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Economic contribution of the music industry in New Zealand 2016

A report for the New Zealand music industry

Estimating the direct and indirect economic impacts of the music industry in New Zealand

May 2018

pwc

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11 May 2018

Dear Damian

Economic contribution of the music industry in New Zealand

We are pleased to provide our report on the economic contribution of the music industry in New Zealand. This report contains the analysis of the music industry in New Zealand as well as the results of our export analysis.

This report is provided in accordance with our terms of engagement dated 30 June 2017, and is subject to the Restrictions set out in Appendix C.

If you require any clarification or further information, please feel free to contact either one of us.

Yours sincerely

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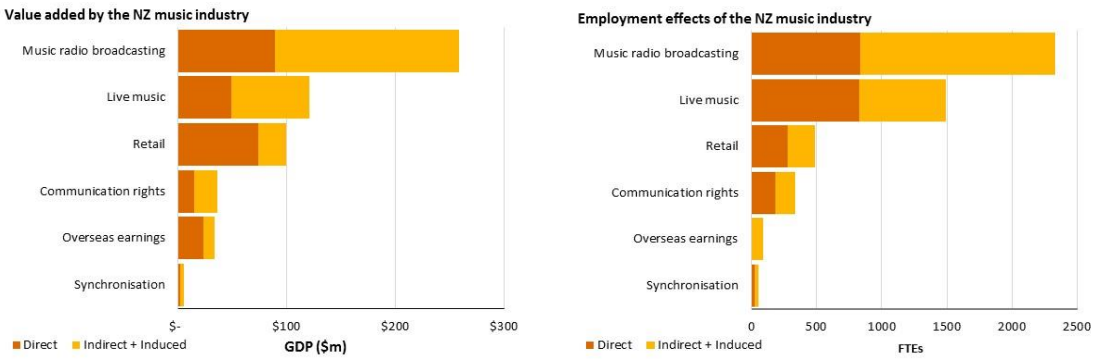
Executive summary

2016 was a mixed year for the music industry in New Zealand. The key success story for the music industry in New Zealand is the growth in online streaming, which facilitated the second consecutive year of growth in total retail revenue. After a bumper year in 2015, live music returned to historical levels.

In 2016, the music industry in New Zealand directly contributed $252 million to national gross domestic product (GDP) and the equivalent of 2,152 full time equivalent employees (FTEs). After accounting for multiplier effects, the music industry contributed a total of $543 million to national GDP and the equivalent of 4,697 full-time jobs. New Zealand generated content was responsible for approximately 26% to 28% of the direct impacts.

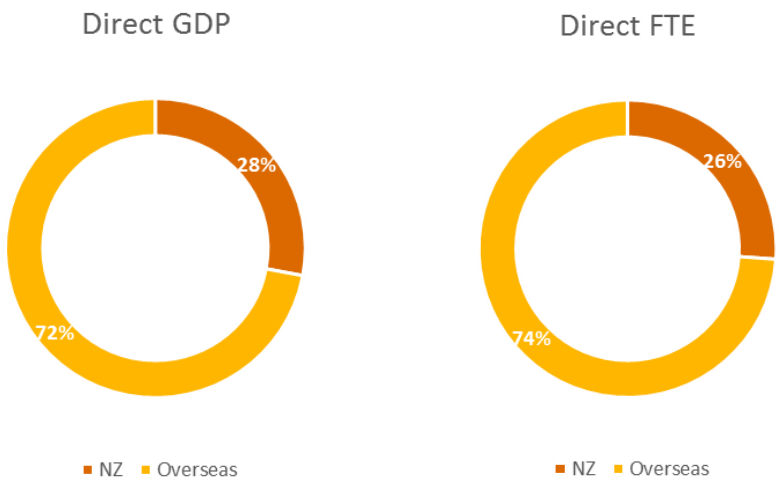
Strengthening consumer preferences towards online consumption has grown the overall retail sector – but the challenge remains for the industry to accurately and adequately capture earnings from online music consumption.

Figure 1 GDP and employment impact of the music industry in New Zealand (2016)



Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Figure 2 Share of direct GDP and employment derived from New Zealand generated content



Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Table 1 Overall direct and total economic impact of the music industry in New Zealand (2016)

	Total sales ($m)	Value added (GDP, $m)			Employment (FTEs)		
Industry sector		Direct impact	Indirect+Induced	Total impact	Direct impact	Indirect+Induced	Total impact
Total retail	112.1	73.8	25.1	98.9	276	209	485
Physical music	*27.6*	*21.1*	*10.7*	*31.8*	*132*	*93*	*225*
Downloads	*21.5*	*13.4*	*3.6*	*17.0*	*36*	*29*	*66*
Online Streaming	*63.1*	*39.4*	*10.7*	*50.1*	*107*	*87*	*194*
Communication rights	45.5	14.7	21.6	36.3	185	150	335
Music Radio Broadcasting	221.9	88.8	169.1	257.9	837	1,494	2,331
Live music	90.7	49.0	72.0	120.9	826	669	1,495
Synchronisation	4.0	2.1	3.1	5.1	29	23	52
Overseas earnings	23.4	23.4	10.1	33.4	-	86.5	86.5
Total	**497.6**	**251.7**	**300.9**	**552.6**	**2,152**	**2,631**	**4,784**

Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

The economic contribution of the New Zealand music industry is spread across five main industry subsectors, as shown in the tables above. The two largest contributors to total sales and direct impact on GDP are the **retail subsector** and **music radio broadcasting subsector**, which account for around 68% of total sales and 65% of direct GDP impact. The largest two contributors to total impact on GDP and employment are the **music radio broadcasting subsector** and the **live music subsector,** which together contribute over 69% of total GDP impact and over 80% of total employment.

The table above also highlights the varying effects that spending in different subsectors has on employment. Of note is that **the retail subsector** represents significantly less employment (13% of the 2,152 FTEs employed) impact than direct GDP impact (29% of the $251.7m GDP). The shift towards online consumption of music has facilitated this trend. The employment footprint from online consumption is much smaller than that of traditional bricks and mortar stores.

Due to a change in the way GDP is calculated, we now report overseas earnings in our value added estimate of the music industry in New Zealand. Overseas earnings are lumpy from year to year, so to help smooth the variation and to protect the confidentiality of musicians with overseas earnings, we have reported the average earnings over the last four years in our estimate of value added. Overseas earnings from New Zealand musicians contributed $23.4m towards the contribution to direct value added, which was approximately 33% of the $70.4m of direct GDP impact for New Zealand music in 2016 (refer Table 3), along with $10.1m in induced value added impact.

Table 2 Overall value added and employment trends in NZ music industry (2013 – 2016)

Economic impacts								
	Direct				Total			
Industry segment	2013	2014	2015	2016	2013	2014	2015	2016
Total								
Value added (GDP)	**$240.6m**	**$244.4m**	**$279.8m**	**$251.7m**	**$543.4m**	**$559.4m**	**$636.8m**	**$552.6m**
Employment (FTEs)	**2,250**	**2,300**	**2,809**	**2,152**	**4,950**	**5,102**	**6,002**	**4,784**

Table 3 Economic impact of New Zealand generated content (2013 – 2016)

Economic impacts								
	Direct				Total			
Industry segment	2013	2014	2015	2016	2013	2014	2015	2016
Total								
Value added (GDP)	**$74.4m**	**$74.7m**	**$82.0m**	**$70.4m**	**$165.1m**	**$164.8m**	**$182.3m**	**$153.2m**
Employment (FTEs)	**624**	**621**	**756**	**562**	**1,382**	**1,377**	**1,605**	**1,239**

Table 4 Economic impact of overseas generated content (2013 – 2016)

Economic impacts								
	Direct				Total			
Industry segment	2013	2014	2015	2016	2013	2014	2015	2016
Total								
Value added (GDP)	**$166.2m**	**$169.6m**	**$197.8m**	**$181.4m**	**$378.3m**	**$394.6m**	**$454.5m**	**$399.4m**
Employment (FTEs)	**1,626**	**1,679**	**2,052**	**1,590**	**3,568**	**3,725**	**4,397**	**3,545**

Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

The direct and total impact of the NZ music industry on GDP and employment decreased from 2015. Further investigation behind the decrease in the headline figures shows that the main contributor was a decline in performance of live music, which fell to a three-year low in its direct and total impact on GDP and employment. If this segment was excluded, 2016 would have instead seen a 4.3% increase in direct impact on GDP and a 1.3% increase in total GDP impact.

Spotlight on retail

A continuing trend of growth in retail music was seen once again, which was largely driven by streaming. Consumption via online streaming increased by 71% between 2015 and 2016, which means that streaming is now the top source of revenue for record companies and recording artists.

Table 5 Retail sales by channel (2013-2016)

Total sales	2013	2014	2015	2016
Physical retail	$42.4m	$35.1m	$31.8m	$27.6m
Download	$41.0m	$29.0m	$26.0m	$21.5m
Streaming	$7.5m	$18.6m	$36.8m	$63.1m
Total	**$91.0m**	**$82.6m**	**$94.6m**	**$112.1m**

The gross output through this consumption channel is now greater than through traditional retail sales of physical product. Once translated from gross output to the direct impact on GDP, the contribution of online sales (53% of retail's direct GDP impact) is significantly greater than physical retail (29% of retail's direct GDP impact).

Table 6 Direct economic impact by retail channel (2016)

Total sales	Sales	Direct GDP	%	Direct FTE	%
Physical retail	$27.6m	$21.1m	29%	132	48%
Download	$21.5m	$13.4m	18%	36	13%
Streaming	$63.1m	$39.4m	53%	107	39%
Total	**$112.1m**	**$73.8m**	**100%**	**276**	**100%**

1. Introduction

The purpose of this study is to estimate the contribution of the music industry to the New Zealand economy. It provides a snapshot of the industry using data for the 2016 calendar year.

In addition, the report provides some broad insights on the trends occurring in New Zealand's music industry that are affecting the impact of the industry on New Zealand's economy.

This report has been commissioned by Recorded Music New Zealand supported with funding from its project partners, the Australasian Performing Right Association Australasian Mechanical Copyright Owners Society (APRA AMCOS), New Zealand Music Commission, NZ On Air Te Mangai Paho and Creative New Zealand in order to better understand the economic role of the music industry in New Zealand.

This section:

- sets out the purpose and scope of this report
- defines the music industry in New Zealand
- establishes the geographic boundary for the study
- sets out the headline measures reported in this study.

The remainder of this report summarises the direct and total economic impact of the music industry in New Zealand. It estimates the industry's overall contribution to New Zealand's GDP and employment and allocates economic impacts across the five main subsectors of the industry: retail, communication and public performance, music radio broadcasting, live performance, and synchronisation. We also report overseas earnings as a separate subsector. Overseas earnings comprise income from live performance overseas and income from recordings and publishing overseas.

Purpose and scope of report

This report examines some "bottom-line" measures of the music industry's impact on the national economy. In this respect, it differs from other analyses that focus on the total revenue earned by the industry (eg sales of recorded music or royalties related to communication rights), a "top-line" measure that does not account for factors such as intermediate inputs purchased from other industries or imported from overseas.

By estimating bottom-line measures, this report enables comparisons between the music industry, other industries, and the economy as a whole. It is intended to provide industry participants and policymakers with a robust basis for understanding the importance of the industry to the New Zealand economy.

We have estimated three measures of the music industry in New Zealand's economic contribution:

- **total sales** – the gross output of all music industry participants, provided by industry bodies
- **value added** – the industry's contribution to New Zealand's GDP, which is calculated as the total returns to labour and capital in the industry
- **employment** – the number of FTEs employed as a result of music industry activity.

In addition to its **direct** economic impacts, an industry will have **multiplier** effects elsewhere in the economy. In order to do business, firms must purchase inputs from other industries, while the wages and salaries that they pay will subsequently be spent elsewhere in the economy. These effects fall into two categories:

- **Indirect (or upstream) impacts** occur when businesses in the music industry purchase goods and services from other industries in order to record and produce a song, market an album, or put on a concert.

- **Induced impacts** are generated when the wages and salaries paid out by the music industry are spent on goods and services, thereby stimulating further economic activity.[1]

The **total economic impact** of the industry is equal to the sum of its direct, indirect, and induced impacts. In order to estimate the direct and total economic impacts of the music industry in New Zealand, we have used multiplier analysis based on national input-output tables.[2] We have described our application of multiplier analysis in Appendix B.

Note that since our 2015 report, Statistics New Zealand has updated the New Zealand input-output tables for the 2013 year. As such, we provide in this report estimates of the economic contribution of the music industry in New Zealand in 2016 and also revise our previous estimates for the 2013, 2014 and 2015 years.

Although this report focuses on estimating the contribution of the music industry in New Zealand to employment and GDP, we emphasise that the industry has a broader cultural and social role to play. Music contributes to New Zealand in a number of other ways that are not measured in GDP. The enjoyment, or utility, that New Zealanders derive from consuming and producing music is likely to be considerable but is not easily quantified. We have not included these effects in our analysis.

Defining the music industry

This report defines the music industry in New Zealand as activities related to the creation, production, distribution, sale, communication and performance of music in New Zealand, regardless of country of origin.

Industry basis

The music industry incorporates a number of distinct activities and related revenue streams. This report seeks to account for this complexity and report its conclusions in a usable and accessible format.

One way to define the music industry is presented in Figure 3.

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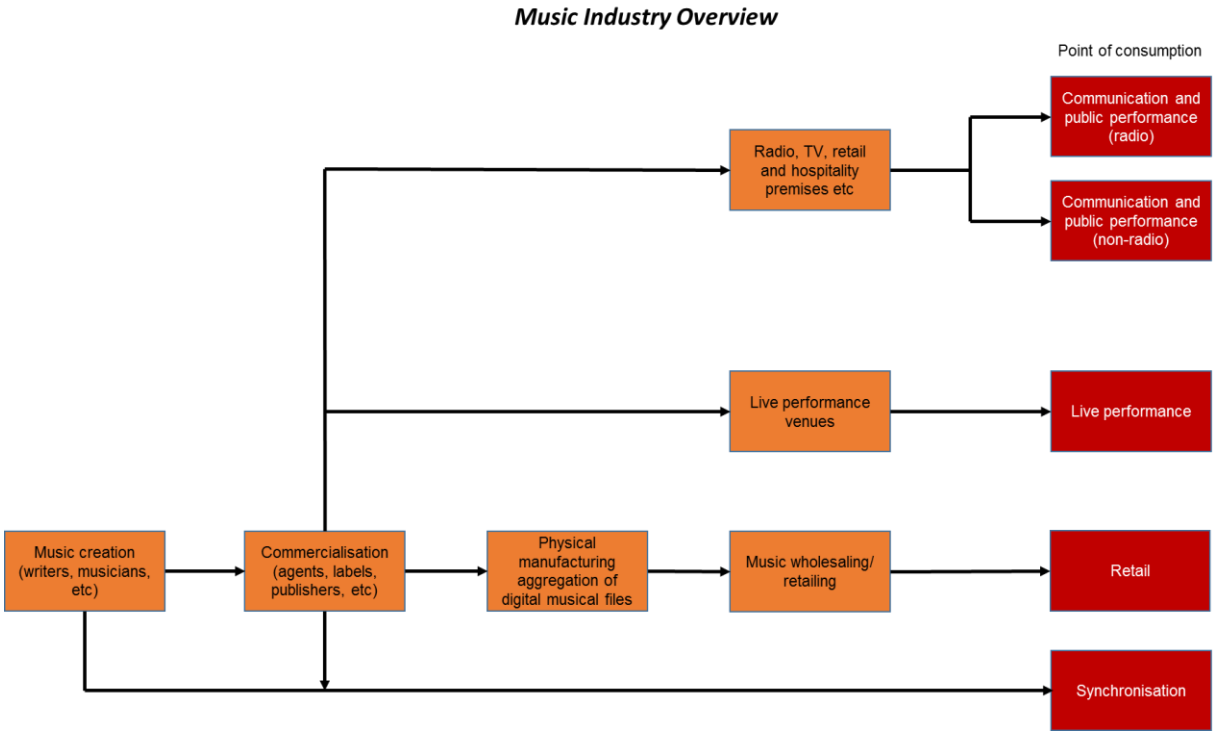
[1] We note that there is considerable discussion in economics over the inclusion of induced impacts. We have included induced impacts in order to calculate the total economic impact of recorded music.

[2] Butcher Partners (2013), *New Zealand 2013 Input-Output Table and Multipliers*, based on Statistics New Zealand data.

Figure 3 Defining the music industry



This study examines the five main revenue streams accruing to the industry. These include both sales revenue and royalty payments for the use of music[3]:

- Physical and digital retail sales of music, including traditional store-based retailing, online stores, and the recently introduced payments received for access to music via on-demand streaming services. We refer to this subsector as **retail.**
- Revenue from communication of music played on radio, television, and the internet, and for the public performance of music in premises such as but not limited to retailers, hospitality outlets (bars and cafes), educational institutions, and gyms. We refer to this subsector as **communication and public performance**. Given the size of the radio component of communication and public performance we have included that component separately in our reported tables as **music radio**.
- Live performances of music, whether in concerts, festivals, or music venues. We refer to this subsector as **live performance**.
- Royalties earned from licensing music for use in advertisements, games, films, and television programmes. We refer to this subsector as **synchronisation**.

We also include the export revenue earned by New Zealand musicians. This is revenue earned outside New Zealand for live performances overseas, and recordings and publishing overseas. We refer to this subsector as **overseas earnings.**

These revenue streams are all associated with the consumption of music in different forms or through different channels. But before music can be brought to the consumer, it must be created, commercialised,

[3] There are two royalty streams associated with the commercial exploitation of music. One represents songwriter royalties, stemming from the actual writing of the song. These rights are administered by music publishers and songwriters' collecting societies (eg APRA AMCOS). The second stream relates to sound recordings. These rights are administered by record companies and record company collecting societies (eg Recorded Music New Zealand). Through this report we use data provided by APRA AMCOS and Recorded Music New Zealand.

manufactured, and distributed. Some of these activities are considered to be part of the core music industry, while others are defined as intermediate inputs purchased from other industries.

The following upstream activities are included in our definition of the music industry:

- music creation, including songwriters, musicians, recording studios, etc
- the activities of record companies and music publishing companies, including the recording and commercialisation of music
- the manufacture of physical carriers of music (eg CDs, DVDs) and the aggregation of digital music files for retail
- venue operation for live performances.

Our definition of the core music industry excludes some peripherally-related industries, such as instrument manufacture and retailing as well as music teaching. Where activities in these industries support the production or consumption of music in New Zealand, we are likely to capture the multiplier effects (as discussed below).

Music expenditures also have an economic impact on other industries. As we have described above, businesses in the music industry must purchase inputs from other industries, while the wages and salaries that they pay will subsequently be spent elsewhere in the economy. Consequently, the total impact of the music industry will include:

- purchases of intermediate inputs from sectors that are not directly linked to music, such as advertising and marketing, transport services, plastics manufacturing (such as for CDs), accounting and legal services, sound and lighting, and equipment hire
- additional consumer spending in other industries, such as food and beverage retailing, housing, and recreation, resulting from employment within the music industry and supplier industries.

Geographic boundary

This report aims to account for all economic impacts that take place in New Zealand. In order to do so, we have adopted an approach that is consistent with the national accounts statistics produced by Statistics New Zealand. As we discuss in more detail in Appendix B this approach measures the total value of goods and services produced in New Zealand, rather than the net income of all businesses and individuals located within New Zealand.

In other words, we account for the domestic consumption of music of any origin from New Zealand-based channels. For instance, our measures of economic impact will:

- Include activities related to the physical sale of overseas-originated music to a consumer in New Zealand, but exclude the (relatively minor) cost of importing the physical product.
- Include income earned by overseas musicians touring in New Zealand, as it was earned in New Zealand regardless of whether it is ultimately repatriated elsewhere.

Unlike in previous years' analysis and reporting, this year we include payments made to New Zealand recording artists and songwriters from overseas sources. Recent changes to Statistics New Zealand's approach to calculating New Zealand's GDP means that royalties are treated as export revenue and for the purposes of this study are pure value add in our analysis.

Bottom line measures of economic impact

We have chosen to use a GDP measure, rather than revenue or an alternative measure that accounts for such inclusions and exclusions, for two reasons. First, GDP impact is the most commonly used measure of total economic impact. It is used by Statistics New Zealand when reporting on the size of the New Zealand economy and in many other economic impact studies. Second, it eliminates the impact of double counting, which is particularly problematic in industries where there are multiple steps before a good is purchased for final consumption.

Treatment of the economic effects of illegal music use

The illegal use of music is beyond the scope of this report. Discussions with industry stakeholders have indicated that it is a significant challenge facing the industry. It has had a significant economic effect, depressing physical music sales and catalysing rapid growth in legal options for the digital sale and access of recorded music.

This report is intended to provide a snapshot of the industry's actual economic impact at a point in time and as a result does not discuss revenue foregone due to the illegal use of music. However, a natural extension of this work would be to estimate the net economic losses to the music industry as a result of illegal use. This could be based on an analysis of trends in sales volumes pre- and post-illegal use of music. In order to do so, it would be necessary to specify a robust counterfactual scenario for sales volume growth in the absence of the illegal use of music. Furthermore, it may also be necessary to consider the extent to which the illegal use of music represents an economic loss and the extent to which it reflects a redistribution of surplus from music producers to music consumers (and potentially an associated reallocation of consumer expenditures from music to other cultural goods).

We understand Recorded Music has investigated this issue separately.

2. Economic impact of the music industry in New Zealand

This section summarises the direct and total economic impact of the music industry in New Zealand. It estimates the industry's overall contribution to New Zealand's GDP and employment and allocates economic impacts between the five main subsectors of the industry: retail, communication and public performance, music radio broadcasting, live performance and synchronisation.

We also report overseas earnings as a separate sector. Overseas earnings comprise income from live performance overseas and income from recordings and publishing overseas.

Sections 3 to 8 provide further detail on each subsector.

Overall industry

The tables below summarise estimates of the overall economic impact of the music industry in New Zealand.

Table 7 Overall economic impact of the music industry in New Zealand (2016)

	Total sales ($m)	Value added (GDP, $m)			Employment (FTEs)		
Industry sector		Direct impact	Indirect+Induced	Total impact	Direct impact	Indirect+Induced	Total impact
Total retail	112.1	73.8	25.1	98.9	276	209	485
Physical music	*27.6*	*21.1*	*10.7*	*31.8*	*132*	*93*	*225*
Downloads	*21.5*	*13.4*	*3.6*	*17.0*	*36*	*29*	*66*
Online Streaming	*63.1*	*39.4*	*10.7*	*50.1*	*107*	*87*	*194*
Communication rights	45.5	14.7	21.6	36.3	185	150	335
Music Radio Broadcasting	221.9	88.8	169.1	257.9	837	1,494	2,331
Live music	90.7	49.0	72.0	120.9	826	669	1,495
Synchronisation	4.0	2.1	3.1	5.1	29	23	52
Overseas earnings	23.4	23.4	10.1	33.4	-	86.5	86.5
Total	**497.6**	**251.7**	**300.9**	**552.6**	**2,152**	**2,631**	**4,784**

Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

The main findings of the study are that in 2016:

- The music industry in New Zealand **directly** added $251.7 million to national GDP and provided the equivalent of approximately 2,152 FTEs.
- The total economic impact of the music industry in New Zealand includes **direct**, **indirect**, and **induced** (ie spending supported by the wages paid by the music industry) impacts. In total, the New Zealand music industry contributed $552.6 million to national GDP and supported 4,784 FTEs.
- Music radio broadcasting is the largest subsector by value, making up 45% of total industry sales. Together with retail, the second largest subsector, these two make up around 67% of total industry sales and 65% of the music industry's direct GDP contribution.

Table 8 Percentage split of impacts in the music industry in New Zealand (2016)

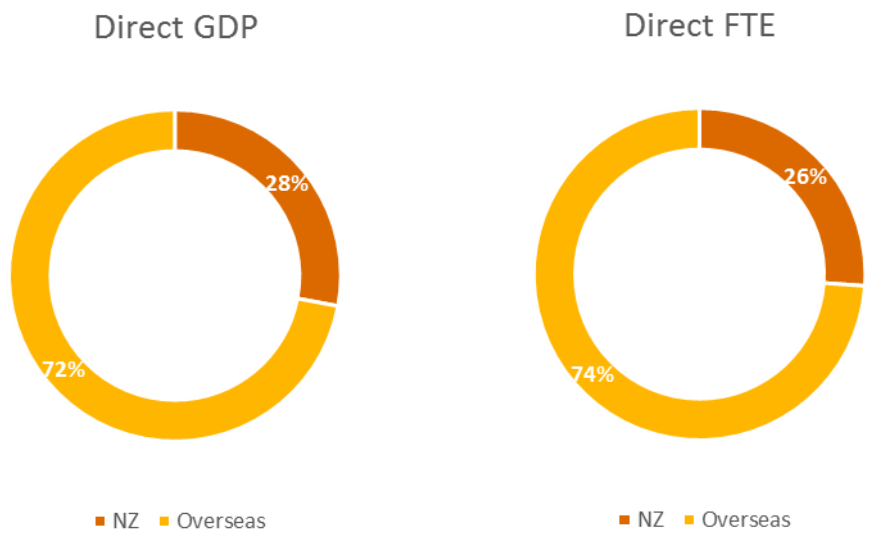
	Total sales ($m)	Value added (GDP, $m)		Employment (FTEs)	
Industry sector		Direct impact	Total impact	Direct impact	Total impact
Retail	23%	29%	18%	13%	10%
Communication rights	9%	6%	7%	9%	7%
Music Radio Broadcasting	45%	35%	47%	39%	49%
Live music	**18%**	**19%**	**22%**	**38%**	**31%**
Synchronisation	1%	1%	1%	1%	1%
Overseas earnings	5%	9%	6%	-	2%
Total	100%	100%	100%	100%	100%

Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Split between New Zealand and offshore generated content

- In 2016, approximately 28% of the direct contribution to New Zealand's GDP and 26% of the direct contribution to employment was derived from New Zealand generated content.
- This is equivalent to a direct impact of $70.4m and 562 FTEs from New Zealand generated content. After taking into account indirect and induced impacts, New Zealand content contributed $143.2m to national GDP and supported 1,152 FTEs.

Figure 4 Share of direct GDP and employment from New Zealand generated content



Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Table 9 Economic impact from New Zealand generated content (2016)

	Total sales ($m)	Value added (GDP, $m)			Employment (FTEs)		
Industry sector		Direct impact	Indirect+Induced	Total impact	Direct impact	Indirect+Induced	Total impact
Total retail	9.6	6.5	6.9	13.3	59	46	104
Physical music	*3.6*	*2.8*	*1.4*	*4.2*	*18*	*12*	*30*
Downloads	*1.5*	*0.9*	*1.4*	*2.3*	*10*	*8*	*19*
Online Streaming	*4.4*	*2.8*	*4.1*	*6.8*	*31*	*25*	*56*
Communication rights	11.1	10.4	15.4	25.8	113	92	205
Music Radio Broadcasting	37.0	14.8	28.2	43.0	140	249	389
Live music	25.4	13.7	20.2	33.9	231	187	419
Synchronisation	2.0	1.5	2.3	3.8	19	16	35
Overseas earnings	23.4	23.4	10.1	33.4	-	86.5	86.5
Total	**108.5**	**70.4**	**82.9**	**153.2**	**562**	**676**	**1,239**

Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Table 10 Economic impact from overseas generated content (2016)

	Total sales ($m)	Value added (GDP, $m)			Employment (FTEs)		
Industry sector		Direct impact	Indirect+Induced	Total impact	Direct impact	Indirect+Induced	Total impact
Total retail	102.5	67.4	18.2	85.6	217	163	380
Physical music	*23.9*	*18.3*	*9.3*	*27.6*	*115*	*81*	*195*
Downloads	*20.0*	*12.5*	*2.3*	*14.7*	*26*	*21*	*47*
Online Streaming	*58.7*	*36.6*	*6.6*	*43.3*	*76*	*62*	*138*
Communication rights	34.3	4.2	6.2	10.5	72	58	130
Music Radio Broadcasting	184.9	74.0	140.9	214.9	697	1,245	1,942
Live music	65.3	35.3	51.8	87.1	595	482	1,076
Synchronisation	2.0	0.5	0.8	1.3	9	7	16
Overseas earnings	-	-	-	-	-	-	-
Total	**389.1**	**181.4**	**218.0**	**399.4**	**1,590**	**1,955**	**3,545**

Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Trends over time

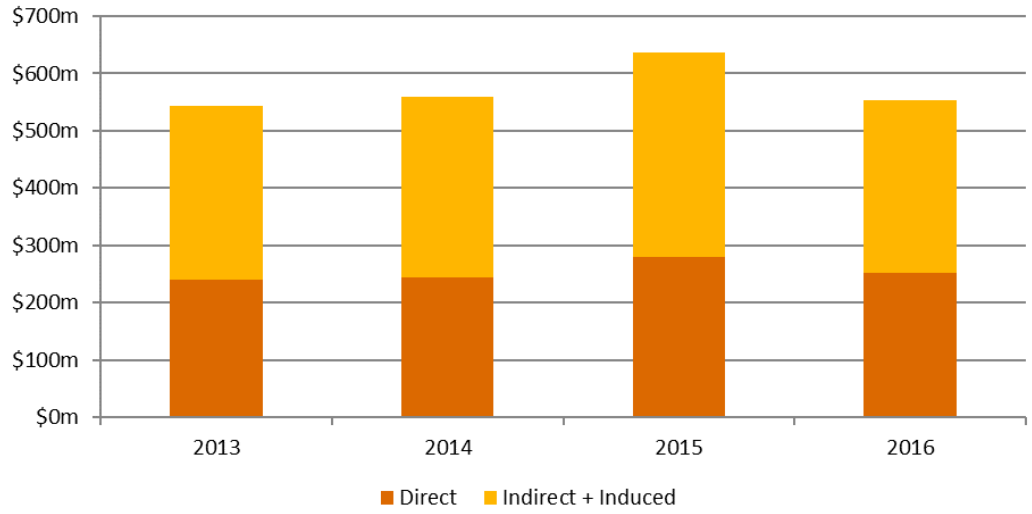
- Over the 2013 to 2016 period, the industry's GDP and employment has stayed fairly constant, despite structural changes within the subsector components, and the impact of music piracy.
- The industry exhibited significant growth in 2015, driven by strong growth in live music. A fall in this subsector has led to a decline in the overall industry GDP and employment in 2016, but the industry is on par with the 2014 year.
- There has been strong growth in online streaming which has driven overall sales in the retail subsector. This effect has been stronger than the on-going decline in traditional retail consumption methods (ie retail physical sales) which means that the main retail channel for record companies and recording artists is online streaming (refer to section 3).

Table 11 Trends for music industry in New Zealand

Economic impacts								
	Direct				Total			
Industry segment	2013	2014	2015	2016	2013	2014	2015	2016
Retail								
Value added (GDP)	$62.9m	$56.5m	$63.5m	$73.8m	$91.0m	$79.0m	$87.2m	$98.9m
Employment (FTEs)	316	258	268	276	549	449	468	485
Communication rights								
Value added (GDP)	$13.1m	$13.7m	$14.4m	$14.7m	$32.3m	$34.0m	$35.5m	$36.3m
Employment (FTEs)	165	174	183	185	299	315	331	335
Music radio broadcasting								
Value added (GDP)	$86.6m	$93.4m	$91.1m	$88.8m	$251.7m	$271.4m	$264.7m	$257.9m
Employment (FTEs)	835	893	870	837	2,324	2,488	2,424	2,331
Live music								
Value added (GDP)	$52.3m	$55.3m	$85.3m	$49.0m	$129.2m	$136.6m	$210.8m	$120.9m
Employment (FTEs)	902	946	1,459	826	1,633	1,712	2,641	1,495
Synchronisation								
Value added (GDP)	$2.3m	$2.0m	$2.1m	$2.1m	$5.8m	$5.0m	$5.1m	$5.1m
Employment (FTEs)	33	28	29	29	60	51	52	52
Overseas earnings								
Value added (GDP)	$23.4m	$23.4m	$23.4m	$23.4m	$33.4m	$33.4m	$33.4m	$33.4m
Employment (FTEs)	0	0	0	0	87	87	87	87
Total								
Value added (GDP)	**$240.6m**	**$244.4m**	**$279.8m**	**$251.7m**	**$543.4m**	**$559.4m**	**$636.8m**	**$552.6m**
Employment (FTEs)	**2,250**	**2,300**	**2,809**	**2,152**	**4,950**	**5,102**	**6,002**	**4,784**

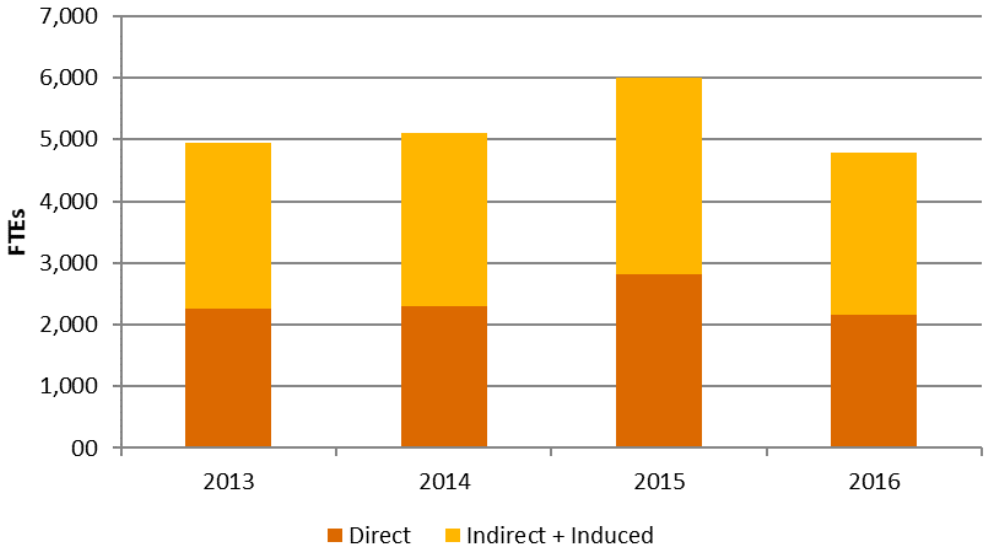
Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Figure 5 GDP impact of the music industry in New Zealand, 2013-2016



Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Figure 6 Employment impact of the music industry in New Zealand 2013-2016



Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

The methodology that underpins these estimates is outlined in Appendix B.

Comparison to other sectors

We shed light on the relative size of the music sector in New Zealand by comparing it to two other sectors related to recreational activities: **Amusement and Other Recreation** and **Sport & Physical Recreation Activities**. This provides perspective on the direct GDP and FTE impacts of the music industry, as well as insight into its relative growth over the last few years. In addition, we also examine the efficiency of the sector in terms of labour productivity.

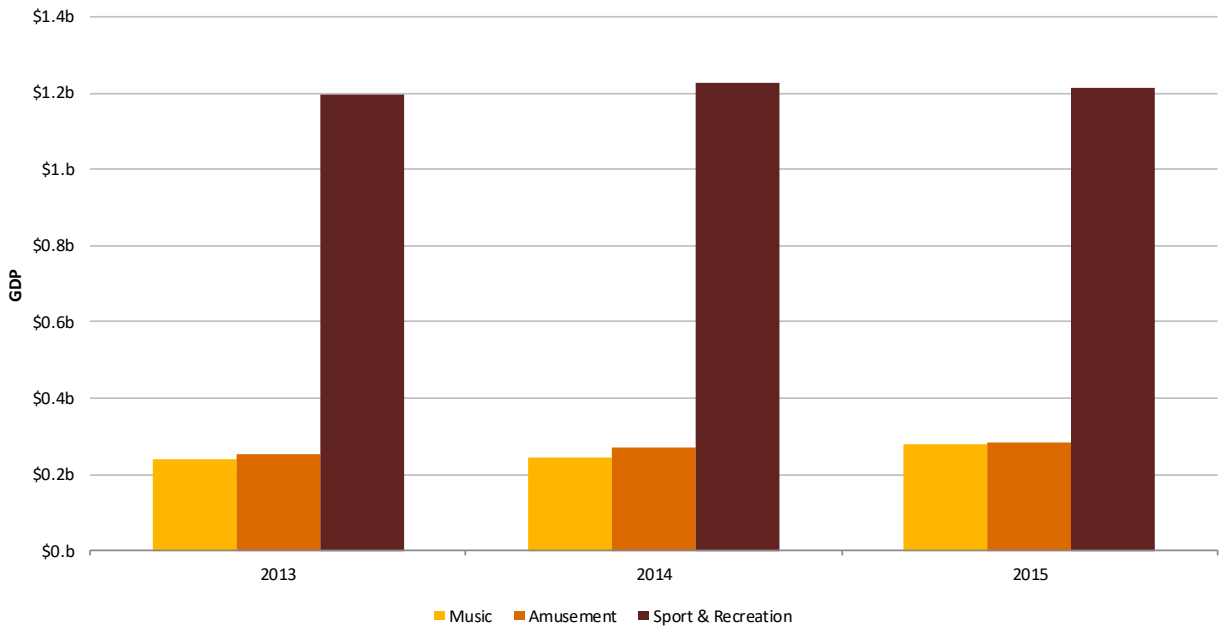
- The Amusement and Other Recreation sector primarily relates to the operation of amusement parks and centres.
- Sport & Physical Recreation Activities is composed of activities such as:
    - Health and fitness centres and gymnasia operation
    - Sport and physical recreation clubs and sports professionals
    - Sports and physical recreation venues, grounds and facilities operation
    - Sport and physical recreation administrative services.

This numbers used in this analysis are based on PwC's calculations in our Regional Industry Database (RID), which is a synthetic economic database that uses a variety of sources to estimate several main economic variables – GDP, employment, and productivity – at a detailed industry and geographic level. The RID presents information on industries at the 1-digit, 2-digit and 3-digit ANZSIC levels.

In Figure 7, it can be seen that music has a comparable direct GDP contribution to amusement parks. However, over the period stemming from 2013 to 2015, it has seen its direct impact grow at a rate of 18% compared to 12.3% for amusement and other recreation and 1.3% for sport and physical recreation. Figure 8 illustrates a similar pattern. In terms of direct impact of FTEs, music is smaller than the comparable sectors, but in terms of growth over the period, it has again experienced larger growth (24.8%) compared to amusement and other recreation (11.7%) and sport and physical recreation (1.2%).

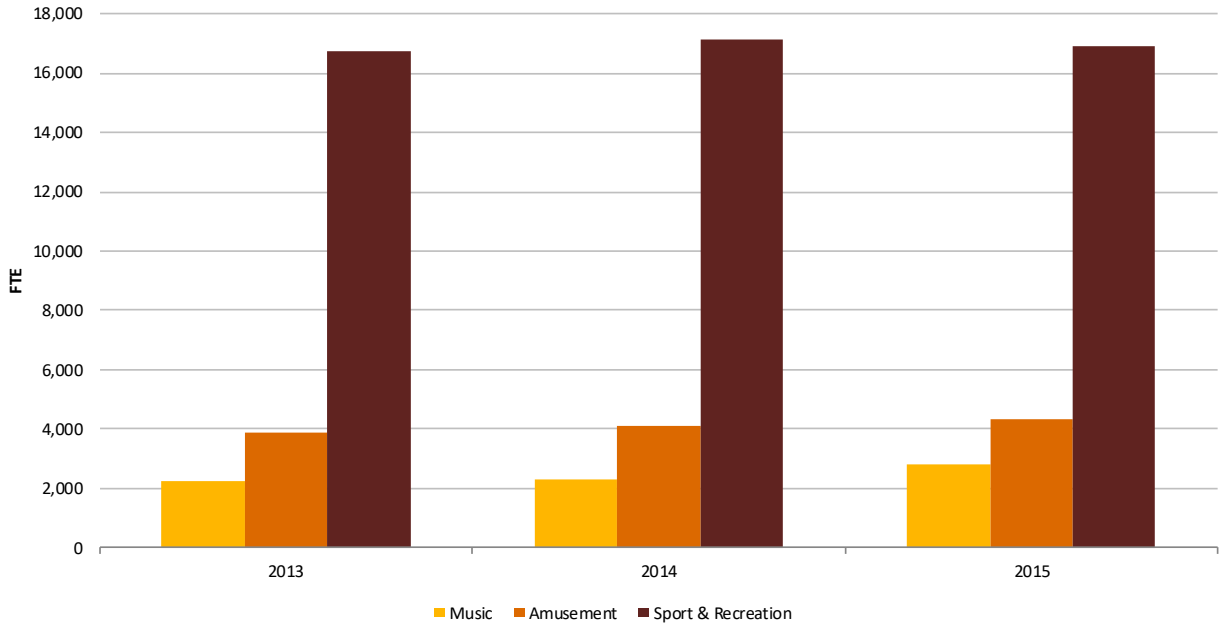
Measured labour productivity is then examined in Figure 9, and shows that music is significantly more productive than the sectors under comparison, as it is able to produce a greater amount of GDP output for an equivalent amount of labour input.

Figure 7 Comparison of direct GDP impact to other sectors



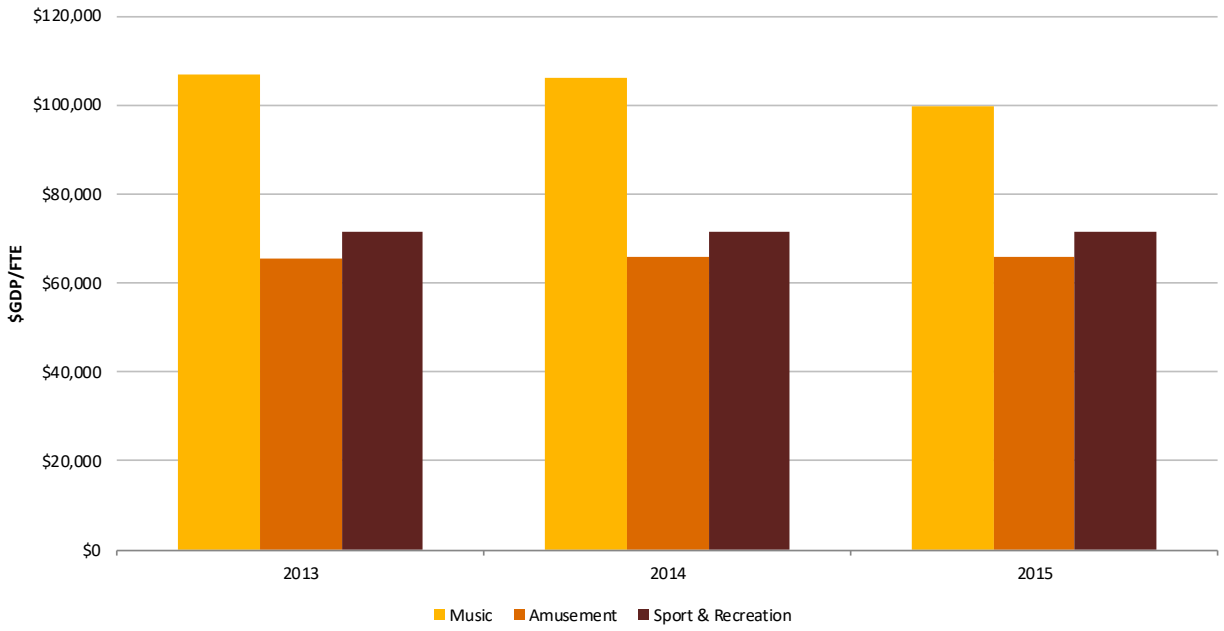
Source: PwC analysis

Figure 8 Comparison of direct FTE impact to other sectors



Source: PwC analysis

Figure 9 Comparison of labour productivity with other sectors



Source: PwC analysis

3. Music retail

Overall subsector

In 2016, the music industry in New Zealand earned $112.1 million in retail revenues, with the subsector posting its second consecutive period of annual growth. We estimate that these gross revenues resulted in a direct impact on the New Zealand economy of $74 million in GDP and 276 FTEs within the music industry. After accounting for multiplier effects, the retail subsector had a total economic impact of $98.9 million and 485 FTEs. New Zealand music contributed a small but significant share of total value within the retail subsector accounting for approximately 8.5% of gross output.

Table 12 Direct and total economic impact of retail (2016)

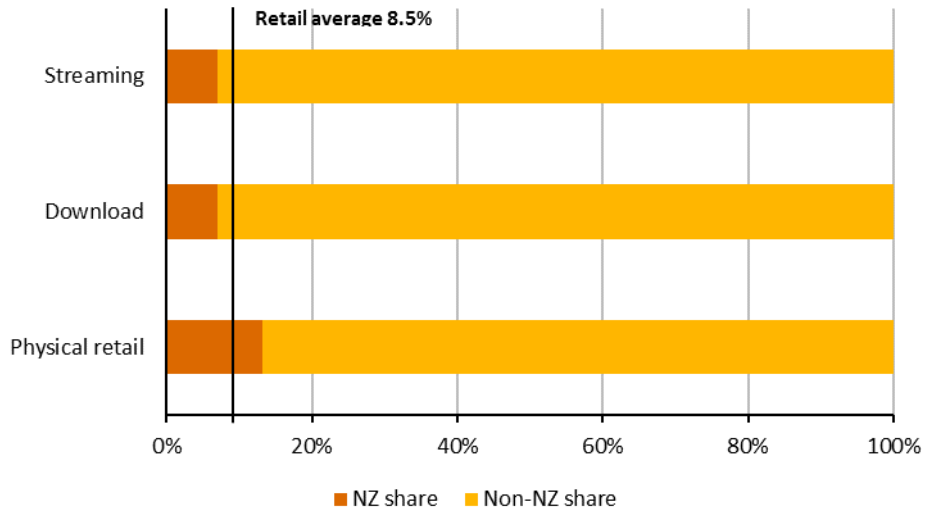
	Total sales ($m)	Value added (GDP, $m)			Employment (FTEs)	
Industry sector		Direct impact	Indirect+Induced	Total impact	Direct impact	Total impact
Physical music	27.6	21.1	10.7	31.8	132	225
Downloads	21.5	13.4	3.6	17.0	36	66
Online Streaming	63.1	39.4	10.7	50.1	107	194
Total retail	**112.1**	**73.8**	**25.1**	**98.9**	**276**	**485**

Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Split between New Zealand and offshore generated content

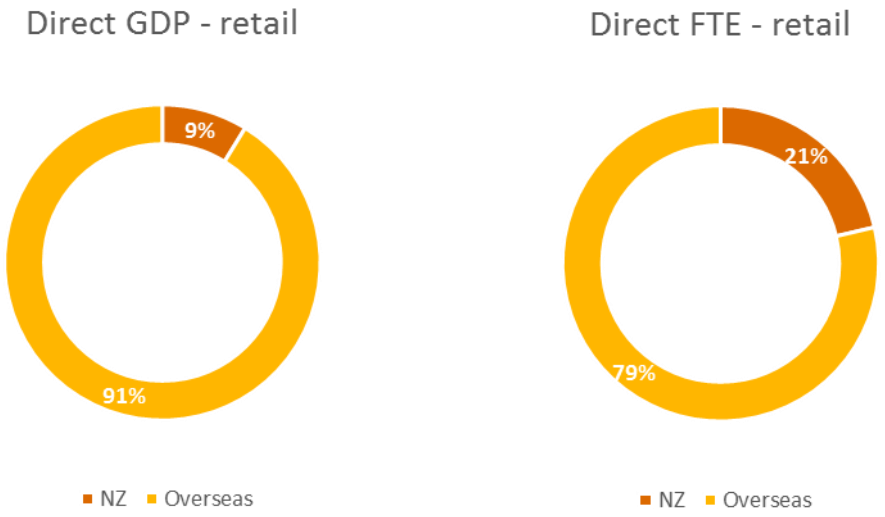
- Figure 10 shows the share of wholesale revenues from retail music earned by New Zealand musicians in 2016. It indicates that out of every $100 of music purchased at physical retail outlets, $13 was spent on New Zealand music. Across all retail channels, 8.5% was spent on New Zealand music.
- Figure 11 shows that 9% of the subsector's contribution to GDP and 21% of the subsector's contribution to employment is derived from New Zealand generated content in 2016.
- This is equivalent to a direct GDP contribution for the retail subsector of $6.5m and 59 FTEs supported from New Zealand generated content.
- The difference is due to the disparity in employment footprints for physical and online retail channels. Online retail has a much smaller footprint than retail through traditional bricks and mortar stores. As the trend towards online consumption continues to grow, we expect this disparity to increase.

Figure 10 Share of total retail sales earned by New Zealand generated content (2016)



Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Figure 11 Share of the retail subsector economic impact from New Zealand generated content



Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Table 13 Economic contribution through the retail channel for New Zealand generated content (2016)

	Total sales ($m)	Value added (GDP, $m)			Employment (FTEs)	
Industry sector		Direct impact	Indirect+Induced	Total impact	Direct impact	Total impact
Physical music	3.6	2.8	1.4	4.2	18	30
Downloads	1.5	0.9	1.4	2.3	10	19
Online Streaming	4.4	2.8	4.1	6.8	31	56
Total retail	**9.6**	**6.5**	**6.9**	**13.3**	**59**	**104**

Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Table 14 Economic contribution through the retail channel for overseas generated content (2016)

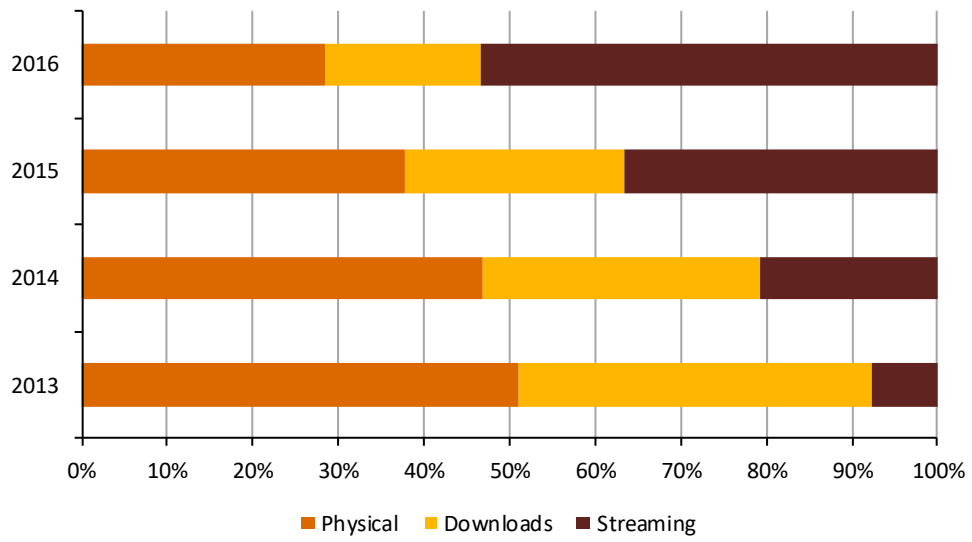
Industry sector	Total sales ($m)	Value added (GDP, $m)			Employment (FTEs)	
		Direct impact	Indirect+Induced	Total impact	Direct impact	Total impact
Physical music	23.9	18.3	9.3	27.6	115	195
Downloads	20.0	12.5	2.3	14.7	26	47
Online Streaming	58.7	36.6	6.6	43.3	76	138
Total retail	**102.5**	**67.4**	**18.2**	**85.6**	**217**	**380**

Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Trends over time

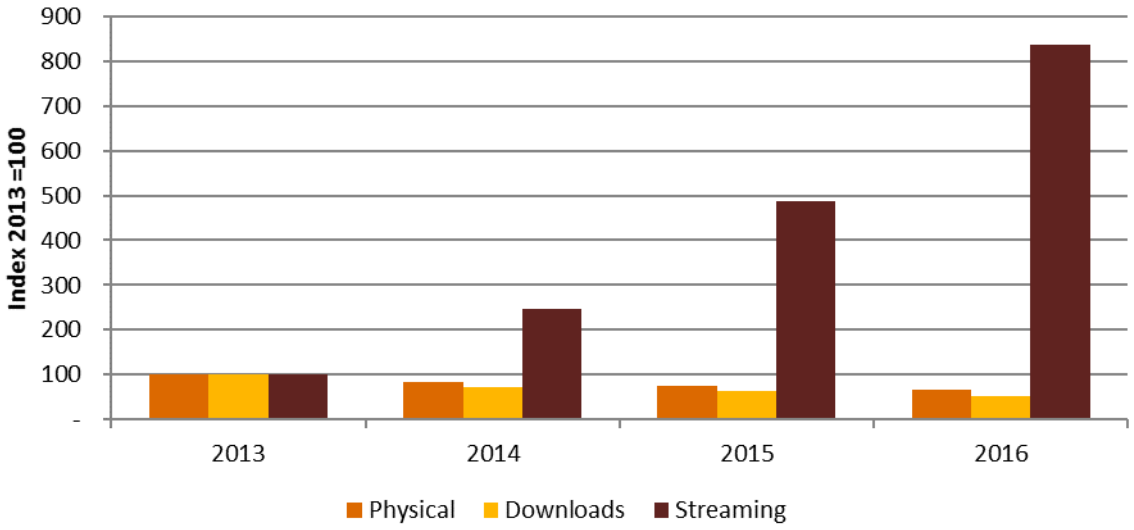
- Historically the majority of retail music's contribution to the New Zealand economy was driven from physical music retail. However, physical music retail has declined significantly and now makes up approximately 29% of total retail gross output in 2016 compared to 52% in 2013.
- The physical sales reduction has been offset by the growth of online streaming, which has grown rapidly over the past two years even after allowing for music piracy and now accounts for 53% of retail output.
- As shown in Figure 13, the gross output from online streaming increased by 71% between 2015 and 2016 and by a phenomenal 837% between 2013 and 2017, indicating that consumers are embracing an on-demand consumption preference. This has been made possible by improvements to broadband internet, 3G and 4G mobile networks, greater uptake of mobile data accessible devices and more competitive prices for mobile data and the popularity of legal streaming services.
- The music industry in New Zealand is beginning to effectively monetise online music through the increase in streaming revenues. Digital consumption, combined with the effects of illegal use of music, has drastically altered the revenue landscape in the music industry.
- The breakdown of physical and digital revenue has changed over the past four years (as shown in Figure 12). Given what can be observed over the past several years it seems likely that this trend will continue and that digital and streaming will further increase market share.
- The percentage of New Zealand music contribution to total retail has seen a gradual decline as shown in Figure 14.

Figure 12 Breakdown of retail subsector economic impacts by consumption channel



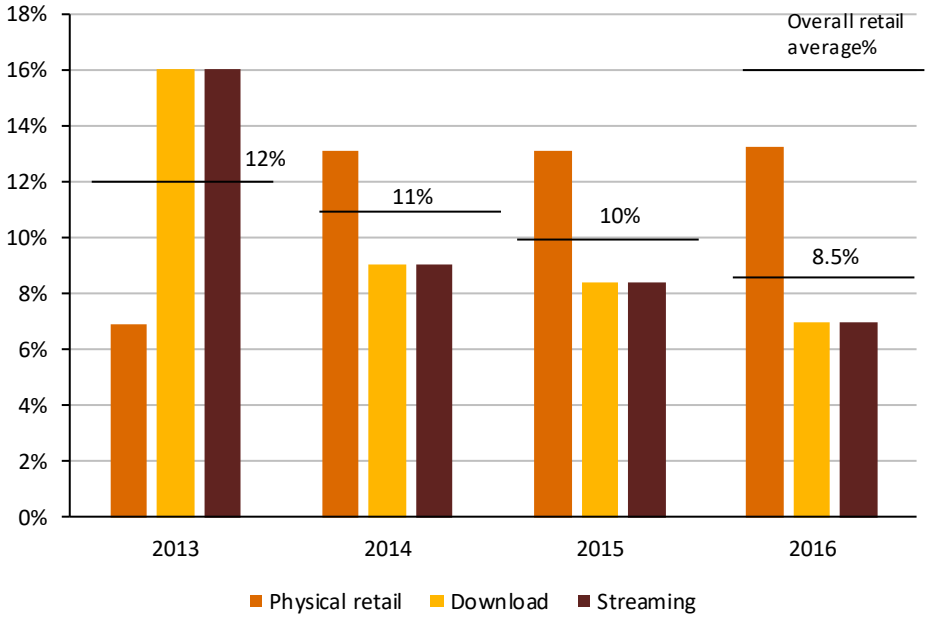
Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Figure 13 Breakdown of gross output by retail category from 2013-2016 (Indexed growth from 2013)



Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Figure 14 New Zealand generated content share of retail sales by consumption channel (2013 – 2016)



Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Box 1: Definition of the retail subsector

This subsector includes all activities related to music retail, whether they take place in a physical or digital format. This category encompasses a range of different consumption points, ranging from physical retailers to online music stores to new business models such as on-demand streaming. In all cases these represent the industries' channels to market for the sale or personal use of recorded content.

Physical retail includes activities directly related to the sale of albums, concert DVDs, and other forms of recorded music in stores. There are two major retail chains involved in music retail: The Warehouse, which accounts for roughly half of total physical sales, and specialised retailer JB Hi Fi. In addition, there are independent music stores such as Real Groovy and Slow Boat Records. There has been some resurgence in sales of vinyl records, comprising 9% of all physical sales but the growth in the sales of vinyl records has not been enough to offset a falling physical product market. Over the last twenty years, the number of specialty music stores in New Zealand has fallen from roughly 300 to about 30.[4]

Digital retail, by contrast, is growing rapidly and also undergoing considerable innovation with the development of new online consumption channels for music. It includes all revenues generated by the legal consumption of music through online and mobile channels, including:

- digital retail services such as iTunes
- on-demand and streaming services such as Spotify, Youtube, Apple Music and SoundCloud.

New Zealand music retail has been heavily affected by the emergence of new internet distribution channels for music. These distribution channels are in competition with traditional physical retail. On the one hand, illegal use has provided consumers with an effectively free source of music, which has led to a drop in sales and is likely to have reduced the price point at which consumers are willing to purchase music. On the other hand, new services for digital music purchasing or consumption, from iTunes to on-demand services such as Spotify or internet radio such as iHeart, have emerged as rapidly-growing alternatives to physical retail. In addition, the internet has given musicians more and better channels to reach new audiences and communicate directly with their fans.

[4] Interview with Chris Caddick, Managing Director, Recording Industry Association of New Zealand Inc, 16 June 2013. Cited in the New Zealand entertainment and media publication 2013-2016, PwC

4. Communication and public performance

Overall communication and public performance subsector

In 2016, the music industry in New Zealand earned $45.5 million in royalties for non-radio communication and public performance. We estimate that these gross revenues resulted in a direct impact on the New Zealand economy of $14.7 million in GDP and 185 FTEs within the music industry. After accounting for multiplier effects, non-radio communication and public performance had a total economic impact of $36.3 million in GDP and 335 FTEs.

Table 15 Direct and total impact of non-radio communication and public performance (2016)

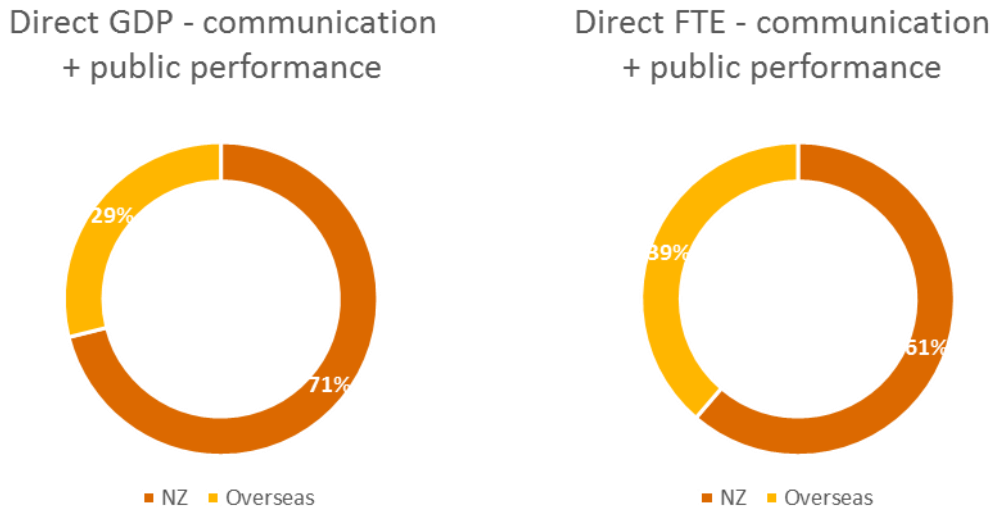
2016 Communication and public performance	Direct economic impacts		Total economic impacts	
	All music	NZ music only	All music	NZ music only
Gross output (sales)	$45.5m	$11.1m		
Value Added (GDP)	$14.7m	$10.4m	$36.3m	$25.8m
Employment (FTEs)	185	113	335	205

Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Split between New Zealand and offshore generated content

- New Zealand generated content is responsible for 71% of the direct GDP impact and 61% of the direct employment impact for the communication and public performance subsector.
- New Zealand music was responsible for a large share of the economic impact due to the significant role of royalties earned for New Zealand music.
- In 2016, the direct GDP impact from non-radio communication and public performance from New Zealand content was $10.4m, and 113 FTEs were supported by New Zealand generated content from this subsector.

Figure 15 Share of the non-radio communication and public performance subsector economic impact from New Zealand generated content

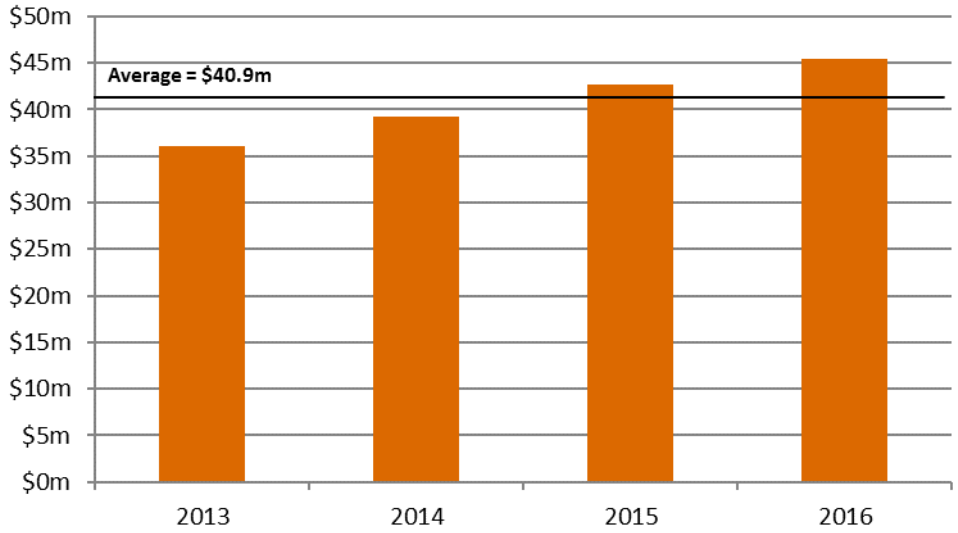


Source: Recorded Music New Zealand, APRA AMCOS, PwC calculations

Trends over time

- The non-radio communication and public performance subsector has been growing. Figure 16 shows the upward trend in royalties earned from this sector. The subsector experienced growth in revenue, supported by the successful migration to a new relicensing process in 2015.

Figure 16 Total sales from non-radio communication rights



Source: Recorded Music New Zealand, APRA AMCOS, PwC calculations

Box 2: Definition of communication and public performance

The communication and public performance subsector of the music industry includes all instances in which recorded music is communicated to the public or played in a public venue. It includes:

- Communication via radio, television, pay TV, and internet channels
- Public performance in premises such as but not limited to retailers, hospitality outlets (bars and cafes), educational institutions, and gyms.

In our analysis, we have split the communication and public performance subsector into radio (**music radio**) and non-radio (**communication and public performance**) which includes television, pay TV, internet channels, hospitality premises etc. The analysis in Table 15 and Figure 16 relate to non-radio channels.

When music is publicly performed, recording artists, record companies, songwriters, and music publishers earn money from royalties paid for this use. These royalties are calculated on a blanket basis and distributed mostly on a per-use basis. Data is obtained from Recorded Music NZ and APRA AMCOS.

5. Music radio broadcasting

Overall music radio broadcasting subsector

In addition to the above definition of the communication and public performance sector is music radio broadcasting, which we present as a separate category because of its size and impact. In 2016, the music radio broadcasting sector earned revenue of $221.9 million. We estimate that these gross revenues resulted in a direct impact on the New Zealand economy of $88.8 million in GDP and 837 FTEs within the music industry. After accounting for multiplier effects, music radio broadcasting had a total economic impact of $257.9 million in GDP and 2,331 FTEs.

Figure 17 Direct and total impact of music radio broadcasting (2016)

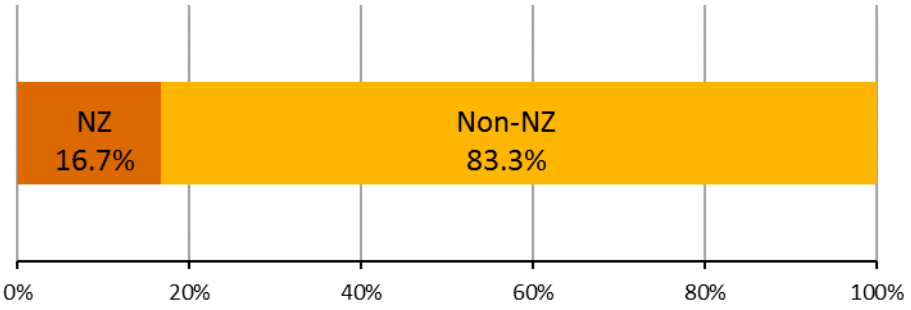
2016 Music radio broadcasting	Direct economic impacts		Total economic impacts	
	All music	NZ music only	All music	NZ music only
Gross output (sales)	$221.9m	$37.0m		
Value Added (GDP)	$88.8m	$14.8m	$257.9m	$43.0m
Employment (FTEs)	837	140	2,331	389

Source: Recorded Music, APRA AMCOS, PwC analysis

Split between New Zealand and offshore generated content

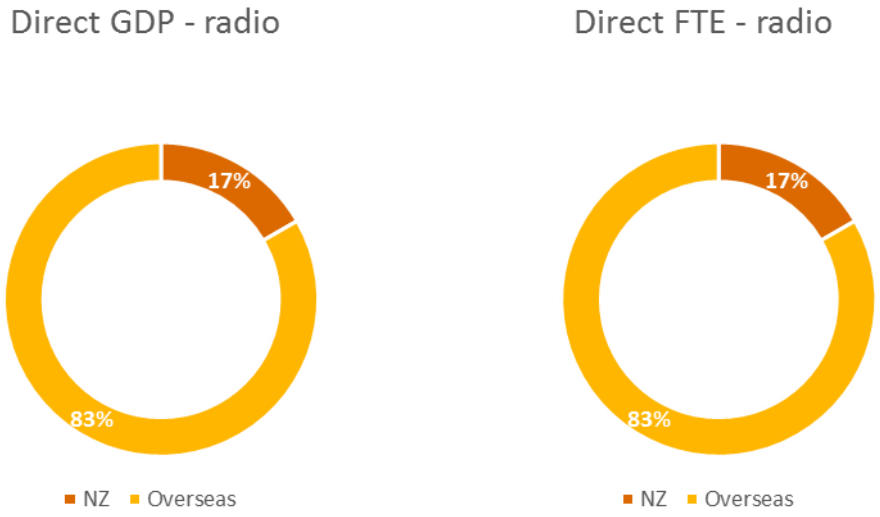
- Figure 18 shows that 16.7% of total radio plays are New Zealand music. This figure is based on RadioScope figures for all radio, including commercial radio, student radio, iwi radio and Pacific Community radio, but does not include Radio New Zealand.
- This proportion is substantially greater than the New Zealand shares of both physical and digital retail. This is due in part to the voluntary NZ Music Code agreement between the Radio Broadcasters Association (on behalf of its commercial radio members) and the Minister of Broadcasting, which has been in place since 2002, and in part to the efforts of NZ On Air in promoting New Zealand music on radio.
- The 16.7% share of total radio plays is used to estimate the share of the subsector's direct GDP and FTE that arises from New Zealand generated content. It is equivalent to $14.8m of GDP and 140 FTEs for the 2016 year.

Figure 18 New Zealand share of total radio plays (2016)



Source: RadioScope

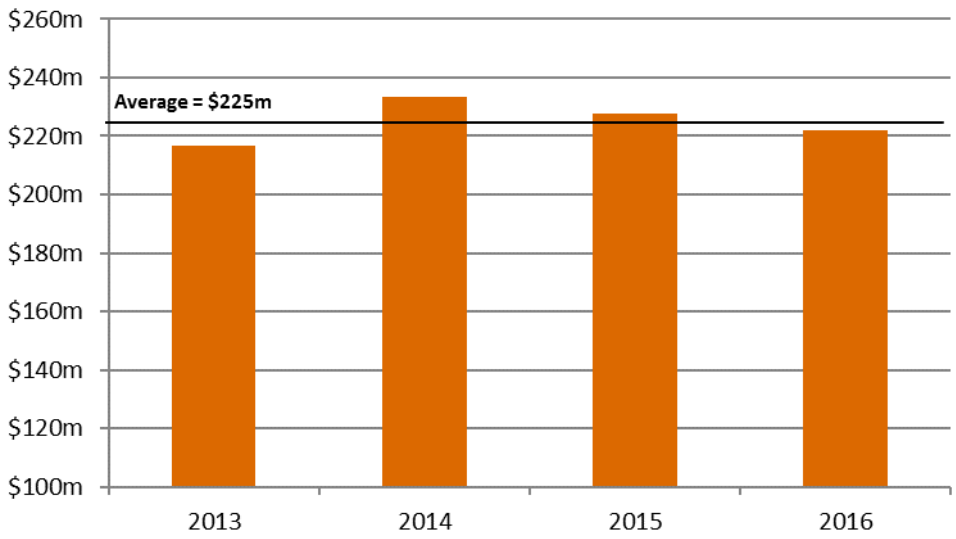
Figure 19 Share of the radio subsector economic impact from New Zealand generated content



Trends over time

- The music radio subsector contracted slightly between 2015 and 2016. Figure 20 demonstrates the trend over the past four years. The trading conditions in commercial radio have been tough in New Zealand, consistent with global trends. Advertisers are spreading and diversifying their investment across various media, and consumption patterns are changing towards on-demand and mobile streaming services. There are challenges in building and sustaining positive momentum in this subsector.

Figure 20 Total sales from music radio



Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

6. Live performance

Overall live performance subsector

In 2016, the music industry in New Zealand earned an estimated $90.7 million in live performance revenues, based on public performance royalties collected by APRA AMCOS. We estimate that these gross revenues resulted in a direct impact on the New Zealand economy of $49 million in GDP and 826 FTEs within the music industry. After accounting for multiplier effects, the live performance subsector had a total economic impact of $120.9 million and 1,495 FTEs. New Zealand content was responsible for contributing about a quarter of these impacts.

Figure 21 Direct and total impact of the live performance subsector (2016)

2016	Direct economic impacts		Total economic impacts	
Live performance	All music	NZ music only	All music	NZ music only
Gross output (sales)	$90.7m	$25.4m		
Value Added (GDP)	$49.0m	$13.7m	$120.9m	$33.9m
Employment (FTEs)	826	231	1,495	419

Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Figure 22 Percentage split of live music impacts in the NZ music industry (2016)

	Total sales ($m)	Value added (GDP, $m)		Employment (FTEs)	
Industry sector		Direct impact	Total impact	Direct impact	Total impact
Retail	23%	29%	18%	13%	10%
Communication rights	9%	6%	7%	9%	7%
Music Radio Broadcasting	45%	35%	47%	39%	49%
Live music	**18%**	**19%**	**22%**	**38%**	**31%**
Synchronisation	1%	1%	1%	1%	1%
Overseas earnings	5%	9%	6%	-	2%
Total	100%	100%	100%	100%	100%

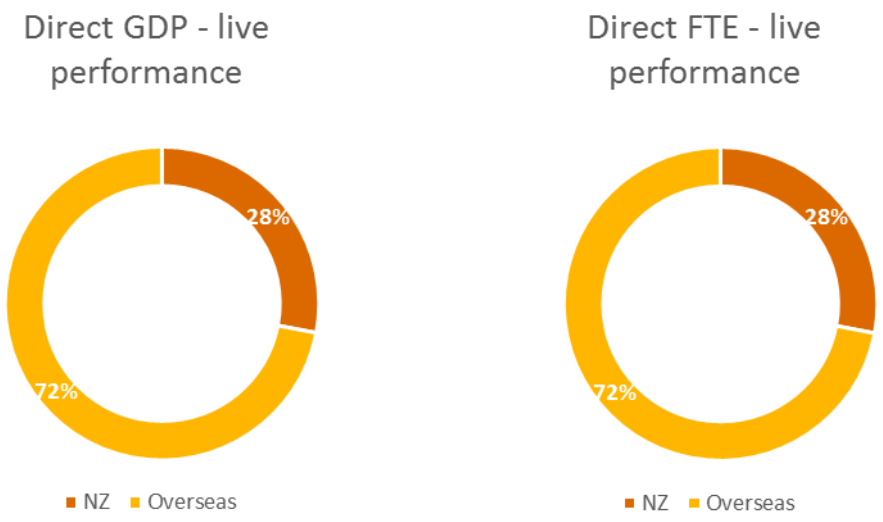
One notable feature of the live performance subsector is that it accounts for a greater share of the sector's direct employment (38%) than its GDP impact (19%). This suggests that it is more labour-intensive than other subsectors, as seen in Figure 22.[5]

Split between New Zealand and offshore generated content

Approximately 28% of the subsector's direct contribution to GDP and employment is derived from New Zealand generated content. This is equivalent to $13.7m of GDP and 231 FTEs.

[5] The numerical result is partly due to the treatment of Overseas Earnings, which make a contribution to GDP but have no labour content. However, even accounting for this issue, Live Music is still more labour-intensive than other subsectors.

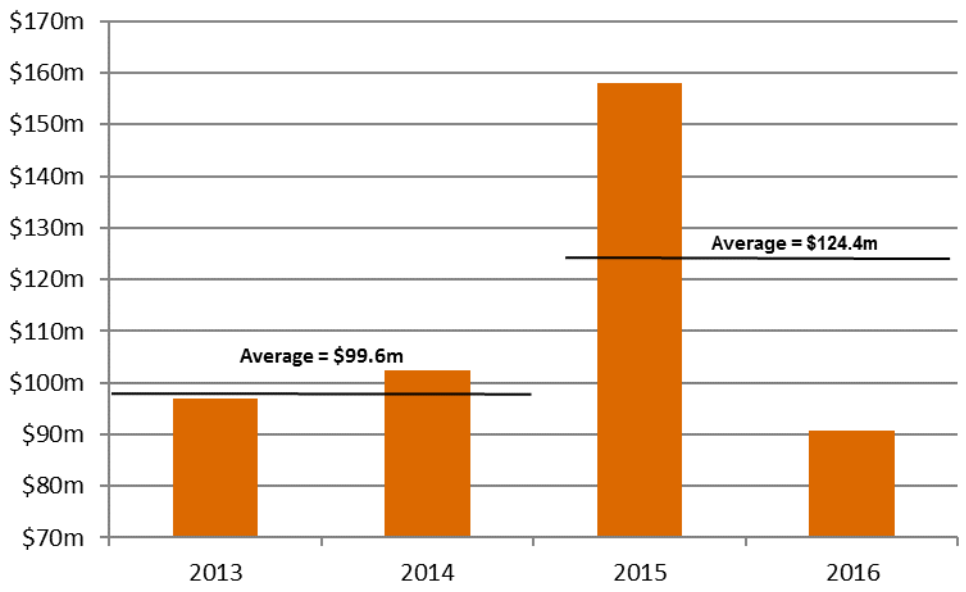
Figure 23 Share of the live performance subsector economic impact from New Zealand generated content



Trends over time

- 2015 was an extraordinary year for the live performance subsector in New Zealand, but 2016 could not sustain the forward momentum. There was a significant decline in the live performance subsector between 2015 and 2016. This was likely influenced by scheduling of tours between the two years.
- The average revenue for the 2015 and 2016 years is $124.4m per year, which shows growth over the average for the 2013 and 2014 years, which was $99.6m per year.

Figure 24 Total sales in live performance subsector



Source: Recorded Music New Zealand, APRA AMCOS, PwC calculations

Box 3: Definition of the live performance subsector

The live performance subsector of the music industry in New Zealand includes all types of live music played in New Zealand by local and overseas artists. These include:

- concerts and music festivals
- live music at music venues (ie door sales)
- orchestras
- music in theatre (excluding grand right musical plays).

7. Synchronisation

Overall synchronisation subsector

In 2016, the music industry in New Zealand earned an estimated $4.0 million in annual synchronisation fee revenue. We estimate that these gross revenues resulted in a direct impact on the New Zealand economy of $2.1 million in GDP and 29 FTEs. After accounting for multiplier effects, synchronisation had a total economic impact of $5.1 million and 52 FTEs.

Figure 25 Direct and total impact of the synchronisation subsector

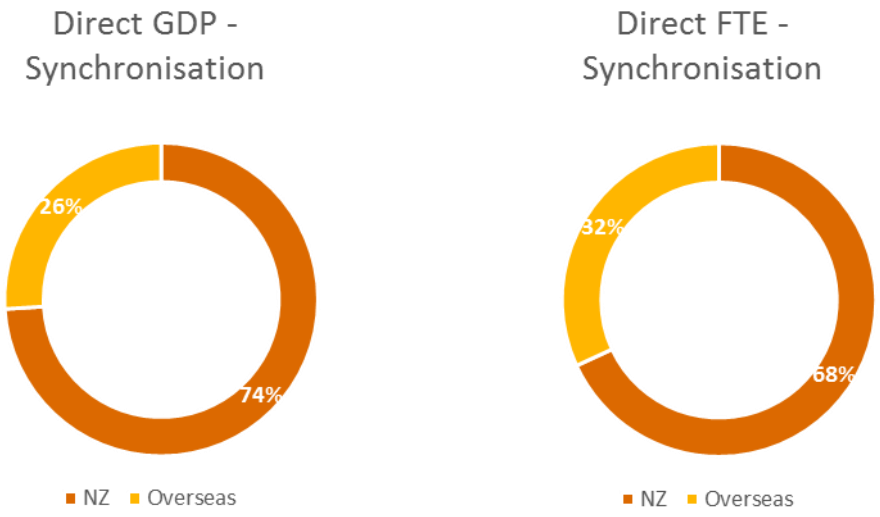
2016	Direct economic impacts		Total economic impacts	
Synchronisation	All music	NZ music only	All music	NZ music only
Gross output (sales)	$4.0m	$2.0m		
Value added (GDP)	$2.1m	$1.5m	$5.1m	$3.8m
Employment (FTEs)	29	19	52	35

Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Split between New Zealand and offshore generated content

Approximately 74% of the subsector's direct GDP contribution is derived from New Zealand generated content and 68% of the subsector's direct employment. This is equivalent to $1.5m of GDP and 19 FTEs.

Figure 26 Share of the synchronisation subsector economic impact from New Zealand generated content

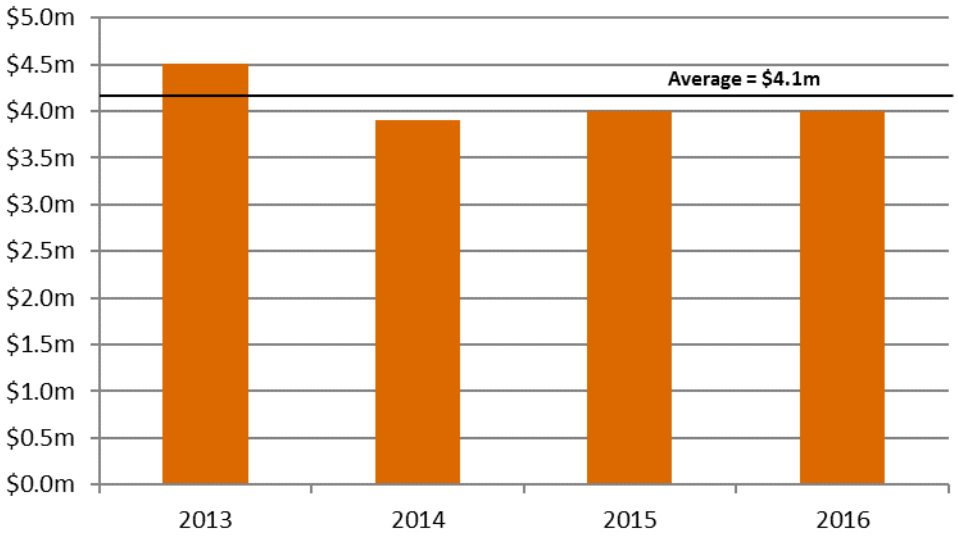


Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Trends over time

Figure 21 demonstrates that the contribution of this sector has been broadly constant in the past four years with gross output at approximately $4 million each year.

Figure 27 Total sales in the synchronisation sector



Source: Recorded Music New Zealand, APRA AMCOS, PwC analysis

Box 4: Definition of the synchronisation subsector

The synchronisation subsector of the music industry in New Zealand includes all royalties earned from licensing music for use in advertisements, games, films, and television programmes.

8. Overseas Earnings

New Zealand music income earned overseas represent funds that flow back into the economy and contribute to gross national income. For official purposes, overseas royalties are considered direct contributions to GDP.

Overseas income is earned for the music industry in the form of:

- royalties received from the sale of physical music overseas
- royalties received from online sales and streams, that are purchased overseas
- radio royalties received as a result of airplay overseas
- synchronisation royalties from countries other than New Zealand
- earnings from live performances overseas
- earnings from other endorsements and appearances.

There is no required reporting or official statistics for exports relating to the New Zealand music industry. However, Recorded Music NZ has conducted a survey of New Zealand artists and provided an estimate of the total overseas earnings based on those artists surveyed, along with a combination of data sources related to earnings from international sales, live performances and any government grants received for international purposes.

Due to the relatively small number of artists with significant offshore earnings, the lumpy nature of earnings, the potentially significant impacts associated with individual artists and the fact that some artists may have been underreported or missed completely, we have utilised a four-year average of overseas earnings data. These estimates have been used to calculate overseas earnings results shown below in Figure 28. Recorded Music NZ estimates that between 2013 and 2016 the New Zealand music industry generated $23.4 million in average overseas earnings. For this report, we use this four-year average as an estimate of the contribution of overseas earnings in the recorded music industry to annual value added (GDP).

Figure 28 New Zealand music industry overseas earnings data

	2013-16 average
Royalties	$20.4m
Live performances and appearances	$3.0m
Total	**$23.4m**

Source: Recorded Music New Zealand and industry organisation data

Appendix A: Glossary

The table below provides a glossary of music industry terms, industry associations, and commonly used acronyms.

Term	Definition
APRA AMCOS	The Australasian Performing Right Association The Australasian Mechanical Copyright Owners Society The New Zealand branch licenses music users, on behalf of its members, and collects fees where music is used for communication or public performance. APRA licenses premises such as (but not limited to) retailers, hospitality, education, and gyms, and venues for live music performance. These fees are then distributed directly to songwriters or to music publishers to whom songwriters have assigned their rights. APRA also now licenses public performance rights for both Recorded Music NZ and itself via the new joint venture licensing brand Onemusic. (www.onemusic.com)
Communication	The performance of recorded music via mediums including radio, television and the internet.
Music Publisher	While music publishers historically made money by reproducing and selling sheet music, today they invest in, promote and represent songwriters (or song catalogues) and are responsible for ensuring payments are made when their songwriters compositions are reproduced.
On-demand	On-demand music services are businesses that provide access to music as opposed to selling digital music files. Examples include Spotify, Deezer, Rdio, Google Play and Groove. These services generally have several tiers of revenue collection: ad-supported, where the customer has free access but is subjected to audio advertising; subscription which provides ad-free access via a computer; and premium subscription which provides ad-free access via both computes and mobile devices such as handsets and tablets.
Public Performance	Public performance refers to two uses of music. First, the playing of music in premises such as retailers, hospitality outlets (bars and cafes), educational institutions, and gyms. Second, the live performance of music in venues. Rights associations representing songwriters and recording artists licence the public performance of recorded and live music.
Record Company	A business that invests in, promotes, and represents recorded music made by recording artists. Record Companies typically represent a mixture of recorded music in which they own the copyright outright and recorded music in which they hold the copyright under exclusive licence from the owner. Often called a “record label”.
Recorded Music New Zealand	Recorded Music New Zealand was formed from the merger of RIANZ and PPNZ. The organisation represents the rights of member Record Companies and undertakes collective functions on their behalf. Activities include the production of The New Zealand Music Awards, the weekly compiling and publishing of the Official New Zealand Music Chart and anti-piracy activities. Additionally, Recorded Music New Zealand is a music service company working on behalf of recording artists and record

	company members. It licences sound recordings for use in communication and public performance. The fees are then distributed to recording artists or to record companies to whom recording artists have assigned their rights.
Royalty	Royalties are fees paid to songwriters and recording artists accruing from various uses including sale of recordings and public performance.
Synchronisation Right	A music synchronisation licence is required where a piece of recorded music is reproduced with a visual image, for example in a film, game, TV programme or advertisement. Often abbreviated as “synch right”.

Appendix B: Approach and methodology

This section provides a detailed overview of our approach and methodology, including definitions of our main economic impact measures, a discussion of our main data sources, and an explanation of how we calculated direct and total economic impacts. Finally, it discusses some opportunities for improving music industry data collection or undertaking future analysis.

Measures of economic impact

This report uses three main indicators of economic impact: gross output, value added, and employment. It relies on input-output (multiplier) analysis to estimate the indirect and induced impacts of the music industry.

Gross output

The gross output of an industry is equal to its total sales revenue. This figure incorporates both value created within that industry and the value of intermediate goods (eg raw materials, real estate, equipment and machinery) purchased by the industry from other industries.

Although gross output or sales revenue is commonly used as a measure of the value of an industry, it is an imperfect measure due to its inclusion of inputs purchased from other industries.

Value added

The value added of an industry is equal to the total value created within that industry. It can also be described as the GDP impact of an industry. It measures the contributions of labour (through wages and salaries) and capital (through profits and depreciation) to the output produced by the industry, and the taxes paid by the industry. As a result, it is equivalent to the gross output of an industry, less the value of all inputs purchased from other industries.

When using our value-added estimates, it is important to understand what they include. GDP measures, including those reported in Statistics New Zealand's national accounts and in most economic impact studies, measure the total value of goods and services produced in New Zealand, rather than the net income of all businesses and individuals located within New Zealand. As a consequence, we will:

- include income earned by overseas musicians touring in New Zealand, as it represents production in New Zealand regardless of whether it is ultimately repatriated elsewhere.
- include royalty payments paid to New Zealand musicians by overseas sources, as they represent exports of goods and services produced in New Zealand.

These inclusions should be taken into consideration when using our estimates. The New Zealand music industry is relatively globalised – New Zealand consumers purchase a great deal of overseas-originated music, and New Zealand musicians tour and earn royalties overseas. We have excluded most music imports from our analysis by:

- measuring only economic benefits from New Zealand-originated music in digital retail and broadcasting
- including both New Zealand and overseas music in gross output figures for physical retail in the expectation that output multipliers will correct for any imported content.

There were two main reasons to measure value added in terms of GDP. First, GDP impact is the most commonly-used measure of total economic impact. It is used by Statistics New Zealand when reporting on

the size of the New Zealand economy and in many other economic impact studies. Although GDP does have some weaknesses, they are not unique to the music industry in New Zealand. Across the whole economy, there is a significant gap between GDP and gross national income (GNI) figures due to the large role of foreign investment and lending in the New Zealand economy. According to World Bank figures, New Zealand's GNI has been three to seven percent lower than GDP in recent years. The same is true for specific industries as well.

Second, recent changes to the development of New Zealand's national accounts mean that the treatment of these earnings now contribute to New Zealand's gross domestic product (GDP). As such, estimates for the overseas earnings of New Zealand musicians directly contribute to the music industry in New Zealand's GDP.

Employment

We measure employment on the basis of FTEs, rather than total (full-time and part-time) jobs or headcount. Under this measure, part-time jobs are counted as a proportion of a full-time job – so, for example, a job that involved working 20 hours a week would be counted as 0.5 of an FTE. This provides us with the most comparable measure of employment in an industry, as rates of part-time employment can vary between different industries.

Values are reported in New Zealand dollars of the day unless otherwise stated

All figures in this report refer to New Zealand dollars in nominal terms.

Data sources

Main quantitative data sources

Our estimates of the economic impact of the music industry in New Zealand are based primarily upon the following sources of data:

- Recorded Music NZ figures on physical and digital sales wholesale revenue
- APRA AMCOS data on songwriter royalties and Recorded Music NZ data on recording royalties
- Statistics New Zealand and other industry-level estimates of economic activity and input-output tables for New Zealand industries.

We used multiple sources of data for the overseas earnings study, including data from collection agencies, copyright owners, financial representatives, music managers, other industry organisations and surveyed musicians directly.

In each case, the data obtained related to:

- earnings from international sources from all sales, publishing and synchronisation
- earnings from live performances and touring internationally
- any government grants received for international purposes.

Where possible, other data was used to provide a sense check on estimates derived from these sources.

Our analysis combines the data from all sources. The overall data is comprehensive, and we understand that it covers the vast majority of the musicians who generate overseas earnings. Industry stakeholders believe that combined data will incorporate the bulk of the dollar value of overseas earnings.

The calendar years (year ended December quarter) have been selected as the basis for the economic impact calculations and these are the most recent full set of annual data available. All amounts in this report relate to impacts that occur in this period.

Avoiding double counting

In several cases, Recorded Music NZ and APRA AMCOS figures measured different components of the same market subsector. For example, Recorded Music NZ provided data on total physical and digital music sales, while APRA AMCOS provided data on mechanical royalties (ie royalties paid each time a piece of recorded music is reproduced) paid from physical and digital music sales. As royalties are paid as a proportion of retail sales, including both of these figures in our analysis would mean double-counting activity in this market subsector.

In order to avoid double-counting, we have examined the definitions of each measure of the market and discussed with data providers where necessary.

Multiplier analysis

Direct, indirect and induced impacts

Like any industry, the music industry has spillover effects on other parts of the New Zealand economy. For our purposes here, these impacts can be divided into two categories:

- indirect (or upstream) impacts
- induced impacts.

Indirect impacts occur as a result of purchases of goods and services from other industries. When a record is made or a concert is put on, businesses within the music industry purchases a range of inputs: advertising and marketing, transportation services, machinery and instruments, rented real estate, etc.

Induced impacts occur as a result of the wages and salaries paid out by the music industry. When a musician collects a royalty check, he or she will then spend some of that money on a range of goods and services, thereby stimulating further economic impact.

Estimating direct economic impacts

We estimate the direct impact of the music industry in terms of its contribution to gross output, value added, and employment as follows:

- For each market subsector, we start with figures on either gross output (eg total digital music sales, total estimated ticket sales) or value added (eg broadcasting royalties).
- We use data from Butcher Partners to estimate the ratios of value added (VA) to gross output (GO) and VA (or GO) to employment in these industries. These ratios were then used to estimate direct GO/VA and employment in each market subsector.

Estimating total economic impacts

Spending in the music industry has multiplier effects in other industries as a result of the way in which that spending flows through the economy. Every dollar that is spent directly on music will also stimulate or support other types of economic activity indirect and induced from the industry.

In order to estimate flow-on effects, we applied multipliers calculated using 2012/13 input-output tables for all New Zealand industries, which are the latest available. Multipliers were available for gross output, value added, and employment in these industries.

- Indirect impacts were estimated using Type 1 multipliers, which account for the first-round and indirect effect of purchases of goods and services by each industry.
- Induced impacts were estimated using Type 2 multipliers, which account for induced effects from wages and salaries paid by each industry.

Approaches followed for individual subsectors

Figure 29 summarises the activities in each subsector of the music industry that are included in our GDP calculations.

Figure 29 What is included and excluded from GDP calculations?

Industry subsector	Revenue earned in NZ		Revenue earned overseas
	From NZ artists	From overseas artists	
Retail	Included in GDP	Accounted for in GDP	Included
Communication rights and radio	Included in GDP	Songwriter royalties not included, as they are earned offshore Recording artist royalties retained by record companies are accounted for in GDP	Included
Live performance	Included in GDP	Included in GDP, as performance occurred here	Included
Synchronised music	Included in GDP	Synchronisation fee revenues paid out to overseas artists are not included, as they are earned offshore Synchronisation fee revenue accruing to local agents (eg record companies, music supervision companies) are accounted for in GDP	Included

Figure 30 below summarises the methodology and assumptions used to calculate the economic contribution of individual subsectors of the music industry.

Figure 30 Methodology and assumptions for the different subsectors of the music industry

Subsector	Information base	Direct value added	Direct FTEs	Total value added and FTEs
Retail – physical music	Wholesale physical sales data provided by Recorded Music NZ	Estimated total retail sales revenue using Statistics NZ Annual Enterprises Survey (AES) data. Estimated split between retailer margin, wholesale (record label) margin, value of rights embodied in physical product, and manufacturing cost using AES data. Estimated value added from the retail margin using the average ratio of value added to gross margin in the "recreational, clothing, footwear, and personal accessory" and "department stores" industries. Estimated value added within record companies by applying the ratio of value added to gross output in the "heritage and artistic" industry and adding the total value of rights embodied in the physical product. Estimated value added from manufacturing using the ratio of value added to gross output in the "printing", "publishing (except internet and music publishing)" and "polymer product and rubber product manufacturing" industries.	Based on ratios of employment to value added as follows: • retailer margin – the average of the "recreational, clothing, footwear, and personal accessory retailing" and "department stores", • record company margin - "heritage and artistic" • manufacturing - "printing", "publishing (except internet and music publishing)" and "polymer product and rubber product manufacturing". No additional employment impact calculated for the value of rights embodied in the physical product, as this is likely to be repatriated overseas as profit. (Employment in record label activities is captured elsewhere.)	Based on total (direct, indirect, induced) multipliers as follows: • retailer margin – the average of the "recreational, clothing, footwear, and personal accessory retailing" and "department stores" • record company margin - "heritage and artistic" • manufacturing - "printing", "publishing (except internet and music publishing)" and "polymer product and rubber product manufacturing". No spillover impacts calculated for the value of rights embodied in the physical product, as this is likely to be repatriated overseas

				as profit.
Retail – digital music	Wholesale digital sales figures provided by Recorded Music NZ, plus data on songwriter royalties for digital sales provided by APRA AMCOS.	Estimated total retail sales revenue using information provided by APRA AMCOS. Estimated split between retailer margin, record label revenue, and royalty revenue using information provided by APRA AMCOS. Used AES data to estimate the value of the rights embodied in the digital product. Because online retailers primarily based overseas, the retailer margin was assumed to have no value added impact. Estimated value added within record companies by applying the ratio of value added to gross output in the "heritage and artistic activities" industry and adding the total value of rights embodied in the physical product.	Based on ratios of employment to value added for the "heritage and artistic activities" industries. No additional employment impact calculated for the value of rights embodied in the digital product, as this is likely to be repatriated overseas as profit. (Employment in record label activities is captured elsewhere.)	Based on total (direct, indirect, induced) multipliers for the "heritage and artistic activities" industries. No additional employment impact calculated for the value of rights embodied in the digital product, as this is likely to be repatriated overseas as profit.
Communication rights	Data on songwriter royalties provided by APRA AMCOS and performer royalties provided by PPNZ for radio and TV broadcasts and public performance of music.	Estimated the share of royalties paid out to New Zealand songwriters and recording artists using Radioscope data on the New Zealand music share of total radio plays. All (songwriter and recording artist) royalties paid for New Zealand artists converted directly to value added as they represent direct income earned locally. Estimated that 50% of recording artist royalties paid for overseas-originated music would be retained by record companies as profits and funding for their New Zealand-based marketing activities, while the remaining 50% would be paid directly to overseas recording artists or repertoire owners. Estimated an economic impact related to the recording artist royalties retained locally by record companies using the ratio of value added to gross output in the "heritage and artistic activities" industry. Songwriter royalties paid for overseas-originated music does not generate any value added in New	Based on ratio of employment to value added for the "heritage and artistic activities" industry.	Based on total (direct, indirect, induced) multipliers for the "heritage and artistic activities" industry.

		Zealand.		
Music radio broadcasting	Data on total radio licensing fees and licensing fee rate provided by APRA AMCOS	Estimated the total radio output that is related to the music industry based on the licensing fees as being the proportion of the total evidenced by the licensing rate. Output = Licensing fees/licensing rate	Based on ratio of employment to value added for the "motion picture and sound recording activities" and "broadcasting and internet services" industries.	Based on total (direct, indirect, induced) multipliers for the "motion picture and sound recording activities" and "broadcasting and internet services" industries.
Live performance	Data on songwriter royalties provided by APRA AMCOS for live performance of music and APRA AMCOS information on the royalty rate.	Gross output (ie ticket sales) estimated by dividing the value of songwriter royalties by the royalty rate applied to ticket sales. Value added in live performance estimated by applying the ratio of value added to gross output in the "heritage and artistic activities" industry to estimated gross output.		
Synchronisation rights	Estimated total songwriter and recording artist royalties earned from synchronisation deals in New Zealand provided by Recorded Music NZ.	Estimated the share of royalties paid out to New Zealand songwriters and recording artists using Recorded Music NZ estimate of the New Zealand music share of total synchronization revenues. All (songwriter and recording artist) royalties paid for New Zealand artists converted directly to value added as they represent direct income earned locally. Estimated that 50% of (songwriter and recording artist) royalties paid for overseas-originated music would be retained by negotiating agents as profits and funding for their New Zealand-based activities, while the remaining 50% would be paid directly to overseas rights-holders. Estimated an economic impact related to the recording artist royalties retained locally by record companies using the ratio of value added to gross output in the "heritage and artistic activities" industry.	Based on ratio of employment to value added for the "heritage and artistic activities" industry.	Based on total (direct, indirect, induced) multipliers for the "heritage and artistic activities" industries.

Appendix C: Restrictions

This economic impact assessment has been prepared for Recorded Music New Zealand Limited (Recorded Music NZ), the Australasian Performing Rights Association and the Australasian Mechanical Copyright Owners Society (APRA AMCOS) and the New Zealand Music Commission. This report has been prepared solely for this purpose and should not be relied upon for any other purpose.

This report has been prepared solely for use by Recorded Music NZ, APRA AMCOS and the New Zealand Music Commission and may not be copied or distributed to third parties without our prior written consent.

To the fullest extent permitted by law, PwC accepts no duty of care to any third party in connection with the provision of this Report and/or any related information or explanation (together, the "Information"). Accordingly, regardless of the form of action, whether in contract, tort (including without limitation, negligence) or otherwise, and to the extent permitted by applicable law, PwC accepts no liability of any kind to any third party and disclaims all responsibility for the consequences of any third party acting or refraining to act in reliance on the Information.

Our report has been prepared with care and diligence and the statements and opinions in the report are given in good faith and in the belief on reasonable grounds that such statements and opinions are not false or misleading. In preparing our report, we have relied on the data and information provided by members of the sponsor group as being complete and accurate at the time it was given. The views expressed in this report represent our independent consideration and assessment of the information provided.

No responsibility arising in any way for errors or omissions (including responsibility to any person for negligence) is assumed by us or any of our partners or employees for the preparation of the report to the extent that such errors or omissions result from our reasonable reliance on information provided by others or assumptions disclosed in the report or assumptions reasonably taken as implicit.

We reserve the right, but are under no obligation, to revise or amend our report if any additional information (particularly as regards the assumptions we have relied upon) which exists at the date of our report, but was not drawn to our attention during its preparation, subsequently comes to light.

This report is issued pursuant to the terms and conditions set out in our engagement letter dated 30 June 2017.