

Creative Sector Auckland 2020: Industry Snapshot and Trends

Ross Wilson

November 2020

Technical Report 2020/022



Research and
Evaluation Unit

RIMU





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Executive summary

The creative sector is recognised by Auckland Council as an important element in Auckland's economy and quality of life, as reflected in several strategic documents including the *Auckland Plan 2050*¹, and Auckland Council's *Toi Whītiki – Auckland's arts and culture strategic action plan*, released in 2015.

This report provides a snapshot of Auckland's creative sector and trends, and its contribution to the Auckland and New Zealand economies. It is an update of a report published by council's Research and Evaluation Unit (RIMU) in 2017, using data available at the time of writing. It covers the period 2009 to 2019, therefore excluding the impact of Covid-19 (apart from some brief discussion in the concluding comments).

Creative industries have their origin in individual creativity, skill and talent, and create wealth and jobs through generating and exploiting intellectual property. The creative sector as defined in this report is diverse. It comprises the following sub-sectors: design; publishing; screen production and creative digital content and radio; performing arts; visual arts and music. Some key statistics on the sector show that:

- The Auckland creative sector, based on data for 2019, is made up of 10,478 businesses (geographical units), which is 5.2 per cent of total businesses in Auckland. The sector generates Gross Domestic Product (GDP) of \$3.6 billion and employs 32,242 people, 3.2 per cent of Auckland's GDP and 3.6 per cent of Auckland's employees respectively. This equates to a labour productivity that is 10 per cent lower than the productivity of the Auckland economy as a whole (value added (GDP) per employee). These are the direct contributions only.
- Half (49%) of all people employed in the creative sector in New Zealand are based in Auckland, and as high as 89 per cent for TV (a sub-sector).
- In terms of employment growth, the sector grew by 1.0 per cent each year on average between 2009 and 2019, a lower growth rate than the total Auckland economy (2.2%).
- Creative sector firms are generally smaller in size, with an average of 3.1 employees compared to 4.5 for all sectors. This varies by creative sub-sector however, from an average of 1.4 employees for firms in the music sub-sector to 67.6 employees for TV firms.
- The largest sub-sector by employment is design, which employs 43 per cent of the total creative sector in Auckland. Design is further broken down into advertising, which makes up 16 per cent of total creative sector employment, graphic design (13%) and architecture (14%). The second largest sub-sector is screen production, employing 23 per cent of the total creative sector, but further split into the TV (9%) and film and video (14%) sub-sectors. Film and video firms are generally small in size, with an average of 2.4 employees per firm.
- The fastest growing creative sub-sector is digital media, which grew by 8.4 per cent per annum between 2009 and 2019. The TV sub-sector in Auckland grew

¹ Auckland Council 2018. *The Auckland Plan 2050*, www.theaucklandplan.govt.nz

by 0.7 per cent per annum – whereas for the rest of New Zealand it contracted. Design had a healthy growth of 2.4 per cent per annum during this period. Design provided over half of the creative sector's new jobs, but its productivity is lower by seven per cent than the productivity of the creative sector as a whole. Employment in the publishing sub-sector on the other hand contracted by 5.7 per cent per annum from 2009 to 2019.

- The Waitematā Local Board area (where the Auckland CBD is located) is home to over half (53%) of total creative sector employment in Auckland. This compares to only a quarter (24%) of total employment in Auckland located in this local board area. The radio sub-sector has the most, with 85 per cent of its Auckland employment based in the area, followed by digital media (65%). Visual arts (29%) is the sub-sector with the lowest proportion provided by Waitematā (but still higher than the all sectors average), and all the other creative sub-sectors have about half (varying between 44% and 56%).
- GDP by sub-sector between 2009 and 2019 largely followed the patterns for employment, with design contributing nearly half the sector's GDP and GDP growth; the main exception is publishing, where major productivity improvements tended to offset declining employment. Radio and screen production (both TV and film and video) had similar strong productivity improvements, but resulting in strong GDP growth rather than major employment changes.

The global economy is a major driver in the creative sector, affecting both the local economy and demand for exports. In addition, advances in technology have had major impacts on many aspects of the creative sector, including how it is delivered (and shifts to increased digital and online activity have particularly accelerated in the current Covid-19 environment). Technological change affects the sector's costs and prices and therefore its competitiveness and demand for its outputs, as well as its productivity and demand for labour.

Arguably, the most promising sub-sectors of the Auckland creative sector appear to be design, digital media and film and video production (including post-production). The design and digital media sub-sectors in particular have strengthened their positions as potential enablers for Auckland's future economic development in terms of knowledge and innovation.

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1. Introduction

This report provides a snapshot of Auckland’s creative sector, and its contribution to the Auckland and New Zealand economies. In addition to its small but significant direct contribution to employment and Gross Domestic Product (GDP), the creative sector is considered to be a platform technology sector whose outputs support activity in other sectors of the economy.

The creative sector has been (and continues to be) heavily impacted and influenced by changes in technology, as well as by Covid-19 and the associated recession; see Section 10 for further (brief) discussion on this and the general outlook for the sector.

1.1 Strategic context

The creative sector is recognised by Auckland Council as an important element in Auckland’s economy and quality of life, as reflected in several strategic documents including the *Auckland Plan 2050*², and Auckland Council’s *Toi Whītiki – Auckland’s arts and culture strategic action plan*.

The *Auckland Plan 2050* places considerable importance on the creative sector. Direction 1 of the Opportunity and Prosperity outcome (Create the conditions for a resilient economy through innovation, employment growth and raised productivity) acknowledges that ‘The creative sector contributes to innovation and growth in other sectors as it generates creative capacity in business and services across Auckland as a whole.’ Similarly, Focus area 2 of that outcome (Ensure regulatory planning and other mechanisms support business, innovation and productivity growth) notes that ‘a dynamic creative sector can be an incubator for future entrepreneurs and innovators’.

The Plan also acknowledges the importance of ensuring that Auckland has the right skills for the future in innovation areas, including the creative and information technology sectors.

The Plan includes a focus on recognising the value of arts, culture, sport and recreation to quality of life, and contends that ‘creativity, culture and the arts make Auckland a vibrant and dynamic city’.

This is supplemented by the *Toi Whītiki – Auckland’s arts and culture strategic action plan* – a 10-year plan for the region, delivered by Auckland Council in partnership with the creative sector³. The overall goal of *Toi Whītiki* is ‘to enable arts and culture to be integrated into our everyday lives, and create a culturally rich and creative Auckland’. To that end, one of its six goals is ‘to build a flourishing creative economy’.

1.2 Sector definition

Creative industries have their origin in individual creativity, skill and talent, and have a potential for wealth and job creation through generating and exploiting intellectual

² Auckland Council 2018. *The Auckland Plan 2050*, www.theaucklandplan.govt.nz

³ Auckland Council 2015, *Toi Whītiki – Auckland’s arts and culture strategic action plan* <https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/topic-based-plans-strategies/community-social-development-plans/Pages/toi-whitiki-arts-culture-strategic-action-plan.aspx>

property.⁴ The creative sector as defined in this report⁵ is diverse, and comprises the following sub-sectors:⁶

- **design**, comprising advertising services, architectural services and graphic design
- **publishing**, including newspaper printing or publishing, other periodical publishing, book and other publishing (e.g. calendars, diaries, postcards), and authors
- **screen production and creative digital content and radio**, covering:
 - **film and video** production, exhibition and post-production services (not distribution⁷)
 - **TV**, including television production and broadcasting and cable/satellite TV
 - **radio** broadcasting services
 - **digital media**, including software publishing, internet publishing and broadcasting and other web and internet related media and applications
- **performing arts**, including services to the arts, performing arts venues, music and theatre productions, and performers
- **visual arts** including jewellery and silverware manufacturing, photographic studios, and visual arts and crafts
- **music**, including composers, sound recording studios, and recorded media manufacturing and publishing.

The creative sector as defined in this report differs from, but overlaps with, the ‘design sector’, which has been defined as consisting of 264 ‘design processes’ in 29 industries including manufacturing, health and food and beverages.⁸

1.3 Creative workforce

The definition of the creative sector used in this report is based on creative and non-creative workers in productive enterprises in creative industries. It forms a sub-set of the creative workforce, which is based on occupations of workers. The creative workforce is often defined⁹ as having three components (of which only the first two are part of the creative sector), as follows:

- creative workers in creative industries – part of the creative sector
- non-creative (support) workers, but in creative industries – part of the creative sector
- creative workers, but in non-creative industries – not part of the creative sector.

⁴ As described in UK Department for Culture, Media and Sports (DCMS), 2001. *Creative industries mapping document 2001*.

⁵ Sub-sector list (ANZSIC 2006 industry codes) from Auckland City Council, 2009. *Auckland’s creative industries: The numbers 2009*.

⁶ For the groupings of ANZSIC 2006 5-digit industry codes that correspond to the various sub-sectors, see Appendix A2: Sector definition.

⁷ Because the sector definition focuses on production, creation or performance rather than distribution or wholesaling.

⁸ Source: PwC, 2017. *The value of design to New Zealand*.

⁹ For example Auckland Regional Council, 2010. *Auckland’s creative workforce report*.

1.4 This report

This report (using data for 2009 to 2019) is an updated and revised version of the 2017 Auckland Council technical report, *Creative sector 2017: industry snapshot for Auckland*. (TR2017/023, with 2000 to 2016 data). Except where otherwise stated, this report is based entirely on data on employment, GDP and business numbers published (via Auckland Council subscription) by Infometrics, an economic consultancy. For more details on data definitions and limitations, see Appendix 3: Data definitions and limitations.

Due to data and reporting limitations, the period covered is 2009 to 2019, which excludes the impacts of Covid-19 and the ongoing recurring lockdowns commencing in March 2020 in both Auckland and the whole of New Zealand). See Section 10 Discussion and conclusion for further (brief) discussion of Covid-19 impacts.

The report is structured as follows:

Section 2 compares the size of Auckland's creative sector to other sectors and the New Zealand creative sector, in terms of employment and businesses. This is followed by Section 3 looking at the relative sizes of the various Auckland creative sub-sectors, by employment and business numbers.

Section 4 examines employment growth trends over time for the creative sector in Auckland, compared to New Zealand as a whole and to Auckland's total economy. This is followed by a similar analysis of each sub-sector in Section 5, and then in Section 6 a more detailed analysis of the sub-sectors by their component activities.

This is followed by comparisons of Simple Location Quotients in Section 7, showing the extent to which the sector and its sub-sectors are concentrated in Auckland rather than spread proportionally around the country, and then in Section 8 a look within Auckland at the relative levels of concentration in the Waitemata Local Board area.

Next in Section 9 the report analyses the Auckland sector and sub-sectors by GDP and productivity (including a breakdown of the design and publishing sub-sectors into their component activities).

The report concludes in Section 10 with additional comments about the apparent impacts on the sector and various sub-sectors of technology, the global financial crisis (and recovery) and Covid-19 (including lockdowns and consequent recession and recovery), and about the general outlook for the sector.

2. Relative size of Auckland’s creative sector

This section compares the number of businesses and employees in the creative sector in Auckland with New Zealand as a whole, and with totals for all sectors, for the year to March 2019. Businesses are as measured by geographic units (GUs).

2.1 Relative size of Auckland’s creative sector

Auckland’s creative sector has 32,242 employees (including self-employed) in 10,478 businesses (GUs), making it the largest concentration in New Zealand. (For comparisons to previous periods, see Section 4.)

The New Zealand creative sector is strongly over-represented in Auckland compared to most other sectors, in terms of both employment and business numbers. Auckland is home to 48.8 per cent of the New Zealand creative sector’s businesses, but only 34.5 per cent of New Zealand’s total businesses for all sectors. Looked at another way, in Auckland 5.2 per cent of businesses are in the creative sector, which is substantially higher than the proportion for New Zealand as a whole (3.7%). (See Table 1.)

Similarly, Auckland provides 49.1 per cent of New Zealand’s creative sector employment, but only 35.6 per cent of its total employment for all sectors. Consequently, in Auckland 3.6 per cent of employment is in the creative sector, which is also substantially higher than the proportion for New Zealand as a whole (2.6%). For further analysis, see Section 7.1 Simple Location Quotients (SLQs) by industry.

Table 1: Auckland and New Zealand creative sector businesses and employees, 2019

| | Auckland | New Zealand | Auckland share of New Zealand |
|---------------------------------------------------------|-------------|-------------|-------------------------------|
| Creative sector businesses | 10,478 | 21,468 | 48.8% |
| Total businesses all sectors | 201,255 | 582,459 | 34.6% |
| <i>Creative sector share of businesses</i> | 5.2% | 3.7% | |
| | | | |
| Creative sector employees | 32,242 | 65,695 | 49.1% |
| Total employees all sectors | 904,302 | 2,543,202 | 35.6% |
| <i>Creative sector share of total employment</i> | 3.6% | 2.6% | |
| | | | |
| Creative sector employees/business | 3.1 | 3.1 | |
| Total employees/business all sectors | 4.5 | 4.4 | |

Table 1 also shows that the average number of employees per business is even smaller for Auckland’s creative sector (3.1) than for the total economy including all sectors (4.5). In this respect, Auckland is similar to New Zealand as a whole, where

creative sector businesses also have an average of 3.1 employees, as compared to the 4.4 average for New Zealand's total economy including all sectors. So, Auckland's tendency to similar sized businesses to New Zealand, also applies to the creative sector.

Comparing Auckland's creative sector to other sectors, it is similar in size (by employees) to the Public Administration and Safety sector (33,276), and well ahead of the next largest sector, Rental Hiring and Real Estate Services (24,532). The creative sector has a similar number of businesses (GUs) to Wholesale Trade (which has 9831 businesses) and more than Manufacturing (8031). (See Table 2, which is ranked by employment but also shows number of businesses: note that that there is overlap of employment and businesses in the creative sector with other sectors shown.)

Table 2: Auckland sector sizes by employment and business numbers, 2019

| Sector (ANZSIC 1-digit, Auckland) | Employment | Share of employment | Businesses (GUs) | Share of businesses |
|-------------------------------------------------|----------------|---------------------|------------------|---------------------|
| Professional, Scientific and Technical Services | 109,316 | 12.1% | 28,521 | 14.2% |
| Construction | 86,647 | 9.6% | 24,192 | 12.0% |
| Manufacturing | 83,440 | 9.2% | 8031 | 4.0% |
| Health Care and Social Assistance | 78,253 | 8.7% | 8418 | 4.2% |
| Retail Trade | 77,623 | 8.6% | 13,641 | 6.8% |
| Education and Training | 68,435 | 7.6% | 3597 | 1.8% |
| Wholesale Trade | 64,071 | 7.1% | 9831 | 4.9% |
| Accommodation and Food Services | 58,599 | 6.5% | 8073 | 4.0% |
| Administrative and Support Services | 56,416 | 6.2% | 8559 | 4.3% |
| Transport, Postal and Warehousing | 43,407 | 4.8% | 6804 | 3.4% |
| Financial and Insurance Services | 36,244 | 4.0% | 16,488 | 8.2% |
| Public Administration and Safety | 33,276 | 3.7% | 843 | 0.4% |
| Other Services | 33,088 | 3.7% | 8775 | 4.4% |
| Creative sector | 32,242 | 3.6% | 10,478 | 5.2% |
| Rental, Hiring and Real Estate Services | 24,532 | 2.7% | 44,019 | 21.9% |
| Information Media and Telecommunications | 22,403 | 2.5% | 3279 | 1.6% |
| Arts and Recreation Services | 15,188 | 1.7% | 3585 | 1.8% |
| Agriculture, Forestry and Fishing | 8102 | 0.9% | 4101 | 2.0% |
| Electricity, Gas, Water and Waste Services | 4854 | 0.5% | 405 | 0.2% |
| Mining | 406 | 0.0% | 93 | 0.1% |
| Total all sectors ¹ | 904,301 | 100.0% | 201,255 | 100.0% |

¹ Creative sector is also captured in other sectors, so total is net of double counting.

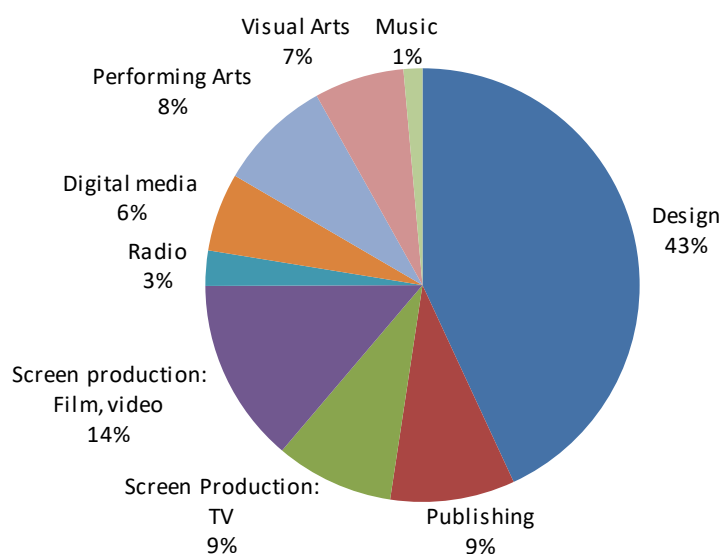
3. Employment and businesses by sub-sector

This section compares the relative contributions of the different creative sub-sectors to the Auckland creative sector's employment and number of businesses in 2019 (year end March). Further detail at the component activity level is provided in Section 6, while Section 7 compares creative sub-sector shares for Auckland to the corresponding shares for New Zealand.

3.1 Relative sizes of Auckland's creative sub-sectors

Design (comprising advertising, architecture and graphic design) is Auckland's largest creative sub-sector, which has 13,897 employees or 43 per cent of the sector's total employment. The two other largest employers are publishing (9%, comprising newspaper, book and periodical publishing) and screen production (23%), divided into television broadcasting (free to air and cable; 9%) and film and video (production, post-production and exhibition (but not distribution); 14%). Together these four sub-sectors provide 75 per cent of the sector's employment. At the other extreme is music, with only one per cent of the sector's employment. (See Figure 1 and Table 3.)

Figure 1: Creative employment shares by sub-sector, Auckland, 2019



The proportion of the Auckland creative sector's businesses that are in each sub-sector, in some cases is reasonably similar to the employment share (design (42%) and digital media (6%)), but in most cases they differ significantly. Publishing has only seven per cent of the sector's businesses, and TV and radio practically zero, yet their employment shares are much higher, due to having a relatively higher proportion of larger businesses. Conversely, film and video (18%), performing arts (11%) and visual arts (12%) have much higher shares of the sector's businesses than of its employment, which suggests that these sub-sectors have primarily smaller businesses. (See Table 3 and Figure 2.)

As a consequence, average business size varies greatly between sub-sectors, from 68 employees per business for TV and 19 for radio, to around two or less for film and video, performing arts and visual arts. (See Table 3.)

Figure 2: Business versus employment shares by sub-sector, Auckland, 2019

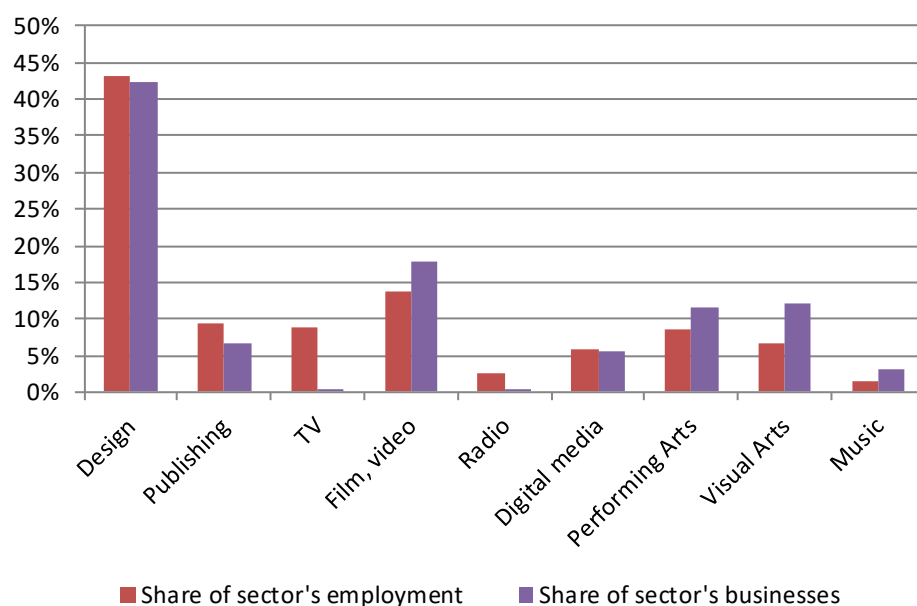


Table 3: Employment and business shares by creative sub-sectors, Auckland, 2019

| Creative sub-sectors | Employment (jobs) | Share of sector's employment | Businesses (GUs) | Share of sector's businesses | Average business size (jobs/GU) |
|--------------------------------|-------------------|------------------------------|------------------|------------------------------|---------------------------------|
| Design | 13,897 | 43% | 4445 | 42% | 3.1 |
| Publishing | 2993 | 9% | 703 | 7% | 4.3 |
| Screen Production: TV | 2840 | 9% | 42 | 0% | 67.6 |
| Screen production: Film, video | 4432 | 14% | 1879 | 18% | 2.4 |
| Radio | 847 | 3% | 45 | 0% | 18.8 |
| Digital media | 1885 | 6% | 580 | 6% | 3.3 |
| Performing arts | 2735 | 8% | 1198 | 11% | 2.3 |
| Visual arts | 2160 | 7% | 1263 | 12% | 1.7 |
| Music | 453 | 1% | 323 | 3% | 1.4 |
| Total Creative | 32,242 | 100% | 10,478 | 100% | 3.1 |

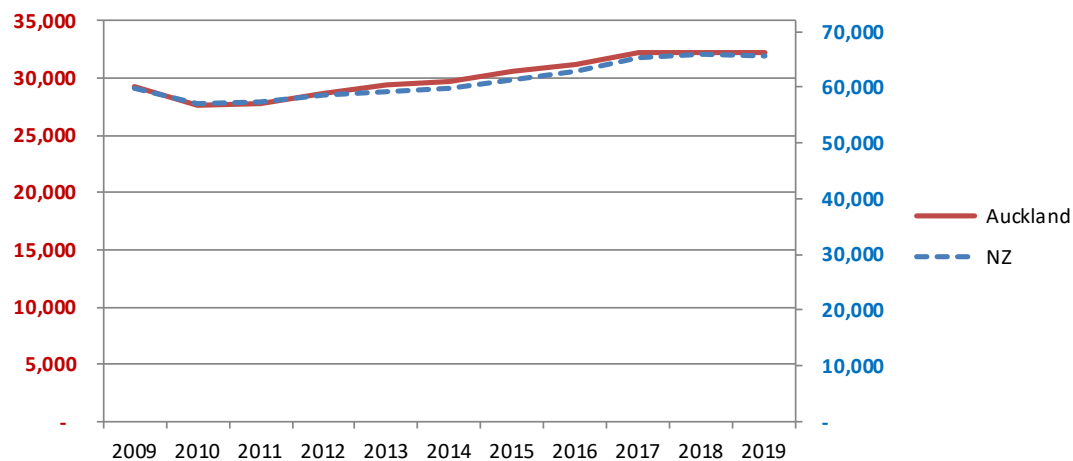
4. Employment growth of the sector

This section looks at employment growth trends over time (year to March 2009 to 2019) for the creative sector in Auckland, compared to the sector in New Zealand and compared to Auckland's total economy.

4.1 Auckland compared with total New Zealand creative sector

Employment growth per annum in the creative industries between 2009 and 2019 was positive on average in both Auckland (+1.0% pa) and New Zealand (+0.9% pa). Overall, creative sector employment from 2009 to 2019 grew at a similar rate in Auckland to New Zealand as a whole. Employment for both fell in 2010, then showed positive growth between 2011 and 2017 (slightly more for Auckland in 2013), but was flat in 2018 and 2019. (See Figure 3.)

Figure 3: Creative sector employment Auckland (Left axis) and New Zealand (Right axis), 2009-2019



4.2 Auckland and New Zealand creative sector compared with total economy

From 2009 to 2019 Auckland's economy overall showed stronger employment growth (+2.2% pa) than the creative sector (+1.0% pa). As a consequence, the creative sector's share of total employment fell from 4.0 per cent of the total in 2009 to 3.6 per cent by 2019. In contrast, at the New Zealand level, the creative sector grew only slightly more slowly than total economy, so the New Zealand creative sector's share of total employment fell only marginally, from 2.7 per cent to 2.6 per cent. (See Table 4.)

Looking in more detail at the pattern over time, the Auckland economy as a whole experienced a reduction in employment in 2010, in the aftermath of the Global Financial Crisis (GFC) of 2008, but by 2014 had more than recovered (averaging +1.0% pa 2009-2014). Employment growth in Auckland's creative sector was particularly hard hit by the GFC, with the sector's average annual growth rate between 2009 and 2014 being only 0.3 per cent. The sector then showed only modest annual

growth on average from 2014 to 2019 (+1.7% pa) (and in fact was flat in 2018 and 2019), as compared to the Auckland economy's robust growth (+3.3% pa). (See Table 4 and Figure 4.)

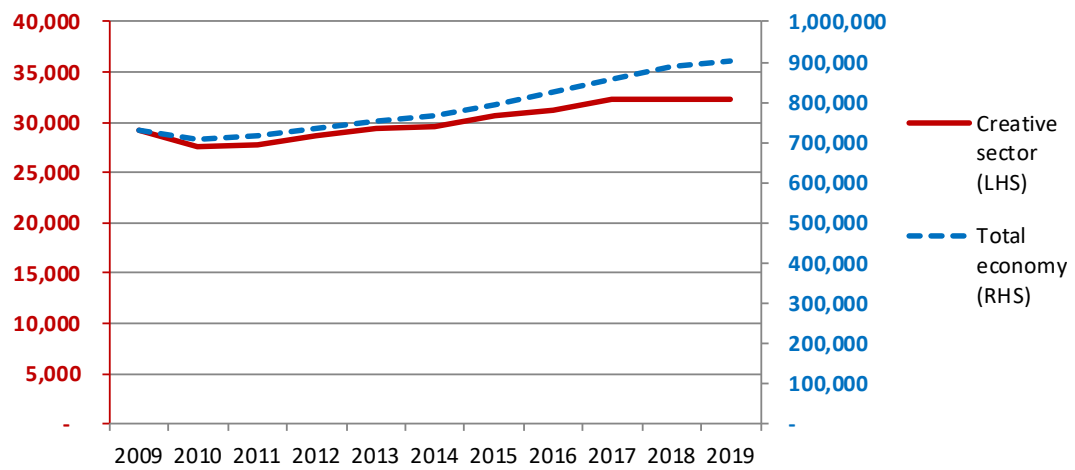
For the total New Zealand creative sector, employment growth from 2009 to 2014 was non-existent (+0.0% pa), which means Auckland's slight growth must have been offset by a corresponding slight fall for the rest of New Zealand. Conversely, from 2014 to 2019, employment grew slightly faster for New Zealand's total creative sector¹⁰ (+1.9% pa) than Auckland's (+1.7% pa). The creative sector's share of total employment fell between 2009 and 2019 by only half as much for New Zealand (-0.5% pa) as Auckland (-1.2%), and this applied for both 2009-2014 and 2014-2019. (See Table 4.)

Table 4: Creative sector relative employment growth, 2009 to 2014 and 2019

| | 2009 | 2014 | 2019 | Change 2009-19 | Annual growth 2009-19 | Annual growth 2009-14 | Annual growth 2014-19 |
|-------------------------------------------|-----------|-----------|-----------|----------------|-----------------------|-----------------------|-----------------------|
| Auckland | | | | | | | |
| Creative sector employment | 29,252 | 29,621 | 32,242 | 2990 | 1.0% | 0.3% | 1.7% |
| Total employment | 728,933 | 767,044 | 904,302 | 175,369 | 2.2% | 1.0% | 3.3% |
| Creative sector share of total employment | 4.0% | 3.9% | 3.6% | -0.4% | -1.2% | -0.8% | -1.6% |
| New Zealand | | | | | | | |
| Creative sector employment | 59,947 | 59,904 | 65,695 | 5748 | 0.9% | 0.0% | 1.9% |
| Total employment | 2,199,325 | 2,240,583 | 2,543,202 | 343,877 | 1.5% | 0.4% | 2.6% |
| Creative sector share of total employment | 2.7% | 2.7% | 2.6% | -0.1% | -0.5% | -0.4% | -0.7% |

¹⁰ Including Auckland

Figure 4: Employment in creative sector (Left axis) and total economy (Right axis), Auckland, 2009-2019



5. Employment growth by sub-sector

This section compares the employment growth of the various Auckland creative sub-sectors over two periods, 2009 to 2014 and 2014 to 2019 (year end March). Further detail about growth in each sub-sector is given in the next section.

5.1 Employment growth of Auckland's creative sub-sectors

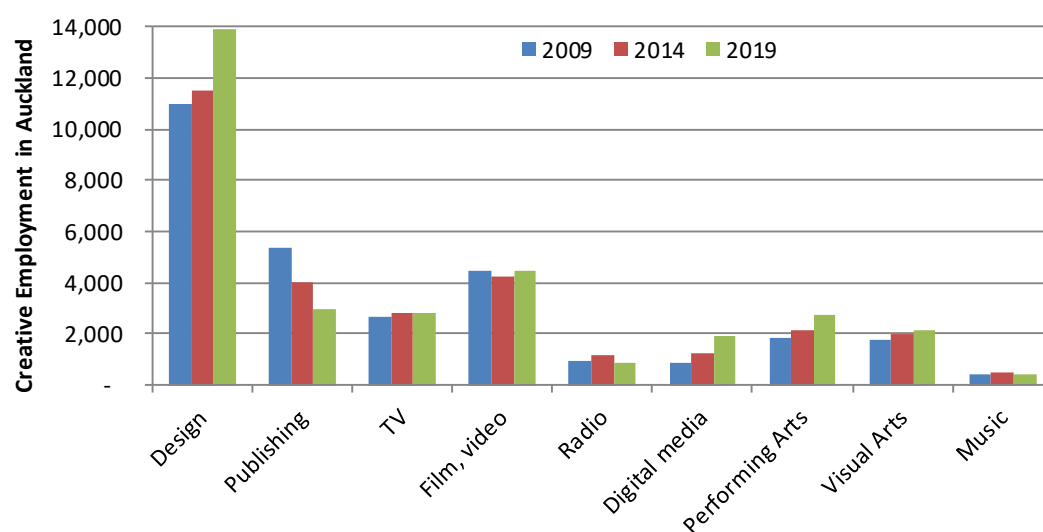
The rise in employment in Auckland's creative sector from 2009 to 2019 (+2990 jobs) was the net effect of some sub-sectors rising (+5495) and others falling (-2505). Over half of the rises was driven by a single sub-sector, Design (+2933), but there were substantial increases also from Digital Media (+1045) and Performing Arts (+914). In contrast, there was a substantial reduction in employment in the Publishing sub-sector (-2380 employees). Screen production: Film and video was virtually flat (-35), as was Radio (-90). All of Auckland's other creative sub-sectors managed positive average growth over the 2009-2019 period. Further details for each sub-sector were as follows. (See also Table 5 and Figure 5.)

- **Design:** a healthy 2.4 per cent annual growth from a relatively high base in 2009, resulting in 2933 extra jobs. This sub-sector strengthened its position as Auckland's largest creative sub-sector (and similarly at the New Zealand level). Auckland's design growth rate was above the creative sector average, especially from 2014 to 2019 (+3.8% pa) but also 2009-2014 (+1.0% pa).
- **Publishing:** an annual average fall of 5.7 per cent resulting in 2380 jobs lost, with sharp drops in both the 2009 to 2014 (-5.7% pa) and 2014 to 2019 (-5.6% pa) periods.
- **Screen production: TV,** a below-average 0.7 per cent annual growth from a modest base resulting in 180 extra jobs; all of TV's growth was in the 2009-2014 period (+1.3% pa), with no net change between 2014 and 2019 (0.0% pa).
- **Screen production: film and video,** in contrast, had no net growth on average (-0.1% pa), due to a small fall 2009-2014 (-1.0% pa) being offset by a small rise 2014-2019 (+0.9% pa).
- **Radio:** the inverse of film and video, only more volatile and from a lower employment base: a modest 1.0 per cent annual decline from a relatively low 2009 base resulting in 90 jobs lost, consisting of strong growth 2009-2014 (+4.1% pa) followed by an even stronger decline 2014-2019 (-5.9% pa).
- **Digital media:** very strong annual growth of 8.4 per cent overall, both 2009-2014 (+8.0%) and 2014-2019 (+8.9% pa); the sub-sector started from a low base, but these high rates still translate into 1045 net new jobs.
- **Performing arts:** a strong 4.1 per cent annual growth for 914 extra jobs from 2009 to 2019; this sub-sector is one of only two to experience strong growth both 2009-2014 (+3.6%) and 2014-2019 (+4.8% pa).
- **Visual arts:** a healthy 2.0 per cent annual growth for 383 extra jobs from 2009 to 2019; a slightly healthier growth 2009-2014 (+2.3% pa) than 2014-2019 (+1.7% pa).
- **Music:** a modest 0.9 per cent annual growth, and from a low base, resulting in only 41 extra jobs; the post GFC rebound (+3.4% pa 2009-2014) was followed by a moderate fall (-1.5% pa 2014-2019).

Table 5: Employment growth of Auckland creative sub-sectors, 2009 – 2014-2019

| Creative sub-sector | 2009 | 2014 | 2019 | Change 2009-2019 | Annual growth 2009-19 | Annual growth 2009-14 | Annual growth 2014-19 |
|-----------------------------------|----------------|----------------|----------------|------------------|-----------------------|-----------------------|-----------------------|
| Design | 10,964 | 11,522 | 13,897 | 2933 | 2.4% | 1.0% | 3.8% |
| Publishing | 5373 | 3997 | 2993 | -2380 | -5.7% | -5.7% | -5.6% |
| Screen Production: TV | 2660 | 2842 | 2840 | 180 | 0.7% | 1.3% | 0.0% |
| Screen production: Film and video | 4467 | 4238 | 4432 | -35 | -0.1% | -1.0% | 0.9% |
| Radio | 937 | 1145 | 847 | -90 | -1.0% | 4.1% | -5.9% |
| Digital media | 840 | 1233 | 1885 | 1,045 | 8.4% | 8.0% | 8.9% |
| Performing Arts | 1821 | 2169 | 2735 | 914 | 4.1% | 3.6% | 4.8% |
| Visual Arts | 1777 | 1987 | 2160 | 383 | 2.0% | 2.3% | 1.7% |
| Music | 412 | 488 | 453 | 41 | 0.9% | 3.4% | -1.5% |
| Total creative | 29,252 | 29,621 | 32,242 | 2990 | 1.0% | 0.3% | 1.7% |
| Total economy | 728,933 | 767,044 | 904,302 | 175,369 | 2.2% | 1.0% | 3.3% |

Figure 5: Auckland employment in creative industry sub-sectors, 2009/2014/2019



6. Employment growth of component activities

This section summarises employment growth patterns between 2009 and 2019 (year to March) for each sub-sector for Auckland and New Zealand, and describes the major findings for each Auckland sub-sector split into its component activities. (Note that some component activities (notably Creative Artists, Musicians, Writers and Performers) are spread across more than one sub-sector, so are shown as “partially” included in those sub-sectors. (See Appendix 2 for further details.) All graphs are to the same axis scale, except design.

6.1 Design

Design is the largest of the creative sub-sectors in Auckland (43% of the sector’s employment) and is fairly evenly distributed (once self-employed and contractors are included) between the three major categories, namely architectural services (14% of creative sector employment), related (“other”) specialised commercial design services such as graphic design (13%), and advertising services (16%). The total annual employment growth in the design sub-sector in Auckland from 2009 to 2019 averaged 2.4 per cent, a little higher than the national rate (+1.3% pa). The Auckland share of the nation’s design sub-sector (52%) is slightly higher than of the sector as a whole (49%). (See Figure 6 and Table 6.)

Figure 6: Design employment Auckland and New Zealand, 2009-2019

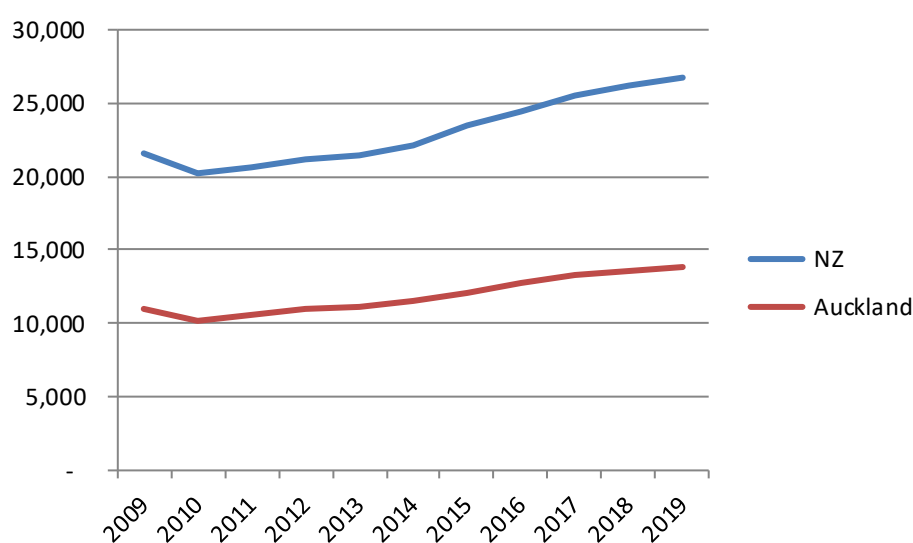


Table 6 also shows the following about design employment and its component activities’ growth between 2009 and 2019.

- Advertising Services provided over a third (36%) of design sub-sector employment in Auckland in 2019. The majority (69%) of national employment in this activity is located in Auckland.
- Similarly, a third (32%) of the employment growth experienced in design, occurred within Advertising Services, in which Auckland grew more rapidly (+2.1% pa) than New Zealand (+1.6% pa).

- Employment growth in Architectural Services was even higher, averaging 3.0 per cent per year over the past 10 years; this was slightly above the national rate (+2.6% pa).
- Other Specialised Design Services (which includes a 13% addition to allow for designers in other ANZSIC categories) have shown more modest growth at 2.1 per cent annually, in keeping with the national growth picture (+2.0% pa).

Table 6: Design employment in Auckland by activity, 2009-2019

| | 2009 | 2019 | Share of NZ 2019 | Growth 2009-19 | Annual growth 2009-19 | NZ annual growth 2009-19 |
|-------------------------------------------------------------------|---------------|---------------|------------------|----------------|-----------------------|--------------------------|
| Architectural Services | 3366 | 4526 | 45% | 1160 | 3.0% | 2.6% |
| Other Specialised Design Services (plus 13%) | 3486 | 4295 | 46% | 809 | 2.1% | 2.0% |
| Advertising Services | 4067 | 5012 | 69% | 945 | 2.1% | 1.6% |
| Creative Artists, Musicians, Writers and Performers (partial: 4%) | 44 | 64 | 39% | 19 | 3.7% | 4.3% |
| Total Design | 10,964 | 13,897 | 52% | 2933 | 2.4% | 2.1% |
| Total Creative | 29,252 | 32,242 | 49% | 2990 | 1.0% | 0.9% |

6.2 Publishing

Publishing employment in Auckland is declining but still significant: publishing makes up nine per cent of creative sector employment in Auckland (similar to TV and performing arts). It includes the publication of newspapers, periodicals and books, and authors. Newspaper printing/publishing and periodical publishing together make up two thirds (70%) of the publishing sub-sector in Auckland, and Auckland provides two thirds (66%) of the country's periodical publishing employment. The publishing sub-sector in New Zealand has been declining fairly steadily since 2009 (and before), while at the Auckland level there was a pause in the decline from 2012 to 2015, resulting in an increase in Auckland's share of the national sub-sector to 41% by 2019. (See Figure 7 and Table 7.)

Figure 7: Publishing employment Auckland and New Zealand, 2009-2019

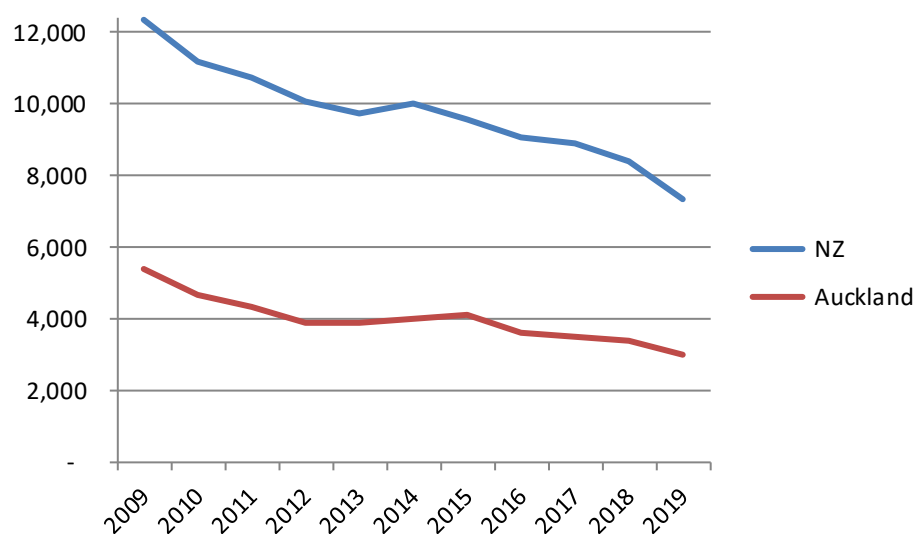


Table 7 also shows the following about publishing employment and its component activities' growth between 2009 and 2019.

- The publishing sub-sector in Auckland is heavily influenced by Newspaper Publishing at 1218 jobs, representing 41 per cent of the sub-sector's employment. From 2009 to 2019 employment in Newspaper Publishing declined by 898 jobs (-5.4% pa), in line with the national decline (-5.6% pa).
- Magazine and Other Periodical Publishing employment has also fallen since 2009, by an average of 9.0 per cent per year, slightly worse than the national rate (-7.4% pa). This has resulted in most (66%) of national employment in periodical publishing still being located in Auckland.
- Together, newspaper and periodical publishing make up 70 per cent of the publishing sub-sector in Auckland; Book Publishing is 14 per cent.
- Writers are the only major component of the sub-sector to show growth from 2009 to 2019 (+3.7% pa) and now constitute 14 per cent of the sub-sector – although some of this might instead reflect growth in artists or musicians rather than actual writers.

Table 7: Publishing employment in Auckland by activity, 2009-2019

| | 2009 | 2019 | Share of NZ 2019 | Growth 2009-19 | Annual growth 2009-19 | NZ annual growth 2009-10 |
|---------------------------------------------------------------------------------------------|---------------|---------------|------------------|----------------|-----------------------|--------------------------|
| Newspaper Publishing | 2116 | 1218 | 30% | -898 | -5.4% | -5.6% |
| Magazine and Other Periodical Publishing | 2259 | 880 | 66% | -1379 | -9.0% | -7.4% |
| Book Publishing | 673 | 420 | 58% | -253 | -4.6% | -6.6% |
| Other Publishing (e.g. calendars, diaries, postcards) (except Software, Music and Internet) | 36 | 61 | 32% | 25 | 5.4% | 4.5% |
| Creative Artists, Musicians, Writers and Performers (partial: 26%) | 289 | 414 | 39% | 125 | 3.7% | 4.3% |
| Total Publishing | 5373 | 2993 | 41% | -2380 | -5.7% | -5.0% |
| Total Creative | 29,252 | 32,242 | 49% | 2990 | 1.0% | 0.9% |

6.3 Screen production: TV

Screen production: TV consists of free to air, cable and other subscription TV broadcasting. Collectively these industries account for nine per cent of employment in the creative sector in Auckland. New Zealand's TV employment is concentrated in Auckland, which has most (89%) of the national workforce. This will be a result of the location of head offices of major national TV broadcasters in Auckland. There has been minor employment growth in the TV sub-sector in Auckland since 2009, partly at the expense of the rest of New Zealand after 2013. (See Figure 8 and Table 8.)

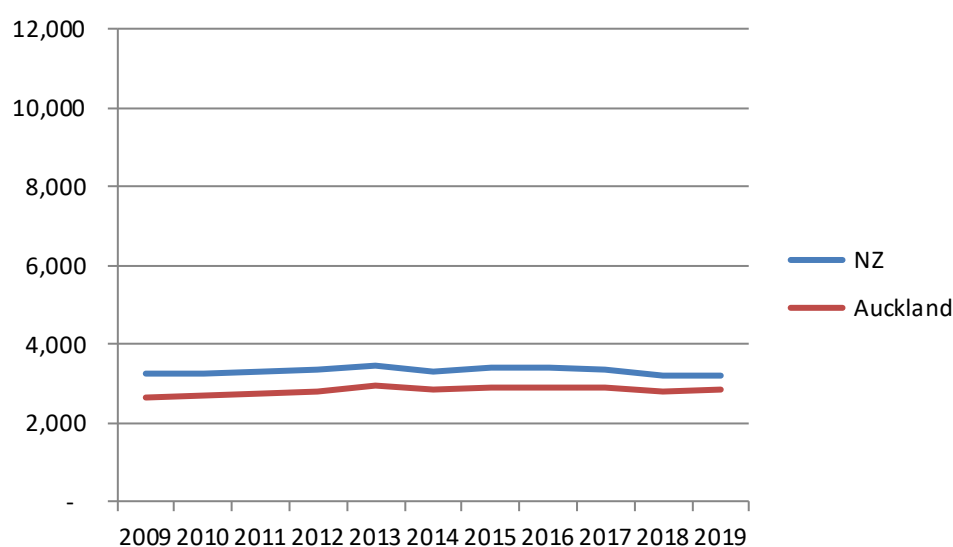
Figure 8: TV employment, Auckland and New Zealand, 2009-2019

Table 8 also shows the following about TV employment and its component activities' growth between 2009 and 2019.

- Total growth in TV employment in Auckland from 2009 to 2019 was 0.7 per cent annually, slightly better than the national fall of 0.2 per cent annually.
- Cable and Other Subscription Programming employment (largely the main satellite TV company) (+2.9% pa) has grown by more than free to air employment has fallen (-0.8% pa), and accounting for nearly half (44%) of total TV employment by 2019 (1252 out of 2840).
- Auckland's growth in the TV sub-sector has been partly at the expense of the rest of New Zealand, which had a fall in net employment of 257 jobs, due entirely to a 59 per cent fall (283 jobs) in free to air employment.

Table 8: TV employment in Auckland by activity, 2009-2019

| | 2009 | 2019 | Share of NZ 2019 | Growth 2009-19 | Annual growth 2009-19 | NZ annual growth 2009-19 |
|------------------------------------------|---------------|---------------|------------------|----------------|-----------------------|--------------------------|
| Free to Air Television Broadcasting | 1720 | 1588 | 89% | -132 | -0.8% | -2.1% |
| Cable and Other Subscription Programming | 940 | 1252 | 89% | 312 | 2.9% | 2.8% |
| Total TV | 2660 | 2840 | 89% | 180 | 0.7% | -0.2% |
| Total Creative | 29,252 | 32,242 | 49% | 2990 | 1.0% | 0.9% |

6.4 Screen production: film and video

Screen production – film and video primarily comprises motion picture and video production, and motion picture exhibition. The subsector also includes ancillary post-production services and activities (but not ANZSIC J5512 Motion Picture and Video Distribution), plus Creative Artists, Musicians, Writers and Performers.

Nearly half (45%) of New Zealand’s film and video workforce is based in Auckland; overall growth in film and video employment in Auckland averaged a 0.1 per cent a year fall between 2009 and 2019, whereas the sector’s national growth rate was moderately positive on average (+1.3% pa). Auckland has been slightly less volatile than the rest of New Zealand, but also had less of a boom from 2016 to 2018. (See Figure 9 and Table 9.)

Figure 9: Film and video employment, Auckland and New Zealand, 2009-2019

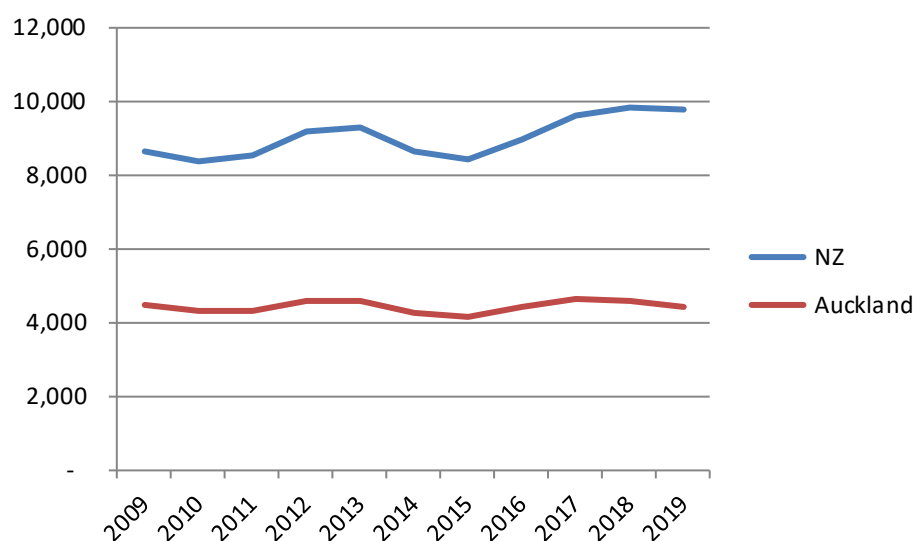


Table 9 also shows the following about film and video employment and its component activities’ growth between 2009 and 2019:

- Collectively the film and video sub-sector accounts for 13.7 per cent of employment in the creative sector in Auckland.
- Motion picture and video production accounts for the bulk (74%) of the sub-sector’s employment in Auckland, much of it self-employed. Over half (61%) of New Zealand’s motion picture and video production workforce is based in Auckland, and this share has increased since 2009; Auckland contracted by only 0.3 per cent per annum, while the rest of New Zealand lost 345 jobs (-14% pa).
- Motion picture exhibition (15%) is the next largest component, and between 2009 and 2019 contracted at a similar rate (-1.5% pa) to New Zealand as a whole (-1.6%).

- Post-production activities have seen strong growth with a 4.8 per cent annual average (although from a relatively low base); however, this is eclipsed by the extraordinary national growth rate of 16.6 per cent per annum – mostly in Wellington (1574 new jobs). Auckland in 2009 accounted for nearly half (42%) of national employment in these activities, but now (2019) its share is only a seventh (14%).

Table 9: Film and video employment in Auckland by activity, 2009-2019

| | 2009 | 2019 | Share of NZ 2019 | Growth 2009-19 | Annual growth 2009-19 | NZ annual growth 2009-19 |
|------------------------------------------------------------------------|---------------|---------------|------------------|----------------|-----------------------|--------------------------|
| Motion Picture and Video Production | 3379 | 3281 | 61% | -98 | -0.3% | -0.8% |
| Motion Picture Exhibition | 773 | 665 | 38% | -108 | -1.5% | -1.6% |
| Creative Artists, Musicians, Writers and Performers (partial: 10%) | 111 | 159 | 39% | 48 | 3.7% | 4.3% |
| Post-production Services and Other Motion Picture and Video Activities | 204 | 327 | 14% | 123 | 4.8% | 16.6% |
| Total Film and video | 4467 | 4432 | 45% | -35 | -0.1% | 1.3% |
| Total Creative | 29,252 | 32,242 | 49% | 2990 | 1.0% | 0.9% |

6.5 Radio

Radio employment in Auckland accounts for 41 per cent of national employment, which is less than other creative industry sub-sectors (49%), but still above the rest of the Auckland economy (36%). Radio broadcasting provides 2.6 per cent of Auckland's creative sector employment.

Employment growth in this sub-sector continued (slowly) in Auckland even after the GFC (2008), despite a downtrend at the national level. However, from 2015 to 2019 Auckland radio employment declined to below 2009 levels, matching the continuing national decline. (See Figure 10 and Table 10.)

Figure 10: Radio employment, Auckland and New Zealand, 2009-2019

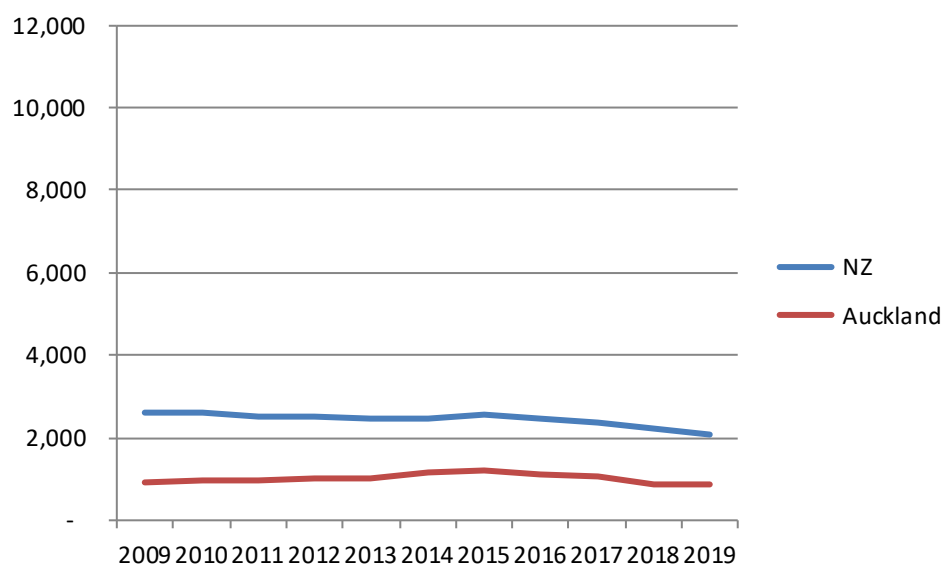


Table 10 also shows the following about radio employment and its component activities' growth between 2009 and 2019.

- Auckland's share of national employment is lower for radio (41%) than the creative sector as a whole (49%), but still well above the total Auckland economy's share (36%).
- The decline in employment in radio broadcasting in Auckland (-1.0% pa) was less severe than at the national level (-2.3% pa), which suggests that some of Auckland's initial growth might have been at the expense of the rest of New Zealand.

Table 10: Radio employment in Auckland, 2009-2019

| | 2009 | 2019 | Share of NZ 2019 | Growth 2009-19 | Annual growth 2009-19 | NZ annual growth 2009-19 |
|-----------------------|---------------|---------------|------------------|----------------|-----------------------|--------------------------|
| Radio Broadcasting | 937 | 847 | 41% | -90 | -1.0% | -2.3% |
| Total Creative | 29,252 | 32,242 | 49% | 2990 | 1.0% | 0.9% |

6.6 Digital media

Digital media represents those industries primarily involved in computer systems design focused on the internet, plus software and internet publishing and broadcasting¹¹ (but does not otherwise include telecommunications providers as such). This creative sub-sector accounts for 5.8 per cent of employment in the creative

¹¹ Businesses mainly engaged in the publishing and/or broadcasting of content on the internet in the form of text, audio and video of general or specific interest. These businesses do [sometimes] provide traditional (non-internet) versions of their content.

sector in Auckland. Auckland accounts for 52 per cent of the national employment in digital media, slightly more than the creative sector as a whole (49%).

Overall, growth in the sub-sector in Auckland averaged 8.4 per cent a year since 2009, similar to the national growth rate (+8.5% pa) but much faster than Auckland's creative sector in total (+1.0% pa). Growth in Auckland has mostly been similar to the national average, although worse hit following the GFC in 2010 and 2011, and faster in 2016. (See Figure 11 and Table 11.)

Figure 11: Digital media employment, Auckland and New Zealand, 2009-2019

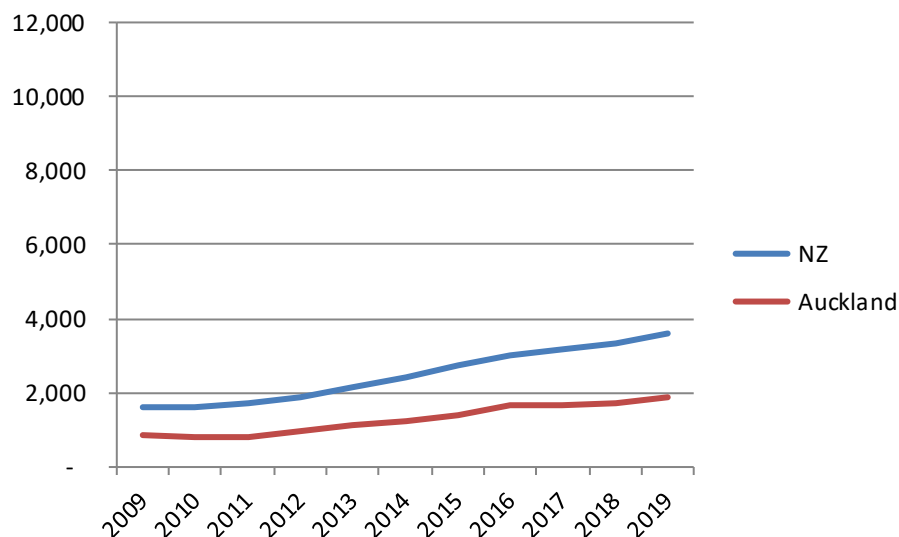


Table 11 also shows the following about digital media employment and its component activities' growth between 2009 and 2019.

- Software publishing has been an emerging activity in Auckland (and nationally), having grown from a very small base in 2009 (38 jobs) to 568 jobs in 2019; the stellar growth rate for Auckland (+31.1% pa) is similar to the national average (+30.3%).
- Internet publishing and broadcasting is also an emerging activity, but Auckland's strong growth rate (+8.3%) is below the national rate (+12.9%); Auckland's share of national employment in the activity has slipped below two thirds (59%).
- Employment in Auckland in computer systems and design related to the production and dissemination of digital media¹² has grown on average by 4.6 per cent per year since 2009, the same as the national rate (+4.6%).

¹² Calculated as five per cent of the total Computer Systems Design and Related Services activity (ANZSIC M70000), as per Auckland City Council, 2009. *Auckland's creative industries: the numbers 2009*, which used that ratio based on occupational employment data.

Table 11: Digital media employment in Auckland by activity, 2009-2019

| | 2009 | 2019 | Share of NZ 2019 | Growth 2009-19 | Annual growth 2009-19 | NZ annual growth 2009-19 |
|---------------------------------------------------------------------|---------------|---------------|------------------|----------------|-----------------------|--------------------------|
| Software Publishing | 38 | 568 | 55% | 530 | 31.1% | 30.3% |
| Internet Publishing and Broadcasting | 88 | 196 | 59% | 108 | 8.3% | 12.9% |
| Computer Systems Design and Related Services (partial: 5% included) | 714 | 1121 | 50% | 407 | 4.6% | 4.6% |
| Total Digital media | 840 | 1885 | 52% | 1045 | 8.4% | 8.5% |
| Total Creative | 29,252 | 32,242 | 49% | 2990 | 1.0% | 0.9% |

6.7 Performing arts sub-sector

Performing arts includes music and theatre production, performing arts venues, performers and services to the arts. Performing arts makes up 8.5 per cent of employment in the creative sector in Auckland, so employment is relatively small, and growth is primarily driven by Performing Arts Venue Operation. Employment levels in the sub-sector from 2009 to 2019 showed moderately strong growth, Auckland (+4.1% pa) has grown similarly to the national rate (+3.8%). (See Figure 12 and Table 12.)

However, this sub-sector is particularly problematic for using employment as a proxy for total activity (as described in Appendix 4: Estimating employment); for more details on the difficulties in measuring employment numbers in this specific sub-sector, see Appendix 5: Difficulties with counting creative artists, musicians, writers and performers .

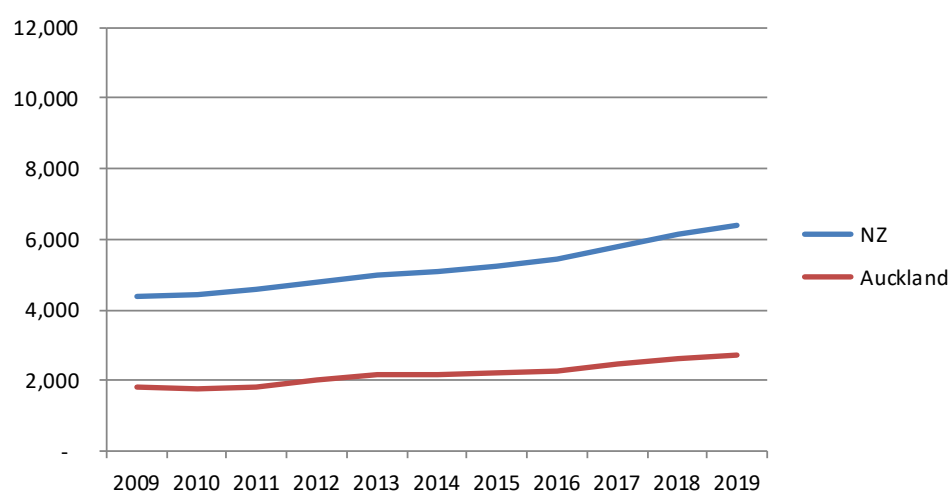
Figure 12: Performing arts employment, Auckland and New Zealand, 2009-2019

Table 12 also shows the following about performing arts employment and its component activities' growth between 2009 and 2019.

- Employment in the Auckland performing arts sub-sector is split reasonably evenly between venue operations (i.e. theatres, concert halls, entertainment centres), performing arts operation ((i.e. the production of theatrical, dance and musical performances etc.) and services to the arts (e.g. casting agencies) plus artists, musicians, writers and performers.
- Overall, employment in the performing arts in Auckland has grown moderately strongly (+4.1% pa) since 2009, similar to the 3.8 per cent annual increase over the same period nationally, and somewhat above the rest of Auckland's creative sector (+1.0% pa).
- From 2009 to 2019 performing arts venue operations had stronger annual growth of 6.8 per cent, although the national growth rate for this activity was even stronger (7.7% pa); Auckland still retains half (51%) of national activity.

Table 12: Performing arts employment in Auckland by activity, 2009-2019

| | 2009 | 2019 | Share of NZ 2019 | Growth 2009-19 | Annual growth 2009-19 | NZ annual growth 2009-19 |
|-----------------------------------------------------------------------------------------|---------------|---------------|------------------|----------------|-----------------------|--------------------------|
| Performing Arts Operation | 626 | 767 | 39% | 141 | 2.1% | 0.7% |
| Creative Artists, Musicians, Writers and Performers (partial: 11%) | 122 | 175 | 39% | 53 | 3.7% | 4.3% |
| Services to the arts (50% of total Creative Artists, Musicians, Writers and Performers) | 556 | 796 | 39% | 240 | 3.7% | 4.3% |
| Performing Arts Venue Operation | 517 | 997 | 51% | 480 | 6.8% | 7.7% |
| Total Performing arts | 1821 | 2735 | 43% | 914 | 4.1% | 3.8% |
| Total Creative | 29,252 | 32,242 | 49% | 2990 | 1.0% | 0.9% |

6.8 Visual arts

The visual arts sub-sector covers photographic studios, visual arts and crafts. It makes up 6.7 per cent of employment in the creative sector in Auckland. Auckland's share of the national sub-sector (38%) more than matches its population share.

After stagnation in 2010, employment in this sub-sector grew moderately strongly from 2011 to 2017 for Auckland and to a lesser extent New Zealand. Auckland then had small falls in 2018 and 2019, while national employment remained steady. Overall, employment in this sub-sector in Auckland increased by 383 employees (+2.0% pa) between 2009 and 2019, similar to the New Zealand average (+1.8% pa). (See Figure 13 and Table 13.)

Figure 13: Visual arts employment, Auckland and New Zealand, 2009-2019

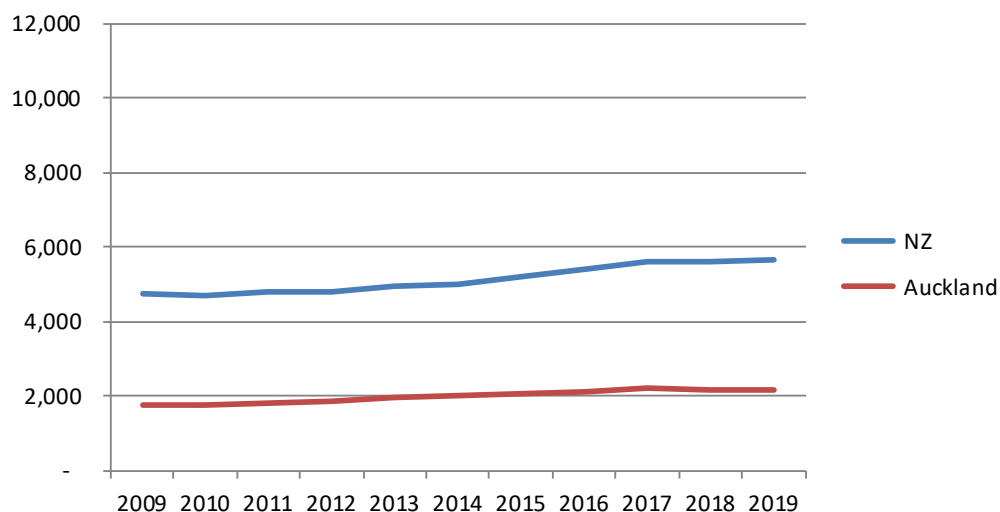


Table 13 also shows the following about visual arts employment and its component activities' growth between 2009 and 2019.

- Employment in the visual arts sub-sector is predominantly in photographic studios and of creative artists, followed by jewellery and silver manufacturing, and museum and gallery operation.
- Ceramic product manufacturing (creative only) has a higher share of national employment in Auckland (48%) than most other visual arts activities. Employment in this activity grew on average by 3.4 per cent annually since 2009 in Auckland, better than the national employment growth (+1.7% pa).
- Photographic services also have a relatively high share of national employment located in Auckland (4%), and grew at a slightly higher rate than the creative sector in both Auckland (+2.2% pa) and nationally (+1.9% pa). Much of photographic employment is likely to be self-employed.
- Jewellery and silver manufacturing employment has declined in both Auckland (-2.1% pa) and the rest of New Zealand, resulting in a moderate fall nationally (-1.5% pa).
- Museum (and gallery) employment in Auckland showed moderately strong net growth, averaging 4.3 per cent per year, a growth rate somewhat higher than the national rate of 2.4 per cent.
- Creative artists' employment grew at a similar rate in Auckland (+3.7% pa) to the national average (+4.3% pa).

Table 13: Visual arts employment in Auckland by activity, 2009-2019

| | 2009 | 2019 | Share of NZ 2019 | Growth 2009-19 | Annual growth 2009-19 | NZ annual growth 2009-19 |
|--------------------------------------------------------------------|---------------|---------------|------------------|----------------|-----------------------|--------------------------|
| Other Ceramic Product Manufacturing (partial: 33%) | 68 | 96 | 48% | 27 | 3.4% | 1.7% |
| Jewellery and Silverware Manufacturing | 425 | 345 | 33% | -80 | -2.1% | -1.5% |
| Professional Photographic Services | 715 | 890 | 46% | 175 | 2.2% | 1.9% |
| Museum Operation (partial: 32%) | 157 | 240 | 25% | 83 | 4.3% | 2.4% |
| Creative Artists, Musicians, Writers and Performers (partial: 37%) | 411 | 589 | 39% | 178 | 3.7% | 4.3% |
| Total Visual arts | 1777 | 2160 | 38% | 383 | 2.0% | 1.8% |
| Total Creative | 29,252 | 32,242 | 49% | 2990 | 1.0% | 0.9% |

6.9 Music

Music includes sound recording studios, recorded media and publishing, and composers. Music provides 1.4 per cent of employment in Auckland’s creative sector. However, it is likely that some musicians may be classified under the performing arts sub-sector. From a very small base, music in Auckland grew moderately strongly – like the rest of New Zealand, between 2009 and 2012 – but has been flat or declining since then, while the rest of New Zealand kept growing. (See Figure 14 and Table 14.)

Figure 14: Music employment, Auckland and New Zealand, 2009-2019

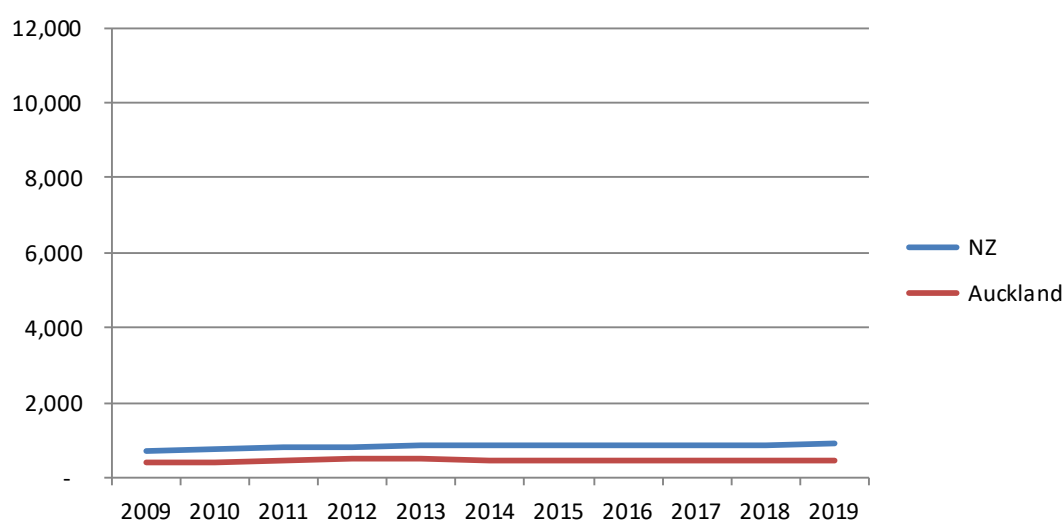


Table 14 also shows the following about music employment and its component activities’ growth between 2009 and 2019.

- Music has the same share of its national employment in Auckland (49%) as the rest of the creative sector. Music in Auckland between 2009 and 2019 experienced lower average employment growth rates (+0.9% pa) than the rest of New Zealand (with the national rate being 2.5% pa).
- There was a moderately sharp reduction in reproduction of recorded media such as CD, DVD and tape (-3.7% pa), but from a very small baseline. There was a weaker reduction at the national level (-1.4% pa), but Auckland still retains a dominant share (57%) of national employment.
- The largest component of the music sector's employment is musicians and performers (42% of the sub-sector), which had a solid annual growth of 3.7 per cent, similar to the national rate (4.3%).
- The other sizable component of the Auckland music sub-sector is music and other sound recording activities (40% of the sub-sector), in which Auckland has nearly two thirds (62%) of the nation's employment. Auckland's modest employment growth from 2009 to 2019 (+1.2%) was somewhat less than New Zealand's (+2.1%).

Table 14: Music employment in Auckland by activity, 2009-2019

| | 2009 | 2019 | Share of NZ 2019 | Growth 2009-19 | Annual growth 2009-19 | NZ annual growth 2009-19 |
|--------------------------------------------------------------------|---------------|---------------|------------------|----------------|-----------------------|--------------------------|
| Reproduction of Recorded Media | 117 | 80 | 57% | -37 | -3.7% | -1.4% |
| Music and Other Sound Recording Activities | 162 | 182 | 62% | 20 | 1.2% | 2.1% |
| Creative Artists, Musicians, Writers and Performers (partial: 12%) | 133 | 191 | 39% | 58 | 3.7% | 4.3% |
| Total Music | 412 | 453 | 49% | 41 | 0.9% | 2.5% |
| Total Creative | 29,252 | 32,242 | 49% | 2990 | 1.0% | 0.9% |

7. Simple Location Quotients

This section compares Auckland's shares of New Zealand's creative sector and sub-sector employment to the total Auckland economy's share of New Zealand's total employment, using data for 2019 and also for changes since 2009 and 2014 (years to March). The resulting Simple Location Quotients (SLQs) show how concentrated those sub-sectors are in Auckland, which is sometimes taken as an indicator of relative importance, strength or comparative advantage.

The highest possible SLQ, namely for an industry based solely in Auckland, would in 2019 be 2.8, and the lowest is always zero (namely for an industry with no employment in Auckland).

7.1 Creative sector SLQ compared to 54-industries

The Auckland creative sector in 2019 had a Simple Location Quotient (SLQ)¹³ of 1.38. This signifies that Auckland's share of New Zealand's employment is 1.38 times as much (38% higher) for the creative sector, as for the total economy (all sectors combined). Put another way, the creative sector's contribution to the total economy's employment, is 1.38 times as much (38% higher) in Auckland, as it is in New Zealand as a whole.

By way of comparison, the highest Auckland SLQ among the standard ANZSIC 2-digit (54 industries) is 1.80 for Insurance & Superannuation Funds; the creative sector would be between Printing (1.40), which is the tenth highest, and Auxiliary Finance & Insurance Services (eleventh with 1.37).

7.2 SLQs by 1-digit industry and creative sector

Relative to the 19 ANZSIC 1-digit industries, the creative sector SLQ (1.38) is fourth highest, after Information Media and Telecommunications (1.49), Financial and Insurance Services (1.49) and Wholesale Trade (1.44), but ahead of Professional, Scientific and Technical Services (1.27). (See Table 15.)

The creative sector SLQ is so high, partly because large portions of it are from the high-SLQ industries Information Media and Telecommunications, and Professional, Scientific and Technical Services. However, the sector's average is brought down by also including components from Manufacturing and Arts and Recreation Services, whose SLQs are substantially lower (0.97 and 0.90 respectively).

¹³ See Appendix 1: Glossary for further explanation of SLQs

Table 15: Simple Location Quotients (SLQ) by industry, Auckland, 2019

| Industry | Auckland | New Zealand | Share | SLQ |
|-------------------------------------------------|----------------|------------------|--------------|-------------|
| Information Media and Telecommunications | 22,403 | 42,203 | 53.1% | 1.49 |
| Financial and Insurance Services | 36,244 | 68,308 | 53.1% | 1.49 |
| Wholesale Trade | 64,071 | 125,456 | 51.1% | 1.44 |
| Creative sector | 32,242 | 65,695 | 49.1% | 1.38 |
| Professional, Scientific and Technical Services | 109,316 | 241,382 | 45.3% | 1.27 |
| Administrative and Support Services | 56,416 | 129,750 | 43.5% | 1.22 |
| Transport, Postal and Warehousing | 43,407 | 106,582 | 40.7% | 1.15 |
| Rental, Hiring and Real Estate Services | 24,532 | 61,562 | 39.8% | 1.12 |
| Total all industries | 904,301 | 2,543,195 | 35.6% | 1.00 |
| Construction | 86,647 | 245,105 | 35.4% | 0.99 |
| Manufacturing | 83,440 | 241,888 | 34.5% | 0.97 |
| Accommodation and Food Services | 58,599 | 170,215 | 34.4% | 0.97 |
| Education and Training | 68,435 | 198,888 | 34.4% | 0.97 |
| Retail Trade | 77,623 | 227,145 | 34.2% | 0.96 |
| Other Services | 33,088 | 97,558 | 33.9% | 0.95 |
| Arts and Recreation Services | 15,188 | 47,601 | 31.9% | 0.90 |
| Health Care and Social Assistance | 78,253 | 249,620 | 31.3% | 0.88 |
| Electricity, Gas, Water and Waste Services | 4854 | 17,393 | 27.9% | 0.78 |
| Public Administration and Safety | 33,276 | 122,674 | 27.1% | 0.76 |
| Mining | 406 | 6031 | 6.7% | 0.19 |
| Agriculture, Forestry and Fishing | 8102 | 143,835 | 5.6% | 0.16 |

7.3 Creative sector SLQ changes by sub-sector

The Auckland creative sector SLQ in 2019 (1.38) was lower than in 2009 (1.47), due to the Auckland and New Zealand creative sectors growing at similar rates to each other, but the rest of the Auckland economy growing faster than the New Zealand economy. Or put another way, the Auckland creative sector had a moderate fall in its share of the Auckland economy, while the New Zealand creative sector had only a

slight fall in its share of the New Zealand economy. This is also broadly true for some but not all of the creative sub-sectors.

Table 16: Simple Location Quotients (SLQ) by sub-sector, 2009, 2014 and 2019

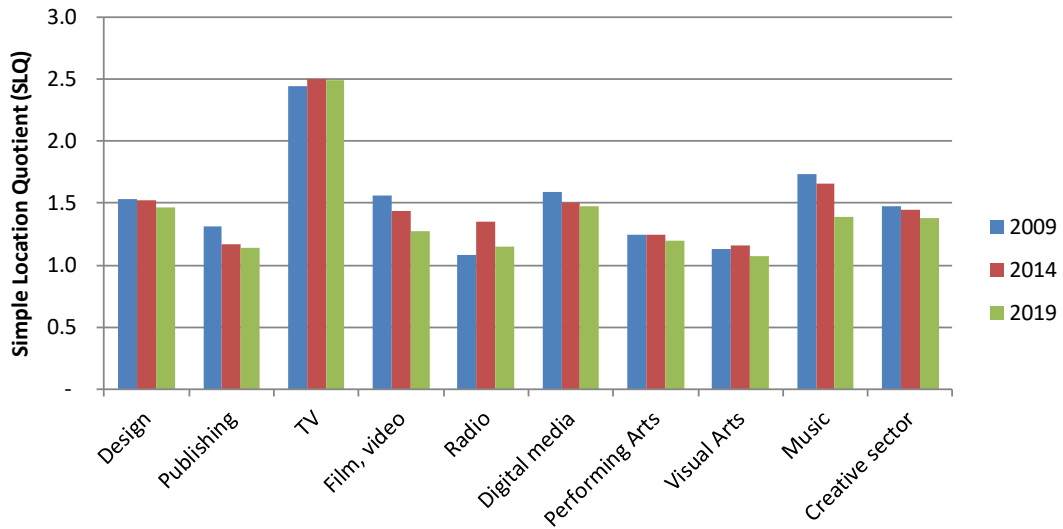
| Creative sub-sector | 2009 | 2014 | 2019 | Change 2009-2019 |
|-----------------------------------|-------------|-------------|-------------|------------------|
| Design | 1.53 | 1.52 | 1.46 | -0.07 |
| Publishing | 1.31 | 1.17 | 1.14 | -0.17 |
| Screen Production: TV | 2.45 | 2.50 | 2.50 | +0.05 |
| Screen production: Film and video | 1.56 | 1.44 | 1.28 | -0.29 |
| Radio | 1.08 | 1.35 | 1.115 | +0.07 |
| Digital media | 1.59 | 1.51 | 1.47 | -0.11 |
| Performing Arts | 1.25 | 1.24 | 1.20 | -0.05 |
| Visual Arts | 1.13 | 1.16 | 1.08 | -0.06 |
| Music | 1.73 | 1.66 | 1.39 | -0.34 |
| Total creative | 1.47 | 1.44 | 1.38 | -0.09 |
| Total economy | n/a | n/a | n/a | n/a |

The SLQs of the creative sub-sectors in Auckland in 2019 are all between 1.1 and 1.6, apart from TV (2.5), and had the following main changes from 2009 to 2019 (see also Table 16 and Figure 15):

- Design SLQ (1.46) has seen a small decline in SLQ, similar to the decline for the sector as a whole, but is still at or above the other creative sub-sectors (except TV); Auckland's employment growth was high for design, but so was New Zealand's.
- Publishing SLQ (1.14) fell sharply from 2009 to 2014, as Auckland employment fell even faster than New Zealand's.
- TV has an even higher SLQ now (2.50) than in 2009, due to its employment having slowly grown while New Zealand shrank slightly.
- Film and video SLQ (1.28) has fallen below the sector average – New Zealand had mediocre employment growth 2009 to 2019, but Auckland had none at all.
- Radio SLQ (1.15) jumped between 2009 and 2014, but had lost much of those gains by 2019 – but still a small overall improvement, due to radio employment in Auckland having declined less than half as rapidly as New Zealand.
- Digital media SLQ (1.47) has stayed slightly above the sector average, declining at a similar rate – both Auckland and New Zealand had very strong employment growth.
- Performing arts SLQ (1.20) has remained below the sector average – both Auckland and New Zealand had strong employment growth.

- Visual arts SLQ (1.08) has remained well below the sector average – both Auckland and New Zealand had modest employment growth.
- Music SLQ (1.39) had a sharp drop from 2014 to 2019, but still leaving it slightly above the sector average – Auckland grew only slowly, while the rest of New Zealand was moderately strong.

Figure 15: Simple Location Quotients (SLQ) by sub-sector, 2009, 2014 and 2019



8. Sub-sector employment by location

This section contains an analysis of the distribution and concentration of creative sector employment in Auckland in 2019, at both the sector and sub-sector levels (plus selected component activities within sub-sectors).¹⁴ It divides Auckland into the Waitemātā Local Board (LB) area and all other LB areas combined.

8.1 Concentration of creative sector employment

Waitemātā is not only a major employment area for all sectors of the economy (including creative), but also has a relatively high proportion of its employment devoted to the creative sector (7.7%) compared to the Auckland region as a whole (3.6% of whose employment is in the creative sector).

As a consequence, the location of creative sector employment in Auckland is concentrated primarily in the Waitemātā Local Board area (51.5% of Auckland's total), which is much greater than its employment share of Auckland for all sectors as a whole (23.7%).

Table 17: Creative sub-sectors employment by location, 2019

| | Waitemātā Local Board area | Auckland region | Waitemātā LBA share of Auckland | Sub-sector share of Waitemātā | Sub-sector share of Auckland |
|--------------------------------|----------------------------|-----------------|---------------------------------|-------------------------------|------------------------------|
| Design | 7747 | 13,897 | 55.7% | 46.6% | 43.1% |
| Publishing | 1325 | 2993 | 44.3% | 8.0% | 9.3% |
| Screen Production: TV | 1564 | 2840 | 55.1% | 9.4% | 8.8% |
| Screen production: Film, video | 1940 | 4432 | 43.8% | 11.7% | 13.7% |
| Radio | 717 | 847 | 84.7% | 4.3% | 2.6% |
| Digital media | 1223 | 1885 | 64.9% | 7.4% | 5.8% |
| Performing Arts | 1268 | 2735 | 46.4% | 7.6% | 8.5% |
| Visual Arts | 627 | 2160 | 29.0% | 3.8% | 6.7% |
| Music | 199 | 453 | 43.9% | 1.2% | 1.4% |
| Total Creative | 16,608 | 32,242 | 51.5% | 100.0% | 100.0% |
| Total Economy | 214,654 | 904,302 | 23.7% | 7.7% | 3.6% |

The share of Auckland's creative sector employment that is located in Waitemātā varies between sub-sectors, but even the lowest (visual arts: 29%, publishing 44%) are substantially higher than Waitemātā's average for all sectors (23.7%). The highest sub-sector is radio, where Waitemātā has over four fifths (85%) of Auckland's employment, followed by digital media (65%). The area also accounts for over half of

¹⁴ Year to March 2019. Source: Auckland Council calculations from Infometrics, 2020. *Waitemātā Local Board regional economic profile 2019*.

Auckland's design employment (56%), and half of Auckland's screen production employment, with the share being even higher for TV (54%) and a bit lower for film and video (44%). (See Table 17 and Figure 16.)

Figure 16: Employment concentrations of creative sub-sectors by location, 2019



Within the various creative sub-sectors, some component activities are concentrated in Waitematā more than others. Both the highest (apart from Other Publishing 100.0%) and the lowest employment concentrations are in the TV sub-sector, where Waitematā has nearly all (98.5%) of Auckland's free to air television jobs, but none (0.0%) of its Cable and Other Subscription Programming jobs. Next highest (i.e. apart from free to air TV) are Waitematā's shares of Auckland's employment in:

- Postproduction Services and Other Motion Picture and Video Activities (95.4%) (in the film and video sub-sector).
- Museum Operation (92.9%) (visual arts sub-sector).
- Reproduction of Recorded Media (91.3%) (music).
- Software Publishing (85.2%) (digital media).
- Radio Broadcasting (84.7%) (radio).
- Performing Arts Venue Operation (79.3%) (performing arts).

Conversely, the share of Auckland's employment in Waitematā is below even its all-sectors average (23.7%), in the following component activities (as well as cable TV):

- Creative Artists, Musicians, Writers and Performers (9.8%) (various sub-sectors).
- Motion Picture Exhibition (23.6%) (film and video sub-sector).
- Book Publishing (15.7%) (publishing).
- Other Ceramic Product Manufacturing (0.0%).

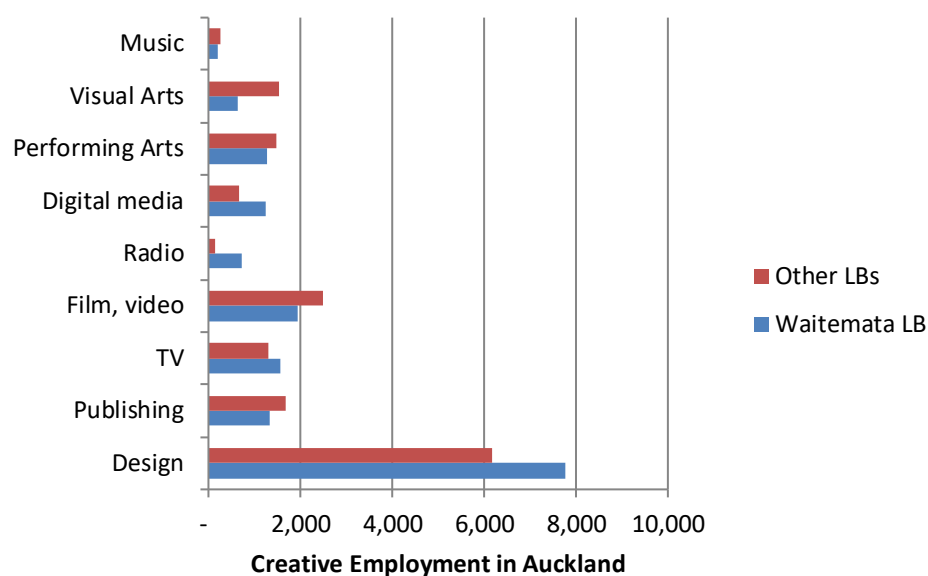
In all other component activities of the various creative sub-sectors, Waitemata’s share of Auckland employment is greater than for its all-sectors average, ranging from Professional Photographic Services (24.5%) (visual arts) to Newspaper Publishing (72.9%) (publishing) and Advertising Services (68.6%) (design).

8.2 Shares of creative sub-sectors in Waitemata

The combined effect of design being the largest creative sub-sector in Auckland, and design having an above average concentration in Waitemata Local Board, results in the design sub-sector constituting nearly half (46.6%) of Waitemata’s creative sector employment. (In fact, Waitemata’s design sub-sector (7747) accounts for nearly a quarter of Auckland’s entire creative sector employment (32,242)). (See Table 17 and Figure 17.)

The share of Waitemata’s creative sector employment accounted for by publishing (8.0%) and film and video (11.7%) are only slightly less than those sub-sectors’ shares of the sector for Auckland, and for TV is slightly more (9.4%), so these three sub-sectors plus design together comprise three quarters (75.7%) of the Waitemata creative sector.

Figure 17: Employment concentrations of creative sub-sectors by location, 2019



9. GDP and productivity

This section describes the GDP¹⁵ directly generated in Auckland by the creative sector and each creative sub-sector in 2019, how it has changed over time and the resulting productivity (GDP per employee), in absolute terms and relative to the sector and the total economy.¹⁶

The creative sector's stand-alone contribution to Auckland's GDP is estimated at \$3.6 billion for 2019, which is 3.2 per cent of Auckland's total GDP – the same as in 2009. The creative sector is also an enabler of economic activity in other sectors.

9.1 GDP and productivity – sector compared to other industries

Compared to the standard ANZSIC 1-digit list of 19 industries¹⁷, GDP in 2019 in Auckland's creative sector (\$3.63 billion) is less than Education and Training (eleventh highest at \$4.33 billion) but more than Public Administration and Safety (twelfth at \$3.22 billion). (See Table 18, which includes GDP but is ranked in order of productivity as measured by GDP per employee.)

The creative sector in 2019 contributes a slightly lower share of the region's GDP (3.2%) than its share of employment (3.6%). Consequently, people working in Auckland's creative sector generate on average 10 per cent less annual GDP per worker (\$112,595) than workers in Auckland's other sectors (\$125,491). However, workers include part-timers, so the productivity figures on a per-hour worked basis could be closer to the average (but are not available at this level of detail).

Productivity (GDP per employee) in the creative sector ranks below the top seven ANZSIC 1-digit industries, but above the bottom 12 – just below Manufacturing (seventh at \$128,323) and just above Professional, Scientific and Technical Services (eighth at \$103,806).

¹⁵ GDP (Gross Domestic Product) is the value added to the economy by all the goods and services provided in one year, and is a standard measure of the economic contribution of an industry sector. For further definition of GDP see Appendix 1: Glossary.

¹⁶ Year to March 2019, and 2009 to 2019. Dollars are in \$2019 to remove the effects of inflation.

¹⁷ Plus Owner-Occupied Property Operation, and Unallocated .

Table 18: Auckland industries and creative sector, GDP and productivity, 2019

| Sector (ANZSIC 1-digit, Auckland) | GDP \$2019 million | Employment | GDP/Employee |
|-------------------------------------------------|--------------------|----------------|----------------|
| Rental, Hiring and Real Estate Services | 9099 | 24,532 | 370,905 |
| Financial and Insurance Services | 10,219 | 36,244 | 281,949 |
| Information Media and Telecommunications | 6094 | 22,403 | 272,041 |
| Electricity, Gas, Water and Waste Services | 1233 | 4854 | 253,994 |
| Transport, Postal and Warehousing | 5845 | 43,407 | 134,666 |
| Wholesale Trade | 8503 | 64,071 | 132,718 |
| Manufacturing | 10,707 | 83,440 | 128,323 |
| Total/average ¹ | 113,482 | 904,301 | 125,491 |
| Creative sector | 3630 | 32,242 | 112,595 |
| Professional, Scientific and Technical Services | 11,348 | 109,316 | 103,806 |
| Arts and Recreation Services | 1565 | 15,188 | 103,059 |
| Public Administration and Safety | 3220 | 33,276 | 96,751 |
| Mining | 33 | 406 | 80,933 |
| Construction | 6731 | 86,647 | 77,678 |
| Retail Trade | 5890 | 77,623 | 75,880 |
| Health Care and Social Assistance | 5928 | 78,253 | 75,747 |
| Other Services | 2306 | 33,088 | 69,691 |
| Education and Training | 4327 | 68,435 | 63,229 |
| Administrative and Support Services | 2799 | 56,416 | 49,621 |
| Agriculture, Forestry and Fishing | 325 | 8102 | 40,095 |
| Accommodation and Food Services | 2091 | 58,599 | 35,678 |

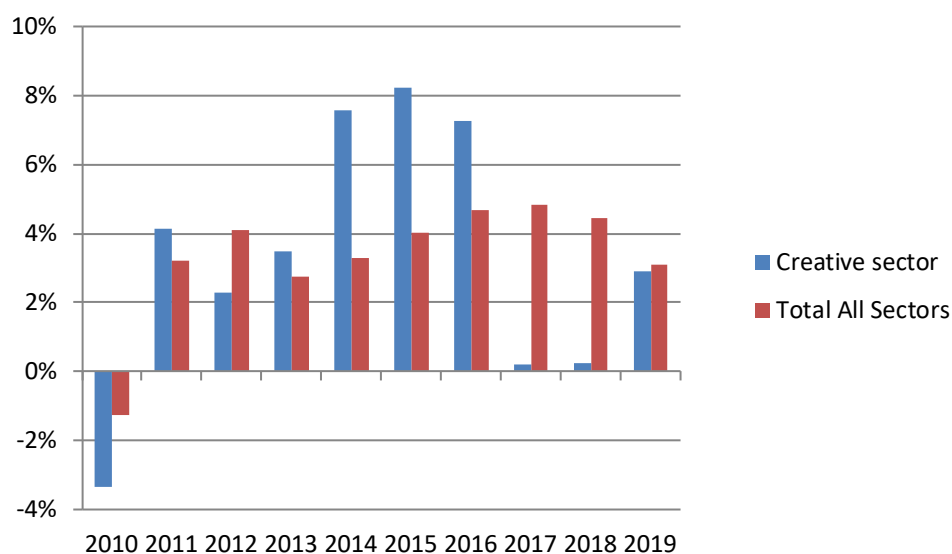
¹ Creative sector is also captured in other sectors, so total is net of double counting. Total/average includes Owner-Occupied Property Operation, and Unallocated, which have GDP but no employees.

9.2 Sector GDP growth over time

Between 2009 and 2019, the GDP contributed by Auckland's creative sector grew by 38 per cent in 10 years, which is an average compound annual growth rate (CAGR) of 3.2 per cent. This was almost the same as the GDP growth of the total Auckland economy including all sectors, over the same period (38%, with CAGR 3.3%). In some years the sector grew by much more, and in others much less¹⁸. (See Figure 18.)

¹⁸ although this may also include fluctuations arising from Infometrics' GDP estimation methodology at this fine-grained level of detail

Figure 18: GDP growth rates creative versus all sectors, Auckland 2010-2019



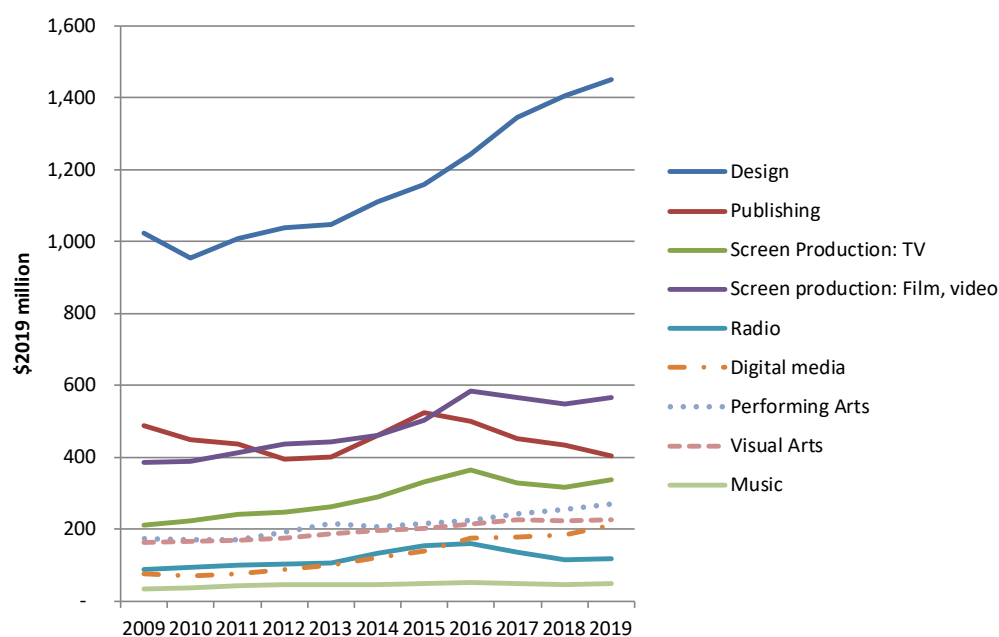
9.3 GDP growth over time by sub-sector

The past and present contributions to GDP vary markedly across the creative sub-sectors, with design and to a lesser extent publishing and screen production (TV and also film and video) providing much greater shares than the others. GDP growth from 2009 to 2019 was strong for screen production (TV and also film and video) in both dollar and annual percentage terms, while design had a more moderate growth rate but from a much higher base. Digital media had extremely rapid GDP growth, but from a much lower starting point. Performing arts had a moderately strong GDP growth rate from a moderate starting point. Radio, visual arts and music had modest rates of GDP growth, but made only small contributions to the sector’s growth in dollar terms due to their low starting points. Publishing’s GDP decline since 2009 was briefly reversed in 2013-2015 but subsequently resumed, leaving a modest net fall in both dollars and average annual percentage terms. (See Table 19 and Figure 19.)

Table 19: Contribution to Auckland's GDP growth by creative sub-sector, 2009-2019

| | GDP 2019 \$2019 million | Growth 2009- 2019 \$2019 million | Annual growth 2009-19 | Share of sector growth |
|--------------------------------|-------------------------------|----------------------------------------|-----------------------------|---------------------------------|
| Design | 1450 | 427 | 3.5% | 43.0% |
| Publishing | 405 | - 82 | -1.8% | -8.3% |
| Screen Production: TV | 337 | 126 | 4.8% | 12.7% |
| Screen production: Film, video | 566 | 182 | 4.0% | 18.4% |
| Radio | 117 | 31 | 3.1% | 3.1% |
| Digital media | 211 | 136 | 10.9% | 13.7% |
| Performing Arts | 270 | 96 | 4.5% | 9.7% |
| Visual Arts | 225 | 62 | 3.3% | 6.2% |
| Music | 50 | 15 | 3.7% | 1.5% |
| Total Creative | 3630 | 993 | 3.2% | 100.0% |
| Total Economy | 113,481 | 31,537 | 3.3% | n/a |

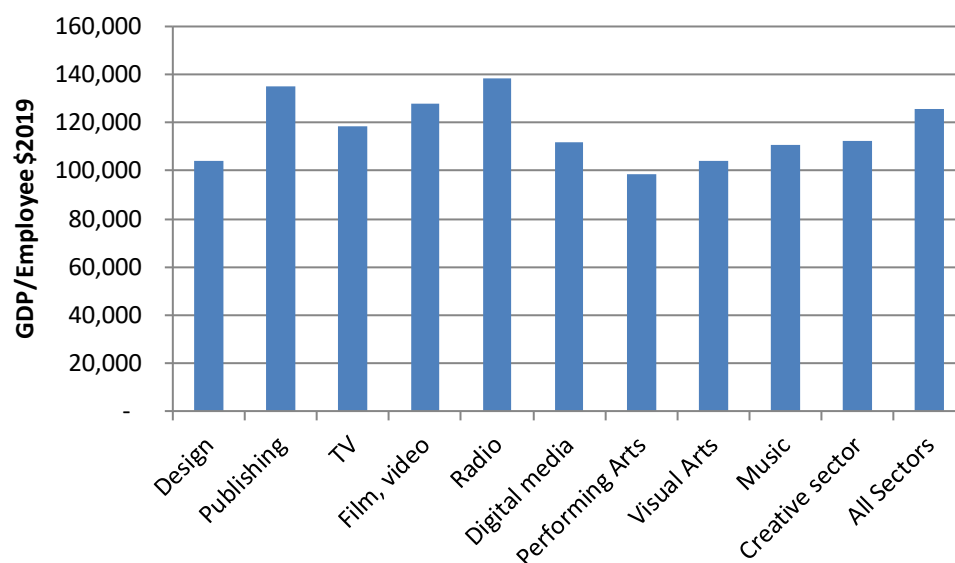
Figure 19: Contribution to Auckland's GDP by creative sub-sector, 2009-2019



9.4 GDP and productivity by sub-sector

Productivity (GDP per employee) in the creative sector in Auckland in 2019 varies significantly between sub-sectors, from \$99,000 for performing arts, to \$138,000 for radio. Most creative sub-sectors are below the all-sectors (total economy) average of \$125,000. (See Figure 20.)

Figure 20: Productivity of Auckland's creative sub-sectors, 2019



The GDP contribution share of each creative sub-sector can be compared to its employment share for Auckland in 2019, relative to the sector as a whole. A ratio above one means a sub-sector has a higher share of GDP than employment, relative to the region's total creative sector; therefore, each worker on average generates a higher GDP in that sub-sector, than those in the region's creative sector as a whole. This is mathematically equivalent to the ratio of the sub-sector's productivity (GDP/Employee) to the productivity of the sector as a whole. (See Table 20.)

Table 20: Auckland creative sub-sectors employment and GDP contributions, 2019

| Creative sub-sector | GDP \$2019 million | Employment | GDP/Emp | Emp. share | GDP share | GDP/Emp Ratio |
|--------------------------------|--------------------|----------------|----------------|---------------|---------------|---------------|
| Design | 1450 | 13,897 | 104,361 | 43.1% | 39.9% | 0.93 |
| Publishing | 405 | 2993 | 135,166 | 9.3% | 11.1% | 1.20 |
| Screen Production: TV | 337 | 2840 | 118,486 | 8.8% | 9.3% | 1.05 |
| Screen production: Film, video | 566 | 4432 | 127,718 | 13.7% | 15.6% | 1.13 |
| Radio | 117 | 847 | 138,135 | 2.6% | 3.2% | 1.23 |
| Digital media | 211 | 1885 | 112,112 | 5.8% | 5.8% | 1.00 |
| Performing Arts | 270 | 2735 | 98,656 | 8.5% | 7.4% | 0.88 |
| Visual Arts | 225 | 2160 | 103,994 | 6.7% | 6.2% | 0.92 |
| Music | 50 | 453 | 110,595 | 1.4% | 1.4% | 0.98 |
| Total Creative | 3630 | 32,242 | 112,595 | 100.0% | 100.0% | 1.00 |
| Total All Sectors | 113,481 | 904,302 | 125,491 | 3.6% | 3.2% | 1.11 |

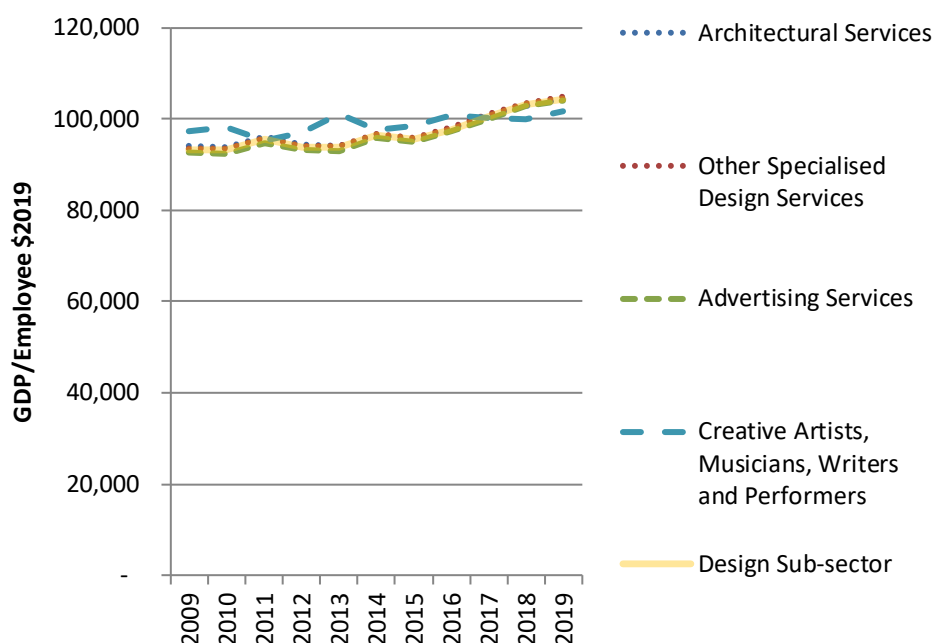
Table 20 reflects the following.

- Auckland’s total economy is 1.11 times more productive (annual GDP per worker, including part-timers) than the creative sector. Therefore the creative sector is 10 per cent less productive (annual GDP per worker, including part-timers) than the rest of Auckland’s economy.
- Collectively the media industries of screen production TV, film and video, radio and digital media account for 34 per cent of the creative sector’s GDP in Auckland, which is slightly higher than their employment share, 31 per cent.
- TV has slightly above the sector’s average labour productivity (\$118,486 GDP per worker), while film and video is slightly higher still (\$127,718) – but similar to Auckland’s total economy (\$125,491).
- Design at \$1,450 million makes the single greatest contribution to the creative sector’s GDP, representing 39.9 per cent of Auckland’s creative sector GDP. However, this is lower than design’s share of employment (43.1%), and reflects a seven per cent lower output per employee (\$103,994) than the overall creative sector (\$112,595).
- Music (i.e. sound recording studios, recorded media manufacturing and composers) makes the smallest contribution to GDP, accounting for only 1.4 per cent of the creative sector’s GDP (\$50m).

9.5 Spotlight on Design sub-sector GDP and productivity

The design sub-sector’s below-average productivity is due to ongoing below average productivity from each of the component services: Advertising Services, Architectural Services and Other Specialised Design Services (plus also creative artists and writers). However, there were modest improvements in 2014, 2017 and 2018. (See Figure 21.)

Figure 21: Auckland design sub-sector productivity by component, 2009-2019

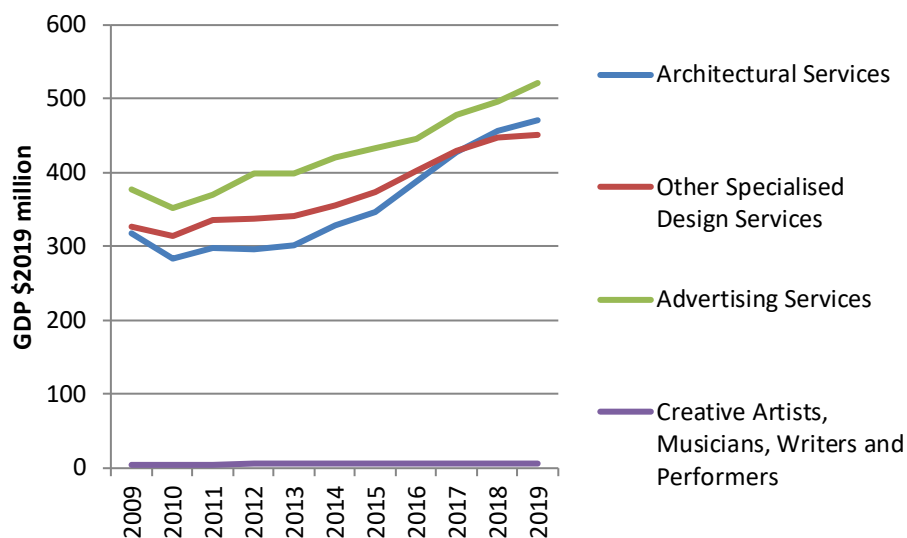


The three main GDP components of the design sub-sector are Advertising Services, Architectural Services and Other Specialised Design Services; they each account for

around a third of the sub-sector, and have shown broadly similar GDP growth trends from 2009 to 2019. GDP growth 2009-2019 for the component activities of design reflects the following (and see Figure 22):

- Advertising Services provides over a third of the design sub-sector’s GDP, and maintains a very strong GDP growth trend (driven primarily by rising employment, but also by improving productivity).
- Architectural Services took until 2014 to recover to 2009 GDP levels, but resumed strong growth after 2013.
- Other Specialised Design Services has averaged steadier but slightly more modest GDP growth, to be overtaken by Architectural Services from 2018 onwards.
- Creative artists etc generate minimal design GDP, due to both modest employment in total and low proportions being employed in the design sub-sector.

Figure 22: Auckland design sub-sector GDP by component, 2009-2019



9.6 Spotlight on Publishing sub-sector GDP and productivity

The dramatic decline in publishing employment between 2009 and 2019 led initially to similar falls in GDP, but was offset by huge productivity improvements between 2013 and 2016 which more than restored the sub-sector’s GDP – supplemented by a brief but substantial increase in GDP for Newspaper Publishing, driven by a temporary recovery in its employment.

Since 2016, productivity has fluctuated with no overall progress, and there have been strong GDP declines for newspapers, magazines and to a lesser extent book publishing, and relative stability in GDP for creative writers. (See Figures 23, 24 and 25.)

Figure 23: Auckland publishing GDP by component, 2009-2019

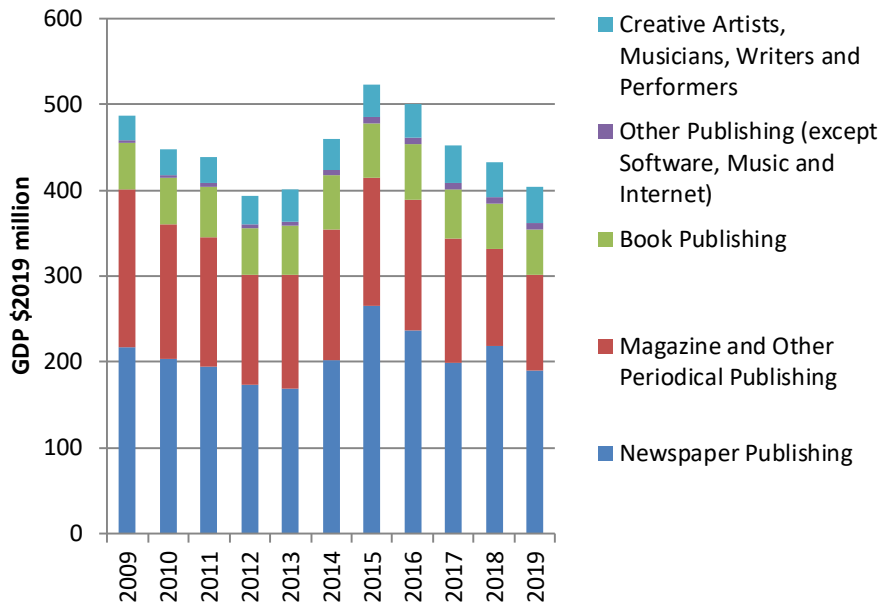


Figure 24: Auckland publishing component GDPs, 2009-2019

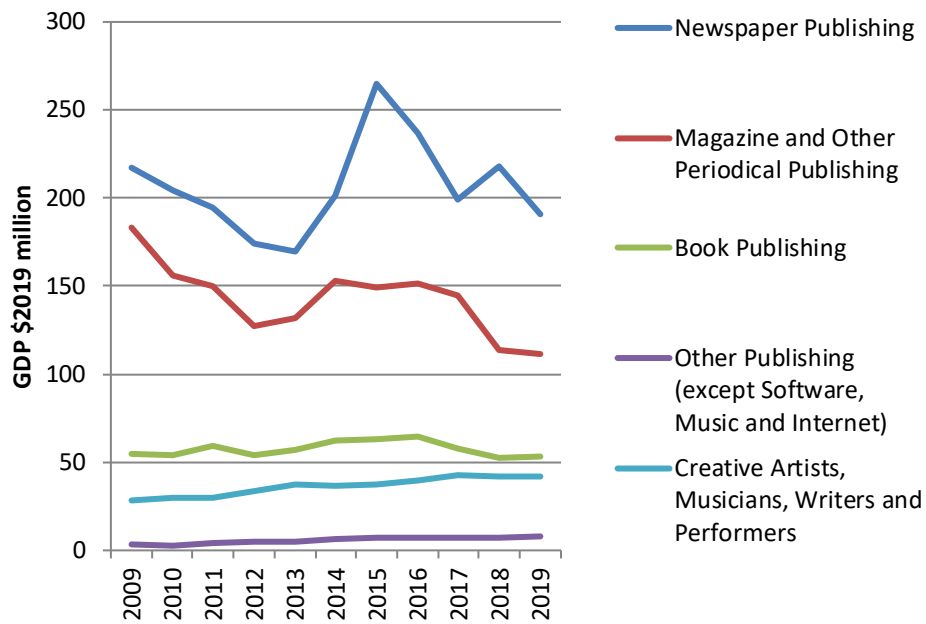
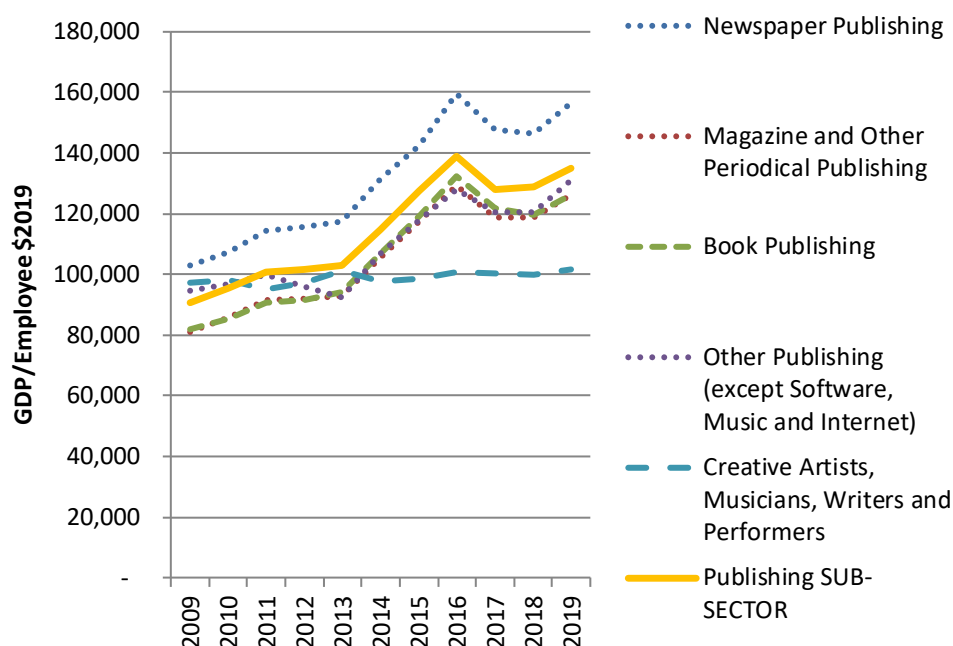


Figure 25: Auckland publishing component productivities, 2009-2019



9.7 Changes in sub-sector GDP and productivity

The Auckland creative sector's productivity (GDP per employee) improved between 2009 and 2019 (+2.2% pa) by more than the economy as a whole (+1.1% pa). However, some sub-sectors improved by more (TV: +4.1% pa) and others by less (performing arts +0.3% pa). Productivity improvements are the difference between GDP growth and the associated increase in employment. They can arise from a number of causes, including changes in the proportion of part-time employees and of average hours worked. GDP growth in turn tends to be associated with increases in sales or in demand, which may or may not be linked to changes in price. (See Table 21.)

The significant changes in GDP, employment and productivity from 2009 to 2019 for the various creative sub-sectors can be summarised as follows:

- Design services, especially architectural and advertising, have had increasing demand; they have significantly expanded their sales (and consequently GDP) but only to a minor extent their productivity, and consequently raised their employment to reinforce their position as the largest creative sub-sector by employment.
- Traditional publishing is in a sense the opposite: productivity per employee has been improving strongly, but demand (and associated GDP) has had a modest net down-trend, so the sub-sector has seen major job losses between 2009 and 2019.
- TV since 2009 has seen a prolonged boom in demand (and associated GDP), thanks to the growth of “subscription programming” (notably satellite TV). Productivity improvements have almost kept pace, so there has been only minor growth in employment. The ultimate impact of online media remains to be seen,

but a possible indicator is that TV employment has plateaued since it peaked in 2013, and demand (GDP) has been flat or falling since 2016.

- Film and video production has had consistently strong demand growth (and associated GDP) from 2009 onwards, but this has been matched by productivity improvements, so the demand for labour has been largely static. An alternative interpretation is that post GFC productivity improvements have been associated with expanded output (and GDP) rather than job cuts. (Apart from slight cuts in 2014, 2018 and 2019). Film and video is often a substantial generator of exports – both directly, and indirectly arising from local spending on other sectors by overseas film crews and casts visiting locations here – but it is not clear to what extent its rapid export growth in the past can be sustained into the future. The global impact of Covid-19 is particularly problematic for this sub-sector, both for international cinema audiences and also Auckland’s ability to host visiting film crews and casts, with or without quarantine provisions.
- Radio employment grew until 2015, but has since declined below 2009 levels (and remains a minor share of the sector); productivity improved strongly between 2009 and 2019, with the net result that GDP also showed moderately strong growth overall; however 2019 GDP was substantially lower than the 2016 peak.
- Digital media is hard to measure accurately, but appears to have grown strongly from a small base (presumably partly at the expense of traditional publishing). Increased demand appears to have been met primarily by more employees, but productivity improvements (+2.3%) have matched the sector average; however, this sub-sector may be particularly sensitive to technology-driven cost reductions leading to price cuts that lower the measured value over time of a given volume of output.
- Performing arts, visual arts and music are all modest in terms of employment and contribution to GDP, but all have the potential to stimulate increased tourism, which benefits the rest of the economy; combined, their direct GDP contribution is comparable to film and video production. Performing arts between 2009 and 2019 had strong output (GDP) growth which translated into employment growth due to minimal productivity improvement at the jobs level – possibly indicating an increase in part-time workers. Visual arts had moderate increases in employment, GDP and productivity. Visual arts are also a substantial export¹⁹ (notably the jewellery component activity), but the local content is a relatively low proportion due to the cost of materials (primarily silver) so the benefit is less. Music has had quite strong output growth (GDP) and moderate productivity growth, but remains a very small share of the sector.

¹⁹ \$101 million in 2012; Source: Auckland Council, 2013. *Industry snapshot for Auckland: creative sector*.

Table 21: Auckland creative sub-sectors GDP and productivity, 2019 vs 2009

| Creative sub-sector | GDP 2009 | GDP 2019 | GDP CAGR | Employment CAGR | Productivity CAGR |
|--------------------------------|---------------|----------------|-------------|-----------------|-------------------|
| Design | 1023 | 1450 | 3.5% | 2.4% | 1.1% |
| Publishing | 487 | 405 | -1.8% | -5.7% | 4.1% |
| Screen Production: TV | 211 | 337 | 4.8% | 0.7% | 4.1% |
| Screen production: Film, video | 384 | 566 | 4.0% | -0.1% | 4.0% |
| Radio | 86 | 117 | 3.1% | -1.0% | 4.1% |
| Digital media | 75 | 211 | 10.9% | 8.4% | 2.3% |
| Performing Arts | 174 | 270 | 4.5% | 4.1% | 0.3% |
| Visual Arts | 163 | 225 | 3.3% | 2.0% | 1.3% |
| Music | 35 | 50 | 3.7% | 0.9% | 2.7% |
| Total Creative | 2638 | 3630 | 3.2% | 1.0% | 2.2% |
| Total All Sectors | 81,945 | 113,481 | 3.3% | 2.2% | 1.1% |

10. Discussion and conclusion

Although Auckland is home to a disproportionately large proportion of the country's creative sector, the Auckland creative sector is modest in size, has grown its employment at a slightly slower rate than the rest of the economy (2009-2019), and has below-average productivity per employee (but not necessarily per hour worked, given that the sector is believed to employ a higher proportion of part-timers). However, the sector has important linkages to much of the rest of Auckland's economy, especially ICT, professional services, manufacturing and construction. In addition, some sub-sectors are more promising than the sector average, due to different GDP and employment impacts of the various drivers affecting them.

One of the main drivers of changes in the creative sector is developments in technology. The shifts to digital and online activity in particular have had major impacts on many aspects of the creative sector, including how it is delivered. Technological change affects the sector's costs and prices and therefore its competitiveness and the demand for its outputs, as well as its productivity and demand for labour. The direct effect of improved labour productivity is typically to reduce the need for labour, and in many cases there is a switch from labour to capital (people being to some extent replaced by machines). However, the passing on of these cost savings as lower prices (and/or improved quality) can then lead to increased demand for the sector's outputs, which tends to reverse the fall in demand for labour. The overall net result for demand for labour by the sector (and each of its sub-sectors), can be a smaller decrease or no net decrease at all, or even a net increase.

Another important and related driver is the global economy, which affects both the New Zealand economy and the demand for exports. Auckland was affected by the 2008 global financial crisis and subsequent recovery, and also the 2014-2019 migration boom, coupled with the long-term trends of globalisation and increasing wealth and population. More recently, the Covid-19 pandemic from March 2020 onwards has had a major impact – but is outside the 2009-2019 timeframe of the data in this report (but see below at the end of this section for further comments).

The overall net impacts on the Auckland creative sector (2009 to 2019) have been largely in keeping with changes to the economy as a whole in terms of GDP, but the sector's productivity per employee has improved by slightly more than the rest of the economy, and so there has been a modest decrease in the sector's share of the region's employment. (Alternatively, the sector's productivity per employee has improved by more than the rest of the economy, but there has been a similar decrease in the sector's share of the region's employment, with the two effects netting out to no change in the sector's share of the region's GDP).

Employment changes have varied between the different creative sub-sectors, leading to changes in each sub-sector's employment share of the creative sector. Those employment share changes (percentage points) from 2009 to 2019 include the following: publishing's share has halved, a fall of nine percentage points, while design's share has increased by a sixth (+6%), digital media has doubled (+3%) and performing arts has increased by a third (+2%). Film and video's share fell by a tenth (2%), while TV, radio, visual arts and music all had minimal changes in share of the sector's employment (1% or less).

Arguably, the most promising sub-sectors of the Auckland creative sector appear to be design, digital media and film and video production (including post-production). The design and digital media sub-sectors in particular have strengthened their positions as potential enablers for Auckland's future economic development in terms of knowledge and innovation. (The growth in digital media has presumably benefited from telecommunications companies shifting their emphasis from voice to data, but apart from "internet broadcasting", the network operators themselves are primarily classified as ICT (information communications and technology) rather than being in the creative sector.) Film and video production has been expanding strongly in both GDP and productivity terms. Although its employment growth has been minimal, it has the potential to be a substantial export earner, which could also support growth in visual and performing arts and music.

Obviously, however, both demand and productivity in the creative sector in the next few years will, like all sectors, be heavily impacted by Covid-19, any associated lockdowns, changes in industry operating methods (such as social distancing) and the consequent recession and recovery. The impacts of Covid-19 started with the ongoing recurring lockdowns commencing in March 2020 in both Auckland and the whole of New Zealand (and much of the world). In the short-term, various components of the sector have at various times been unable to operate, or forced to operate at reduced levels; but there have also been new ways of operating such as "virtual performances" viewed live online. In fact, the shift to online activities at both a local and global level may actually benefit some Auckland creative sub-sectors that have competitive advantages in that field. Conversely, as previously mentioned, the global impact of Covid-19 is particularly problematic for the film and video sub-sector, both for international cinema audiences and also Auckland's ability to host visiting film crews and casts, with or without quarantine provisions. The longer-term impacts of Covid-19 on the sector as a whole are as yet unknown, particularly if the expected global recession has major impacts on Auckland's economy.

11. Appendices

Appendix 1: Glossary and abbreviations

ANZSIC: Australian and New Zealand Standard Industrial Classification, as re-defined in 2006, except where explicitly stated to be the 1996 version. The usual level of detail is 1-, 2-, 3- and 4- or 5-digit categories; 4-digit is currently the same as 5- and 6-digit.

ATEED: Auckland Tourism, Events and Economic Development Limited, a council-controlled organisation.

Auckland: The Auckland region, corresponding to the current Auckland Council territory, which includes the areas covered by the various former councils of the Auckland region (not just Auckland City Council).

Business: here used mainly to denote a single geographic business unit (GU), but in some contexts means a “firm”.

CAGR: compound annual growth rate: the annual growth rate required to generate a given total growth over a period of time, allowing for compounding each year.

Category: category refers here to standard ANZSIC groupings at the 1-, 2-, 3- or 4-digit (or 5 or 6 digit) level.

Components: the various ANZSIC categories that combine to form a particular sub-sector.

Employees/Employment: various measures can be used, including EC and jobs (see below). See also Appendix 4: Estimating employment.

EC Employee Count: The total number of employees in a sector; includes both full and part-time employees but not self-employed. See also Appendix 4: Estimating employment.

Enterprise: a business entity that owns and manages one or more business units

DI Foreign Direct Investment: direct investment into production or business in a country by an individual or company in another country, involving a measure of ownership and control (as opposed to passive or portfolio investment in shares or financial assets).

Filled jobs: see Jobs

Firm: here used mainly to denote one or more businesses owned and managed together as a single entity.

GDP, Gross Domestic Product: (often referred to as “Net Output” or “value added”) the total market value of all final goods and services produced within a country in a given period of time (usually a year). This is also equal to the sum of the value added at every stage of production (the intermediate stages) of all final goods and services produced within a country in a given period of time. The term is also applied to particular sectors of the economy and also at the regional level. See also GDP generated and GRP. For specific details of how it is calculated by Infometrics (in constant dollars to remove inflation), see Appendix 3: Data definitions and limitations.

GDP generated: here refers only to direct value added by the sector itself, so does not include indirect or induced effects on other sectors (unless otherwise stated).

GFC: global financial crisis of 2007-2008, which triggered a global recession.

GRP Gross Regional Product: the net output or value added in a particular region, i.e. the portion of national GDP attributable to that region. See also GDP.

GU: geographic business unit: a separate operating unit engaged predominantly in one kind of economic activity from a single physical location or base (as used in Stats NZ's Business Demography data).

HS10: 10-digit level Harmonised System to classify export commodities.

Jobs/Filled jobs: a measure of employment (see above); see also Appendix 4: Estimating employment.

Labour Productivity: (average) labour productivity is used here to denote output per employee, calculated as total value added divided by total number of employees (both from ANZSIC 2006). It is affected by various things, including availability and quality of other factors of production (e.g. capital goods).

LQ Location Quotient: see SLQ.

MBIE: Ministry of Business, Innovation and Employment – incorporates some or all of several previous ministries.

MSI: Ministry of Science and Innovation (now part of MBIE).

n.e.c: not elsewhere classified.

Output: Gross output is the value of goods and services produced. It consists of net output, or value added (see "GDP"), plus the cost of intermediate inputs.

Pa (per annum): annual or per year.

Productivity: see Labour Productivity.

RCA Revealed Comparative Advantage: RCA of a product is New Zealand exporters' share of world exports of that product, compared to New Zealand exporters' average share of world exports of all products. RCA can also be calculated as that product's share of total New Zealand exports, compared to that product's share of total world exports.

Sector: The creative sector, unless otherwise indicated.

SLQ Simple Location Quotient: a statistical measurement of the relative concentration of a given industry in a given place. It is calculated by dividing the proportion of the area's economic activity in an industry, by the proportion of the nation's economic activity in that same industry. Calculated another way, it is a region's share of national activity in an industry, divided by the total regional economy's share of the total national economy. If the region was a scaled down version of the nation, then all its SLQs would equal 1. Instead, in most regions in most countries, some sectors are relatively larger than others and have a higher SLQ, and others are relatively smaller and have a lower SLQ (but the weighted average for all sectors in a given region is always 1). If the SLQ index for a sector is greater than 1, then the sector is deemed to be strong there (i.e. the industry is of high importance to the regional economy, compared to that sector's importance to the national economy). Or put

another way, the region is relatively strong in that sector. The highest possible SLQ is if a sector is based entirely in a single region: in the case of Auckland, which in 2016 had 34.9% of New Zealand's employment, then if an entire sector were there and none in the rest of New Zealand, then the SLQ in 2016 would be $100\%/34.9\%$ which is 2.87. The lowest possible SLQ is always zero.

SNZ: Stats NZ Tatauranga Aotearoa, Statistics New Zealand.

Sqm: square metres.

Sub-sector: Part of the sector; here, usually a grouping of ANZSIC 4- or 5-digit categories.

Subdivision(s): ANZSIC 2-digit category(s).

SWOT analysis: strengths, weaknesses, opportunities and threats.

Value added: see GDP.

Vs: versus

Appendix 2: Sector definition

This report uses the creative sector and sub-sectors definition from the Auckland City Council report *Auckland's creative industries: the numbers 2009*, as follows:

Table A2: Creative sector definition by 6 digit ANZSIC code

| Sub-sector | ANZSIC 2006 | ANZSIC06 Description | % deemed creative |
|--------------------------------|-------------|---------------------------------------------------------------------------------------------|-------------------|
| Design | M69210 | Architectural Services | 100% |
| | M69240 | Other Specialised Design Services | 113% |
| | M69400 | Advertising Services | 100% |
| | R90020 | Creative Artists, Musicians, Writers and Performers | 4% |
| Publishing | J54110 | Newspaper Publishing | 100% |
| | J54120 | Magazine and Other Periodical Publishing | 100% |
| | J54130 | Book Publishing | 100% |
| | J54190 | Other Publishing (e.g. calendars, diaries, postcards) (except Software, Music and Internet) | 100% |
| | R90020 | Creative Artists, Musicians, Writers and Performers | 26% |
| Screen production: TV | J56210 | Free to Air Television Broadcasting | 100% |
| | J56220 | Cable and Other Subscription Programming | 100% |
| Screen production: Film, video | J55110 | Motion Picture and Video Production | 100% |
| | J55130 | Motion Picture Exhibition | 100% |
| | R90020 | Creative Artists, Musicians, Writers and Performers | 10% |
| | J55140 | Postproduction Services and Other Motion Picture and Video Activities | 100% |
| Radio | J56100 | Radio Broadcasting | 100% |
| Digital media | J54200 | Software Publishing | 100% |
| | J57000 | Internet Publishing and Broadcasting | 100% |
| | M70000 | Computer Systems Design and Related Services | 5% |
| Performing arts | R90010 | Performing Arts Operation | 100% |
| | R90020 | Creative Artists, Musicians, Writers and Performers | 11% |
| | R90020 | Services to the arts =R90020*50% | 50% |

| Sub-sector | ANZSIC 2006 | ANZSIC06 Description | % deemed creative |
|-------------|-------------|-----------------------------------------------------|-------------------|
| | R90030 | Performing Arts Venue Operation | 100% |
| Visual Arts | C20290 | Other Ceramic Product Manufacturing | 33% |
| | C25910 | Jewellery and Silverware Manufacturing | 100% |
| | M69910 | Professional Photographic Services | 100% |
| | R89100 | Museum Operation | 32% |
| | R90020 | Creative Artists, Musicians, Writers and Performers | 37% |
| Music | C16200 | Reproduction of Recorded Media | 100% |
| | J55220 | Music and Other Sound Recording Activities | 100% |
| | R90020 | Creative Artists, Musicians, Writers and Performers | 12% |

Note the following:

- Percentages highlighted in yellow denote partial inclusion in the creative sector:
- R90020 is spread amongst several sub-sectors, but sums to 100%. (Plus see Appendix 5 Difficulties with counting Creative Artists, Musicians, Writers and Performers for further details.)
- M69240 is scaled up by 13% to allow for other designers in excluded categories.
- M70000 includes only the 5% who are assumed to be engaged in web-related (creative) activities.
- C20290 and R89100 are assumed to be partially creative.
- Services to the arts (in excluded categories) is assumed to be half the size of R90020.

Comparison to Martin Jenkins report for ATEED

The creative sector definition used in this report differs from Martin Jenkins' 2012 Auckland Tourism, Events and Economic Development Ltd (ATEED) Sector Engagement Framework, which includes a "screen and creative (digital) content" sector that overlaps the definition in this report but has major differences as follows:

- "while broader creative firms are included in the sector, the [Martin Jenkins/ATEED] focus is on digital content businesses"
- they exclude some (minor) ANZSIC categories that are in the creative sector
- they include only part of many creative sub-sectors, notably publishing and design

- they include three additional ANZSIC categories: motion picture distribution, music publishing and video rental
- they include small portions of 22 other additional ANZSIC categories, ranging from 0.4 per cent of Surveying and Mapping Services to 33 per cent of Libraries
- they divide the sector into 12 “segments”, but do not list or describe which ANZSIC categories are aggregated into which segments.

While useful for some purposes, their approach of including numerous fractions of many ANZSIC categories has the disadvantage that there is no way to distinguish whether growth in activity in a fractional category is due to growth in the creative portion or the non-creative portion (or both).

Appendix 3: Data definitions and limitations

This section describes the data used for this report, its sources and limitations, followed by detailed definitions of the main items. Other data items (eg SLQs), that have been calculated using the original data, are described in Appendix 1: Glossary. For more details on employment data limitations, see also Appendix 4: Estimating employment.

Data availability: Stats NZ does not directly provide calculations or estimates of regional GDP (i.e. “value added” or “output”) for the sector and its components, so this report has used GDP estimates from Infometrics, a leading New Zealand economic consultancy. For consistency, employment and business data has also been sourced from Infometrics.

Overview of data used: Except where otherwise stated, this report is based entirely on data on employment, GDP and business numbers published (via Auckland Council subscription) by Infometrics. To generate creative sector and sub-sector level figures, this report has extracted and aggregated the relevant detailed ANZSIC 6-digit data (which provides a perfect match to the sector definition used in this report). The time period covered is 2009 to 2019 (March years). The geographic level is the Auckland region, plus comparisons to New Zealand; Infometrics also publish detailed data for each of the 21 local board areas, but only the largest (Waitematā LB) is included in this report (extracting and aggregating the relevant 6-digit data into creative sub-sectors).

Employment data: Employment data is also available from Stats NZ, notably Business Demographics Employee Counts (ECs), but has not been used in this report as it excludes self-employed and is as at a single month (February). Infometrics’ employment data is based on their analyses of Stats NZ’s quarterly and annual LEED²⁰ database; it includes self-employed and is an average over the whole year. The proportion of self-employment for the creative sector is not known, but for the Auckland economy as a whole it is estimated at 18 per cent, and for the Arts and Recreation Services level 1 industry, it is 24 per cent.

Gross Domestic Product (GDP)²¹ and labour productivity – This is taken from Infometrics’ national and regional GDP series 2000 to 2019, which is in constant 2019 dollars to remove the effects of inflation. The GDP and productivity estimates are based on Infometrics’ estimates of employment, which tend to be higher than Stats NZ’s Business Demographics ECs (eg 28,204 vs 17,896, in 2012) due mainly to the former including an estimate of working proprietors and other self-employed.

²⁰ Linked Employer Employee Data

²¹ See Appendix 1: Glossary and abbreviations for definition of GDP.

Data limitations:

- Infometrics' employment data is based on filled jobs and includes part-time as well as full-time employment, so if a person has two jobs they will be counted twice, and a 1-day-a-week job counts the same as a 40-hour job. Data on hours worked is not available at the sector and region level of detail.
- The creative sector is likely to have a particularly high proportion of participants who are not well captured by official statistics, for example because they do not have regular paid work or income. By definition, this data is hard to capture or even estimate.
- The definition of the creative sector includes creative and non-creative employees in creative industries, and leaves out creative occupations in non-creative industries as included in the Auckland Regional Council's CCI 2010, *Auckland's Creative workforce report*. This was based on 2006 census data and has not been replicated for the 2013 or 2018 census, and to do so is outside the scope of this report. The CCI report calculated that in 2006 the creative workforce was 50 per cent larger than the creative sector.
- GDP statistics at the regional level from Infometrics and Stats NZ are necessarily based on numerous assumptions and so are subject to substantial error margins. Also, price changes are assumed to reflect "value", but may include changing market conditions or improved availability (e.g. cheaper production methods). Labour productivity comparison calculations are then particularly problematic.

Exports: This report does not cover exports. Consistent authoritative detailed time series data on exports by the Auckland creative sector is not available, particularly of services.

This report is based on data from Infometrics, who publish the following definitions:

"Business Units: Infometrics' data on the number of businesses is sourced from the Business Demography statistics from Stats NZ. Businesses are measured by geographic units ["GUs"], which represent a business location engaged in one, or predominantly one, kind of economic activity at a single physical site or base (eg. a factory, a farm, a shop, an office, etc). All non-trading or dormant enterprises, as well as enterprises outside of New Zealand, are excluded from business demography statistics.

A significant number of enterprises are recorded as having zero employment. Enterprises in the zero employee count size category may have:

- working owners who don't draw a wage from their business
- labour provided by other businesses or contractors
- business activity that requires no labour (eg. holding company).

Only business units that are economically significant enterprises are included. To be regarded as economically significant they must meet at least one of the following criteria:

- annual expenses or sales subject to GST of more than \$30,000

- 12-month rolling mean employee count of greater than three
- part of a group of enterprises
- registered for GST and involved in agriculture or forestry
- over \$40,000 of income recorded in the IR10 annual tax return (this includes some units in residential property leasing and rental).

“Employment by industry: Employment is measured as an average of the four quarters making up each year [to March]. The unit of measurement is filled jobs.

Regional employment numbers are from Infometrics’ Regional Industry Employment Model (RIEM). The model draws heavily on quarterly and annual Linked Employer Employee Data (LEED) published by Stats NZ. RIEM differs from data from Business Demography in that it is a quarterly series (BD is annual) and it includes both employees and self-employed, whereas BD only includes employees.”²²

“Gross Domestic Product: Gross Domestic Product (GDP) measures the value economic units add to their inputs. It should not be confused with revenue or turnover. A company’s value adding is broadly equivalent to its sales revenue less the cost of materials (eg steel for making motor cars) and services (eg telecommunications) purchased from other firms.

Total GDP is calculated by summing the value added to all goods and services for final consumption – i.e. it does not include the value added to goods and services used as intermediate inputs for the production of other goods as this would result in double counting. As a result, GDP estimates should not be confused with revenue/turnover/gross output.

In this profile Gross Domestic Product for each region and territorial authority (TA) is estimated by Infometrics. A top down approach breaks national production-based GDP (published by Stats NZ) down to territorial authority level by applying TA shares to the national total. Each TA’s share of industry output is based on the share of earnings measured in the Linked Employer Employee Data (LEED), which is, in turn, based on taxation data. This approach captures differences in productivity between TAs and changes in productivity over time. Our estimates are benchmarked on regional GDP published by Stats NZ.

GDP is measured in constant 2019 prices.

“[GDP] Prices: In this profile, we present all GDP estimates in constant 2019 prices. GDP presented in constant prices is sometimes referred to as real GDP. By using constant prices we remove the distortionary effect of inflation. It enables us to meaningfully compare GDP from one year to the next.

“Productivity: Productivity measures the efficiency of production. In this profile, we measure productivity as GDP per employed person (ie. The amount of economic activity

²² See Appendix 4: Estimating employment for further discussion

generated on average by each employee). One needs to be aware that labour is only one input into production. The output of each employee may differ across industries in a region due to differing access to machinery, technology, and land. Therefore, productivity comparisons should only be made in circumstances where it is reasonable to assume that capital intensity will be broadly the same – for example, when looking at productivity within an industry over a limited-time period, or when comparing productivity of a particular industry with that same industry in another region.”

Appendix 4: Estimating employment

Employment in Stats NZ's Business Demographics is based on employee counts (ECs), which includes both full and part-time employees but not self-employed, whereas Infometrics include an estimate of workers who are not EC employees. The difference between ECs from Stats NZ and the Infometrics estimates of employment provides an indication of the potential significance of the non-inclusion of self-employed in the Business Demographics data.

For the Auckland economy overall in 2012²³, the Infometrics estimate is slightly higher (+14%), but for the creative sector it is substantially higher (+58%). The difference varies greatly by creative sub-sector and so can affect their relative sizes, from 0% for radio to a much more than doubling for film and video (+173%) to make it the second largest creative sub-sector (4413 workers), ahead of publishing (3877) and TV (2791). (See Table A4.)

The table also shows the proportion of workers (per Infometrics) that are not EC employees. The proportions for the more structured sub-sectors (with the largest average business sizes), namely radio (0%), TV (9%) and publishing (17%), are relatively minor, similar to the rest of the economy (12%). The proportions are much higher for the most flexible and decentralised sub-sectors (with the smallest average business sizes), namely film and video (63%), music (56%) and both visual (55%) and performing (52%) arts. Design (37%) and digital media (23%) are in between, comparable to the average for the creative sector (37%) but still much higher than the rest of the economy.

Table A4: Stats NZ ECs versus Infometrics employment, Auckland, 2012

| | Stats NZ EC_2012 | Infometrics workers | Difference | Difference % vs. ECs | Non-EC as % of workers |
|--------------------------------|---------------------|------------------------|---------------|-------------------------|------------------------------|
| Design | 6840 | 10,907 | 4067 | 59% | 37% |
| Publishing | 3200 | 3877 | 678 | 21% | 17% |
| Screen Production: TV | 2530 | 2791 | 261 | 10% | 9% |
| Screen production: Film, video | 1616 | 4413 | 2797 | 173% | 63% |
| Radio | 1000 | 999 | -1 | 0% | 0% |
| Digital media | 718 | 927 | 209 | 29% | 23% |
| Performing Arts | 948 | 1989 | 1042 | 110% | 52% |
| Visual Arts | 811 | 1794 | 983 | 121% | 55% |
| Music | 234 | 507 | 273 | 116% | 56% |
| Total Creative | 17,896 | 28,204 | 10,308 | 58% | 37% |
| Total All Sectors | 642,940 | 731,774 | 88,834 | 14% | 12% |

²³ The comparison analysis was undertaken in 2013; it could be repeated with 2019 data, but to do so is outside the scope of this report.

Appendix 5: Difficulties with counting creative artists, musicians, writers and performers

In this analysis the ANZSIC06 group R900200 (Creative artists, musicians, writers and performers) has been split across the nine creative sub-sectors based on the Auckland City Council report *Auckland's creative industries: The numbers 2009* (which did so based on occupational profiles from the 2006 Census). For example, 11 per cent of R900200 employment was allocated to the performing arts.

Analysis of Census data has shown that many of the occupations associated with R900200 are also present in other codes, in particular R900100 – Performing arts operation and R900300 – Performing arts venue operation.

Over time the employment figures recorded against the four component activities in Performing arts may vary significantly as performers and artists are coded to different ANZSICs. As a result, caution should be taken when assessing individual activity trends, and it is recommended that for accuracy the Performing arts sector be viewed as a whole.

Furthermore, services to the arts was previously a category in ANZSIC1996, but is now calculated as being the same size as 50 per cent of the whole of R900200.

In addition, R900200 has an unusually high relative number of businesses that have no employees (1170 GUs) relative to the total number of employees (160), which suggests that the category is likely to have an unusually high proportion of self-employed who are not captured in the official employment statistics.

Additionally, many of the occupations within the Performing arts sector are unlikely to be fully represented in official employment statistics. For example, a film maker may conduct their film making activities as a self-funded project or with the help of friends and associates in a skills-bartering arrangement. It is therefore important to note that many of the more freelance and non-institutionalised creative activities (particularly performers and artists) are likely to be under-represented compared to more corporate activities (e.g. architecture).

Details of primary activities

R900100 – Performing arts operation: circus operation, dance and ballet company operation, musical comedy company operation, musical productions, opera company operation, orchestra operation, performing arts operation n.e.c., theatre restaurant operation (mainly entertainment facility), theatrical company operation.

R900200 – Creative artists, musicians, writers and performers: artists, cartooning, choreography service, composing (including musical composition), costume designing, creative arts service, journalistic service, musicians, playwriting and screenwriting, producing or directing original or artistic work, sculpting, set design service, speaking service, theatre lighting design service, writing (including poetry and comedy).

R900300 – Performing arts venue operation: concert hall operation, entertainment centre operation, music bowl operation, opera house operation, performing arts venue operation n.e.c., playhouse operation, theatre operation (except motion picture theatre).

Find out more: phone 09 301 0101, email rimu@aucklandcouncil.govt.nz or visit aucklandcouncil.govt.nz and knowledgeauckland.org.nz