' procurement, and the employee compensation they paid so that we could calculate the direct, indirect and induced impacts for those four countries.

To calculate the retail value of physical music in the other 24 countries, we used statistics on the sales volume of CDs and vinyl in 2018 contained in IFPI's "Global Music Report". The publication contains volume data for 15 countries out of the EU27 and UK in 2018. We calculated the average percentage decline in sales volumes across the 15 countries contained in the "Global Music Report". We

<sup>29</sup> IFPI and [www.pro-music.org](http://www.pro-music.org) listing for 2018

<sup>30</sup> Available at: <https://www.ifpi.org/wp-content/uploads/2020/07/Music-Listening-2019-1.pdf>

<sup>31</sup> Available at: <https://www.billboard.com/articles/business/8550838/lyor-cohen-youtube-music-billboard-cover-story-interview-2020>

<sup>32</sup> Irene S Berkowitz, *Watchtime Canada: How YouTube Connects Creators & Consumers* ([n.p]: Ryerson University/Faculty of Communication and Design Audience Lab, 2019) <https://sites.google.com/view/watchtime-2019>

then applied this percentage decline to the 2017 data for the remaining countries to estimate volume figures for 2018. We then multiplied the volume of CDs and vinyl sold by the average price of CDs and vinyl for the two countries for which we have data that are broken down into each type of physical music (Austria and Germany). To account for price differences across the EU, this was then scaled by the difference in the price of a particular best-selling global artist's latest CD album on Amazon in each of the six European countries which have bespoke Amazon sites. For the remaining 22 countries we have used the Eurostat purchasing power parity estimates for recreation and culture.<sup>33</sup> We then multiplied that by the "Global Music Report" statistics on the quantities of CDs and vinyl sold in the relevant markets to get the retail sale value and used the ratios from Eurostat for the retail sector in the relevant country.

### Musical instrument manufacturing

In estimating the impact of musical instrument manufacturing, we first spoke to the Music Industries Association (MIA). Following this, data for musical instrument manufacturing was sourced from the Eurostat Structural Business Statistics (SBS) database. Data on gross value added, employment, total

personnel costs, and purchases of goods and services were extracted for the NACE code 32.2 (Manufacture of musical instruments). Where data were missing for countries, mainly for confidentiality reasons, these were estimated by using EU totals.

### Musical instrument retail

Input data for musical instrument retail was sourced from the Eurostat SBS database. As the SBS database does not provide data at a disaggregated enough level to allow us to directly extract data for musical instrument retail, data for the broader industry category were scaled down. Data were extracted for NACE code 47.59 (Retail sale of furniture, lighting equipment and other household articles in specialised stores). To remove the portion of this data that was not related to the retail of musical instruments, we used the GVA ratio of SIC codes 47.59/1 to 47.59 found in the UK Annual Business survey for 2018.<sup>34</sup> This showed that musical instrument retail represented approximately 7.3% of the 47.59 category in terms of GVA. This percentage was then applied to the Eurostat data to split out the musical instrument retail component.

Whilst the Eurostat data for musical instrument retail represented musical instruments sold in specialised stores, we took this to

represent the entirety of musical instrument retailing. We conducted an interview with the Music Industries Association (MIA), the trade body for the UK musical instrument industry, which confirmed that the vast majority of musical instrument sales occurred within specialised stores.

### Radio broadcasting

Data on the radio broadcasting sector (defined as NACE code 60.1 Radio Broadcasting) was sourced from the Eurostat SBS database. We downloaded information on the sector's gross value added, employment, employee compensation, and procurement.

To apportion the share of radio broadcasting that is attributable to music (as opposed to talk-based or other programming) we used PWC (2017) data on the percentage of commercial radio airtime accounted for by playing music.<sup>35</sup> The data were available for nine countries in the study, namely, Austria (78% of airtime), Bulgaria (74%), Denmark (40%), Finland (55%), France (68%), Germany (70%), Italy (65%), Latvia (70%) and Sweden (75%). A similar-countries method was used to estimate airtime percentages for the other nations in this report, based on geographical proximity and relative income levels.

### Television broadcasting

For the activities of television broadcasters, data on GVA, employment, employee compensation, and procurement spend was sourced from Eurostat's SBS database, for NACE code 60.2, television programming and broadcasting activities. This provided the necessary data on GVA, employment, total personnel costs, and spend by the industry on inputs of goods and services (which includes, amongst others, procurement of licences from music right holders) not intended for resale in the same condition, for television broadcasters. From here, 7% of the total GVA and employment associated with television broadcasters was attributed to the music industry, based on the percentage of television channels which were dedicated to music, sourced from the European Audiovisual Observatory.<sup>36</sup>

### Music-related goods manufacturing

For this category we estimated the impact of the manufacturing of goods which were related to the production and consumption of music. The list of products included sound recording and reproduction apparatus, radios, and devices used to play music such as laptops, smartphones, and tablet computers.

We began by extracting data from Eurostat's PRODCOM database, which provided production values for our selection of music-related goods. We then assigned percentages of the production values of the goods in the following manner. For goods related to the consumption of broadcast music radio, we took an EU average figure for the percentage of radio broadcasting airtime devoted to music (68%), calculated from data presented in PWC's "A new benchmark for the valuation of sound recordings (2017)" report. For products that played physical music formats or were for sound recording, such as microphones, we made the assumption that these were predominantly for music use, and therefore took 100% of their production value.

For the manufacturing of smartphones, we used data from a Comscore study on mobile app usage in the US (2017).<sup>37</sup> This suggested that 18% of time spent on mobile apps was spent on music consumption. We therefore attributed 18% of the value of smartphone production in the EU27 and the UK to music. In the absence of consumer data on music usage time on laptop computers, we used data on private copy levies for music-playing devices in Europe. We calculated an average percentage rate of 2.585% based on data from the Stichting de ThuisKopie and

the World Intellectual Property Organization<sup>38</sup> which covered the Czech Republic, Estonia, Greece, Poland, and Slovakia.<sup>39</sup> Using the private copy levy percentage will almost certainly lead us to underestimate the true music-attributable share of the value of laptop computers, so our estimates can be taken as a minimum. Finally, for goods relating to the production of loudspeakers and audio amplifiers, we assigned an 85% share of the production values of these goods. This is based upon a metric found in National Public Media's Smart Audio Report (Spring 2020),<sup>40</sup> stating that 85% of smart speaker users play music on their devices.

After music's share of production value was isolated, we applied ratios of production value to GVA, procurement, and employee compensation taken from the Eurostat Structural Business Statistics (SBS) database. All of the products chosen fit into NACE categories 26.2 (Manufacture of computers and peripheral equipment), 26.3 (Manufacture of communication equipment), or 26.3 (Manufacture of consumer electronics). We therefore applied the appropriate GVA, employment and procurement ratios based on the category into which a specific good fell. Finally, GVA per worker ratios from the same Eurostat SBS categories were applied to estimate employment associated with the production of each good.

<sup>33</sup> Available at: <https://ec.europa.eu/eurostat/web/purchasing-power-parities/visualisations>

<sup>34</sup> ONS. 2020. "Annual Business Survey - 2018 Revised Results."

<sup>35</sup> PWC. 2017. "A new benchmark for the valuation of sound recordings."

<sup>36</sup> European Audiovisual Observatory, Audiovisual media services in Europe, 2019.

<sup>37</sup> Comscore. 2017. "The 2017 U.S. Mobile App Report."

<sup>38</sup> Available at: [https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_1037\\_2017.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_1037_2017.pdf)

<sup>39</sup> This will produce a conservative estimate. If we were to take the same share of value as we used for smartphones (18%), this would increase total GVA by €972 million and total employment by 26,000 people.

<sup>40</sup> National Public Media, The Smart Audio Report, April 2020. URL: <https://www.nationalpublicmedia.com/insights/reports/smart-audio-report/>



The calculated values for spending on inputs of goods and services and employee compensation were then inserted into Oxford Economics' Global Economic Impact Model to estimate the indirect and induced impacts.

**Retail of music equipment (including consumer and studio/recording goods)**

To estimate the economic impact of the retailing of manufactured goods used in the production or consumption of music, we use the same categories of goods and their respective music-attributable value shares as described in the section on the manufacturing of music-related goods for consistency.

Retailers earn margins on both the sale of goods manufactured in Europe and imported from the rest of the world. Therefore we began by estimating the total supply of these goods to the EU27 and UK domestic markets by summing the value of domestic production and imports of the included goods, and then subtracting their respective export values. Import and export values for the EU27 and the UK were extracted from the Eurostat COMEXT database and the values of goods produced within the studied region were sourced from the Eurostat PRODCOM database.

To estimate GVA and employment associated with the retailing of these products, we first applied data on trade and transport margins for the Computer, electronic and optical products category (CPA\_C26) in Eurostat's EU27 and UK supply table to the calculated domestic supply figures. Then we used ratios of gross margin on goods for resale to GVA, procurement (purchases of goods and services excluding those meant for resale in the same condition), employment, and employee compensation. These ratios were calculated using data from the Eurostat SBS database, for the category Other retail sale in non-specialised stores. The estimated data for employee compensation and procurement spending were then modelled using the Oxford Economics Global Economic Impact Model to estimate the supply chain and wage consumption impacts of the retailing of music equipment.

**Music teachers**

The estimates of the GVA and people employed as music teachers that are presented in this report represent those music teachers employed within educational institutions at lower secondary, upper secondary and tertiary levels. There is a distinct lack of available data on freelance music teachers, those who privately teach music and

musical instruments to students. Therefore our estimates do not directly include these people. However, it is noted that many freelance music teachers are also employed as music teachers in educational institutions and elsewhere in the sector, so their inclusion could likely lead to some double counting.

We began by estimating the number of music teachers at secondary and tertiary level within the EU27 and the UK, assuming that the number of dedicated music teachers at primary level was negligible due to the more generalist nature of education at that stage. To estimate this, we used country-level data on numbers of classroom teachers and academic staff by education level across the EU27 and the UK from Eurostat. We then estimated the percentage of these teachers that taught music. For music teachers at lower and upper-secondary level institutions, we first calculated the percentage of secondary-level teachers who taught music at secondary schools in England, using data from the UK Department for Education School Workforce Census 2018.<sup>41</sup> The percentage teaching music as a discipline was then applied to Eurostat data on the total number of secondary-level teachers at all institution types in the EU27 to estimate the total number of music teachers employed at lower and upper secondary level institutions in the EU27.

This same percentage was applied to Eurostat data on secondary schools' spending on employee compensation and the purchases of goods and services to isolate the component related to music education.

An estimate of the number of music teachers employed at higher education institutions in the EU27 and the UK was provided by the Association Européenne des Conservatoires, Académies de Musique et Musikhochschulen (AEC), a coalition representing

higher music education institutions within Europe. The estimate was provided on a full-time equivalent basis, so we converted it into a headcount measure using Eurostat data on the percentage of tertiary-level teachers who were in part-time employment, with the assumption that anyone working part-time undertook half the hours of their full time colleagues. For music teachers at tertiary level we used Eurostat data on the number of academic and teaching staff employed by tertiary-level education

institutions, as well as the estimate provided by AEC, to calculate the percentage of tertiary-level teachers who taught music. This percentage was then applied to Eurostat data on procurement spending and employee compensation by tertiary-level institutions to estimate the spending associated with music education. This was then combined with the secondary-level data and modelled using the Oxford Economics Global Economic Impact Model.

**Fig. 10. Product categories for which data was obtained**

Product category
Musical instruments; parts and accessories of such articles
Radio broadcast receivers (except for cars)
Radio broadcast receivers for motor vehicles with sound recording or reproducing apparatus
Radio broadcast receivers for motor vehicles, n.e.c.
Parts of radio receivers and transmitters
Telephones for cellular networks or for other wireless networks
Portable automatic data processing machines weighing max. 10 kg, such as laptop and notebook computers and similar computers
Turntables, record-players, cassette-players and other sound reproducing apparatus
Magnetic tape recorders and other sound recording apparatus
Microphones and their stands (excluding cordless microphones with a transmitter)
Single loudspeakers mounted in their enclosures
Multiple loudspeakers mounted in the same enclosure
Loudspeakers (excluding those mounted in their enclosures)
Headphones and earphones, even with microphone, and sets consisting of microphone and one or more loudspeakers
Audio-frequency electric amplifiers (including hi-fi amplifiers)
Electric sound amplifier sets (including public address systems with microphone and speaker)
Precious or semi-precious stones for styli (for record players)
Other parts and accessories of apparatus of sound recording or reproducing apparatus
Parts of apparatus of microphones, loud speakers and amplifiers

## Exports

In estimating the exports attributable to the music industry in the EU27 and UK, our methodology can be split between two categories, physical goods, and digital goods and services, which we approached in different ways based on the data available.

### Physical goods exports

For exports of music-related manufactured goods we were able to extract data on export values from the Eurostat COMEXT database (Fig. 10). Then, to reflect the fact that many of these goods may have additional uses outside of music, we took the same shares of export values, as we did for the manufacturing and retail of physical goods. Details of the categories used can be found in the table below.

### Digital goods and services exports

When compared to the exports of physical goods, data on digital goods exports and services exports are far less complete in government statistics and availability is inconsistent across countries. Data from official sources did not provide the necessary information to allow us to reliably isolate the exports of digital music and music-related services, as the data were generally included in broader categories such as 'Audiovisual services' or 'Personal, cultural, and

recreational services' (e.g. in the case of live music concerts abroad).

Our estimates of digital goods and music services exports were therefore calculated based on the bespoke survey data we received directly from firms in the music sector. This reflected the income that these European firms stated they earned from customers located outside of the EU27 and the UK. As such, exports in this category were limited to those of record companies, music publishers, and providers of audio music streaming services.

For independent record companies and independent publishers where we estimated revenues based on market shares (see the record companies and music publishers methodology section), we estimated their respective export values by using average ratios of exports to total revenue, calculated from survey returns we received.

### METHODOLOGY TO ESTIMATE THE INDIRECT AND INDUCED IMPACTS

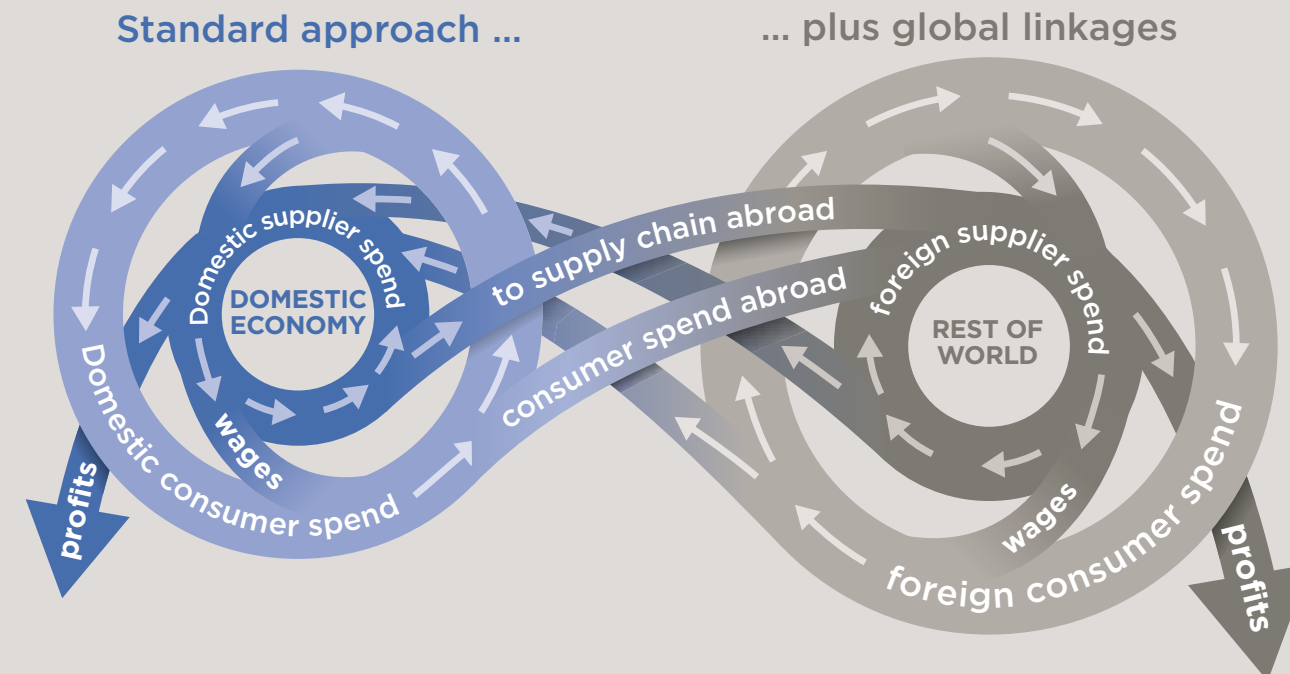
Estimating the music sector's wider (indirect and induced) impact in the EU27 and the UK required the use of an input-output (I-O) model of the European economy. An I-O model is a detailed representation of an economy, showing the major interactions and spending flows

between different industries, households, government, and the external sector. In essence, an I-O model is a table which shows who buys what, and from whom, in the economy. Economic impact assessments utilise I-O models to describe how activity spreads along supply chains throughout an economy, building on the Nobel Prize winning work of Wassily Leontief.<sup>42</sup>

This study employed the Oxford Economics Global Economic Impact Model, which enables supply chains to be traced across countries. The model used OECD (2018) data on global economic structures and trade as its foundation.<sup>43</sup> It allowed us to model the music sector's supply chains as they crossed national boundaries, both inside and outside Europe, stimulating economic activity as orders were made and goods and services produced.

Using a global model is more accurate than aggregating national ones as it captures the full extent of the supply chain. National I-O models for a single country treat imports as a 'leakage' and the expenditure is lost from the model, providing no further economic benefit (Fig. 12). This approach can lead to understating the economic impact of a sector. In contrast, using a global model allows expenditure down the music sector's supply chains to exit and re-enter the EU27 and the UK economies multiple times.

**Fig. 11. Our Global Impact Model captures how the music sector's contribution spans economies**



### Using the global I-O model to calculate indirect and induced impacts

Using the model enables the calculation of the music sector's indirect and induced impacts. This involved identifying the expenditure that each segment of the music sector made with its suppliers outside of the sector--both those based in the EU27 and UK and those in the rest of the world. We excluded intra-music sector procurement so as not to double count music sector firms both in the direct channel and then again in the supply chain (indirect channel) and through wage spending (the induced channel).

The method used to collect data on each segment of the music sector's procurement by purchase type and location of the suppliers are described earlier in this Appendix. Using the global I-O model, this spending was aligned to the industrial sectors in each country from which inputs were sourced. Where relatively little industrial detail was available from the data, we drew upon patterns of spending observed in similar industrial sectors in the input-output model.

The model then calculated the subsequent supply chain purchases that occurred within the global economy (through the use of supply linkage

multipliers). The summation of these purchases represented the total production that was generated by each segment of the music sector's procurement. To calculate the indirect contribution to GDP, the gross output stimulated in each industry in each country was divided by sector-level gross value added to gross output ratios, sourced from national statistical agencies for each country in the EU27 and UK. The results were then aggregated to produce the total gross value added stimulated by the music sector's procurement from its supply chain located in the EU27 and UK.



The employment supported as a result of the indirect contribution to GDP was estimated by dividing the value added stimulated in each industry in each country by labour productivity data for that country and industrial sector. These productivity data were derived from national statistical agencies. These figures were then summed to get the total employment figure supported by the sector's procurement along its EU27 and UK supply chain.

The calculation of the induced impact was a two-step process. Data on employee compensation paid to all workers in each segment of the music industry in the EU27 and UK was inserted into the model. Effective tax rate (including income tax and social security contributions) data for each country was used to derive the disposable income of the workers in the

music sector. Further data driven adjustments were made to take into account households' propensity to spend and save in each country. The estimated household spending in each country was combined with income multipliers to estimate the gross output it stimulated in each industry in the 28 countries.

The second step involved estimating the induced impact that was generated by people employed in each segment of the music sector's supply chain. To generate this result, the modelling used for calculating the indirect impact outlined above was extended to incorporate income multipliers. This gives the induced expenditure impact, which was translated into value added, employment and tax revenue impacts using the same process used for the indirect impact.

Again, the results for each segment were aggregated to produce results for the whole music sector.

To calculate the impact of the individual segments we repeated the indirect and induced methodology but this time we included all procurement (including purchases from other segments of the music industry). We called these results the gross estimates. We presented the results on a gross (including procurement from other segments in the music sector) and net (excluding procurement from the rest of the music sector) for the record companies. This was to demonstrate the scale of their investment in the rest of the music sector, and how it impacted the estimated multipliers.

# OXFORD ECONOMICS

Oxford Economics was founded in 1981 as a commercial venture with Oxford University's business college to provide economic forecasting and modelling to UK companies and financial institutions expanding abroad. Since then, we have become one of the world's foremost independent global advisory firms, providing reports, forecasts and analytical tools on more than 200 countries, 250 industrial sectors, and 7,000 cities and regions. Our best-in-class global economic and industry models and analytical tools give us an unparalleled ability to forecast external market trends and assess their economic, social and business impact.

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## November 2020

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