Economic contribution of the New Zealand music industry, 2012 and 2013

A report for the New Zealand music industry
Final

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

8 July 2014

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8 July 2014

Dear Kristin

Economic contribution of the New Zealand music industry

In accordance with our terms of engagement dated 4 April 2012, we are pleased to attach our report on the economic contribution of the New Zealand music industry.

This report should be read in conjunction with the Restrictions 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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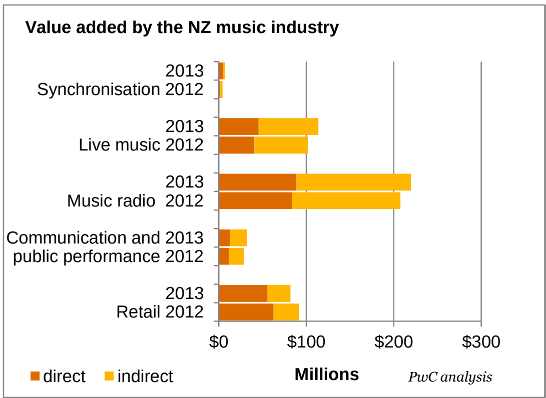
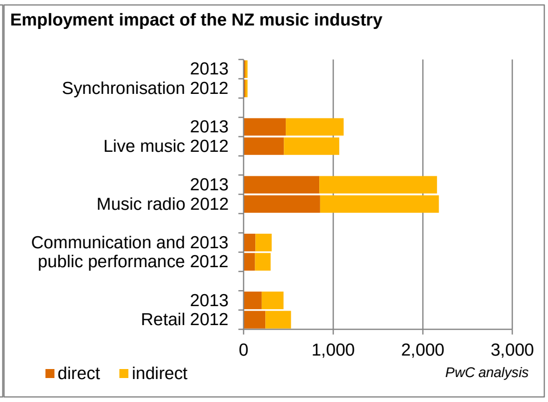
1. Executive summary

In 2012 and 2013, the New Zealand music industry directly contributed $200.4 million and $204.7 million respectively to national GDP and directly provided the equivalent of 1,694 and 1,670 full-time jobs. After accounting for spillover effects on other industries, the music industry contributed a total of $434 million and $452.2 million to national GDP and the equivalent of 4,123 and 4,077 full-time jobs.

GDP and employment impact of the New Zealand music industry (2012 and 2013)





Direct and total economic impact of the NZ music industry, 2012

Industry sector	Total sales ($m)	Value added (GDP, $m) Direct impact	Value added (GDP, $m) Total impact	Employment (FTEs) Direct impact	Employment (FTEs) Total impact
Retail	$92.9m	$62.7m	$91.5m	243.8	529.0
Communication & public performance	$33.9m	$11.5m	$28.7m	127.3	301.7
Music radio broadcasting	$204.4m	$83.8m	$207.6m	853.9	2,180.1
Live music	$86.7m	$40.7m	$101.8m	450.9	1,068.6
Synchronisation	$3.5m	$1.7m	$4.2m	18.8	44.5
TOTAL	**$421.4m**	**$200.4m**	**$434.0m**	**1694.7**	**4,123.9**

PwC calculations

Direct and total economic impact of the NZ music industry, 2013

Industry sector	Total sales ($m)	Value added (GDP, $m) Direct impact	Value added (GDP, $m) Total impact	Employment (FTEs) Direct impact	Employment (FTEs) Total impact
Retail	$83.8m	$55.8m	$82.0m	202.7	445.5
Communication & public performance	$37.0m	$12.8m	$31.9m	132.0	312.9
Music radio broadcasting	$216.6m	$88.8m	$219.9m	845.7	2,158.2
Live music	$96.9m	$45.5m	$113.9m	471.1	1,116.6
Synchronisation	$3.7m	$1.8m	$4.5m	18.8	44.5
TOTAL	**$438.1m**	**$204.7m**	**$452.2m**	**1670.3**	**4,077.7**

PwC calculations

This impact was spread across five main industry subsectors, as shown in the tables above. The **retail** subsector, which includes both physical and digital music, accounted for 32% and 28% of the industry's direct contribution to GDP in 2012 and 2013, but a smaller share (21% and 18%) of its total (direct and spillover) contribution to GDP and even smaller (13% and 11%) contribution to employment due to the large role of overseas-originated content and the limited employment generated by the digital music sector. **Live music** accounted for roughly 24% and 26% of the industry's total contribution to GDP and employment in 2012 and 2013. **Communication and public performance** and **synchronisation** are smaller but nonetheless significant economic contributions. The biggest contributing music sector to New Zealand's GDP is the **Music radio broadcasting sector** which accounts for approximately half of the value added and employment impact of the industry as a whole.

Measuring economic impact

This report examines some "bottom-line" measures of the music industry's net impact on the national economy. We have estimated the industry's economic impact by examining the following measures:

- **value added** – the industry's contribution to New Zealand's gross domestic product (GDP), which is calculated as the total returns to labour and capital in the industry
- **employment** – the number of full-time equivalent workers (FTEs) employed as a result of music industry activity.

In addition to its **direct** economic impacts, an industry will have **spillover** effects elsewhere in the economy. Our report accounts for both the **indirect (or upstream) impacts** of music spending, which occur when businesses in the music industry purchase goods and services from other industries, and the **induced (or downstream) impacts**, which are generated when the wages and salaries earned in the industry are spent on other goods and services. The **total** economic impact of the industry includes all of these effects.

2. 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 2012 and 2013 calendar years.

In addition the report provides some broad insight 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) and the New Zealand Music Commission in order to better understand the economic role of the New Zealand music industry. It should be read in conjunction with the Restrictions in Appendix C.

Purpose and scope of this 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 New Zealand music industry's economic contribution:

- **gross output** – the total sales 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 full-time equivalent workers (FTEs) employed as a result of music industry activity.

In addition to its **direct** economic impacts, an industry will have **spillover** 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 (or downstream) 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.

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 New Zealand music industry, we have used multiplier analysis based on national input-output tables[1]. We have described our application of multiplier analysis in Appendix A: Approach and methodology.

Although this report focuses on estimating the contribution of the New Zealand music industry 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 as they are not easily quantifiable.

Defining the music industry

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

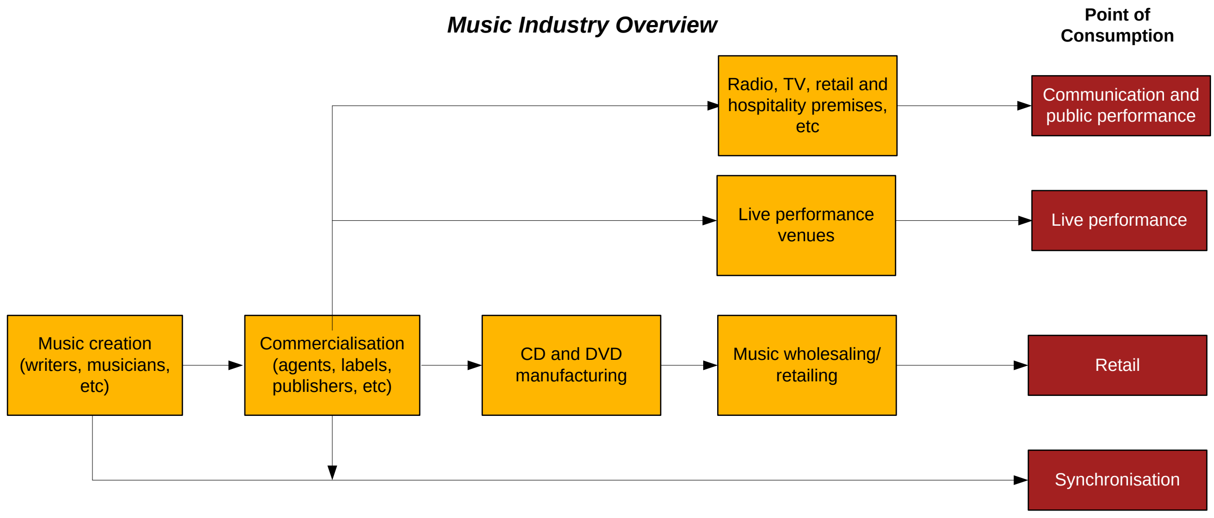
Industry basis

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 represent the music industry is presented in Figure 1.

[1] Butcher Partners Ltd (2012), *New Zealand 2005-06 Input-Output Table and Multipliers*, based on Statistics New Zealand data.

Figure 1: 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[2]:

- 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.
- 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**.

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, 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.

We also consider the following upstream activities to be part of the music industry:

- Music creation, including songwriters, musicians, recording studios, etc.

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[2] 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 NZ). Through this report we use data provided by APRA|AMCOS and Recorded Music NZ.

- 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 effects in our estimates of spillover effects.

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 location

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 GDP national accounts statistics produced by Statistics New Zealand and overseas statistics bureaus. As we discuss in more depth in Appendix A: Approach and methodology, 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.
- Exclude payments paid to New Zealand recording artists and songwriters from overseas sources, as they are difficult to quantify due to lack of comprehensive data. (While excluded from our calculations, we have separately estimated these payments for completeness).

We have chosen to use a GDP measure, rather than a different 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, while some data on overseas touring revenues and public performance and communication royalties by APRA songwriters earned from overseas does exist, it is not considered comprehensive enough to base robust quantitative analysis of total revenue on.

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).

3. Economic impact of the New Zealand music industry

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

The industry as a whole

Table 1 summarises estimates of the overall economic impact of the music industry.

Table 1: Overall economic impact of the New Zealand music industry

	Economic Impact			
	2012		2013	
NZ music industry	Direct	Total	Direct	Total
Gross output (sales)	$421.4m	-	$438.1m	-
Value added (GDP)	$200.4m	$434.0m	$204.7m	$452.2m
Employment (FTEs)	1,695	4,124	1,670	4,078

PwC calculations

The main findings of the study are that in 2012 and 2013:

- The New Zealand music industry **directly** added $200.4 million and $204.7 million to national GDP and provided the equivalent of approximately 1,695 and 1,670 full-time jobs (FTEs).
- The total economic impact of the New Zealand music industry included **direct**, **indirect**, and **induced** (ie spending supported by the wages paid by the music industry) impacts. In total, the New Zealand music industry contributed or supported $434 million and $452.2 million in national GDP and 4,124 and 4,078 FTEs.

This impact was spread across five main subsectors of the industry, as shown in Table 2 below. The **music radio broadcasting sector** had the biggest impact on the economy with over half the value add and employment contribution. The **retail** subsector had the largest direct impact on New Zealand's GDP, largely due to profits earned by local subsidiaries of overseas record companies. The **live performance** subsector had a very significant impact on employment in New Zealand due to its more labour-intensive nature. However the subsector with the greatest impact on both GDP and employment is the music radio industry which accounts for approximately half the total impacts.

Table 2: Economic impact of the NZ music industry, by subsector 2012

2012	Gross Output	Value Added (GDP)		Employment(FTEs)	
Industry Segment	Sales	Direct	Total	Direct	Total
Retail	$92.9m	$62.7m	$91.5m	243.8	529.0
NZ music only	$8.0m	$5.3m	$10.7m	41.8	95.7
Communication & public performance	$33.9m	$11.5m	$28.7m	127.3	301.7
NZ music only	$9.4m	$8.7m	$21.8m	96.6	229.1
Music radio broadcasting	$204.4m	$83.8m	$207.6m	853.9	2,180.1
NZ music only	$37.4m	$15.4m	$35.5m	156.4	371.3
Live music	$86.7m	$40.7m	$101.8m	450.9	1,068.6
NZ music only	$20.8m	$9.8m	$24.4m	108.2	256.5
Synchronisation	$3.5m	$1.7m	$4.2m	18.8	44.5
NZ music only	$1.8m	$1.3m	$3.2m	14.2	33.7
TOTAL	$421.4m	$200.4m	$434.0m	1,695	4,124

PwC calculations

Table 3:Economic impact of the NZ music industry, by subsector 2013

2013	Gross Output	Value Added (GDP)		Employment(FTEs)	
Industry Segment	Sales	Direct	Total	Direct	Total
Retail	$83.8m	$55.8m	$82.0m	202.7	445.5
NZ music only	$9.6m	$6.2m	$13.6m	52.3	121.5
Communication & public performance	$37.0m	$12.8m	$31.9m	132.0	312.9
NZ music only	$10.6m	$9.9m	$24.7m	102.3	242.5
Music radio broadcasting	$216.6m	$88.8m	$219.9m	845.7	2,158.2
NZ music only	$44.4m	$18.2m	$42.4m	173.2	414.2
Live music	$96.9m	$45.5m	$113.9m	471.1	1,116.6
NZ music only	$27.1m	$12.8m	$31.9m	131.9	312.6
Synchronisation	$3.7m	$1.8m	$4.5m	18.8	44.5
NZ music only	$1.9m	$1.4m	$3.4m	14.2	33.7
TOTAL	$438.1m	$204.7m	$452.2m	1,670	4,078

PwC calculations

Figure 2 and Figure: 3 summarise the direct, indirect, and induced GDP and employment impacts of different markets for music in 2012 and 2013.

Figure 2: GDP impact of the New Zealand music industry, 2012-2013

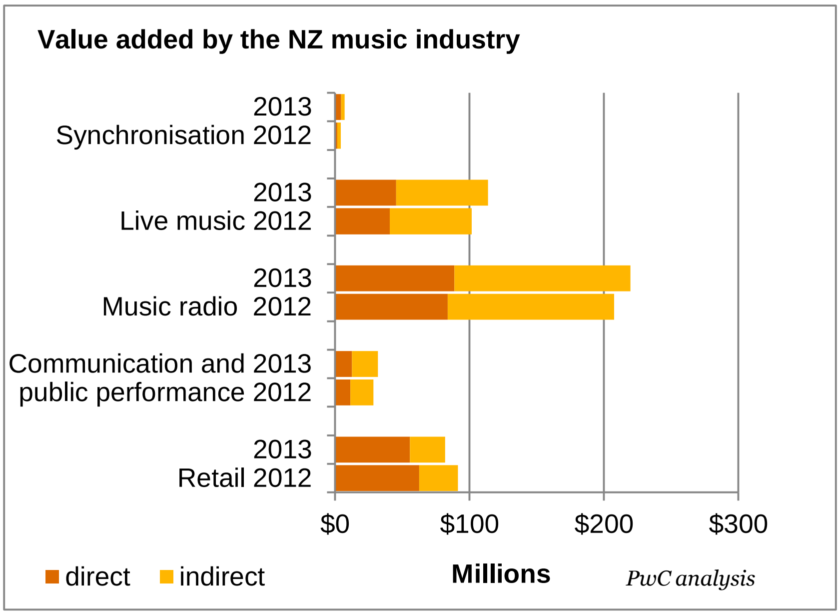
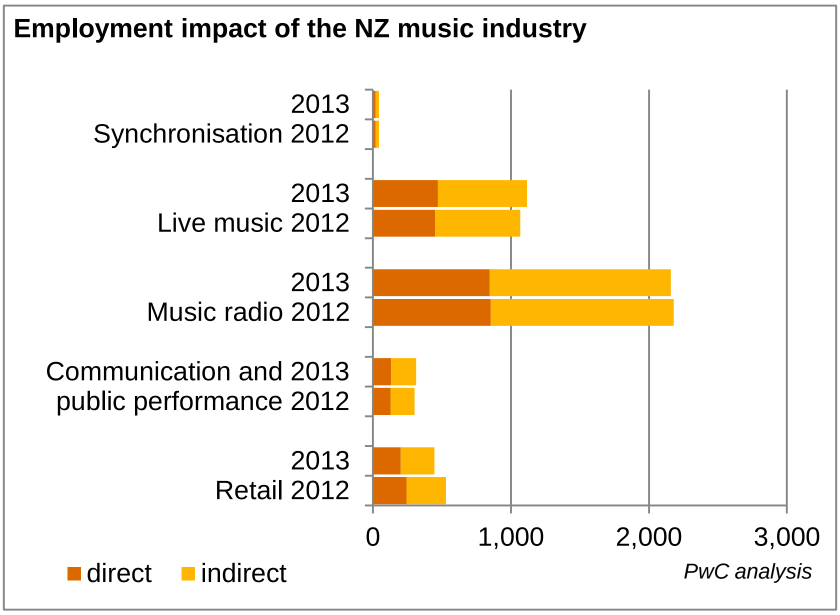


Figure: 3 Employment impact of the New Zealand music industry 2012-2013



Music retail

In 2012 and 2013, the New Zealand music industry earned $92.9 million and $83.8 million in retail revenues. We estimate that these gross revenues resulted in a net, direct impact on the New Zealand economy of $62.7 million and $55.8 million in GDP and 244 and 203 full-time equivalent jobs within the music industry. After accounting for spillovers related to music industry spending on inputs from other industries, the retail subsector had a total economic impact of $91.5 million and $82.0 million in GDP and 529 and 445 FTEs. (See page 7 for a description of the difference between direct and total economic impacts.) New Zealand music contributed a small but significant share of total value within the retail subsector. It is worth noting that while the overall economic impact of retail music fell in 2013, the economic impact attributed to NZ music actually increased.

Table 4: Direct and total economic impact of retail

Retail	Direct economic impacts		Total economic impacts	
2012	**All music**	*NZ music only*	**All music**	*NZ music only*
Gross output (sales)	$92.9m	$8.0m	-	-
Value Added (GDP)	$62.7m	$5.3m	$91.5m	$10.7m
Employment (FTEs)	244	42	529	96
2013				
Gross output (sales)	$83.8m	$9.6m	-	-
Value Added (GDP)	$55.8m	$6.2m	$82.0m	$13.6m
Employment (FTEs)	203	52	445	122

PwC calculations

Historically the majority of these economic impacts were related to physical music retail. However, digital music retail has grown significantly and now makes up approximately half of total retail gross output. Table 5 and Figure 4 show the contribution of physical and digital music to gross output, GDP and employment. There is a noticeable trend that digital retail is capturing an increasing share of the total retail market.

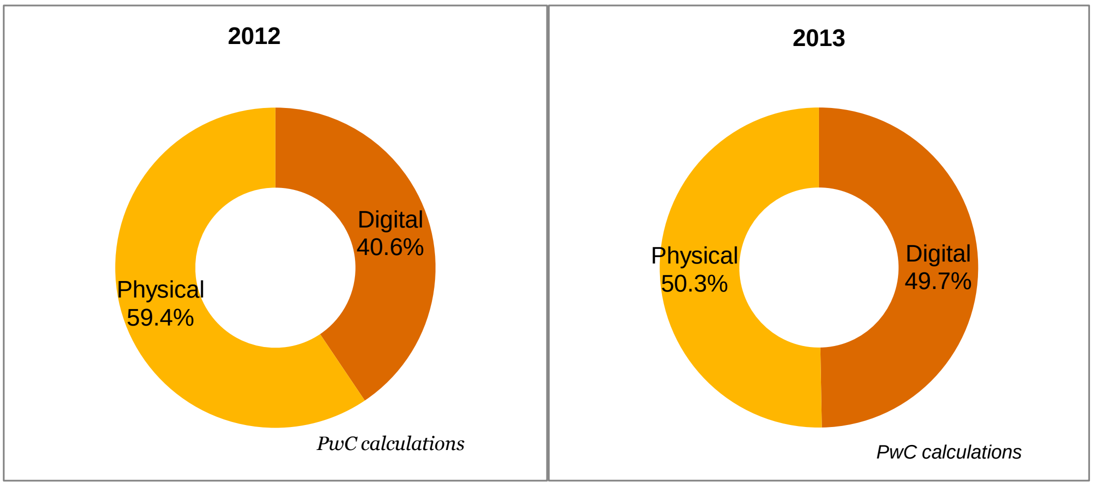
Table 5: Direct and total economic impact of physical and digital retail

Physical Retail	Direct economic impacts		Total economic impacts	
2012	**All music**	*NZ music only*	**All music**	*NZ music only*
Gross output (sales)	$55.2m	$3.9m	-	-
Value added (GDP)	$39.4m	$2.7m	$61.2m	$4.3m
Employment(FTEs)	192	13	406	28
2013				
Gross output (sales)	$42.2m	$2.9m	-	-
Value Added (GDP)	$30.0m	$2.1m	$46.7m	$3.2m
Employment (FTEs)	137	9	290	20

Digital Retail	Direct economic impacts		Total economic impacts	
2012	**All music**	*NZ music only*	**All music**	*NZ music only*
Gross output (sales)	$37.7m	$4.1m	-	-
Value added (GDP)	$23.3m	$2.6m	$30.4m	$6.4m
Employment(FTEs)	52	28	123	67
2013				
Gross output (sales)	$41.7m	$6.7m	-	-
Value Added (GDP)	$39.4m	$2.6m	$35.3m	$10.3m
Employment (FTEs)	66	43	156	101

PwC calculations

Figure 4: Breakdown of gross output by retail category in 2012-2013



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 spite of differences in formats, these consumption points are all similar from the perspective of the music industry. As a result, we have grouped them together.

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 retailers JB Hi Fi. In addition, there is a range of independent music stores such as Real Groovy and Slow Boat Records. However, this subsector of the music industry is declining. Over the last twenty years, the number of specialty music stores in New Zealand has fallen from roughly 300 to about 30.[3]

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 or Amplifier
- On-demand services such as Spotify
- Mobile music downloads and other services.

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 Pandora or 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.

Figure 5 below suggests, the New Zealand music industry has changed rapidly since 2006, reflecting the impact of these changes. Physical retail revenues fell considerably over this period, although this decline was partially offset by increased digital retail revenue. New technologies, such as the rise of iTunes – have had a large impact on channels of legal music consumption. Digital consumption, combined with the effects of illegal use of music has drastically altered the revenue landscape in the music industry. Figure 5 demonstrates how the breakdown of physical and digital revenue has changed over the past 7 years as well as the overall decline in music sales over the timeframe.

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[3] Interview with Chris Caddick, Managing Director, Recording Industry Association of New Zealand Inc, 16 June 2012. Cited in the New Zealand entertainment and media publication 2012-2016, PwC

Figure 5: Recent trends in New Zealand music retail[4]

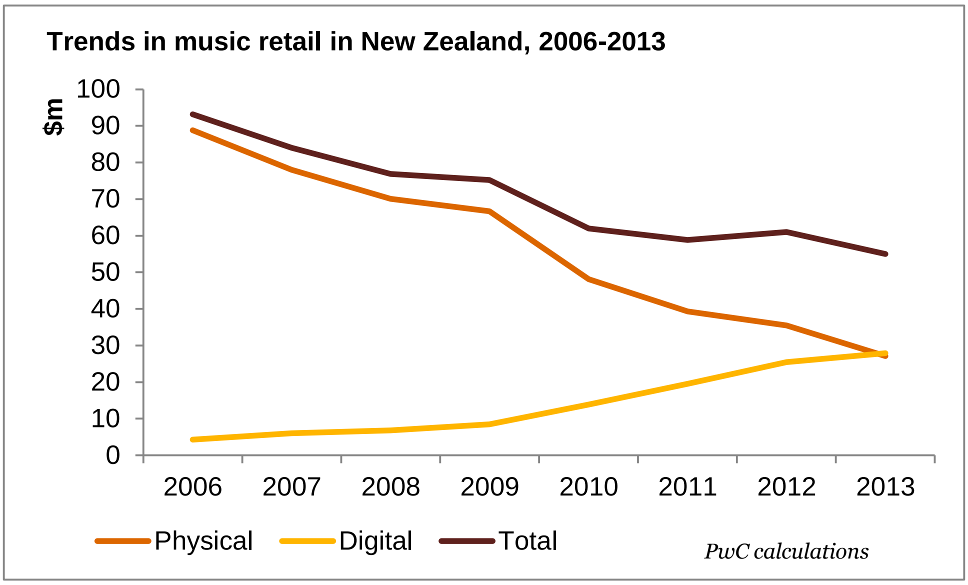


Figure 5 also indicates that in NZ there was a lag between retail music revenue falling and digital music capturing a significant share of the market. Over the past three years companies have found solutions to monetising digital music, and growth in that sector has accelerated.

The role of New Zealand-originated music

Figure 6 shows the share of wholesale revenues from physical music earned by New Zealand musicians. It indicates that, out of every $100 of music purchased at retail outlets, $7 is spent on New Zealand music. It also demonstrates that the percentage of NZ music contribution to total physical retail has remained constant over the past 2 years.

[4] Revenue figures reported in this chart reflect wholesale revenues earned by record companies. They exclude the margins earned by retailers.

Figure 6: New Zealand share of physical music retail sales (2013)

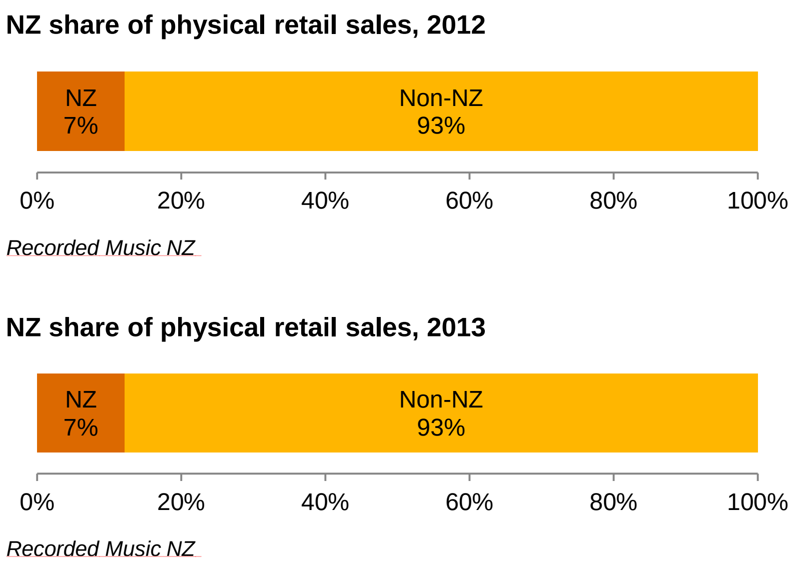
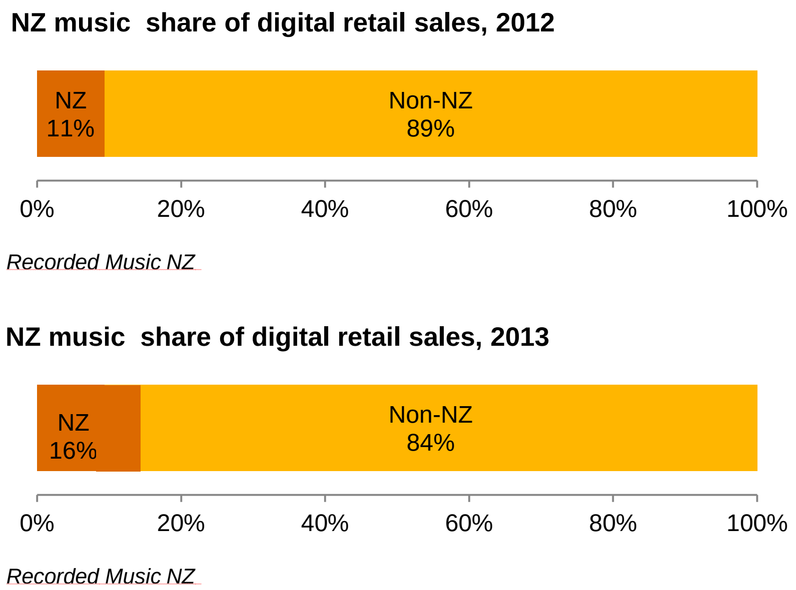


Figure 7 shows the share of wholesale revenues from digital music earned by New Zealand musicians. It indicates that in 2013, out of every $100 spent by New Zealand residents on digital music, $16 is spent on New Zealand music, up from $11 in 2012. The New Zealand share of digital retail sales is higher than the New Zealand share of physical music. This is a reversal of the historical trend and indicates that New Zealand artists are growing their ability to sell product through digital sales. Additionally Figure 7 demonstrates that the NZ music share of total digital sales has increased between 2012 and 2013, indicating that New Zealand artists are getting a stronger foothold in this sector of the market.

Figure 7: New Zealand share of digital music retail sales (2013)



Underlying data and methodology

We estimated the economic impact of the retail subsector as follows:

- First, we used Recorded Music NZ data on the wholesale value of physical and digital music sold in New Zealand and APRA|AMCOS data on songwriter royalties earned from digital sales and access to estimate gross output (ie total revenue) earned within this subsector. (This data is summarised in Table 6 and Table 7 below.)
- Second, we used Statistics New Zealand data on average wholesale and retail trade gross margins in "other retailing" industries, and an APRA|AMCOS estimate of the allocation of digital sales to estimate the share of these revenues earned by retailers, record companies and music publishers, and manufacturers. (This data is summarised in Table 8 and Table 9 below.)
- Third, we used multiplier tables calculated using 2005/06 Statistics New Zealand data, supplemented with PwC estimates based on Statistics New Zealand employment and GDP statistics, to estimate the direct value added (GDP) and direct employment associated with this spending.
- Finally, we used GDP and employment multiplier tables calculated using 2005/06 Statistics New Zealand data to estimate the total (direct, indirect, and induced) economic impact of the subsector.
- We used separate ratios and multipliers for individual components of the retail chain. These are summarised in Table 8,Table 9 and Table 10 overleaf.

We note, however, that music retail (both physical and digital) is not typical of retail industries. The marginal cost of producing an additional unit – whether an mp3 file or a CD – is extremely low. Most of the value of the product is related to the intellectual property embodied within it rather than manufacturing costs.

Record companies and music publishing companies located in New Zealand have the exclusive right to legally sell or license music that they own the rights to. This is true for both New Zealand-owned record companies and New Zealand subsidiaries of overseas record companies. Consequently, the major overseas record companies collect money for artists developed overseas and book it as profit in New Zealand. While they then presumably repatriate some of it overseas to their parent companies, this does not affect the inclusion of these profits in New Zealand GDP as they were originally earned here. (However, it does mean that a large share of the GDP contribution of the industry is not transmitted through into local incomes.) Our analysis reflects this fact.

Table 6: Input data for physical retail component

Variable	Value	
Source Data	**2012**	**2013**
Total Physical wholesale revenues	$35.5m	$27.1m
Estimated average retail markup	56%	56%
NZ share of sales	7.0%	6.9%
Totals		
Estimated total retail sales	$55.2m	$42.2m
Estimated NZ music retail sales	$3.9m	$2.9m
Estimated overseas music retail sales	$51.4m	$39.2m

PwC calculations

Table 7: Input data for digital retail component

Variable	Value	
Source Data	**2012**	**2013**
Total digital wholesale revenues	$25.5m	$27.9m
Estimated average retail markup	45%	45%
NZ share of sales	11.0%	16.1%
Totals		
Estimated total retail sales	$37.0m	$40.4m
Estimated NZ music retail sales	$4.1m	$6.5m
Estimated overseas music retail sales	$32.9m	$33.9m

PwC calculations

Table 8: Multipliers for physical retail margin

Physical retail - retail margin

Ratio or multiplier	2012	2013
Direct impacts		
Ratio of value added to gross output	0.45	0.45
Ratio of FTEs to value added	16.3	15.2
Total impacts		
Value added multiplier	2.75	2.75
Employment multiplier	2.05	2.05

Source: Statistics NZ, PwC calculations

Table 9: Multipliers for record company share of physical and digital revenues

Wholesale margin/record company share of retail revenues

Ratio or multiplier	2012	2013
Direct impacts		
Ratio of value added to gross output	0.47	0.47
Ratio of FTEs to value added	11.1	10.3
Total impacts		
Value added multiplier	2.5	2.5
Employment multiplier	2.37	2.37

Source: Statistics NZ, PwC calculations

Table 10: Multipliers for physical product manufacturing

Physical retail-recorded media manufacturing

Ratio or multiplier	2012	2013
Direct impacts		
Ratio of value added to gross output	0.43	0.43
Ratio of FTEs to value added	11.6	10.9
Total impacts		
Value added multiplier	0.43	0.43
Employment multiplier	2.19	2.19

Source: Statistics NZ, PwC calculations

Communication and public performance

In 2012 and 2013, the New Zealand music industry earned $33.9 million and $37.0 million in royalties for communication and public performance. We estimate that these gross revenues resulted in a net, direct impact on the New Zealand economy of $11.5 million and $12.8 million in GDP and 127 and 132 full-time equivalent jobs within the music industry. After accounting for spillovers related to music industry spending on inputs from other industries, communication and public performance had a total economic impact of $28.7 million and $31.9 million in GDP and 302 and 313 FTEs. New Zealand music was responsible for a large share of the total economic impact due to the significant role of royalties earned for New Zealand music.

Table 11: Direct and total impact of communication and public performance

2012 Communication and public performance	Direct economic impacts		Total economic impacts	
	All music	NZ music only	All music	NZ music only
Gross output (sales)	$33.9m	$9.4m		
Value Added (GDP)	$11.5m	$8.7m	$28.7m	$21.8m
Employment (FTEs)	127	97	302	229

2013 Communication and public performance	Direct economic impacts		Total economic impacts	
	All music	NZ music only	All music	NZ music only
Gross output (sales)	$37.0m	$10.6m		
Value Added (GDP)	$12.8m	$9.9m	$31.9m	$24.7m
Employment (FTEs)	132	102	313	242

PwC calculations

Definition of the communication and public performance subsector

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.

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.

Underlying data and methodology for communication and public performance

We have adopted a different approach for the communication and public performance subsector than for the retail subsector. However, both approaches are consistent with the GDP national accounting framework, which treats all wages and profits earned within a country as a part of GDP, regardless of whether or not they are subsequently repatriated overseas, but which excludes the value of imports and transfer payments for overseas content.

Royalties for communication and public performance accrue to songwriters and recording artists and their record companies and music publishers. Songwriter royalties are collected by APRA|AMCOS, a non-profit organisation, and distributed to its members, songwriters and music publishers. Most major music publishers are based in Australia.

On the other hand, recording artist royalties are collected by Recorded Music NZ, a non-profit organisation, and distributed to New Zealand-based record companies. A share of recording artist royalties is retained by the record companies (both as profits and as funding for its promotion and marketing activities), while the remainder is distributed to the recording artists themselves. Royalty payments made to overseas recording artists (or overseas repertoire owners) would not be counted in New Zealand GDP.

As a result, the primary economic impact of the communication and public performance subsector will be related to songwriting and recording artist royalties paid out for New Zealand music and recording artist royalty revenue retained by record companies and music publishers as profits that fund their activities in New Zealand.

Our estimates of the economic impact of communication royalties are based on Recorded Music NZ and APRA|AMCOS data on royalties earned from public performance and communication, including radio and TV broadcasting but excluding synchronised music. APRA|AMCOS and Recorded Music NZ have provided us with data on songwriter royalties and recording royalties across a number of categories, including:

- 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.

Broadcasters and venues purchase the rights to publicly perform music as either blanket licences (ie a fixed fee) or per-use licenses. As a result, record companies, music publishers, songwriters, and recording artists earn royalties for each individual play rather than for the sale of a physical or digital copy of the music. We estimated the economic impact of the communication rights subsector as follows:

- First, we used APRA|AMCOS data on songwriter royalties and Recorded Music NZ data on recording artist royalties to estimate gross output (ie total revenue) earned within this subsector. (This data is summarised in Table 12 overleaf.)
- Second, we estimated the share of radio and public performance royalties paid out to New Zealand songwriters and recording artists using Radioscope data on the New Zealand music share of total radio plays. On the basis of discussions with industry participants, we estimated that a considerably higher share of overall television royalties was paid out for New Zealand music. (These ratios are included in Table 12 overleaf.) Because almost all communication royalties earned by New Zealand artists are earned as income or profits, we converted them directly into national GDP.
- Third, we 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. We estimated an economic impact related to the recording artist royalties retained locally by record companies but not the share paid out overseas. We also

accounted for the economic impact related to the share of songwriter royalties for overseas music that is retained by APRA|AMCOS to fund their collection activities. [5]

- Fourth, we used multiplier tables calculated using 2005/06 Statistics New Zealand data, supplemented with PwC estimates based on Statistics New Zealand employment and GDP statistics, to estimate the direct employment associated with these royalties. (Ratios and multipliers are summarised in Table 13 below.)
- Finally, we used GDP and employment multiplier tables calculated using 2005/06 Statistics New Zealand data to estimate the total (direct, indirect, and induced) economic impact of the subsector.

Table 12: Input data for communication and public performance

Variable	Value	
Source Data	**2012**	**2013**
NZ share of total radio plays (Radioscope)	18.3%	20.5%
Estimated NZ share of total TV plays	50%	50%
Totals		
Songwriter royalties	$22.8m	$25.6m
Recording artist royalties	$11.1m	$11.4m

RadioScope, APRA/AMCOS, PPNZ

Table 13: Multipliers for communication rights

Communication - royalty revenue

Ratio or multiplier	2012	2013
Direct impacts		
Ratio of value added to gross output	0.47	0.47
Ratio of FTEs to value added	11.1	10.3
Total impacts		
Value added multiplier	2.5	2.5
Employment multiplier	2.37	2.37

Source: Statistics NZ, PwC calculations

5 APRA|AMCOSestimated that 10% of songwriter royalties from overseas content is retained to fund overheads.

Music radio broadcasting

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 2012 and 2013 the music radio broadcasting sector earned $204.4 million and $216.6 million. We estimate that these gross revenues resulted in a net, direct impact on the New Zealand economy of $83.8 million and $88.8 million in GDP and 854 and 846 full-time equivalent jobs within the music industry. After accounting for spillovers related to music industry spending on inputs from other industries, music radio broadcasting had a total economic impact of $207.6 million and $219.9 million in GDP and 2,180 and 2,158 FTEs.

Table 14: Direct and total impact of music radio broadcasting

2012 music radio broadcasting	Direct economic impacts		Total economic impacts	
	All music	NZ music only	All music	NZ music only
Gross output (sales)	$204.4m	$37.4m		
Value Added (GDP)	$83.8m	$15.4m	$207.6m	$35.5m
Employment (FTEs)	854	156	2,180	371

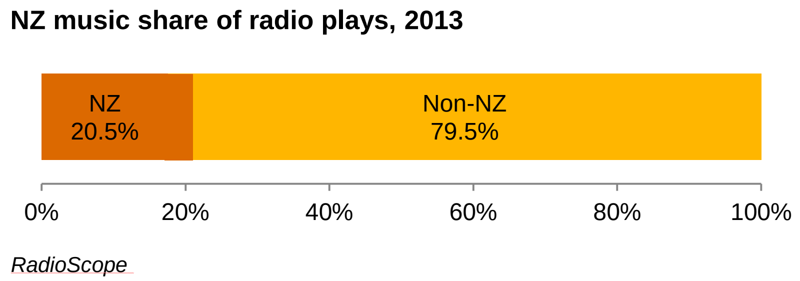
2013 music radio broadcasting	Direct economic impacts		Total economic impacts	
	All music	NZ music only	All music	NZ music only
Gross output (sales)	$216.6m	$44.4m		
Value Added (GDP)	$88.8m	$18.2m	$219.9m	$42.4m
Employment (FTEs)	846	173	2,158	414

PwC calculations

The role of New Zealand-originated music

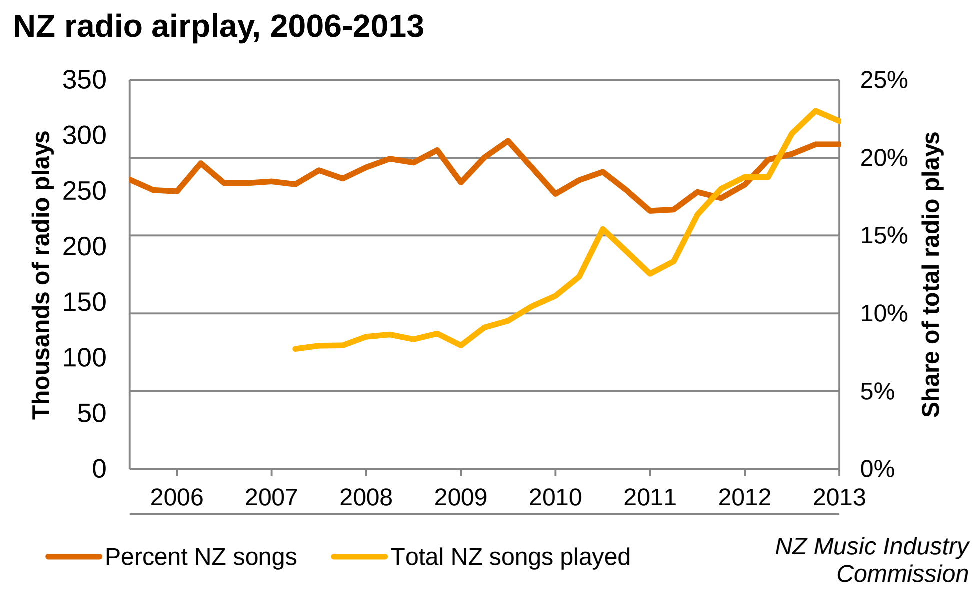
Figure 8 shows the New Zealand share of total radio plays. The figure of 20.5% is based on RadioScope figures for all radio, including commercial radio, student radio, Iwi radio and Pacific Community radio, but does not include Radio New Zealand. Based on RadioScope figures, New Zealand music content on radio was 20.5% in the 2013 calendar year. This 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.

Figure 8: New Zealand share of total radio plays



The New Zealand music share of total radio airplay in New Zealand has increased significantly and has almost tripled since 2009. New Zealand music's share of total radio plays has increased over the past two years after gradually trending downward from 2009-2011. This is likely due to the recent success of big name local artists. Figure 9 depicts recent growth trends.[6]

Figure 9: New Zealand music played on commercial radio, 2006-2013



Underlying data and methodology for music radio broadcasting

In our previous work in 2011 on the impact of the music industry on New Zealand's economy, the decision was made to account only for the economic impact of music royalties paid out by the radio stations, which represented the direct contribution of the music industry to that sector. These royalties are accounted for in the communication and public performance section of this analysis.

The economic impacts of other activities performed by radio stations, such as salaries paid to radio presenters, were previously ignored. This represented a conservative approach to evaluation of the industry.

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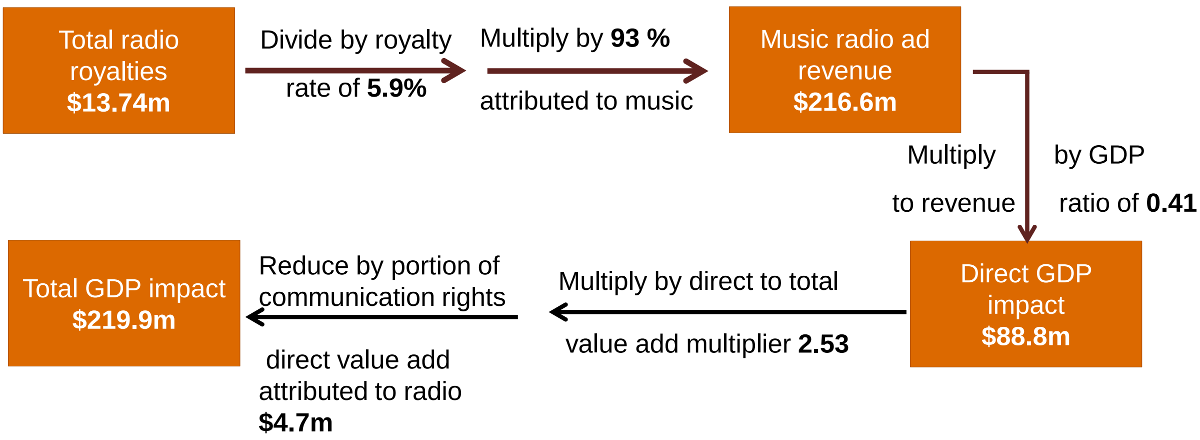
[6] It is also noted that part of the increase in the percentage of New Zealand songs played on the radio could be attributed to the improved data collection and expanded monitoring of smaller radio stations which can have a higher proportion of New Zealand songs.

In our evaluation for 2012 and 2013 we have included the economic impacts of the broader activities of radio broadcasting that can be attributed to music, and included it as a separate sector category of our analysis. Our methodology for calculating the impacts of music radio broadcasting is as follows:

- First we collected data from APRA|AMCOS and Recorded Music NZ on the amount of radio licensing fees and the licensing fee rate[7] (summarised below in Table 15).
- We then estimated the gross output of music radio broadcasting revenue by assuming that the licensing fees represented the licensing fee rate proportion of the total output (as depicted in Table 15). It is important to note that our calculated total output assumes that this gross output from music radio broadcasting is not entirely attributed to the music industry. Part of this output is attributed to talk back radio, and that portion is not included in our analysis. Data from Recorded Music NZ and APRA|AMCOS indicates that approximately 93% of music radio broadcasting revenue can be attributed to music.
- Third, we used multiplier tables calculated using 2005/06 Statistics New Zealand data, supplemented with PwC estimates based on Statistics New Zealand employment and GDP statistics, to estimate the direct employment associated with these royalties. (Ratios and multipliers are summarised in Table 16 below.)
- Fourth, we used GDP and employment multiplier tables calculated using 2005/06 Statistics New Zealand data to estimate the total (direct, indirect, and induced) economic impact of the subsector.
- Finally we reduced the indirect/induced value add and indirect/induced employment figures by a portion of direct value add and employment calculated in the communication rights and public performance sector. This amount was calculated as the proportion of the totals attributable to radio license fees and royalties. This subtraction was made in order to avoid double counting these values as royalties are included as a direct economic impact for communication and public performance sector but represent an intermediate input/consumption for the music radio broadcasting sector.

Figure 10 Methodology for calculating impacts of music radio broadcasting industry



[7] Note that the total royalty or license fee rate of 5.9% is found by combining the APRA|AMCOSrate for songwriters of 2.9% and Recorded Music New Zealand rate for recording artists of 3.0%

Table 15: Input data for music radio broadcasting

Variable	Value	
Source Data	**2012**	**2013**
Estimate of NZ radio licensing fees	$13.0m	$13.7m
Percentage of revenue attributed to music	93%	93%
Totals		
NZ radio licensing fees attributed to music	$12.1m	$12.8m
Combined songwriting and sound recording licensing fee rate	5.9%	5.9%
Total music radio industry revenue attributed to music	$204.4m	$216.6m

RadioScope, APRA/AMCOS, Recorded Music NZ

Table 16: Multipliers for music radio broadcasting

Music radio broadcasting inputs

Ratio or multiplier	2012	2013
Direct impacts		
Ratio of value added to gross output	0.41	0.41
Ratio of FTEs to value added	10.2	9.5
Total impacts		
Value added multiplier	2.53	2.53
Employment multiplier	2.61	2.61

Source: Statistics NZ, PwC calculations

Live performance subsector

In 2012 and 2013, the New Zealand music industry earned an estimated $86.7 million and $96.9 million in live performance revenues. We estimate that these gross revenues resulted in a net, direct impact on the New Zealand economy of $40.7 million and $45.5 million in GDP and 450 and 471 full-time equivalent jobs within the music industry. After accounting for spillovers related to music industry spending on inputs from other industries, the live performance subsector had a total economic impact of $101.8 million and $113.9 million in GDP and 1,068 and 1,116 FTEs. (See page 7 for a description of the difference between direct and total economic impacts.)

Table 17: Direct and total impact of the live performance subsector

2012	Direct economic impacts		Total economic impacts	
Live performance	All music	NZ music only	All music	NZ music only
Gross output (sales)	$86.7m	$20.8m		
Value added (GDP)	$40.7m	$9.8m	$101.8m	$24.4m
Employment (FTEs)	451	108	1069	256

PwC calculations

2013	Direct economic impacts		Total economic impacts	
Live performance	All music	NZ music only	All music	NZ music only
Gross output (sales)	$96.9m	$27.1m		
Value added (GDP)	$45.5m	$12.8m	$113.9m	$31.9m
Employment (FTEs)	471	132	1117	313

PwC calculations

In the 2013 calendar year, total ticket sales revenue from concerts, music festivals, and other live music was an estimated at **$96.9 million**, based on public performance royalties collected by APRA|AMCOS. This figure is equivalent to the gross output, or total sales, of the live performance subsector.

One notable feature of the live performance subsector of the music sector is that it accounts for a greater share of the sector's direct and total employment than of its GDP impact. This suggests that it is more labour-intensive and lower in labour productivity than other parts of the sector.

APRA|AMCOS estimated that, in 2012 and 2013, 24% and 28% of live performance revenue was attributed to New Zealand content and that New Zealand content accounted for $24.4 million and $31.9 million in total GDP impact. These estimates suggest a strong contribution from New Zealand music in this subsector.

Definition of the live performance subsector

The live performance subsector of the New Zealand music industry 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)

Underlying data and methodology

Our estimates of the economic impact of live performance of music are based on APRA|AMCOS data on royalties earned from live performances. APRA|AMCOS has provided us with data on songwriter royalties paid out for all live music performances.

Promoters and venue operators pay a percentage of total ticket sales to APRA|AMCOS for a licence to cover songwriter royalties. We estimated the total value of ticket sales by dividing total royalties paid to APRA|AMCOS by the royalty rate[8].

We estimated the economic impact of the live performance subsector as follows:

- First, we used APRA|AMCOS data on songwriter royalties from live performance, along with information on the royalty rate for live performance, to estimate gross output (ie total revenue) earned within this subsector. (This data is summarised in Table 18 below.)
- Second, we used multiplier tables calculated using 2005/06 Statistics New Zealand data, supplemented with PwC estimates based on Statistics New Zealand employment and GDP statistics, to estimate the direct value added (GDP) and direct employment associated with this spending. (Ratios and multipliers are summarised in Table 19 below.)
- Finally, we used GDP and employment multiplier tables calculated using 2005/06 Statistics New Zealand data to estimate the total (direct, indirect, and induced) economic impact of the subsector.

We did not distinguish between New Zealand and overseas-originated music. Because overseas performers must come to New Zealand to perform, and consequently earn money here, their earnings are counted in New Zealand GDP.

Table 18: Input data for live performance

Variable	Value	
APRA/AMCOS data	**2012**	**2013**
Estimated total ticket sales	$215.1m	$37.0m

APRA/AMCOS

Table 19: Multipliers for live performance

Live performance- cultural and recreational services

Ratio or multiplier	2012	21013
Direct impacts		
Ratio of value added to gross output	0.47	0.47
Ratio of FTEs to value added	11.07	10.35
Total impacts		
Value added multiplier	2.5	2.5
Employment multiplier	2.37	2.37

Source: Statistics NZ, PwC calculations

[8] This royalty rate is commercially sensitive. As a result, we have reported estimated total ticket sales without reporting the value of live performance royalties paid to APRA|AMCOS

Synchronisation subsector

In 2012 and 2013, the New Zealand music industry earned an estimated $3.5 million and $3.7 million in annual synchronisation fee revenue. We estimate that these gross revenues resulted in a net, direct impact on the New Zealand economy of $1.8 million and $1.9 million in GDP and 14 full-time equivalent jobs. After accounting for spillovers related to music industry spending on inputs from other industries, the synchronisation had a total economic impact of $4.2 million and $4.5 million in GDP and 45 FTEs in 2012 and 42 FTEs in 2013. New Zealand music is estimated to account for roughly four-fifths of the overall economic impact of this subsector.

Table 20: Direct and total impact of the synchronisation subsector

2012	Direct economic impacts		Total economic impacts	
Synchronisation	**All music**	***NZ music only***	**All music**	***NZ music only***
Gross output (sales)	$3.5m	$1.8m	-	-
Value added (GDP)	$1.7m	$1.3m	$4.2m	$3.2m
Employment (FTEs)	19	14	45	34

2013	Direct economic impacts		Total economic impacts	
Synchronisation	**All music**	***NZ music only***	**All music**	***NZ music only***
Gross output (sales)	$3.7m	$1.9m		
Value added (GDP)	$1.8m	$1.4m	$4.5m	$3.4m
Employment (FTEs)	19	14	45	34

PwC calculations

Definition of the synchronisation subsector

The synchronisation rights subsector includes activities related to, and revenues earned from, the licensing of music for use in advertisements, games, films, and television programmes. Synchronisation deals are negotiated on a case-by-case basis, rather than granted under a blanket license or a per-use license as with communication rights. Consequently, work is required to negotiate deals.

Underlying data and methodology

We have adopted the same approach for the synchronisation rights subsector as for the communication rights subsector. This approach is consistent with the GDP national accounting framework, which treats all wages and profits earned within a country as a part of GDP, regardless of whether or not they are subsequently repatriated overseas, but which excludes the value of imports and transfer payments for overseas content.

Royalties paid for synchronisation accrue primarily to songwriters, recording artists, and their record companies and music publishers. Synchronisation fees are typically negotiated and paid directly rather than being handled by the royalty-collecting bodies APRA|AMCOS and Recorded Music NZ.

As a result, the primary economic impact of the synchronisation subsector will be related to songwriting and recording artist royalties paid out for New Zealand music and recording artist royalty revenue retained by negotiating agents (eg record companies, music supervision companies) as profits and funding for their activities in New Zealand. Songwriter royalties for overseas-originated music will primarily be paid out to overseas artists, and as a result will not contribute to New Zealand GDP or employment.

We estimated the economic impact of the synchronisation rights subsector as follows:

- First, we used Recorded Music NZ estimates of the total value of synchronisation fees paid in New Zealand, and the share of synchronisation fees paid for New Zealand music, to estimate gross output (ie total revenue) earned within this subsector. (This data is summarised in Table 21 below.)
- Second, we assumed that synchronisation fees for all New Zealand music would generate local spillover benefits, while the local economic impact of synchronisation fees for overseas-originated music would be related to the share retained by local music companies as profits and funding for their activities in New Zealand. We estimated that synchronisation revenue for overseas-originated music was split approximately evenly between artists and their overseas music publishers and local record companies and music supervisors.
- Third, we used multiplier tables calculated using 2005/06 Statistics New Zealand data, supplemented with PwC estimates based on Statistics New Zealand employment and GDP statistics, to estimate the direct value added (GDP) and direct employment associated with this spending. (Ratios and multipliers are summarised in Table 21below.)
- Finally, we used GDP and employment multiplier tables calculated using 2005/06 Statistics New Zealand data to estimate the total (direct, indirect, and induced) economic impact of the subsector.

Table 21: Input data and multipliers for synchronisation rights

Variable	Value	
	2012	**2013**
Estimates of synchronisation revenue	$3.5m	$3.7m
Ratio or multiplier	**2012**	**21013**
Direct impacts		
Ratio of value added to gross output	0.47	0.47
Ratio of FTEs to value added	11.07	10.35
Total impacts		
Value added multiplier	2.5	2.5
Employment multiplier	2.37	2.37

Source: Recorded Music NZ, Statistics NZ, PwC calculations

4. Overseas Earnings

While New Zealand music income that is earned overseas is not used for the purpose of calculating GDP or value add impact, these earnings still represent funds that are likely to flow back into the economy and contribute to gross national income.

Export 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 streaming, 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 exports that those artists surveyed represent of the total. Due to the relatively small number of artists with significant offshore earnings, the lumpy nature of earnings and the potentially significant impacts associated with individual artists, this estimate should be considered indicative only. These estimates have been used to calculate export results shown below in Table 22. Recorded Music NZ estimates that in 2012 and 2013 the New Zealand music industry accounted for $7.6 million and $11.6 million of overseas earnings.

Table 22 New Zealand music industry overseas earnings data (estimate only)

New Zealand music industry overseas earnings

	2012	2013
Royalties	$1.8m	$4.6m
Live performances and appearances	$5.8m	$7.0m
Total	**$7.6m**	**$11.6m**

Source: Recorded music New Zealand

5. 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, Rara and Xbox Music. 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 but not limited to 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 NZ	Recorded Music New Zealand. Recorded Music NZ 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 NZ 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 A: 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 gross domestic product (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 do and do not 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 was earned in New Zealand regardless of whether it is ultimately repatriated elsewhere.
- exclude royalty payments paid to New Zealand musicians by overseas sources, as they resemble investment income accruing from ownership of an asset more than they do exports of goods physically produced in NZ.

These inclusions and exclusions 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.

However, our analysis does not account for New Zealand musicians' overseas income earned through touring and royalties from overseas retail sales and music broadcasts. As a result, it will underestimate the total income earned by the New Zealand music industry.

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 New Zealand music industry. 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 – for example, measures of the GDP impact of the wine industry will exclude both profits paid out to overseas owners of New Zealand wineries and income earned from New Zealand wineries' overseas investments, which may be considerable.

Second, we found in discussions with stakeholders (eg APRA|AMCOS, NZMC) that no comprehensive data on overseas income from music sales, royalties and touring exists. We investigated whether it would be possible to compile this information from industry participants. While some data on overseas touring revenues and royalties earned from overseas does exist, it is neither comprehensive enough nor accessible enough to base robust quantitative analysis on.

The New Zealand Music Commission (NZMC) administers some overseas development grants to New Zealand musicians. They require grant applicants to submit information about their overseas earnings (from sales, touring, and licensing) in the last financial year. Because NZMC receives applications from roughly 60-100 artists a year, their figures would allow us to estimate overseas income for a large portion of the music industry. However, as NZMC does not audit artists' reported income, we cannot be sure that they are accurate. Nor can we be certain what share of overseas income is counted in their data.

APRA|AMCOS collects songwriter royalties for all music played within New Zealand and Australia. It repatriates royalties earned by overseas artists to their national royalty-collection body, which then distribute it to publishers and artists. In return, other royalty-collection bodies (eg PRS for Music in the UK, ASCAP in the US) collect royalties for Australian and New Zealand music played in those countries, and remit it to APRA|AMCOS. However, it may not be possible to obtain information for New Zealand artists only. The largest music publishers operate out of Australia, and as a result most overseas royalty income earned by New Zealand artists will go to Australia in the first instance. Discussions with APRA|AMCOS have indicated that it will be time-consuming, if not impossible, to obtain comprehensive New Zealand-specific information on overseas royalties.

Employment

We measure employment on the basis of full-time equivalent jobs (FTEs), rather than total (full-time and part-time) jobs. Under this measure, part-time jobs are counted as a proportion of a full-time job – so, for example, a job that involved working 15 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 2012 and 2013 New Zealand dollars 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 New Zealand music industry are based primarily upon three 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
- Regional Industry Database (RID) industry-level estimates of economic activity and input-output tables for New Zealand industries.

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

The 2012 and 2013 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, then, 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 other 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 (or downstream) 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 estimated 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 started with figures on either gross output (eg total digital music sales, total estimated ticket sales) or value added (eg broadcasting royalties).
- We then chose a representative ANZSIC industry (eg Entertainment Media Retailing, Creative Artists, Musicians, Writers, and Performers) for each market subsector.
- We used data from the PwC Regional Industry Database (RID) 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 2006/07 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

Table 23 summarises the activities in each subsector of the music industry that are included in our GDP calculations.

Table 23: 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	Excluded
Communication rights	Included in GDP	Songwriter royalties not included, as they are earned offshore Recording artist royalties retained by record companies are accounted for in GDP	Excluded
Live performance	Included in GDP	Included in GDP, as performance occurred here	Excluded
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	Excluded

Table 24 below summarises the methodology and assumptions used to calculate the economic contribution of individual subsectors of the music industry.

Table 24: 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 (Table 6)	Estimated total retail sales revenue using Statistics NZ Annual Enterprises Survey (AES) data (Table 6, Table 7). Estimated split between retailer margin, wholesale (record label) margin, value of rights embodied in physical product, and manufacturing cost using AES data Table 8. Estimated value added from the retail margin using the ratio of value added to gross margin in the "wholesale and retail trade" industry (Table 8). Estimated value added within record companies by applying the ratio of value added to gross output in the "cultural and recreational services" industry (Table 9) 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 and recorded media manufacturing" industry (Table 10).	Based on ratios of employment to value added for the "wholesale and retail trade", "cultural and recreational services", and "printing, publishing and recorded media manufacturing" industries, respectively. 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 for the "wholesale and retail trade", "cultural and recreational services", and "printing, publishing and recorded media manufacturing" industries, respectively. 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 (Table 7)	Estimated total retail sales revenue using information provided by APRA|AMCOS (Table 7). Estimated split between retailer margin, record label revenue, and royalty revenue using information provided by APRA|AMCOS (Table 8). Used AES data to estimate the value of the rights embodied in the digital product (Table 7). Because online retailers primarily based overseas, the retailer margin was assumed to have no value added impact.	Based on ratios of employment to value added for the "cultural and recreational services" 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.	Based on total (direct, indirect, induced) multipliers for the "cultural and recreational services" industries. No additional employment impact calculated for the value of rights embodied in the digital product, as

		Estimated value added within record companies by applying the ratio of value added to gross output in the “cultural and recreational services” industry (Table 9) and adding the total value of rights embodied in the physical product.	(Employment in record label activities is captured elsewhere.)	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 (Table 12)	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 (Table 12). 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 “cultural and recreational services” industry (Table 13). Songwriter royalties paid for overseas-originated music does not generate any value added in New Zealand.	Based on ratio of employment to value added for the “cultural and recreational services” industry.	Based on total (direct, indirect, induced) multipliers for the “cultural and recreational services” industry.
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 “cultural and recreational services” industry.	Based on total (direct, indirect, induced) multipliers for the “cultural and recreational 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 (Table 18)	Gross output (ie ticket sales) estimated by dividing the value of songwriter royalties by the royalty rate applied to ticket sales (Table 18). Value added in live performance estimated by applying the ratio of value added to gross output in the "cultural and recreational services" industry (Table 19) 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 (Table 21)	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 (Table 21). 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 "cultural and recreational services" industry	Based on ratio of employment to value added for the "cultural and recreational services" industry.	Based on total (direct, indirect, induced) multipliers for the "cultural and recreational services" 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/The Australasian Mechanical Copyright Owners Society (APRA|AMCOS) and the NZ 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 NZ 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 work brief dated 4 April 2014.