Ministry of Economic Development
Manatū Ōhanga

Discussion Paper

Growth and Dynamics of the New Zealand Screen Industry

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Preface

This report describes the size and nature of the New Zealand screen industry and examines the impact of the screen industry on the economy. It incorporates the diverse range of relevant industry data in New Zealand. It is presented in order to stimulate discussion and understanding of questions such as

1. How big is the screen production industry in New Zealand? How many firms are there and how many people are employed?
2. To what extent is the screen production industry growing and what are some of the underlying factors influencing this growth?
3. How does the screen production industry compare with other parts of the economy?
4. What is the quality and limitation of current information?

This paper is a contribution to addressing these questions; drawing on currently available information, some of which is partial. Further insights are welcome and should be sent to oliver.herrmann@med.govt.nz.

The figures in the paper from official statistics and other sources are necessarily historical. Therefore, current activities such as “The Hobbit” are not reflected in figures contained in this report.

Disclaimer

Data used in this study was provided by Statistics New Zealand under conditions designed to give effect to the security and confidentiality provisions of the Statistics Act 1975. The results presented in this study are the work of the author, not Statistics New Zealand.

The detailed Annual Enterprise Survey (AES) statistics are released with a caveat because of limitations in the data, they are of a lower standard than official statistics the department releases. (This is because AES sample are selected and weighted at an AES industry level and not at an ANZSIC level. This data is indicative only, and may be subject to revisions in the future). These statistics do not claim to present a picture of the total New Zealand economy. Some industrial activities are entirely excluded and others are under-covered with regard to smaller business units, particularly those that fall below the threshold for compulsory GST registration. These figures exclude GST.

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Executive Summary

This report describes the size and nature of the New Zealand screen industry and examines its impact on the economy. The New Zealand screen industry comprises four different sectors; *production and post-production*, *television broadcasting*, *film and video distribution* and *film exhibition*.

Scope of paper

1. *This report primarily focuses on the production and post-production sector.* This is an internationally tradable sector with the potential for increasing economic and other benefits for New Zealand. Statistics New Zealand has run an annual Screen Industry Survey since 2005 which offers a robust source of data on the size and nature of the New Zealand screen industry.

2. We have also examined data and information from other sources, both from Statistics New Zealand and industry sources, in order to test the robustness of the core data. Some of this provides additional insights, for example on employment and innovation, and this is also presented. Screen industry data investigated includes gross revenue, total expenditure, business counts, employment, and value added.

3. The focus of this paper is on economic activities within the production and post-production sector and we only briefly comment on how this activity may affect other sectors. The sector is rapidly changing; driven by new digital technology, increased globalisation and other factors. Digital technology is also enabling businesses involved in screen production to engage in other areas, such as interactive entertainment. As most official information sources cannot identify such new trends, we are reliant on case study examples to illustrate them.

Overall trends

4. Gross revenue in the screen industry has grown since 2005, with the exception of a fall in 2007.

    4.1. Businesses in the *production and post-production sector* generally generate more revenue than businesses in the other three sectors. The *production and post-production sector* accounts for around 95 per cent of all businesses in the screen industry.

    4.2. Gross revenue from production of feature films has been far larger than from other areas, although gross revenue from production of television programmes has been substantially increasing in recent years. Expenditure on television programmes has been larger than that of feature films since 2006, perhaps due to there being more productions of this type annually.

    4.3. Value added is the contribution of the *production and post-production sector* to Gross Domestic Product (GDP) and is a key indicator of the sector's economic benefit. The value added has grown since 2007, reflecting increased skills and innovation.

    4.4. Due to the nature of this industry, employment figures are difficult to measure accurately. This is because there are many contractors (sole traders/owner

operators) who do not pay themselves a wage or salary and are therefore not shown in employment statistics produced by the Screen Industry Survey. Adjusted employment figures used in this study for the production and post-production sector go some way to take the impact of contractors into account. These show that employment has risen gradually since 2006.

The following table sets out the key estimates made by this study.

Direct economic impact of the production and post-production sector: for the 2005-2011 financial years

	Gross Revenue (NZ$m)	Business Counts	Expenditure* (NZ$m)	Adjusted Rolling Mean Employment**	Value Added	Contribution to GDP
2005	1,311	1,941	1,005	…	313	0.25%
2006	1,305	1,962	881	5,200	437	0.33%
2007	1,076	2,028	674	5,400	419	0.32%
2008	1,258	2,106	827	5,500	464	0.34%
2009	1,347	2,544	861	6,000	496	0.37%
2010	1,366	2,949	874	5,900	459	0.34%
2011	1,403	2,616	715	6,100	638	0.47%

* Screen production companies only. Expenditure figures are unavailable for contractors.

** Employment count figure for both salary/wage earners and self-employed contractors

(Source: Statistics New Zealand Screen Industry Survey – 2011 and 2007 National Tables)

Innovation

5. Innovation has become an important aspect of the screen industry's development in New Zealand. Many firms in the industry try to innovate and develop cutting edge technology that will make them attractive to film and television producers. The number of businesses that undertake R&D (16%, 2010) and the average R&D expenditure ($106,000, 2010) in the wider '*motion picture*' industry has increased in recent years. However, R&D is concentrated in a few businesses and average R&D expenditure lower than in comparable industries (such as the computer systems design).

Effects on other industries

6. While there is a great deal of comment about the impact of the screen industry on tourism the available evidence indicates that the economic impact on tourism is comparatively modest. A survey of international visitors identifying factors contributing to the decision to visit, indicate that the number of overseas visitors to New Zealand rose by less than 1% as a result of The Lord of the Rings film trilogy. Such effects, from one industry for another, are described as 'spillovers'. The reputational effect of 'Peter Jackson' has enhanced the global reputation and 'branding' of the New Zealand screen industry, and other businesses benefit from this.

7. While it is generally agreed that there are spill-over benefits into other areas resulting from technological advancements and innovation in the screen industry, there is limited evidence of this occurring to date, not least because they can take time to fully materialise. However, they may also be greater than reported here, as spill-overs are notoriously difficult to identify and to measure in economic terms.

Chapter 1: What is the screen industry?

1.1 Definition and data sources

This section defines what the New Zealand screen industry is, in terms of economic dimensions, and the sectors it comprises.

The official source of data on the *screen industry* is Statistics New Zealand. Since 2005 Statistics New Zealand has run an annual Screen Industry Survey. The survey collects information relating to the size and nature of the New Zealand screen industry. A questionnaire is posted to businesses involved in the screen industry and their responses are used to record relevant data. The survey covers topics such as the number and size of businesses, revenue earned, funding and expenditure and employment in the industry. Chapter three below further discusses how this data is collected.

This survey follows on from information that had been collected by the Screen Production and Development Association (SPADA) prior to 2005. We also reference similar studies of overseas film industries.

The Screen Industry Survey defines the New Zealand *screen industry* as:

> all business involved in the four sectors of *production and post-production*, *television broadcasting*, *film and video distribution*, and *film exhibition*. Businesses may operate in more than one sector in the screen industry.

In these statistics, businesses in the *production and post-production sector* are involved in making screen productions, such as films, television programs or television commercials. Production refers here to all work leading up to and including filming, such as hiring crew, choosing locations and building sets. Post-production refers to all the work involved in putting scenes together to complete a production, such as editing, physical and digital effects, sound and picture post production.

Television broadcasting refers to companies who air productions, such as films and television programmes, through media such as television and also the internet. The New Zealand broadcasting sector is dominated by a small number of firms and can be split into two different groups; those offering free-to-air content (eg, TVNZ) and subscription offerings (eg, Sky TV). Free-to-air television broadcasters mainly earn revenue from advertising while subscription broadcasters earn most of their revenue from subscription fees for their services.

Film and video distribution comprises businesses who are involved in distributing completed screen productions, such as film, television or software distributors. This also includes marketing completed work but excludes retail distribution. This sector is a key link between the creation and viewing of screen productions and is mainly comprised of foreign-owned subsidiaries of Hollywood studios. The main activity in this sector is providing foreign-owned content to New Zealand consumers.

Businesses involved in film exhibition show completed screen productions to public audiences. This sector mainly includes cinemas.

It is important to note from the official statistics definition that the New Zealand *screen industry* is not just companies which “shoot films” which may be a common misconception. It

is made up of companies involved in every stage of turning an idea into a completed screen production available for consumers to watch[1].

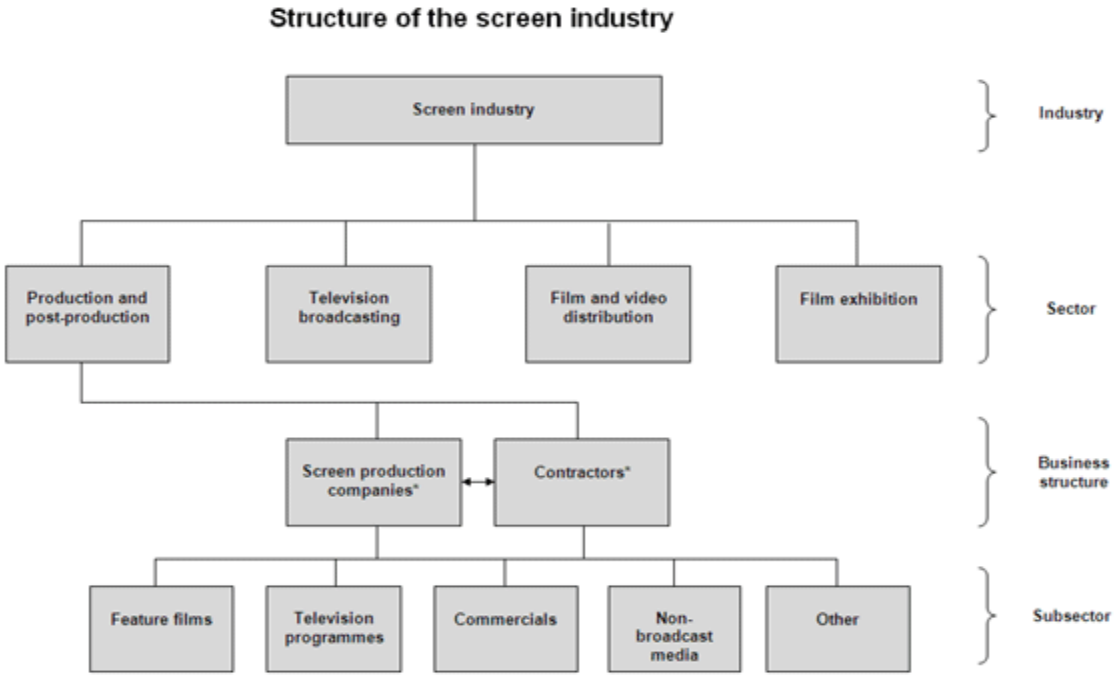
Most data sources in this report do not and cannot identify emerging trends, i.e. new growth areas arising from and created by changes in technology, regulations or markets. Most industries are subject to significant new growth due to a shift in conditions within the industry or environment. Major changes in digital technologies have reframed the 'screen industry' domestically and internationally. Due to digital technology businesses involved in screen production can also engage in other forms of creativity, e.g. interactive entertainment. Most official information sources cannot identify such new trends. The purpose of official data like the Screen Industry Survey is to accurately assess the activities taking place *within* the screen industry. Case studies in section '4.5 Case study evidence' present recent and more qualitative changes in the screen industry.

1.2 Structure of the industry

This report will focus primarily on the *production and post-production sector* which makes up the majority of the industry. It is also the most appropriate sector in the industry to analyse when investigating economic impacts, as it is an internationally tradable sector with potential for generating further net economic growth benefits for New Zealand.

Television broadcasting, film and video distribution and film exhibition in New Zealand are generally are done by companies located in New Zealand that face less direct foreign competition. (However, as New Zealand develops high speed broadband it may be possible to generate competition from cable television broadcasting from overseas).

Figure 1 - Information about the Screen industry



* Businesses in the production and post-production sector may be contractors as well as screen production companies.
(Source: Statistics New Zealand, *Screen Industry Survey 2010/11*)

[1] For the broader concept of 'creative economy', see NZIER (2009), The Creative Sector in New Zealand

Conversely film and other screen productions that could be readily produced overseas face intense international competition and are capable of generating net overseas income.

Other parts of the industry have different dynamics and may also be involved in activities outside of the *screen industry*. For instance, much of the activity in the distribution sector may be retail related, such as producing and/or selling merchandise based on screen productions. It may be difficult to analyse how much revenue comes from film distribution activity and how much comes from the retail side. Activities in the *production and post-production sector* are primarily *screen industry* related.

It should be noted that feature films and television programmes form two different subsectors within the *production and post-production sector*. Data from Statistics New Zealand's Screen Industry Survey, analysed in chapter two, shows that while gross revenue from feature films is the largest, revenues generated from television programmes has been approaching it in recent years. In contrast, total expenditure on television programmes is greater than that of feature films.

According to the survey, around 95 per cent of businesses in the industry are involved in the *production and post-production sector* (see Table 1).

Table 1 - Revenue, Business Counts and Employment in the Screen industry (2011 Financial Year)

Screen subsector	Gross Revenue (NZ$ million)	Number of Businesses[2]	Rolling Mean Employment[3]
Production and post-production	1,403	2,616	1,500
Television broadcasting	1,248	54	2,700
Film and video distribution	186	81	180
Film exhibition	162	87	2,100
Total	2,999	2,739	6,600

(Source: Statistics New Zealand, *Screen industry* in New Zealand – 2010/11 National Tables)

An important feature of the sector is the changes in the number that occur over relatively short periods, particularly in the number of businesses. This reflects the project-nature of much of the activity. It is also important to note that the *production and post-production sector* is dominated by independent and private companies and so the New Zealand stock exchange cannot be a source of information. Overseas, most large producer are also unlisted, being part of larger media conglomerates. This is one reason why published information on the structure of this sector is not as robust as on some other sectors.

1.3 Economic impacts to consider

In order to investigate the economic impact of the production and post-production sector, this report examines the value added, or contribution to New Zealand's Gross Domestic

[2] Business counts in Table 1 are not exclusive.

[3] Statistics New Zealand measures employment in the industry by Rolling Mean Employment. This is the mean number of people receiving wages or salaries over a 12 month period. Rolling Mean Employment excludes anyone working on contract (self-employed contractors).

Product (GDP) of the sector, employment in the sector and the amount of tax revenue raised by the sector.[4]

The international literature[5] suggests that, there are four channels through which the screen production sector contributes to the New Zealand economy. These are as follows.

1. Direct Impacts: Value added, employment and tax revenue created directly by activities in the screen production sector.

2. Indirect Impacts: Value added, employment and tax revenue created as a result of screen production businesses purchasing goods and services from New Zealand suppliers (eg, transportation, accommodation, and legal, accountancy and financial services).

3. Induced Impacts: Value added (GDP), employment and tax revenue created by those directly or indirectly employed in the screen production sector spending their income on goods and services in the wider New Zealand economy.

4. Spill-overs: The impact of the screen production sector on third parties not directly involved in the activity. For example, there may be an increase in tourism due to a film that was made in New Zealand.

The majority of empirical studies that analyse the screen industry only take gross effects into account. These analyses examine the effects of the screen industry only in the sectors which are directly affected, not measuring its effect (on prices of all substitutes and complements) in other industries, assuming that they are small in this medium-term period.

1.4 Brief history of the New Zealand screen industry

Historically, the first public screening of a motion picture in New Zealand was in 1896 at the Opera House, Auckland followed by the first film shot in New Zealand in 1898 *Opening of the Auckland Exhibition*. The first fiction films made in New Zealand were in 1913, all by director Gaston, Melies – *Hinemoa, Loved by a Māori Chieftainess*, and *How Chief Te Ponga Won His Bride*.

The film industry in New Zealand was fairly small-scale during the 1920s to 1960s. Director Rudall Hayward made New Zealand themed feature films during the 1920s and 1970s while independent director John O'Shea made a number of short and feature films between 1940 and 1990.

In 1941, the government established the National Film Unit at Miramar. As part of the Tourism Department, it made short films promoting the war effort, promotional films about New Zealand and later a series of weekly newsreels. It was the only post-production facility in New Zealand for many years.

[4] Value added per full time equivalent (or per hour) as a proxy for labour productivity or total factor productivity (TFP) is also relevant. Data limitations do not allow us to present figures on productivity in the screen industry.

[5] See Oxford Economics (2007, 2010), PricewaterhouseCoopers (2009)

In 1960, New Zealand's first official television transmission took place in Auckland followed by Christchurch, Wellington and Dunedin over the next two years. Opportunities for film-makers were at first scarce for television as the monopoly television provider New Zealand Broadcasting Service (NZBS), as it was first called - now Television New Zealand (TVNZ), initially undertook production in-house. However, the amount of production required and the training programmes also helped lay the foundation for growth in the independent sector.

In 1978, the Broadcasting Corporation of New Zealand (BCNZ – originally NZBS) decided to commission programmes from outside companies. In that same year the NZ Film Commission (NZFC) was established which provided funding and support for feature film production. The combination of the two brought major changes and rapid growth for the screen production sector. Director Roger Donaldson's 1977 film *Sleeping Dogs* was one of the first New Zealand films to attract large audiences both at home and in the United States. *Sleeping Dogs* was the first full-length feature film produced entirely by a New Zealand production crew. Before then, feature films had been filmed and set in New Zealand but were largely produced and directed by largely foreign crews.

In 1989, the government established NZ On Air to allocate funds from the broadcasting licence fee going directly to producers, provided that they had their project approved by a broadcaster. At the same time it deregulated television broadcasting which provided for the establishment of privately owned television in the same year, TV3. As a consequence of this, TVNZ began dismantling its in-house production to become primarily a programmer rather than a producer.

New Zealand film gained more international success and recognition in the early 1990s, most notably with Jane Campion's *The Piano* (1993), Peter Jackson's *Heavenly Creatures* (1994) and Lee Tamahori's *Once Were Warriors* (1994).

In 1992 *Shortland Street* launched on TV2 with the help of funding from NZ On Air. It broke ground as New Zealand's first attempt at daily drama, by independent production company South Pacific Pictures, which continues its production until this day. Along the way South Pacific Pictures has employed and trained significant numbers of cast and crew.

In 1993 the American-owned Pacific Renaissance began six year's location shooting in New Zealand of two television series for US networks: *Hercules: The Legendary Journeys* and *Xena: Warrior Princess*. The series employed hundreds of New Zealanders, substantially increasing the range of skills and experience to the benefit of the wider screen production sector. Also in 1993, the government established Te Māngai Pāho to provide funding support to revitalise te reo and tikanga Māori through funding for television programming and other forms of broadcasting. This was followed in 1994 by the launch of the Māori Television Service providing a further state- supported platform for the industry.

While some New Zealand talent migrated overseas, director Sir Peter Jackson made films in New Zealand and together with Richard Taylor established Weta Digital in 1993 in order to produce the visual effects for *Heavenly Creatures*. Jackson gradually became more noticed by Hollywood and directed the globally successful *Lord of the Rings* trilogy which began production in 1999. Although financed by American money starring a largely international cast, Sir Peter Jackson made the films in New Zealand with a mostly domestic production crew. In 1999, they bought the National Film Unit (owned by TVNZ since 1990) in preparation for post-production on *The Lord of the Rings*.

In the same year (1999), the government closed tax provisions which have attracted productions such as *Xena* and *The Lord of the Rings* to New Zealand and led to a range of

domestic films in the 1980s. This was followed in 2003 by the establishment of the Large Budget Screen Production Grant (LBSPG) and the Post-production, Digital and Visual effects (PDV) grant in 2007, both largely for attracting offshore productions. For the domestic industry, the government provided additional funding through the one-off ($22million) Film Production Fund (eg *Whale Rider, The World's Fastest Indian*) in 2000 and Film Fund II ($20 million) in 2006 which became the Screen Production Incentive Fund (SPIF) in 2008 (eg *Boy*, various productions by NHNZ).

The successful production of *Xena*, *Hercules* and *The Lord of the Rings* in New Zealand led to more overseas producers consider New Zealand as a film making location. Noted successes include *The Last Samurai* (2003), The *Chronicles of Narnia; The Lion, the Witch and the Wardrobe* (2005), and *Avatar* (2009). Sir Peter Jackson has also continued producing in New Zealand including *King Kong* (2005), *The Lovely Bones* (2009) and *The Hobbit* (currently). Other companies have continued to work in New Zealand with feature films, *Boogeyman* (2005), and television series, e.g. *Spartacus* (2010 - current). Television series *Power Rangers* (2003-2011) has also had an extended run in Auckland providing continuity of employment and production.

According to information from the New Zealand Film Commission (NZFC), from 1939-2009 (the latest year available), there were 294 feature films (both domestic and overseas productions) made in New Zealand.[6] Of these, 128, or 44 per cent have been made since 2000 compared with 56 per cent produced in the previous 61 years. From 1990 to 2009 NZFC provided total funding of $147,505,243 to domestic feature films. The highest amount of funding for an individual film in this period went to *Under the Mountain* (2008), while 2006 was the year with the highest amount of total NZFC funding. New Zealand was involved in the production of some of the most successful films in terms of budget and box office receipts.[7]

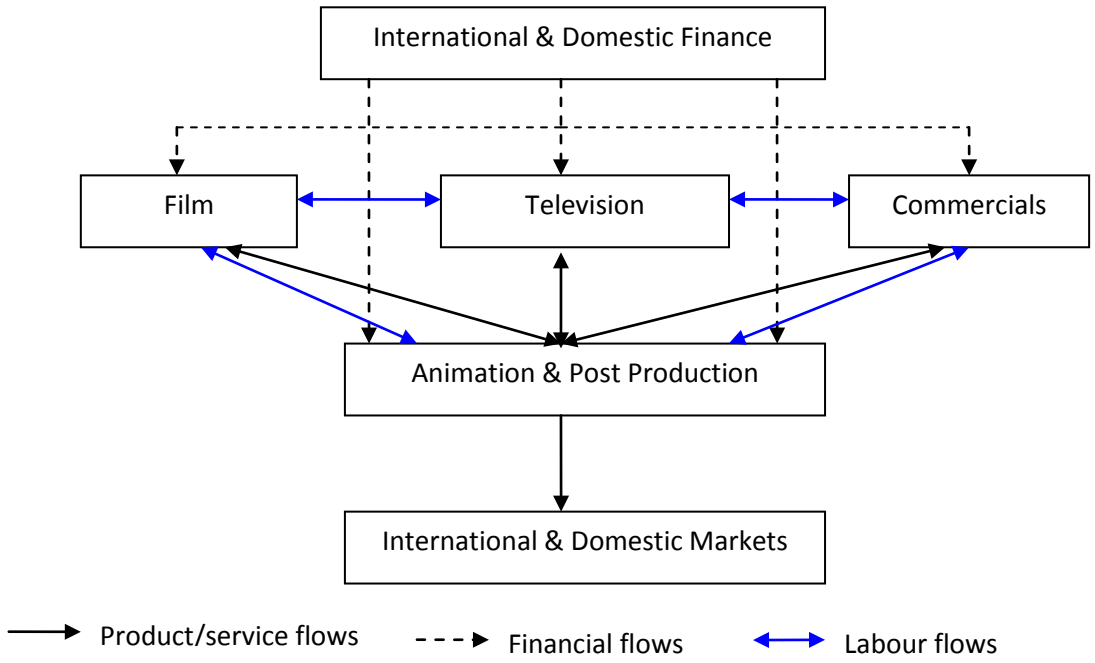
An integral component of the growth of the screen production sector has been growth in animation and post-production facilities either to support film and television production or as sectors in their own right. Animation companies produce computer graphics animated television series such as *The Penguins of Madagascar*. Television commercial (TVC) production is also an important component of the New Zealand screen production sector not only in its own right but also providing continuity of work in the otherwise intermittent project world of film and television. Some locations in New Zealand, notably Queenstown, are specifically geared towards the TVC production catering for off-shore as well as domestic clients. Most post-production houses also seek work in TVCs. New media, such as video games and mobile applications, are increasingly important formats for the screen production sector although the actual size of production in these formats in New Zealand is difficult to quantify. Other areas of the screen production sector include corporate and educational videos which, similarly to TVCs, provide work between larger television and film productions as well as specialisation for some companies. Both TVCs and corporate and educational videos also provide a training ground for cast and crew.

The screen production sector today can be broken down into five major sub-sectors – film, television, commercials, animation and post-production. The sectors are interdependent and involve flows of services, labour and capital between them as illustrated in Figure 2.

[6] http://www.nzfilm.co.nz/FilmCatalogue/Statistics.aspx

[7] See Appendix B: Most profitable films and production methods

Figure 2 - Simplified flow diagram of interrelationships within the screen production sector



1.5 Other studies

In order to draw conclusions about the economic impact of the New Zealand *screen industry* it is useful to look at other studies to make comparisons with the economic impact of overseas screen industries and what has already been investigated in New Zealand. One such New Zealand study was the 'Economic Contribution of the New Zealand Film and Television industry,' by PricewaterhouseCoopers in 2008.

Economic Contribution of the New Zealand Film and Television Industry

This report by PricewaterhouseCoopers (PwC) who were commission by the New Zealand Federation Against Copyright Theft (NZFACT) to estimate the contribution of the film and television industry to the New Zealand economy in 2008. The report investigated the economic contribution by estimating:

- Gross output - the combined revenues of all industry participants attributable to film and television activity.
- Value added – as described above.
- Labour income – the contribution made by the industry in wage and salary payments.
- Employment – the number of jobs created as a result of film and television activity, in terms of full time equivalent (FTE).

According to the study, in 2008 the film and television industry's direct contribution to GDP was $1.27 billion and its total contribution when taking into account indirect and induced impacts was approximately $2.54 billion. This was 1.4 per cent of GDP. A comparison was drawn to the 0.84 per cent contribution of the wine industry at that time.

The report also estimated that the average direct gross value added to the economy per employee in the industry was $133,000. This compares to an average of $81,000[8] for all New Zealand employees at that time.

This report usefully highlights the value of the film and television industry to the wider New Zealand economy. However, we now have some new and more accurate measures. The FTE measure for employment used in the PwC report may not be as accurate as the Rolling Mean Employment method now used by Statistics New Zealand. Due to the nature of the industry, many employees are employed on fixed term contracts rather than on a permanent basis and contracts may vary in length depending on how long a certain production takes to complete. Therefore the rolling mean count which measures the average number of employees across a 12 month period may be more accurate than a head count at any given time, which may not take short term contracts into account. The rolling-mean method will be explained further later in the report.

The Economic Impact of the UK Film Industry

It is useful to compare the economic impact of the New Zealand film industry with that of the industry in other countries. In 2007 and 2010, Oxford Economics[9] produced two reports on 'The Economic Impact of the UK Film Industry.' These reports defined the 'UK film industry' as including "those activities which arise in the UK from the companies and/or individuals employed in the:

- different stages of film production in the UK (including pre- and post-production)
- distribution of films (both UK and foreign-made); and
- exhibition of films (both UK and foreign-made)."

The focus of these reports was on the 'core UK film industry' which included companies and individuals involved in film production in the UK and only the activities in the distribution and exhibition sectors associated with UK-made films. Activities associated with foreign-made films in these sectors were not included in the analysis.

In 2009, the core UK film industry directly contributed around £1.6 billion to UK gross domestic product (0.1% of GDP) and over £4.5 billion (0.3% of GDP) overall when taking into account all other spill-overs into the economy, such as increased tourism as a result of local films. It also contributed over £440 million in tax revenue to the Exchequer.

The second report found that the core UK film industry made a number of specific impacts on the economy. Firstly, in 2009 the industry directly employed 36,000 people while it supported a total of 99,650 jobs when taking into account other jobs created by those employed in the film industry having more income to spend on goods and services.

The second report suggests that the 'Film Tax Relief' which is aimed directly at film production companies as being vital to maintaining the competitiveness of the UK film production sector. The report estimated that without this tax incentive in place, film production in the UK would be only be around 25 per cent of the current size (at the time of publication).

[8] This was calculated by dividing the New Zealand GDP by the total labour force, according to figures from Statistics New Zealand.

[9] Oxford Economics (2007, 2010)

It was suggested that such a decline in film production would have a significant economic impact. The direct contribution of the core UK film industry would fall by around £1.2 billion and by £2.45 billion when taking into account the impacts on the spending of film production workers who lose their jobs. Employment in the industry would fall by an estimated 25,000 jobs. While many of those workers would find other jobs, a number of highly-skilled workers may move overseas and so the report estimates that UK GDP would be directly reduced by about £200 million a year.

These reports were commissioned in the context of a political debate about tax breaks. They strongly support film tax relief and show that the film industry adds significant value to the UK economy, primarily in the form of jobs both inside and outside the industry, and tax revenue to the government.

The method of collecting data in the Oxford Economics studies is different to that of this report as the Oxford Economics study includes activities in the distribution and exhibition sectors associated with UK-made films.

This report will only consider activities in the production and post-production sector. This may lead to this report finding a lesser contribution to GDP of the New Zealand *screen industry* as the data will cover fewer activities. This report also excludes any consideration of the effects of government policy interventions

Chapter 2: Data analysis and trends

In order to investigate the economic impact of the New Zealand *screen industry* it has been necessary to consider a number of different measures. These include gross revenue in the industry, the contribution to GDP and employment in the industry. The main source of data is the *Screen Industry Survey* (SIS) which is conducted annually by Statistics New Zealand. This survey is sent to businesses in the screen industry and asks questions primarily about their revenue and expenditure. The target response rate is 75 per cent and this is usually achieved. Responses are weighted to account for those who do not respond. Taxation data used to measure the number of employees is then combined with Survey data to produce the Survey results.

2.1 Gross output

Gross output, as defined in the PricewaterhouseCoopers report discussed earlier, is the combined revenues of all industry participants attributable to film and television activity. It is therefore vital to first look at the gross revenue of businesses in each sector of the New Zealand *screen industry*.

Table 2 - Gross revenue by subsector for 2005-2011 financial years (NZ$ million)

Screen subsector	2005	2006	2007	2008	2009	2010	2011
Production and post-production	1,311	1,305	1,076	1,258	1,347	1,366	1,403
Television broadcasting	1,005	1,072	1,081	1,155	1,144	1,168	1,248
Film and video distribution	179	168	194	176	163	186	186
Film exhibition	144	129	129	145	153	153	162
Total	**2,639**	**2,674**	**2,480**	**2,735**	**2,806**	**2,873**	**2,999**

(Source: Statistics New Zealand Screen Industry Survey – 2010/11 National Tables)

Table 2 shows the gross revenue (excluding GST), or gross output, of businesses in the *screen industry* for each financial year from 2005, according to responses to the Screen Industry Survey compiled by Statistics New Zealand. This table clearly shows that, with the exception of the 2007 financial year, businesses in the *production and post-production sector* earn more revenue than those in the other three sectors. Television broadcasting comes in second while businesses in the film and video distribution and film exhibition sectors earn significantly less revenue.

Gross revenue in the *production and post-production sector* fell slightly in the 2006 financial year and significantly in the 2007 financial year but has risen since then to above its 2005 level. Gross revenue has risen slightly in the television broadcasting sector since 2005 but has remained relatively flat in the other two sectors.

The Table 3 shows the gross revenue of businesses in the production and post-production sector, broken down into subsectors representing their main activity. Gross revenue from feature films and short films fell significantly in the 2007 financial year before gross revenue from feature films[10] rose again in 2008, 2009 and 2011. Gross revenue from television

[10] Note that in 2007 short films became part of the 'other' category.

programmes also fell in the 2007 financial year but rose sharply in 2009 and 2010 before fall back again in 2011.

Table 3 - Gross revenue of the production and post-production sector by subsector for 2005-2011 financial years (NZ$ million)

Subsector	2005	2006	2007	2008	2009	2010	2011
Feature films and short films	699	664	458	..	..	..	..
Feature films	..	..	..	637	654	617	707
Television programmes	377	399	376	379	468	521	494
Commercials	184	186	178	185	169	165	159
Non-broadcast media	42	39	34	33	35	43	31
Other	9	17	31	23	20	19	11
Total	**1,311**	**1,305**	**1,076**	**1,258**	**1,347**	**1,366**	**1,403**

(Source: Statistics New Zealand *Screen Industry Survey* – 2010/11 National Tables)

In the 2010/11 financial year, the gross revenue of the entire New Zealand *screen industry*, as reported by the Screen Industry Survey was $3 billion, with the *production and post-production sector* accounting for 47 per cent, or $1.4 billion.

Gross revenue from feature films has increased slightly since 2008. Gross revenue of television programmes has risen sharply in this time after remaining reasonably flat from 2005 to 2007. Gross revenue from television programmes, which includes increasing overseas revenues, appears to be approaching that from feature films. This suggests that television programme production is also vitally important to the New Zealand screen industry.

2.2 Expenditure

In order to calculate the total value added of businesses in the production and post-production sector, it is first necessary to look at the total expenditure in the sector. The following table shows the annual expenditure of companies in this sector by type of screen format.

Table 4 - Expenditure of screen production companies* by format for 2005-2011 financial years (NZ$ million)

Subsector	2005	2006	2007	2008	2009	2010	2011
Short and feature films	485	348	238	..	..	..	..
Feature films	..	..	..	338	341	264	264
Television programmes	390	397	301	357	403	482	344
Commercials	109	107	87	114	98	86	88
Non-broadcast media	19	21	31	15	14	20	11
Music videos	2	2	8	1	1	1	1
Other	0	5	8	2	4	11	7
Total	**1,005**	**881**	**674**	**827**	**861**	**874**	**715**

* Expenditure figures are unavailable for contractors.

(Source: Statistics New Zealand Screen Industry Survey – 2010/11 National Tables)

The above table shows that most of the expenditure in the *production and post-production sector* is on films and television programs, with music videos in particular having a very low annual expenditure in comparison. Expenditure on television programmes has been larger than that of feature films since the 2006 financial year and the gap appears to be widening. This may be due to there being more television programmes than feature films produced in any given year.

2.3 Business counts

Table 5 below shows that the *production and post-production sector* is the most active sector in the screen industry, in terms of the number of businesses. According to the Screen Industry Survey, about 95 per cent of all businesses in the New Zealand screen industry have been involved in this sector since the 2005 financial year.

Table 5 - Business counts[11] in the screen industry for 2005-2011 financial years

Screen subsector	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Production and post-production	1,941	1,962	2,028	2,106	2,544	2,949	2,616
Production companies	435	480	443	489	477	531	438
Contracting businesses	1,506	1,482	1,586	1,617	2,067	2,418	2,178
Television broadcasting	36	39	45	42	39	57	54
Film and video distribution	57	66	63	72	72	102	81
Film exhibition	69	66	72	78	75	81	87
Total	**2,061**	**2,052**	**2,157**	**2,223**	**2,673**	**3,078**	**2,739**

(Source: Statistics New Zealand *Screen Industry Survey* – 2010/11 National Tables)

The fall in the number of businesses (over 300 or 11%) in the *production and post-production sector* in 2011 is explained by the project-nature of film production. Many businesses are established for the duration of a project and are closed down when it is completed.

Contracting businesses[12] make up 80 percent of all business in the *production and post-production sector.* The number of production companies decreased by 93 (or 17.5%) between 2010 and 2011.

2.4 Employment trends

A key indicator of the economic impact of the *screen industry* is the level of employment[13] directly created by the industry. There are two possible ways to measure employment numbers. As discussed earlier, the PricewaterhouseCoopers report used the FTE method whereas in the Screen Industry Survey, Statistics New Zealand uses the rolling mean employment (RME) method.

[11] Statistics New Zealand reports these figures on the basis of their population estimates.

[12] Contracting businesses are individuals or businesses providing services to production companies on contract.

[13] The term "employees" is used for workers who are paid salaries and wages (full and part time, temporary and permanent). The term "contractors" is used for contract staff like self-employed individuals, sole traders, owner operators or freelancers.

Statistics New Zealand defines FTE employees as the number of full time employees plus the number of part time employees, where full time is defined as working more than 30 hours per week.

Rolling mean employment is defined by Statistics New Zealand as the twelve month moving average of the monthly employee count figure (head count of salary and wage earners), derived from employer monthly schedule data provided by Inland Revenue. This method takes into account the fact that some employees may only be employed on a short term basis rather than permanently, whereas the FTE method fails to take this into account. In the *screen industry*, and particularly in the *production and post-production sector*, employees may be hired just for the duration of a particular production rather than on a permanent basis. Therefore, the RME method is considered to be a more accurate measure of employment for this study.[14]

In Table 6 we show employment trends from 2005 to 2011 for salary and wage earners of all those New Zealand businesses that state that the screen industry is their main activity.

Table 6 - Rolling Mean Employment (salary and wage earners) in screen industry for 2005-2011 financial years – by main activity

Screen subsector	2005	2006	2007	2008	2009	2010	2011
Production and post-production	1,450	1,800	1,600	1,800	1,900	1,700	1,500
Production companies	940	1,180	1,140	1,100	1,100	1,100	900
Contracting businesses(1)	510	620	460	650	840	660	640
Television broadcasting	2,200	2,300	2,600	2,600	2,800	2,700	2,700
Film and video distribution	160	160	180	200	190	180	180
Film exhibition	1,900	1,800	1,500	2,000	2,100	2,100	2,100
No primary business type	…	420	12	40	15	18	20
Total	**5,700**	**6,500**	**5,900**	**6,700**	**7,000**	**6,700**	**6,600**

(1) Only takes into account the employees of contracting businesses, not the proprietors of the businesses.
(Source: Statistics New Zealand Screen Industry Survey – 2011 and 2007 National Tables)

Some businesses in the *production and post-production sector* have a rolling mean employment of zero for the purpose of the Screen Industry Survey. This is because RME counts are based on PAYE, and therefore includes only those workers who are paid a wage or salary.[15] Other types of income with non-PAYE tax deductions are not capture in this count, and as such, a business may have an RME of zero. This affects a large number of contractors, where the proprietors do not pay themselves a wage or salary. Many businesses in the survey have an RME value of zero. For the same reason, those on contract would also be excluded from RME counts.[16]

However, since it is assumed that these businesses must have at least one person working for them, Statistics New Zealand also provided some adjusted RME figures. In table 7

[14] Further details see Chapter 3: Data issues
[15] Actors and their agencies are also excluded as they are not within scope of the survey population.
[16] These businesses would pay other forms of tax on non-wage and salary income, such was Resident Withholding Tax, rather than PAYE.

below,[17] we show the employment figures for both salary and wage earners and self-employed workers. This table includes figures of all those New Zealand businesses that state that the screen industry is their main activity plus businesses that have some activity in it.

Table 7 - Adjusted Rolling Mean Employment in the production and post-production sector for 2006-2010 financial years – all activities[18]

Screen subsector		2006	2007	2008	2009	2010
Production and post-production	Employees and contractors	5,200	5,400	5,500	6,000	5,900
	Employees only	1,800	1,600	1,800	1,900	1,700

(Source: Statistics New Zealand Custom Data Request)

Accordingly the difference, for example, in 2010 between the 1,700 figure in table 6 and the 5,900 figure in table 7 are

1. The addition of self employed in the latter figure; plus
2. Employment in businesses that have some activity in the Production and Post-Production sector, as well as other sector of the Screen Industry, such as distribution or broadcasting, or in other industry sectors, e.g. trades-people supplying the screen industry that also work in the building industry.

The table shows that the adjusted RME of the *production and post-production sector* rose between 2006 and 2009 and remained stable in the 2010 financial year. It should be noted that these RME figures are based on taxation data which Statistics New Zealand obtains from Inland Revenue and are adjusted to take into account those businesses whose RME may be zero. Appendix A describes how the adjusted RME is derived in more detail.

2.5 Employment conditions and skills

There is quite limited statistical information on the trends in the capabilities of the workforce in the sector. One indication of this is relative levels of pay, i.e. that certain skills can command a premium. For this reason we have examined the trends in relative pay in the screen industry. Some parts of the industry such as distribution and exhibition are known for both for lower rates and in some cases for part time pay and therefore not directly comparable with other parts of the sector.

In Table 8, below we show that average salaries decreased for most industry sectors in 2011. It is notable the continuing pay in contracting businesses. However, the average figures in this table do not show the *skewed* distribution in pay in particular areas between high and low paid workers. More qualitative research would be necessary to better understand some of the underlying trends in skill levels.

[17] See Appendix for a full description of how RME for the production and post-production sector has been adjusted.

[18] Data quality was not high enough to produce an adjusted RME figure for the 2005 financial year.

Table 8 - Annual average salary and wages in the Screen Industry, NZ$(000)

Sector	2005	2006	2007	2008	2009	2010	2011
Production and post-production	69	63	71	73	81	85	75
Production companies	74	64	68	81	85	73	63
Contracting businesses(1)	60	61	79	66	71	105	93
Television broadcasting	68	71	70	67	67	72	78
Film and video distribution	63	47	31	58	63	73	68
Film exhibition	14	14	20	17	17	17	19
Total wage and salary earners	**50**	**52**	**56**	**53**	**56**	**58**	**58**

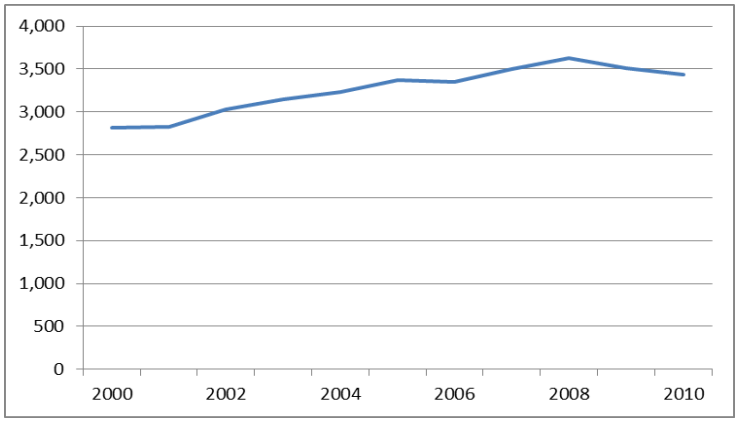
(1) Only takes into account the employees of contracting businesses, not the proprietors of the businesses.
(Source: Statistics New Zealand Screen Industry Survey – 2010 National Tables)

Further sources

Statistics New Zealand also releases labour market statistics that show changes in employment at various disaggregate levels. The source of these data is not the Screen Industry Survey. The Linked Employer-Employee Data (LEED) provides statistics on filled jobs, job flows, mean and median[19] earnings for continuing jobs and new hires. LEED uses existing administrative data drawn from the taxation system, together with business data from Statistics NZ. Of particular interest in LEED are the numbers of jobs and the average or median earnings of staff. However, rather than the production and post-production sector, this information is available in LEED for a broader '*Motion Picture and Video Activities industry*'[20].

Figure 3 below shows the number of jobs in the sector "*Motion Picture and Video Activities*". The number of jobs is lower than in the employment figures of the Screen Industry Survey listed above. This is partly due to the LEED definition "job". Jobs must exist continuously over the reference period.

Figure 3 – Motion Picture and Video Activities: Total number of jobs (2000-2010)



[19] 'Mean' is the average, i.e. add together all of earnings and then divide it by the number of income earners. The 'median' is the 'middle value' or 'middle entry' in the list after sorting the earnings into increasing order. The median often better expresses the 'typical case', since it is not, as is the mean, affected by an excessively high or low figure.
[20] The sector '*Motion Picture and Video Activities*' comprises the three sub sectors of the '*Screen industry*', *production and post-production*, *film and video distribution*, and *film exhibition*, but excludes *television broadcasting*. Further details in Appendix G: Screen industry within the industry classification.

According to data from LEED (Table 9), there is a substantial gap between mean earnings and median earnings in this industry. In 2009, the most recent full year available, mean earnings of all staff in the *Motion Picture and Video Activities industry* was $38,550, compared with median earnings of $27,820. It is also interesting to note that new hired staff earn between 40-70 per cent of the earnings of existing staff, depending on the year and median/mean comparison.

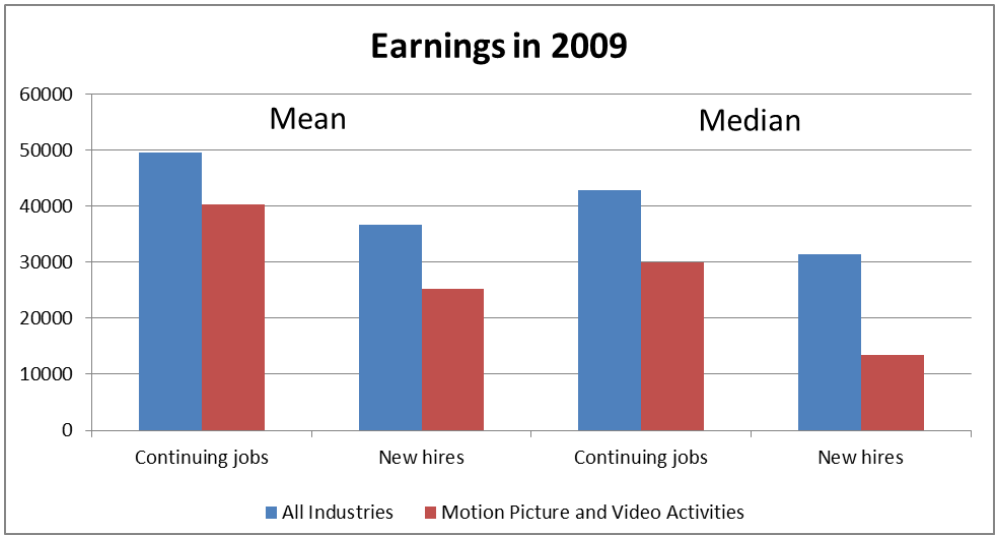
Table 9 - Motion Picture and Video Activities: Average Yearly Earnings (NZ$)

	Mean earnings			Median earnings		
Year	All	Continuing	New Hires	All	Continuing	New Hires
2000	29,020	31,840		22,750	26,490	
2001	29,340	30,840	20,920	22,370	24,400	11,400
2002	29,550	31,780	16,990	20,910	24,540	8,570
2003	30,060	32,260	18,150	21,610	24,530	9,530
2004	31,410	33,290	20,860	23,330	25,860	11,500
2005	33,940	36,130	21,360	26,170	29,070	13,260
2006	34,240	36,520	22,180	25,750	28,970	12,910
2007	35,860	38,490	23,330	26,860	30,390	11,970
2008	37,970	39,860	28,190	28,250	30,840	15,210
2009	38,550	40,240	25,230	27,820	30,000	13,530
2010Q3	30,260	32,200	19,420	21,370	23,870	11,160

Source: Statistics New Zealand Linked Employer-Employee Data

Employees in the *Motion Picture and Video Activities industry* earn incomes significantly below the average over the whole workforce. This reflects the working practices and structural conditions in this wider sector including film exhibition and video distribution. Most employment is intermittent from project to project on fixed term contracts and unpredictable periods of unemployment occur regularly.

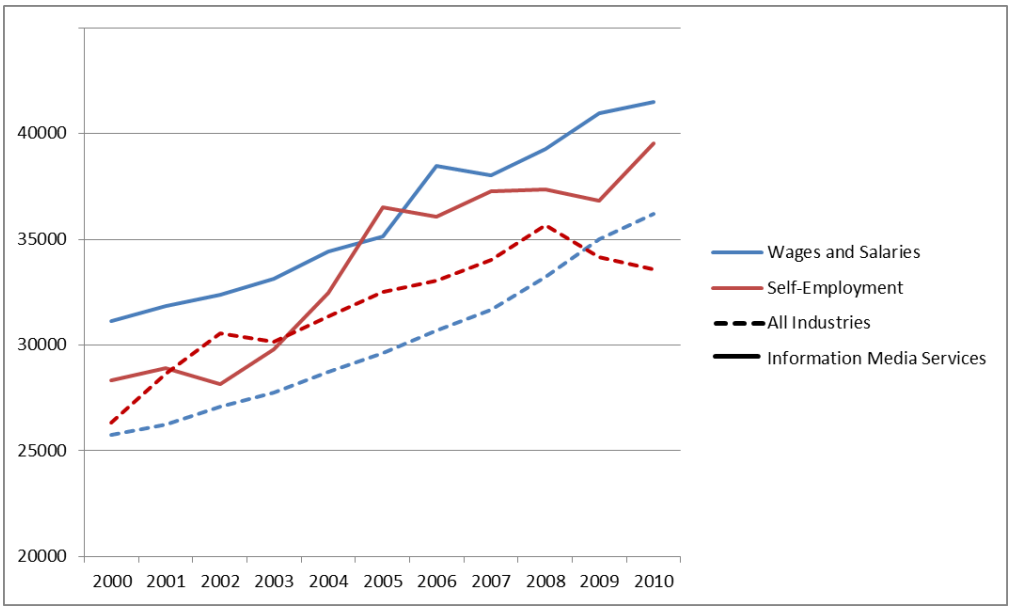
Figure 4 – Earnings (of employees) 'All industries' and 'Motion Picture and Video Activities'



Source: Statistics New Zealand Linked Employer-Employee Data (LEED)

The population for the measure "earnings" in Figure 4 does not include self-employed persons. However, data on income including self-employment income reported through annual tax returns are available for the broader sector *Information Media Services*[21].

Figure 5 – Income 'All industries' and 'Information Media Services' (2000-2010)



Source: Statistics New Zealand Linked Employer-Employee Data (LEED)

2.6 Value added

The value added of the production and post-production sector is an important indicator of the sector's economic benefit. Value added is the industry's contribution to GDP, which is in line with the PricewaterhouseCoopers report which defines it as "the returns to labour and capital attributable to the industry." For the purpose of this report, value added will be calculated as gross revenue less expenditure plus salaries and wages. The Screen Industry Survey provides figures for revenue, salaries and wages for producing and contracting businesses. Expenditure figures are only available for producing businesses and have to be estimated for contracting businesses. Feedback from industry representatives suggests that 20% of contractors' revenue is expenditures; the remaining 80% are either wages or salaries and income of the proprietor of the business.

Table 10 shows that the value added of the production and post-production fell in the 2007 and 2010 financial year. Value added has risen by an average of 12 per cent per year since the Screen Industry Survey began in 2005. It is important to note that total expenditure of the sector in the 2005 financial year was also significantly higher than all other subsequent years which means that the 2005 value added figure is much lower than other years. It is possible that the average annual growth figure begins from a base that is too low and thus may be overstated. After the 2006 financial year value added has risen by an average of 7.8 per cent per year. This may be a more accurate measure of recent growth in the sector.

[21] The sector '*Information Media Services*' comprises *Publishing and Broadcasting* (*including Internet*), *Motion Picture* and *Sound Recording Activities*. Further details in Appendix G: Screen industry within the industry classification.

Table 10 - Value Added of the Production and Post-Production Sector for 2005-2010 financial years (NZ$ million)[22]

Subsector	2005	2006	2007	2008	2009	2010	2011
Total	**313**	**437**	**419**	**464**	**496**	**459**	**638**

(Source: Statistics New Zealand *Screen Industry Survey* – 2011 National Tables)

As the value added of the *production and post-production sector* represents the sector's contribution to GDP it is necessary to investigate its share of GDP. In Table 11, below, shows that in the 2010 financial year, the *production and post-production sector* directly contributed an estimated 0.47 per cent of New Zealand's GDP. This has risen since the 2005 financial year when the sector contributed 0.25 per cent of GDP. The exceptional rise of value added in 2011 is due to a drop in expenditure on TV programmes and sustained sales of TV programmes abroad. The average contribution of the sector to GDP is around 0.35 per cent. As expenditure data is only available for the production and post-production sector, the value added and contribution to GDP of the wider industry cannot be estimated.

Table 11 - Contribution of the Production and Post-Production Sector for 2005-2010 financial years (NZ$ million)

Financial year	Value Added	GDP	Contribution to GDP
2005	313	127,531	0.25%
2006	437	131,632	0.33%
2007	419	132,757	0.32%
2008	464	136,712	0.34%
2009	496	134,677	0.37%
2010	459	133,486	0.34%
2011	638	135,041	0.47%

(Source: Statistics New Zealand *Screen Industry Survey* – 2010 National Tables)

Although the Annual Enterprise Survey (AES) is New Zealand's most comprehensive source of financial statistics, its coverage of the *screen industry* is narrower than in the Screen Industry Survey. Data from the AES shows a lower contribution to GDP (around 0.10%) The broader sector "*Information media services*"[23] contributed an estimated 0.92 per cent of GDP in 2010. *Appendix C: Distribution of value added per sector* lists the contribution of all sectors to GDP.

2.7 Other measures of economic activity

There are a number of other sources of data that are useful to consider in order to support the Screen Industry Survey.

Business Operations Survey (BOS)

Statistics New Zealand also produces an annual Business Operations Survey (BOS). This annual release examines business practices and behaviours that may have some impact on business performance. Information is included for businesses based on the Australia New

[22] See Appendix for a description of how Value Added was calculated.

[23] *Publishing and Broadcasting* (including Internet) and *Motion Picture and Sound Recording Activities*

Zealand Industry Classification standards. In the case of the *screen industry*, relevant information comes under the category entitled '*Motion picture and Sound Recording Activities*'. This category includes each of the four sectors of the *screen industry* discussed in chapter one as well as sectors related to music publishing and sound recording.[24]

Of particular interest is data relating to export sales, investment in expansion and research and development (R&D), overseas ownership, employment status, degree of change in technology and years of operation. Table 12 summarises this information and shows that the percentage of businesses in the *motion picture and sound recording industry* that invested in expansion was higher than that of all businesses in the New Zealand economy in the 2010 financial year (33 per cent of businesses in the industry compared to 25 per cent of all New Zealand businesses). This is also true for businesses that undertook research and development which may suggest that businesses in the *motion picture and sound recording industry* are highly innovative compared to the economy as a whole. The motion picture and sound recording industry also had a higher percentage of businesses that export, a higher percentage of businesses with overseas ownership and a higher percentage of businesses that experienced a change in technology than the overall economy.

The average percentage of the workforce employed part-time in the motion picture and sound recording industry was higher than the average for the overall economy whereas the overall economy's had a higher percentage of the workforce employed full-time. This further backs up the earlier discussion that many workers in the *screen industry* and particular the *production and post-production sector* may be employed on short-term or part-time contracts rather than on a permanent or full-time basis.

Table 12 - Summary of Business Operations Survey Data on Motion Picture and Sound Recording Activities (2010 financial year)

Industry	Motion Picture	All businesses
Businesses that export (%)	16	15
Businesses that invested in expansion (%)	33	25
Businesses that undertook R&D (%)	16	5
Businesses with overseas ownership (%)	27	8
Businesses that had a change in technology (%)	73	56
Average percent of workforce employed part-time	33	25
Average percent of workforce employed full-time	66	75
Average years since business began	18	21

(Source: Statistics New Zealand Business Operations Survey 2010)

On average, businesses in the *motion picture and sound recording industry* also appear to be younger than the overall average. In the 2010 financial year, businesses in this industry had been operating for an average of 18 years, compared to the overall economy's average of 21 years. *Appendix F: Business Operations Survey* summarises the above data for all sectors.

Employment in the Cultural Sector

In 2005, Statistics New Zealand, along with the Ministry of Culture and Heritage, produced a report on *Employment in the Cultural Sector*. Although this was based on 2001 census data

[24] See *Appendix G: Screen industry within the industry* classification for the list of included sectors.

and has not been updated, it is still useful to consider the findings. This report found that in 2001 there were 3,567 people employed in the film and video production industry, which is closely aligned with the *production and post-production sector* defined in the Screen Industry Survey. This report also states that employment in film and video production grew rapidly between 1996 and 2001. Over this five year period, the numbers of both full-time and part-time workers more than doubled.

2.8 Innovations

Innovation is an important aspect of the screen industry's development in New Zealand although it is not easy to quantify[25]. It is likely that many firms in the industry try to innovate and develop cutting edge technology that will make them attractive to film and television producers. One such example in New Zealand is Weta Digital[26] which has built a reputation as a world leading digital and visual effects company, initially through its work in the *Lord of the Rings* trilogy which earned an academy award for visual effects for each of the three films. Weta Digital has subsequently won the same academy award for its work on *King Kong* (2005) and *Avatar* (2009). Technology shifts are not the only source of innovation. New business models in the sector can be a major source of competitive advantage and global opportunities (see section '*4.5 Case study evidence*').

Innovation broadly means the introduction of any new or significantly improved products, services, and processes. Users of innovations are usually willing to pay a higher price and therefore, profitability can be used as a proxy to measure innovation. Of the all-time top 20 most profitable films worldwide[27], four were either entirely or partly made in New Zealand. These are *Avatar*, *The Lord of the Rings: The Return of the King* (2003) and *The Lord of the Rings: The Two Towers* (2002) which are the first, fourth, tenth and nineteenth most profitable films of all time, based on worldwide gross revenues and published budget information.[28] The fact that some of the largest blockbuster films ever made have been produced in New Zealand is one reason that New Zealand has a strong reputation internationally.

All of the top 20 most profitable films worldwide relied heavily on digital and visual effects, with the exception of *The Lion King* (1994) as it was an animated feature. This suggests that digital and visual effects are growing areas and are becoming increasingly important aspects of screen productions. Five of these films, *Shrek 2* (2004), *Toy Story 3* (2010), *Ice Age: Dawn of the Dinosaurs* (2009) and *Finding Nemo* (2003) were entirely computer-animated while *Avatar* also relied heavily on computer-animation as well as live action.

Currently an increasing number of films are being produced in 3D while 3D capable televisions are also increasing in popularity. This is a major area of current innovation and many more films are likely to use 3D technology in the coming future.

A number of different studies have looked at innovation of firms, largely driven by the idea that small autonomous producers are better equipped to create new types of goods and services than larger organisations (Robins 1993). Robins (1993) suggested that the complex division of labour in large organisations may be better suited to routine tasks that innovation.

[25] Most studies use 'input' factors, such as R&D expenditures, as proxy for the level of innovative effort. The number of businesses that undertake R&D (16%) and the average R&D expenditure ($106,000) in the sector "Motion picture" has increased in recent years. For further details, see Appendix F: Business Operations Survey

[26] See also case study in section 4.5 Case study evidence

[27] See *Appendix B: Most profitable films* and production methods for the full list.

[28] http://www.the-numbers.com

This may suggest that production and post-production companies in New Zealand may be better suited to innovation than overseas competitors as they tend to be smaller.

Appendix B: Most profitable films and production methods provides year-by-year analysis across production methods (live action, digital animation etc.) for the US market. This shows, for example, how live action movie revenues have stagnated and the emergence of digital animation and live action/CGI animated movies.

The amount of innovation undertaken and capital held by firms in the *production and post-production sector* in New Zealand is difficult to measure quantitatively. However, it is clear that they are important factors in encouraging film producers to bring their projects to New Zealand. The case studies presented in section 4.5 further describe these dynamics.

2.9 Summary of the production and post-production sector

The following table sets out the key estimates made by this study.

Table 13 - Direct Economic Impact of the Production and Post-Production Sector for the 2011 financial year (NZ$ million)

	Gross Revenue (NZ$m)	Business Counts	Expenditure* (NZ$m)	Adjusted Rolling Mean Employment	Value Added	Contribution to GDP
2005	1,311	1,941	1,005	…	313	0.25%
2006	1,305	1,962	881	5,200	437	0.33%
2007	1,076	2,028	674	5,400	419	0.32%
2008	1,258	2,106	827	5,500	464	0.34%
2009	1,347	2,544	861	6,000	496	0.37%
2010	1,366	2,949	874	5,900	459	0.34%
2011	1,403	2,616	715	6,100	638	0.47%

* Screen production companies only. Expenditure figures are unavailable for contractors.
(Source: Statistics New Zealand Screen Industry Survey – 2011 and 2007 National Tables)

This study estimates that:

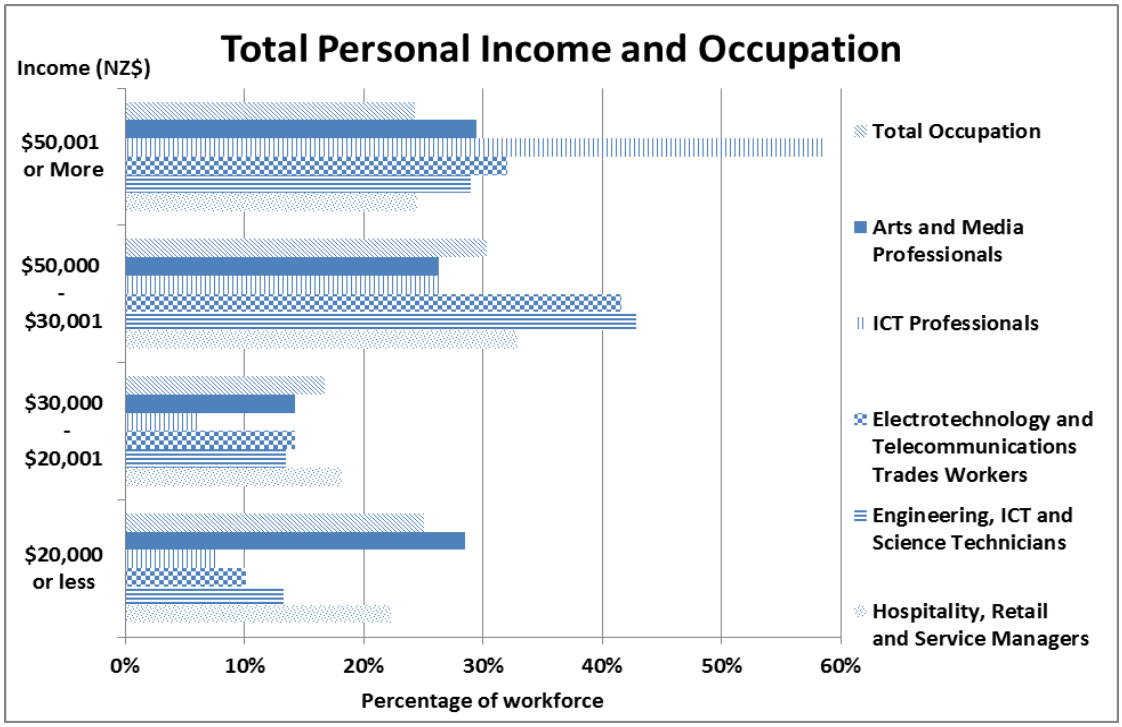
- The total gross output of the screen *production and post-production sector* was approximately $1.4 billion in the 2011 financial year.
- The screen *production and post-production sector* was directly responsible for 6,100 jobs, in terms of rolling mean employment, in the 2011 financial year.
- The value added to the New Zealand economy from the screen *production and post-production sector* was approximately $638 million in the 2011 financial year.
- The screen *production and post-production sector* directly contributed 0.47 per cent of New Zealand's GDP in the 2011 financial year.

2.10 Comparisons with other industries

It may be interesting to note how the screen industry impacts on the wider economy compared with other industries. There is some information available which allows comparisons with the information and communications technology (ICT) sector.

The Census, conducted every five years by Statistics New Zealand includes some information on incomes in different industries. Of interest here is a comparison of incomes of workers in different industries. Statistics New Zealand defines *arts and media professionals* as individuals who communicate ideas, impressions and factual information through printed, electronic, visual and performance media, and produce, direct and present film, television, radio and stage productions. This is not the same as the *screen industry* but is a related broader occupational classification.

Figure 6- Total Personal Income and Occupation (2006)



(Source: Census 2006, Statistics New Zealand)

The above graph shows that a large proportion of *arts and media professionals* (almost 30%) were more likely to earn a higher income (above $50,000 p.a. in 2006). However compared to other skilled occupations like *ICT professionals*, the proportion of *arts and media professionals* earning above $50,000 p.a. is low. A high proportion of *Arts and media professionals* also appear to earn a very low income (less than $20,000 p.a. in 2006) and more often than other occupations.

Tables in the appendix on pages 47 compare the *motion picture industry* to the *computer system design sector*.

Chapter 3: Data issues

This chapter will deal with the underlying issues and limitations of the available data and how these are mitigated.

3.1 Response rate

Given the data available is from a survey (the Screen Industry Survey), all the information gathered is response based. That is, it relies on individuals or companies in the industry responding and responding truthfully.

In the technical notes to the 2010/11 Screen Industry Survey covering the 2011 financial year, Statistics New Zealand defined the survey population as "all economically significant New Zealand businesses involved in any *screen industry* activity." The survey was sent to 2,739 enterprises.

All business must be found on the Statistics New Zealand Business Frame which defines a business as economically significant if it meets one or more of the following:

- has greater than $30,000 annual GST expenses or sales
- had more than two employees over the last year
- is in a GST-exempt industry
- is part of a group of businesses.

For the purpose of this survey, the population included all business that met the economic significant criteria and fell within the Australia New Zealand Industry Classification (ANZSIC06) classifications, which can be found in the aforementioned technical notes.

In order to gain a reliable amount of data, Statistics New Zealand's target response rate for the 2010/11 Screen Industry Survey was 75 per cent. Businesses identified as 'key respondents' (based on GST figures) required a 100 per cent response rate. An overall response rate of 77 per cent was achieved, including 99 per cent of key businesses. One key business did not respond however Statistics New Zealand found that they had decreased in size and would not have significantly altered the results.

There was also an issue of respondents not completing certain questions that they should have. In these cases, Statistics New Zealand imputed the missing values.[29]

3.2 Data availability

The range of data available is also an issue to contend with in this study. We are partly limited to the information Statistics New Zealand is able to gather through the annual Screen Industry Survey. As the survey began in 2005 there have now been enough years to begin to draw conclusions about trends. It is also difficult to draw any conclusions about the television broadcasting, film and video distribution, and film exhibition sectors. To avoid undue reliance on the Screen Industry Survey we also examined other information including the Annual Enterprise Survey (AES) and the Linked Employer-Employee Data (LEED) on employment in different industry. These other data allows us to compare and corroborate the core survey results.

[29] Further detail on how missing values were imputed is available in the Statistics New Zealand's Technical Notes accompanying the 2009/10 *Screen industry* Survey.

3.3 Employment structure

As the time to make screen productions varies from project to project, it is likely that many workers in the *production and post-production sector* are employed on fixed term contracts (ie, as contractors rather than employees) for the duration of a project, as discussed earlier. Anecdotal evidence also supports this. This leads to complications in gaining the level of employment.

As explained above, Statistics New Zealand measures the level of employment in the *production and post-production sector* by using the rolling mean employment method. This is the twelve month moving average of the monthly employment count, derived from employer monthly schedule data provided by Inland Revenue. The Rolling mean is based on a count of PAYE. This excludes those employed with other income tax codes, such as contractors. The result is that RME figures understate the true level of those working in the industry. The level of self-employment by independent contractors has been imputed by Statistics New Zealand for the purpose of this paper (see section 2.4 Employment trends).

This is the only data available on employment in this sector so it is not known whether the full time equivalent measure would be more accurate.

3.4 Double-counting of revenue

There is the possibility of double counting some of the information gathered in the production and post-production sector, particularly in the gross revenue figures for contracting income from New Zealand sources. Businesses are treated as unrelated entities in the collection of data for the Screen Industry Survey, and the results published as total revenue. However, businesses within this industry subcontracts work to other screen industry businesses, a portion of revenue counted for one business, may be counted again for another. For example, if contractor one's revenue is $100 million, but contractor two is paid $50 million, gross revenue would be reported as $150 million. However, in one sense, $50 million of this total has been double counted as it is part of both party's revenue so in reality only $100 million has circulated the economy. Though the potential for such double counting is limited to contractor income from New Zealand, it is unclear to what extent it occurs in the data.

Value added is therefore considered to be a more reliable measure of the production and post-production's contribution to GDP as it subtracts out the expenditure figures which may partly correct some double counting.

Chapter 4: Indirect and induced effects and spill-overs

Chapter two discussed the direct economic impacts of the screen industry. The screen industry also impacts on the wider economy through indirect and induced impacts. Indirect impacts are the value added, employment and tax revenue created as a result of screen production businesses purchasing goods and services from New Zealand suppliers. For example, if a television producer purchases film for the production this is a direct impact. However, there are also indirect impacts as the film maker will demand more materials and the supplier may demand more electricity for example.

Induced impacts are the value added, employment and tax revenue created by those directly employed in the *production and post-production sector* spending their incomes on goods and services in the wider New Zealand economy. Indirect and induced impacts can be thought of as 'flow-on' effects. For example, shooting a film at a particular location is likely to increase the income of accommodation providers and shopkeepers as many of the staff involved in the production may not otherwise be in that location. This will in turn flow onto increased demand or level of spending for suppliers of local businesses.

The screen industry and production of all other goods are interrelated in a market system. A change in the price and/or the output of one good may affect another price. If the screen industry uses an appreciable amount of a certain factor of production, say labour or electricity, an increase in the output of the screen industry will have effects on the supply and price of other factors or production and goods. General equilibrium models (which fall outside the scope of this report) are designed to investigate such interactions between markets[30].

4.1 PricewaterhouseCoopers report

The PricewaterhouseCoopers report discussed earlier use described the indirect and induced economic impacts of the screen industry as 'multiplier effects'. These added to the direct impacts become the total economic impact. The report states that data about indirect and induced impacts was used to calculate a multiplier which is then applied to the direct impacts to calculate the total impact. That is, "the multiplier shows the relationship between the direct and total economic impacts."

PricewaterhouseCoopers used existing multipliers for the television broadcasting and film exhibition sectors of the screen industry as there was sufficient data to do so. For the other sectors of the industry, multipliers were selected from official input-output tables, using a similar industry from the tables as a proxy. However, the report does not describe in detail how the multipliers were put together.

To measure the total economic impacts, multipliers from the film and television industry from the 2003/04 New Zealand inter-industry study were applied to the estimated direct impacts. The study also estimated some sample production accounts for film and television

[30] Computable general equilibrium (CGE) models have emerged as an empirical tool for policy evaluation and are preferred to simple multiplier analysis. CGE models are simulations that combine the abstract general equilibrium structure (of interconnected markets in the economy) with realistic economic data to solve numerically for the quantities and prices of commodities and factors. The system of numerical equations of a CGE model may be solved for the equilibrium values of economic variables (e.g. output and prices). Computing the perturbations to this equilibrium that result from introducing price distortions (e.g. a subsidy) facilitates analysis of the economy-wide impacts of sector policies. General equilibrium models for the screen industry that estimates the impact on employment, labour expenditure and GDP are still largely underdeveloped. E&B DATA (2010) is the only study that tries to identify economy-wide impacts of the screen industry using an intersectoral model.

productions based on real budgets. However there were some limitations to using these sample budgets:

- It was unclear whether estimated labour costs were for direct wages or companies contracted to provide labour.
- Operating surpluses (and profits) are volatile depending on when a production is released and who owns it.
- Revenue may be defined differently by the New Zealand Film Commission and Statistics New Zealand.

The below table summarises the findings of the PricewaterhouseCoopers report.

Table 14 - Total Economic Impact of Impact of the production and post-production sector in 2008 - PricewaterhouseCoopers report (NZ$ million)

	Gross Output (NZ$m)		Value Added (NZ$m)		Employment (FTEs)	
Type of impact	Direct	Total	Direct	Total	Direct	Total
Multiplier		2.28		2.56		2.40
Impacts	1,266	2,890	373	955	3,470	8,328

(Source: PricewaterhouseCoopers; Butcher Partners; Statistics New Zealand)

4.2 Oxford Economics report

The Oxford Economics reports, discussed earlier, on the economic contribution of the UK film industry also used multipliers to estimate the indirect impacts. This report suggested the multiplier for the core UK film industry to be 2.0. This means that for every job directly created by the core UK film industry, another job is supported indirectly either in the supply chain or from the increased spending of those directly or indirectly employed in the industry.

This figure was derived from a survey of firms in the UK film industry by Optima/Cambridge Economics in 2005. This asked companies about their turnover, employment, wage costs and profits in a similar way to Statistics New Zealand's *Screen Industry Survey*.

The below table summarises the findings of the Oxford Economics report.

Table 15 - Total economic impact of the core UK film industry in 2006

	Gross Output (£billion)		Value Added (£billion)		Employment (FTEs)	
Type of impact	Direct	Total	Direct	Total	Direct	Total
Multiplier		2.0		2.0		2.0
Impacts	3.3	6.6	1.5	3.0	33,500	67,000

(Source: Oxford Economics)

In order to investigate specific direct and indirect impacts Oxford Economics conducted a case study of Pinewood Shepperton Studios, one of the world's leading studios companies, created from a merger of Pinewood Studios Limited and Shepperton Studios Limited in 2000. The study found that, specifically for the Shepperton part of the business, in 2006 on-site employment was in the region of 1,350 FTEs with 72 FTEs being directly employed by Shepperton Studios Ltd. The studios were also home to another 82 tenant companies who employed 709 FTEs while a further 570 FTEs worked on specific productions. A further

1,181 FTE jobs were indirectly supported in sectors providing services to Shepperton Studio and the tenant companies located on-site.

4.3 Critique of other studies

Both the PricewaterhouseCoopers and Oxford Economics reports suggest that multipliers for the screen industry are around 2.0. That is, for every job directly created by the screen industry, another job is indirectly supported by it and for every dollar generated and contributed to GDP; another dollar is indirectly contributed to GDP.

However, neither report includes much information on how the multipliers were calculated. Therefore, we feel these figures should be taken with caution and may not necessarily be the best way to analyse the total economic impacts. It is likely that there are many indirect and induced economic impacts in addition to those direct impacts previously discussed however it may be difficult to put them into numbers. It is also likely that the induced impacts would have happened anyway, even without employment in the *screen industry*. That is, if those workers do not have jobs in the *screen industry*, they may gain employment in some other industry and still spend their income on goods and services in the wider New Zealand economy. This may suggest that the multipliers for the *screen industry* are over-estimated as much of the induced impacts would likely still occur without the existence of work in this industry.

4.4 Spill-overs

Economic spillover effects are costs or benefits not transmitted through prices, i.e. an economic activity that affect those who are not directly involved.[31] Spill-overs of the screen production sector are the impact on third parties not directly involved in the activity. For example, the most likely spill-over from film production is that there may be an increase in tourism due to a film that was made in New Zealand. This may be due to fans of the film wanting to visit specific locations relevant either where the film was shot or set. However, for an impact to be a spill-over, it must exist as a direct or indirect result of the activity. Spill-overs are widely recognised although they are difficult to quantify or even to identify and may occur years after the activity, e.g. from development of the internet to the evolution of the world-wide web.

In terms of the *screen industry*, an example of a spill-over may be tourists visiting New Zealand from overseas specifically as a result of *The Lord of the Rings* trilogy. This may be to visit Hobbiton or other important locations from the films. The spill-over benefits to the economy are the increased return by such tourists who would not have visited the country if it wasn't for these films.

Frontier Economics (2007) focussed on positive spill-overs which they defined as being when a firm's production has a reward not only for the firm, but also brings some reward or benefit to other firms in the wider economy. Three different types of spill-overs were considered. These were:

- knowledge spill-overs – new ideas which benefit other firms without rewarding the firm creating them;

[31] For example, manufacturing can cause air pollution and impose costs on the whole society, while fire-proofing a home improves the fire safety of neighbours.

- product spill-overs – new products which are used to benefit other firms without rewarding the firm producing them; and
- network spill-overs – benefits which can only be generated when firms group together, e.g. thick labour markets.

The Frontier Economics report suggests that film industries are likely to generate network, or agglomeration spill-overs. This may be through a firm choosing where to locate and other firms then choosing to locate close to this firm. The firms do not necessarily interact with each other but their presence may attract highly valuable workers to the area in search of work. This may lead to these new workers spending money on goods and services unrelated to the industry in the area. For example, the presence of Weta Digital and Sir Peter Jackson's work in Wellington may encourage highly skilled production and post-production workers to re-locate to Wellington and may also encourage overseas producers to choose to shoot their films in the area which in turn may further promote the area and encourage an influx of skilled workers or visitors.

Film industries are also likely to generate knowledge spill-overs with creating new businesses and innovation. This is particularly likely in the *production and post-production sector* which, as previously established, is largely made up of small firms and sole traders. The firms are likely focused on constantly generating new ideas and methods which may in turn inadvertently be passed onto other industries in the wider economy. For example, innovation and new technology used in films, such as 3D, may be further used in video games industries or to assist in training simulators for other unrelated professions such as pilots.

The broader reputational effects associated with Sir Peter Jackson's success in producing international screen productions have to be taken into account. They lead to a national 'branding' of the New Zealand screen industry and have positive impacts on individuals and companies working on the industry. Reputation enhancement can result in higher demand for the services of New Zealand companies and support services.

Tourism

One international example of increased tourism as a result of a movie is *The Sound of Music* (1959) which was filmed and set in Salzburg, Austria. According to the Oxford Economics report, an estimated 300,000 fans visit Salzburg every year because of the film and 40,000 take the official Sound of Music Tour which visits important locations from both the film and real-life story the film was based on.

The Ministry of Economic Development runs a quarterly International Visitor Survey (IVS) which measures the travel patterns and expenditure of international visitors to New Zealand. Data includes expenditure, places visited, activities/attractions, accommodation and transport. The survey is a sample survey of approximately 5,200 international visitors to New Zealand aged 15 years or older per year. The sample is selected from departing international visitors aged 15 years and older at New Zealand's three largest international airports; Auckland, Wellington and Christchurch.

Following the success of the Lord of the Rings (LOTR) film trilogy, specific LOTR questions were included in the survey from April 2003 to March 2005. The questions investigated whether respondents had visited New Zealand as a result of seeing the films. On a weighted

basis, in 2004 the number of visitors was 2,150,106 of which 94 per cent or 1,880,360 said that they knew the films were made in New Zealand.

The IVS estimated that in 2004 around 11,200 who visited New Zealand stated that LOTR was the main or only reason for their visit, about 0.52% of total visitors. The IVS also estimated that the average expenditure per visitor while in New Zealand was $2,929. According to these estimates, visitors who came to New Zealand in 2004 specifically or mainly because of the LOTR films spend an estimated $32.8 million. This can be a considered a spill-over as these additional visitors to New Zealand were neither directly nor indirectly involved in the *screen industry* but visited New Zealand as a result of it.

More recently, the IVS trialled some further questions related to the *screen industry* in the June 2011 quarter. This survey estimated that 0.3 per cent of June quarter visitors, or 1,656 people, reported "movies" (not further defined) as the main influence for visiting New Zealand, and a further 5.7 per cent (27,406 people) reported "movies" as an "other"[32] influence.

The estimated average visitor expenditure per person in the June 2011 quarter was $2415.48. This means that the 1,656 visitors who reported movies as the main reason for visiting New Zealand spent an estimated $4 million in the June 2011 quarter. Some of the expenditure of the 27,406 people who reported movies as an "other" influence may also be attributable to the influence of movies which would increase the spill-over benefits of movies to the economy.

Negative spill-overs

There may also be some negative spill-overs for parts of the community. For example, during filming for the LOTR trilogy there were complaints from Wellington residents that house prices and rents in Wellington's eastern suburbs had been pushed up, labour costs had risen, there were adverse environmental effects in some locations and there was parking congestion in the suburb of Miramar where the Weta studios are based.[33] Effects such as these are only relevant if they are not reflected in normal market pricing. They may also only last for as long as production takes place. They may also not be negative for everyone as an increasing house price increases the wealth of the owner for instance. It is likely that increasing demand for accommodation in Miramar and surrounding suburbs as overseas workers moved to the area caused an increase in house prices and rents.

4.5 Case study evidence

This report mainly presents the size and nature of the New Zealand screen industry in quantitative terms. The summary of three interviews below present recent and more qualitative aspects of the screen industry, e.g. trends that blur the distinction between television, film and other digital medias (*South Pacific Pictures* and *Sidhe*) or the recent need for innovation in the industry to stay competitive (*Weta Digital*).[34]

[32] "Other" influences include 'just one reason,' 'arrive earlier,' 'stay longer,' and 'visit more places.'

[33] NZIER (2002), Scoping the Lasting Effects of The Lord of the Rings, Report to The New Zealand Film Commission

[34] Please note that while South Pacific Pictures and Weta Digital are included in results used in this study, Sidhe as a gaming producer is currently outside the scope of current survey population.

South Pacific Pictures

South Pacific Pictures (SPP) is an Auckland film and television production company. SPP makes content for film and television around the world, mostly drama, employing between 500-700 contractors and 16-18 staff. Seventy percent of (pre-tax) profit comes from exports/foreign revenues. SPP doesn't think that the screen industry will grow significantly in New Zealand because of the small population size. SPP itself is likely to expand in Australia over the next 5 years, where it already has investments in a number of companies.

SPP invests in development through acquisition and development of ideas. It has a high acquisition rate for turning ideas into programmes typically receiving c.300 ideas a year, optioning 10, and putting 3-4 into production. SPP keeps an eye on the market through constantly researching what people are wanting, watching and reading and by talking to broadcasters and distributors. SPP does not make anything until it is pre-sold. SPP does not own its own equipment, it either hires or outsources. Up to 60-70% of its production costs are freelance labour – writers, cast and crew. In general, the sector is project based, and most companies don't have scale or the time to focus on innovation or to grow their businesses.

A lot of offshore production in New Zealand is driven by the exchange rate, but every time SPP or any New Zealand screen production has a success offshore it opens the door for other New Zealand companies. The Lord of the Rings/Hobbit are the best examples of this. The spillover benefits from these offshore productions are likely positive, the number of freelance contractors employed, the access to technology, and the utilisation of local resources.

Economic returns are not the only reason why the screen industry is important to New Zealand. Film and television provide a critical part of what New Zealand is as a country, giving New Zealand a sense of itself.

Weta Digital

Multi-award winning company Weta Digital was established 1993 in Wellington. It is one of the world's leading digital effects companies. High-end visual effects is a "game changer" in the screen industry and is driving profits globally. Weta Digital is part of a number of film companies operating from the Miramar peninsula in Wellington, including Sir Peter Jackson's production company, WingNut, Park Road Post Production, Weta Workshop, Weta Ltd. (Collectibles) and Stone Street Studios. The company predominantly services the feature film market and 100% of its revenues are from exporting. The company currently employs around 900 people (predominantly contractors) in Wellington. The high number of contractors is typical for the industry.

The company almost exclusively worked on Sir Peter Jackson's projects until 2005. Between 2005 and 2010 Weta Digital actively worked to diversify its customer base and make new business relationships with overseas film studios. This includes the company's ground breaking work on Avatar.

To compete globally in the market of visual effects, companies need to both become increasingly efficient and improve quality of product. Weta Digital has substantially increased its investment in R&D for several years and currently re-invests a far higher percent of revenue into R&D that generally occurs elsewhere in New Zealand. Investment in

development of a technological pipeline (supporting software, technologies and systems) is seen as essential to their business.

Weta Digital aspires to be a global leader in its niche and to see this status continue to be reflected in the development of its technical pipeline – this heritage and investment creates a barrier to entry for other players seeking entry into high-end visual effects market. Capability and scale is seen as a global attractor. It is the dominant player in the New Zealand digital content sector. Its global reputation and impact on perceptions of New Zealand as a creative and innovative place to live and work, creates flow-on benefits for other emerging digital content firms and technology companies and universities that can harness the talent it attracts. It also induces broader investment into the local economy (through catering, hotels, rental cars, flights).

Weta Digital has technologies that have the potential to be attractive to other industries (such as firms operating in the health sector). However to date, opportunities to exploit these technologies in other industries have been limited in terms of their commercial scope given the investments required to tailor them for practical application.

Weta Digital currently operates on a fee for service business model. It is exploring the viability of developing its own content and become an IP owner in the near future.

Sidhe

Sidhe[35] is a game production studio for console, handheld and PC games and was founded in 1997. Sidhe have transformed their business model over the past few years – shifting from a fee for service model to creating and commercialising their own IP. This reflects the rapid shifts in the industry and new growth opportunities: the move from console games and a handful of global publishers to a self-publishing model through diversified delivery channels (iPhone/iPad, PC download[36]).

They indicate that the challenge is to create the right type of content and reach a global audience. The small scale of the market in New Zealand requires companies to internationalise. Limited business skills, IP protection and the 'right' marketing are barriers to getting close to global customers. Technological innovation has become more important than ever before. The interdependency between content design, technology and distribution channels has increased and the business model is reliant on innovation in technology.

Sidhe has direct relationships with other firms and professionals in the creative industry: sound engineers, writers, voice actors, singers and Weta Digital (through its motion capture technology). For example, Sidhe has licensed New Zealand music and exposed it to a global audience through its games.

There is movement of people between companies in the screen industry, like Weta Digital, and game developing studios. The games industry in New Zealand is regarded as a dynamic community and ex-Sidhe staff has set up other games studios. Sidhe has started to fund and publish content from other game developers. Sidhe reduces the risk for emerging companies with good ideas. It provides them with quality assurance testing for usability, sound, and music through its internal capability and networks as well as distribution relationships. New

[35] www.sidhe.co.nz

[36] www.pikpok.com

Zealand game production companies are not competing directly with other companies locally but with the rest of the world.

Sidhe's aspirations are to become a "trans-media" IP company – along the lines of Marvel, Walt Disney's character-based entertainment company that utilises its character franchises in entertainment, licensing and publishing in a variety of media. The games industry is changing very rapidly. As a result it offers opportunities for firms but New Zealand companies need to improve business skills (being creative alone is not sufficient!) and develop portfolios of content for global markets to compete.

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Appendix A: Data analysis

Adjusted Rolling Mean Employment (RME)

Rolling Mean Employment is based on taxation data by businesses and is not differentiated by the activities of that business.

Some businesses in this sector may have an RME of 0 in the *Screen Industry Survey*, such as contractors that do not pay themselves a wage. Linked Employer-Employee Data (LEED) was proposed by Statistics New Zealand as a possible source of further employment data for the businesses in the screen industry. LEED provides statistics on filled jobs, job flows, worker flows, mean and median earnings for continuing jobs and new hires, and total earnings. This information gives further insight into the operation of New Zealand's labour market.

Looking at the most recent annual LEED data available at the time of production, a 67% match could be made with 2009 Screen Industry Survey businesses. Ninety four per cent of these had a job count of one or two, which would give an average of 1.165 jobs for each contracting business. Where the LEED job rate was greater than two, analysis showed it was not unreasonable to assume that contracting positions were also counted. Therefore the more conservative rate of 1.165 has been adopted here and applied to the Screen Industry Survey data in order to adjust RME.

For the purpose of this study, where RME for a business is zero, an RME value of 1.165 has been imputed to produce an Adjusted RME. This offers a more accurate estimate of the number of workers in the industry as it is assumed that all active businesses must have at least one person working for them.

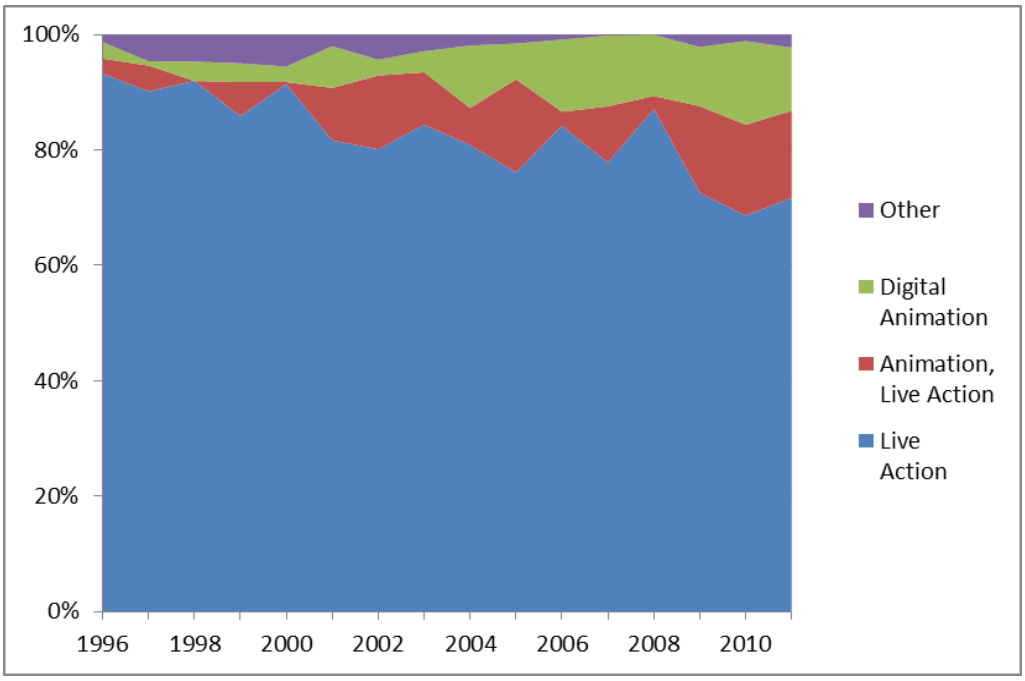
Appendix B: Most profitable films and production methods

Table 16 - All-time Top 20 Most Profitable Films Worldwide

Movie	Budget (US$)	Worldwide Gross (US$)	Profit (US$)
Avatar	$237,000,000	$2,783,918,982	$1,154,959,491
Titanic	$200,000,000	$1,842,879,955	$721,439,978
Harry Potter and the Deathly Hallows: Part II	$125,000,000	$1,327,700,185	$538,850,093
The Lord of the Rings: The Return of the King	$94,000,000	$1,140,590,087	$476,295,044
Jurassic Park	$63,000,000	$923,862,353	$398,931,177
The Lion King	$79,300,000	$942,446,203	$391,923,102
Shrek 2	$70,000,000	$919,838,758	$389,919,379
Star Wars Ep. IV: A New Hope	$11,000,000	$797,900,000	$387,950,000
ET: The Extra-Terrestrial	$10,500,000	$792,965,326	$385,982,663
The Lord of the Rings: The Two Towers	$94,000,000	$926,284,377	$369,142,189
Harry Potter and the Sorcerer's Stone	$125,000,000	$974,755,371	$362,377,686
Ice Age: Dawn of the Dinosaurs	$90,000,000	$886,968,695	$353,484,348
Harry Potter and the Deathly Hallows: Part I	$125,000,000	$955,417,476	$352,708,738
Star Wars Ep. I: The Phantom Menace	$115,000,000	$924,288,297	$347,144,149
Finding Nemo	$94,000,000	$867,894,287	$339,947,144
Harry Potter and the Chamber of Secrets	$100,000,000	$878,979,634	$339,489,817
Independence Day	$75,000,000	$817,400,878	$333,700,439
Toy Story 3	$200,000,000	$1,064,404,880	$332,202,440
The Lord of the Rings: The Fellowship of the Ring	$109,000,000	$868,621,686	$325,310,843
Harry Potter and the Order of the Phoenix	$150,000,000	$939,885,929	$319,942,965

(Source: The Numbers website: http://www.thenumbers.com/)

Figure 7 - History of Production Method



(Source: The Numbers website: http://www.thenumbers.com/)

Appendix C: Distribution of value added per sector (2010)

Value added = surplus before taxes + salaries and wages (in Mio.)

Sector	Value-added	Percentage
All industries	140,168	100.00%
Horticulture and fruit growing	516	0.37%
Sheep, beef cattle, and grain farming	749	0.53%
Dairy cattle farming	1,379	0.98%
Poultry, deer, and other livestock farming	145	0.10%
Forestry and logging	739	0.53%
Fishing and aquaculture	188	0.13%
Agriculture, forestry, and fishing support services, and hunting	889	0.63%
Mining	2,738	1.95%
Food product manufacturing	4,095	2.92%
Beverage and tobacco product manufacturing	847	0.60%
Textile, leather, clothing, and footwear manufacturing	593	0.42%
Wood product manufacturing	883	0.63%
Pulp, paper, and converted paper product manufacturing	485	0.35%
Printing	489	0.35%
Petroleum and coal product manufacturing	650	0.46%
Basic chemical and chemical product manufacturing	612	0.44%
Polymer product and rubber product manufacturing	716	0.51%
Non-metallic mineral product manufacturing	741	0.53%
Primary metal and metal product manufacturing	563	0.40%
Fabricated metal product manufacturing	1,428	1.02%
Transport equipment manufacturing	808	0.58%
Machinery and other equipment manufacturing	1,762	1.26%
Furniture and other manufacturing	492	0.35%
Electricity and gas supply	2,823	2.01%
Water, sewerage, drainage, and waste services	455	0.32%
Building construction	1,965	1.40%
Heavy and civil engineering construction	2,499	1.78%
Construction services	4,296	3.06%
Wholesale trade	7,739	5.52%
Motor vehicle and motor-vehicle parts and fuel retailing	982	0.70%
Supermarket, grocery stores, and specialised food retailing	2,191	1.56%
Other store-based retailing and non-store retailing	4,047	2.89%
Accommodation and food services	2,839	2.03%
Road transport	1,823	1.30%
Rail, water, air, and other transport	1,254	0.89%
Postal, courier, transport support, and warehousing services	2,578	1.84%
Information media services	1,290	0.92%
Telecommunications, internet, and library services	1,685	1.20%
Finance	16,934	12.08%
Insurance	1,578	1.13%
Auxiliary finance and insurance services	1,737	1.24%
Rental and hiring services (except real estate)	1,029	0.73%
Property operators and real estate services	4,302	3.07%
Professional, scientific, and technical services	13,934	9.94%
Administrative and support services	3,027	2.16%
Local government administration	2,762	1.97%
Central government administration, defence, and public safety	9,446	6.74%
Education and training	8,371	5.97%
Health care and social assistance	11,132	7.94%
Arts and recreation services	1,774	1.27%
Other services	3,171	2.26%

Source: Annual Enterprise Survey (2010)

Value added in information media services (2010)

Value added = surplus before taxes + salaries and wages (in Mio.)

ANZSIC	Sector			$ in Mio.	% of all industries
J54, J55, J56, J57	Information media services			1,290.0	0.92%
J54	Publishing (except Internet and Music Publishing)			415.3	0.30%
	J541	Newspaper, Periodical, Book and Directory Publishing		413.6	0.30%
	J542	Software Publishing		1.6	0.00%
J55	Motion Picture and Sound Recording Activities			219.1	0.16%
	J551	Motion Picture and Video Activities		208.4	0.15%
		of which:			
		J5511	Motion Picture and Video Production	106.7	0.08%
		J5514	Postproduction Services and Other Motion Picture and Video Activities	20.8	0.01%
	J552	Sound Recording and Music Publishing		10.7	0.01%
J56, J57	Broadcasting and Internet Publishing			655.5	0.47%

Source: Annual Enterprise Survey (2010)

Appendix D: Motion picture and video activities (2005-2010)

Motion Picture and Video Activities[1]

ANZSIC06 Group J551 (2005-2010)

Financial item[2]	2005	2006	2007	2008	2009[3]	2010[3]	Percentage change from previous year				
							2006	2007	2008	2009	2010
Financial performance $(million)											
Total income	1,282	1,439	1,297	1,332	1,635	1,583	12.2	-9.8	2.7	22.8	-3.2
Sales of goods and services	1,263	1,351	1,220	1,295	1,536	1,522	6.9	-9.7	6.2	18.6	-0.9
Interest, dividends and donations	10	..C	..C	21	34	17	..C	..C	..C	59.8	-49.4
Government funding, grants and subsidies	3	41	53	13	59	41	..S	28.0	..S	..S	-30.6
Non-operating income	5	..C	..C	2	6	3	..C	..C	..C	162.2	-52.1
Total expenditure	1,177	1,264	1,138	1,291	1,489	1,467	7.4	-10.0	13.4	15.4	-1.4
Interest and donations	5	..C	..C	..C	..C	..C	..C	..C	..C	..C	..C
Indirect taxes	3	..C	..C	3	..C	..C	..C	..C	..C	..C	..C
Depreciation	54	77	65	63	92	101	43.1	-15.5	-2.8	45.3	9.2
Salaries and wages paid	156	195	171	217	212	208	25.3	-12.1	26.8	-2.6	-1.6
Redundancy and severance	0	1	..C	..C	1	1	..S	..C	..C	..C	7.4
Purchases and other operating expenses	953	970	874	947	1,137	1,125	1.8	-9.9	8.3	20.1	-1.0
Non-operating expenses	6	11	11	..C	16	17	69.6	-1.7	..C	..C	6.4
Opening stocks	24	14	15	19	73	26	-43.6	12.4	23.9	283.9	-64.9
Closing stocks	31	16	18	68	25	25	-49.4	16.7	274.6	-62.7	-1.9
Surplus before income tax	112	174	162	90	98	114	55.5	-7.2	-44.3	8.7	16.8
Financial position $(million)[4]											
Total assets	..S	..S	..S	..S	1,433	1,131	..S	..S	..S	..S	-21.1
Current assets	..S	..S	..S	..S	892	659	..S	..S	..S	..S	-26.1
Fixed tangible assets	..S	..S	..S	..S	367	306	..S	..S	..S	..S	-16.5
Additions to fixed assets	..S	..S	..S	..S	120	109	..S	..S	..S	..S	-9.2
Disposals of fixed assets	..S	..S	..S	..S	12	..C	..S	..S	..S	..S	..C
Other assets	..S	..S	..S	..S	175	166	..S	..S	..S	..S	-5.4
Total equity and liabilities	..S	..S	..S	..S	1,433	1,131	..S	..S	..S	..S	-21.1
Shareholders' funds or owners' equity	..S	..S	..S	..S	..C	..C	..S	..S	..S	..S	..C
Current liabilities	..S	..S	..S	..S	774	594	..S	..S	..S	..S	-23.2
Other liabilities	..S	..S	..S	..S	..C	..C	..S	..S	..S	..S	..C
Financial ratios[2]											
Total income per employee count[5]	$391,300	$339,300	$349,800	$360,800	$419,000	$406,300					
Surplus per employee count[5]	$34,200	$41,500	$43,600	$24,400	$25,100	$29,400					

(1) This industry data is at a lower level than designed industry groupings. Because sample sizes and weights are designed at a higher level, sample error at lower levels is not controlled for, and year on year data movements should be interpreted in the context of possible changing sample sizes.
(2) Refer to 'Definitions' in the Technical Notes for definitions of financial items and ratios.
(3) These figures are provisional.
(4) The financial position data from 2005 to 2008 are designed at highly aggregated institutional sector level. For that reason, the financial position data for that period were suppressed because the design was not done at the industry level.
(5) Rolling mean employment is used. Refer to Technical Notes worksheet for definition.

Symbol:
… not applicable
..S Suppressed
..C Confidential
Source: Statistics New Zealand Annual Enterprise Survey.

Motion Picture and Video Production[1]

ANZSIC06 Class J551100 (2005-2010)

Financial item[2]	2005	2006	2007	2008	2009[3]	2010[3]	Percentage change from previous year				
							2006	2007	2008	2009	2010
Financial performance $(million)											
Total income	883	906	804	857	1,130	1,092	2.6	-11.2	6.6	31.8	-3.4
Sales of goods and services	873	839	733	828	1,048	1,044	-3.8	-12.7	13.0	26.6	-0.4
Interest, dividends and donations	..C	21	19	16	..C	15	..C	-10.1	-13.5	..C	..C
Government funding, grants and subsic	..C	40	52	12	..C	41	..C	30.5	..S	..C	..C
Non-operating income	4	6	1	1	3	3	34.3	..S	-3.0	146.4	5.7
Total expenditure	804	791	671	788	987	985	-1.6	-15.2	17.4	25.3	-0.3
Interest and donations	4	5	10	12	22	9	31.4	89.6	19.7	82.6	-58.5
Indirect taxes	1	1	..C	..C	1	1	-20.4	..C	..C	..C	12.4
Depreciation	43	49	41	40	61	70	15.2	-15.6	-3.4	51.7	15.3
Salaries and w ages paid	103	86	81	123	110	107	-16.0	-6.1	51.8	-10.1	-3.4
Redundancy and severance	0	0	0	1	0	0	42.9	157.5	259.2	..S	7.3
Purchases and other operating expens	650	641	530	609	783	792	-1.4	-17.2	14.7	28.7	1.1
Non-operating expenses	4	9	..C	..C	10	6	148.9	..C	..C	..C	-38.0
Opening stocks	..C	5	7	..C	..C	12	..C	48.9	..C	..C	..C
Closing stocks	..C	7	7	..C	..C	11	..C	4.2	..C	..C	..C
Surplus before income tax	86	116	133	118	100	106	35.5	14.6	-11.4	-15.5	6.4
Financial position $(million)[4]											
Total assets	..S	..S	..S	..S	1,077	764	..S	..S	..S	..S	-29.1
Current assets	..S	..S	..S	..S	759	517	..S	..S	..S	..S	-31.9
Fixed tangible assets	..S	..S	..S	..S	226	168	..S	..S	..S	..S	-25.6
Additions to fixed assets	..S	..S	..S	..S	93	82	..S	..S	..S	..S	-11.9
Disposals of fixed assets	..S	..S	..S	..S	8	C..	..S	..S	..S	..S	C..
Other assets	..S	..S	..S	..S	93	79	..S	..S	..S	..S	-14.6
Total equity and liabilities	..S	..S	..S	..S	1,077	764	..S	..S	..S	..S	-29.1
Shareholders' funds or ow ners' equity	..S	..S	..S	..S	328	195	..S	..S	..S	..S	-40.5
Current liabilities	..S	..S	..S	..S	627	452	..S	..S	..S	..S	-27.9
Other liabilities	..S	..S	..S	..S	123	117	..S	..S	..S	..S	-4.9
Financial ratios[2]											
Total income per employee count[5]	$1,264,600	$1,244,800	$675,800	$815,900	$898,600	$805,000					
Surplus per employee count[5]	$122,900	$159,800	$111,900	$112,300	$79,200	$78,200					

(1) This industry data is at a low er level than designed industry groupings. Because sample sizes and w eights are designed at a higher level, sample error at low er levels is not controlled for, and year on year data movements should be interpreted in the context of possible changing sample sizes.
(2) Refer to 'Definitions' in the Technical Notes for definitions of financial items and ratios.
(3) These figures are provisional.
(4) The financial position data from 2005 to 2008 are designed at highly aggregated institutional sector level. For that reason, the financial position data for that period w ere suppressed because the design w as not done at the industry level.
(5) Rolling mean employment is used. Refer to Technical Notes w orksheet for definition.

Symbol:
… not applicable
..S Suppressed
..C Confidential
Source: Statistics New Zealand Annual Enterprise Survey.

Post-Production Services and Other Motion Picture and Video Activities[1]

ANZSIC06 Class J551400 (2005-2010)

Financial item[2]	2005	2006	2007	2008	2009[3]	2010[3]	Percentage change from previous year				
							2006	2007	2008	2009	2010
Financial performance $(million)											
Total income	78	148	99	73	44	60	88.4	-32.6	-26.6	-39.5	35.8
Sales of goods and services	76	144	97	71	43	59	87.9	-32.3	-26.9	-39.2	35.3
Interest, dividends and donations	0	3	1	..C	..C	0	..S	-53.6	..C	..C	-62.0
Government funding, grants and subsidies	1	0	0	0	0	1	-92.5	..S	..S	..S	163.8
Non-operating income	0	1	1	..C	..C	0	193.0	-53.7	..C	..C	-61.3
Total expenditure	81	132	87	72	47	62	63.8	-33.9	-17.5	-34.5	32.3
Interest and donations	1	1	1	3	1	1	129.9	21.5	78.8	-48.5	7.5
Indirect taxes	0	0	0	0	0	0	4.6	40.5	-1.6	-58.3	11.5
Depreciation	4	14	9	8	6	8	220.7	-34.1	-13.9	-18.9	18.4
Salaries and wages paid	24	54	39	31	17	21	130.6	-28.4	-20.7	-46.1	25.3
Redundancy and severance	0	0	..C	1	..C	..C	..S	..C	..C	..C	..S
Purchases and other operating expenses	51	62	36	30	22	31	21.9	-41.3	-17.3	-26.8	41.2
Non-operating expenses	1	0	1	0	1	1	-64.1	178.7	-67.4	88.2	99.7
Opening stocks	2	1	0	..C	0	1	-59.3	-65.9	..C	..C	..S
Closing stocks	2	1	0	..C	0	2	-53.7	-35.0	..C	..C	..S
Surplus before income tax	-3	16	12	1	-3	-2	..S	-20.4	-92.2	..S	-41.1
Financial position $(million)[4]											
Total assets	..S	..S	..S	..S	38	56	..S	..S	..S	..S	49.2
Current assets	..S	..S	..S	..S	17	28	..S	..S	..S	..S	63.0
Fixed tangible assets	..S	..S	..S	..S	.C	18	..S	..S	..S	..S	..C
Additions to fixed assets	..S	..S	..S	..S	7	8	..S	..S	..S	..S	13.3
Disposals of fixed assets	..S	..S	..S	..S	0	2	..S	..S	..S	..S	..S
Other assets	..S	..S	..S	..S	..C	79	..S	..S	..S	..S	..C
Total equity and liabilities	..S	..S	..S	..S	38	56	..S	..S	..S	..S	49.2
Shareholders' funds or owners' equity	..S	..S	..S	..S	14	10	..S	..S	..S	..S	-32.5
Current liabilities	..S	..S	..S	..S	16	31	..S	..S	..S	..S	97.6
Other liabilities	..S	..S	..S	..S	8	15	..S	..S	..S	..S	100.1
Financial ratios[2]											
Total income per employee count[5]	$70,700	$166,900	$177,700	$168,400	$219,600	$278,600					
Surplus per employee count[5]	-$2,600	$17,600	$22,100	$2,200	-$14,700	-$7,300					

(1) This industry data is at a lower level than designed industry groupings. Because sample sizes and weights are designed at a higher level, sample error at lower levels is not controlled for, and year on year data movements should be interpreted in the context of possible changing sample sizes.
(2) Refer to 'Definitions' in the Technical Notes for definitions of financial items and ratios.
(3) These figures are provisional.
(4) The financial position data from 2005 to 2008 are designed at highly aggregated institutional sector level.
For that reason, the financial position data for that period were suppressed because the design was not done at the industry level.
(5) Rolling mean employment is used. Refer to Technical Notes worksheet for definition.

Symbol:
... not applicable
..S Suppressed
..C Confidential
Source: Statistics New Zealand Annual Enterprise Survey.

Appendix E: Comparison of the 'motion picture industry' with the 'computer systems design sector' in New Zealand

All tables are last financial year at August 2009 and 2010, source: Statistics New Zealand

Export Sales

	Total number of businesses[1]		Businesses that export		Proportion of sales from exports									
					0		25% or less		50% or less		75% or less		75% or more	
			2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
	2009	2010	Percent[2]											
Motion picture	129	135	14	16	86	84	9	11	0	2	0	2	5	0
Computer systems design	552	558	54	49	46	51	28	26	10	4	9	8	8	11
All Sectors	**36,348**	**35,307**	**18**	**15**	**82**	**85**	**10**	**8**	**2**	**2**	**2**	**2**	**5**	**4**

Investment in expansion and research and development (R&D)

	Total number of businesses [1]		Businesses that invested in expansion		Businesses that undertook (R&D)		Proportion of in-house development			
							Less than or equal to half		More than half	
			Percent[2]							
	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
Motion picture	129	135	30	33	12	16	0	0	9	16
Computer systems design	552	558	43	41	41	34	9	3	32	31
All Sectors	**36,348**	**35,307**	**26**	**25**	**8**	**7**	**3**	**2**	**5**	**5**

Businesses that undertook R&D

	Total number of businesses [1]		Businesses that undertook R&D		Average R&D expenditure[3]	
			Percent[2]		NZ$	
	2009	2010	2009	2010	2009	2010
Motion picture	120	135	12	16	64,758	106,272
Computer systems design	552	558	41	34	759,145	753,571
All Sectors	**36,348**	**35,307**	**8**	**7**	**295,440 R**	**327,725**

Employment status and occupational group of workforce

	Total number of businesses		Employment status				Occupational group							
			Full-time		Part-time		Managers		Technicians		Tradespersons		Other	
			Average percent of workforce											
	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
Motion picture	129	135	62	66	39	33	15	18	22	17	5	9	58	55
Computer systems design	552	558	90	92	10	7	55	47	29	34	3	4	13	13
All Sectors	**36,348**	**35,307**	**75**	**75**	**25**	**25**	**20**	**21**	**8**	**9**	**20**	**19**	**52**	**51**

Recruiting difficulty

	Total number of businesses[1]		Level of difficulty recruiting technicians and associate professionals							
			Not difficult		Moderately difficult		Severely difficult		Not applicable	
			2009	2010	2009	2010	2009	2010	2009	2010
	2009	2010	Percent[2]							
Motion picture	129	135	26	27	21	18	5	2	49	49
Computer systems design	552	558	25	17	28	40	14	9	31	32
All Sectors	**36,348**	**35,307**	**15**	**15**	**10**	**12**	**5**	**4**	**67**	**67**

Reported business performance

	Total number of businesses[1]		Performance indicator											
			Productivity						Market share					
			Decreased		Stayed the same		Increased		Decreased		Stayed the same		Increased	
			2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
	2009	2010	Percent[2]											
Motion picture	129	135	5	2	53	42	37	44	9	9	51	40	19	22
Computer systems design	552	558	12	8	39	47	39	38	11	5	32	40	34	34
All Sectors	**36,348**	**35,307**	**17**	**17**	**42**	**43**	**30**	**32**	**12**	**12**	**39**	**42**	**21**	**20**

Introduction of new business practices and export markets

	Total number of businesses[1]		Businesses that developed or introduced goods, services, processes, or methods		Businesses entering new export markets	
			2009	2010	2009	2010
	2009	2010	Percent[2]			
Motion picture	129	135	42	53	12	9
Computer systems design	552	558	61	57	17	16
All Sectors	**36,348**	**35,307**	**35**	**35**	**3**	**4**

Degree of change in technology

	Total number of businesses[1]		Degree of technological change							
			None at all		To a minor degree		To a major degree		Complete	
			2009	2010	2009	2010	2009	2010	2009	2010
	2009	2010	Percent[2]							
Motion picture	129	135	9	24	79	69	12	4	0	0
Computer systems design	552	558	21	17	66	63	11	18	0	0
All Sectors	**36,348**	**35,307**	**43**	**42**	**49**	**51**	**5**	**5**	**0**	**0**

Comparison with best commonly available technology

	Total number of businesses[1]		Core equipment							
			Fully up-to-date		Up to 4 years behind		Up to 10 years behind		More than 10 years behind	
			2009	2010	2009	2010	2009	2010	2009	2010
	2009	2010	Percent[2]							
Motion picture	129	135	58	49	28	33	7	7	5	4
Computer systems design	552	558	72	72	24	23	1	1	0	0
All Sectors	**36,348**	**35,307**	**50**	**48**	**27**	**28**	**6**	**7**	**2**	**2**

Businesses' competition

	Total number of businesses[1]		Businesses' competition							
			Captive market / no effective competition		No more than one or two competitors		Many competitors, several dominant		Many competitors, none dominant	
			2009	2010	2009	2010	2009	2010	2009	2010
	2009	2010	Percent[2]							
Motion picture	129	135	14	22	28	29	49	44	9	2
Computer systems design	552	558	3	2	24	23	58	58	13	15
All Sectors	**36,348**	**35,307**	**5**	**5**	**18**	**19**	**53**	**52**	**19**	**20**

Changes that affect pricing

	Businesses that set their own prices[1]	Change in							
		Stock levels				Number of competitors			
		Importance							
		Price increase only	Price decrease only	Both increase and decrease	Neither	Price increase only	Price decrease only	Both increase and decrease	Neither
	Percent[2]								
Motion picture	96	2	0	11	69	9	0	40	49
Computer systems design	87	0	0	4	72	4	2	29	44
All Sectors	**82**	**4**	**2**	**18**	**46**	**6**	**3**	**31**	**34**

Debit finance received

	Total number of businesses[1]		Businesses that requested debt finance		Amount of debt finance received					
					All		Some		None	
			2009	2010	2009	2010	2009	2010	2009	2010
	2009	2010	Percent[2]							
Motion picture	129	135	21	22	21	22	0	0	0	0
Computer systems design	552	558	22	20	14	15	2	2	7	3
All Sectors	**36,348**	**35,307**	**32**	**31**	**28**	**25**	**3**	**3**	**1**	**3**

Appendix F: Business Operations Survey

Businesses that export (%)

Export sales

Last financial year at August 2009 and 2010

	Total number of businesses[1]		Businesses that export		Proportion of sales from exports									
					0		25% or less		50% or less		75% or less		75% or more	
	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
			Percent[2]											
Business size[3]														
6–19 employees	26,817	26,184	16	13	84	87	8	7	2	1	1	1	5	4
20–49 employees	6,243	5,961	20	19	80	81	12	11	3	4	2	1	4	3
50–99 employees	1,749	1,686	31	27	68	73	17	14	5	4	4	3	6	6
100+ employees	1,539	1,479	29	30	71	70	15	17	3	3	5	4	6	6
Industry														
Agriculture, forestry, & fishing	3,132	3,117	37	28	63	72	5	4	3	2	1	2	28	20
Agriculture	2,133	2,103	51	40	49	60	6	6	4	3	2	3	40	29
Commercial fishing[4]	42	42	50	29	43	79	14	0	14	0	7	7	21	14
Forestry & logging	201	210	9	6	90	96	3	0	1	0	3	4	3	0
Agriculture, forestry, & fishing support services	756	762	3	2	97	98	1	0	0	0	0	0	2	2
Mining	108	99	17	18	83	85	6	3	6	0	0	6	6	6
Manufacturing	5,292	5,016	41	36	59	64	22	19	8	6	4	5	7	5
Food, beverage, & tobacco	942	921	48	46	52	54	18	16	10	11	9	11	12	8
Textile, clothing, footwear, & leather	393	357	52	48	47	52	35	29	5	10	5	3	8	5
Wood & paper product	570	528	35	28	65	73	21	17	5	2	6	5	3	4
Printing, publishing, & recorded media	330	306	25	17	75	84	18	12	5	3	1	1	1	0
Petroleum, coal, chemical, & associated product	414	414	76	63	25	37	38	39	17	10	7	7	13	7
Non-metallic mineral product	168	165	30	18	70	80	25	18	5	2	0	0	0	0
Metal product	954	912	25	21	75	79	13	15	9	4	1	1	2	1
Transport and industrial machinery & equipment	894	831	40	36	60	65	24	17	6	6	3	5	7	8
Other machinery & equipment	228	210	62	57	38	43	32	29	8	9	7	0	16	20
Other manufacturing	396	369	32	33	67	67	20	19	5	6	3	4	4	4
Electricity, gas, water, & waste services[4]	120	114	8	8	90	95	5	3	3	0	3	3	0	0
Construction	3,801	3,468	2	2	98	98	2	1	0	0	0	0	0	0
Wholesale trade	2,958	2,862	42	39	58	61	32	31	3	3	0	1	7	5
Machinery & equipment wholesaling	930	903	36	36	64	64	27	31	3	0	0	0	6	4
Other wholesale trade	2,028	1,959	45	40	55	60	34	31	3	3	0	1	8	5
Retail trade	4,296	4,215	5	7	95	94	3	5	1	0	1	1	0	0
Accommodation & food services	4,260	4,194	6	0	94	100	3	0	0	0	2	0	0	0
Transport, postal, & warehousing	1,425	1,362	8	9	92	91	4	2	3	3	1	2	0	2
Information media & telecommunications	345	339	24	22	77	79	17	14	0	4	1	2	6	2
Publishing	132	120	34	23	64	83	25	13	0	3	2	0	9	3
Motion picture	129	135	14	16	86	84	9	11	0	2	0	2	5	0
Telecommunications[4]	84	87	25	28	79	76	18	17	0	3	0	0	4	3
Financial & insurance services	504	507	10	9	90	91	5	8	1	0	1	1	2	0
Finance	153	159	4	4	98	96	2	0	0	0	0	2	0	2
Insurance[4]	45	45	20	7	80	93	13	7	0	0	0	0	7	0
Auxiliary	303	303	13	13	87	87	6	12	1	0	2	1	4	0
Rental, hiring, & real estate services	927	804	3	3	97	97	2	3	0	0	0	0	2	0
Professional, scientific, & technical services	3,504	3,462	22	21	78	79	13	11	2	3	2	2	5	5
Other professional scientific	2,955	2,907	16	15	84	85	11	8	0	3	1	1	4	4
Computer systems design	552	558	54	49	46	51	28	26	10	4	9	8	8	11
Administrative & support services	1,365	1,335	11	9	89	91	5	5	1	1	0	1	5	2
Education & training	699	717	10	7	91	93	3	2	0	0	0	0	6	5
Health care & social assistance	2,103	2,226	2	0	98	100	2	0	0	0	1	0	0	0
Arts & recreation services	483	486	2	2	98	98	1	1	0	0	0	1	1	1
Other services	1,032	978	10	5	90	95	9	4	0	0	0	0	1	0
Overall	**36,348**	**35,307**	**18**	**15**	**82**	**85**	**10**	**8**	**2**	**2**	**2**	**2**	**5**	**4**

1. For more information on the businesses included, see 'Technical notes' in this release.
2. Percentages are of all New Zealand businesses in each business size or industry category.
3. Defined by rolling mean employment (RME) count. For more information on the RME count and the businesses included, see 'Technical notes' of this release.
4. Results for the commercial fishing; electricity, gas, water, & waste services; telecommunications; and insurance industries should be treated with caution due to the small numbers of businesses in these categories.

Note: All counts in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated. Due to rounding, some figures may not sum to stated totals. Sub-industries (indented) carry higher sample errors, and should therefore be treated with caution.

Source: Statistics New Zealand

Businesses that invested in expansion (%)

Investment in expansion and research & development

Last financial year at August 2009 and 2010

	Total number of businesses [1]		Businesses that invested in expansion		Businesses that undertook research and development (R&D)		Proportion of in-house development: Less than or equal to half		Proportion of in-house development: More than half	
			Percent[2]							
	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
Business size[3]										
6–19 employees	26,817	26,184	23	23	6	6	3	2	4	4
20–49 employees	6,243	5,961	28	28	10	10	4	3	6	7
50–99 employees	1,749	1,686	37	36	14	13	4	4	10	9
100+ employees	1,539	1,479	45	47	20	17	5	4	15	13
Industry										
Agriculture, forestry, & fishing	3,132	3,117	32	31	13	6	5	2	3	4
Agriculture	2,133	2,103	33	31	9	5	5	1	4	4
Commercial fishing[4]	42	42	50	36	14	36	7	21	0	14
Forestry & logging	201	210	31	43	3	7	3	6	0	3
Agriculture, forestry, & fishing support services	756	762	26	28	4	6	3	3	1	2
Mining	108	99	42	42	11	18	3	3	11	12
Manufacturing	5,292	5,016	34	33	20	17	6	4	14	13
Food, beverage, & tobacco	942	921	42	39	17	17	4	4	12	12
Textile, clothing, footwear, & leather	393	357	25	24	19	11	5	5	15	7
Wood & paper product	570	528	23	26	10	19	5	6	5	13
Printing, publishing, & recorded media	330	306	33	40	6	6	2	2	4	4
Petroleum, coal, chemical, & associated product	414	414	42	38	43	33	11	7	32	26
Non-metallic mineral product	168	165	32	36	20	15	9	0	11	13
Metal product	954	912	28	28	14	10	4	2	9	8
Transport and industrial machinery & equipment	894	831	39	36	26	17	7	2	19	15
Other machinery & equipment	228	210	42	41	39	39	9	7	29	31
Other manufacturing	396	369	35	29	14	13	4	2	10	12
Electricity, gas, water, & waste services[4]	120	114	40	37	10	5	0	0	8	8
Construction	3,801	3,468	20	22	4	8	2	4	3	3
Wholesale trade	2,958	2,862	24	27	12	8	4	1	8	7
Machinery & equipment wholesaling	930	903	20	34	13	10	2	1	11	10
Other wholesale trade	2,028	1,959	25	23	12	6	6	1	7	5
Retail trade	4,296	4,215	18	22	1 R	2	0	0	0 R	2
Accommodation & food services	4,260	4,194	19	18	3	5	3	3	0	2
Transport, postal, & warehousing	1,425	1,362	35	26	2	2	2	1	1	1
Information media & telecommunications	345	339	31	35	15	16	1	1	15	15
Publishing	132	120	20	25	9	10	0	0	9	8
Motion picture	129	135	30	33	12	16	0	0	9	16
Telecommunications[4]	84	87	50	52	29	28	4	0	25	24
Financial & insurance services	504	507	28	30	6	7	1	2	5	4
Finance	153	159	27	30	8	6	0	2	6	4
Insurance[4]	45	45	47	33	13	13	7	0	0	13
Auxiliary	303	303	26	32	6	7	1	3	5	4
Rental, hiring, & real estate services	927	804	25	27	6	4	2	2	5	2
Professional, scientific, & technical services	3,504	3,462	30	25	13	11	5	4	8	8
Other professional scientific	2,955	2,907	27	21	8	7	4	4	4	3
Computer systems design	552	558	43	41	41	34	9	3	32	31
Administrative & support services	1,365	1,335	26	28	5	5	2	2	3	3
Education & training	699	717	27	31	10	10	4	3	6	7
Health care & social assistance	2,103	2,226	24	20	2	4	1	0	1	4
Arts & recreation services	483	486	25	23	5	2	4	1	1	2
Other services	1,032	978	20	22	2	2	0	1	2	2
Overall	**36,348**	**35,307**	**26**	**25**	**8**	**7**	**3**	**2**	**5**	**5**

1. For more information on the businesses included, see 'Technical notes' in this release.
2. Percentages are of all New Zealand businesses in each business size or industry category.
3. Defined by rolling mean employment (RME) count. For more information on the RME count and the businesses included, see 'Technical notes' of this release.
4. Results for the commercial fishing; electricity, gas, water, & waste services; telecommunications; and insurance industries should be treated with caution due to the small numbers of businesses in these categories.

Note: All counts in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated. Due to rounding, some figures may not sum to stated totals. Sub-industries (indented) carry higher sample errors, and should therefore be treated with caution. Percentages for in-house development will add to less than 100 percent where businesses do not perform R&D.

Symbol: R revised

Source: Statistics New Zealand

Businesses that undertook R&D (%)

Businesses that undertook R&D
Last financial year at August 2009 and 2010

	Total number of businesses [1]		Businesses that undertook R&D Percent[2]		Average R&D expenditure[3] NZ$			
	2009	2010	2009	2010	2009		2010	
Business size[4]								
6–19 employees	26,817	26,184	6	6	76,444	R	76,626	
20–49 employees	6,243	5,961	10	10	214,980	R	259,087	
50–99 employees	1,749	1,686	14	13	562,960		595,217	
100+ employees	1,539	1,479	20	17	1,429,067	R	1,862,253	
Industry								
Agriculture, forestry, & fishing	3,132	3,117	8	6	88,622		104,422	
Agriculture	2,133	2,103	9	5	58,974		102,055	
Commercial fishing[5]	42	42	14	36	98,005		53,684	
Forestry & logging	201	210	3	7	140,341		53,594	
Agriculture, forestry, & fishing support services	756	762	4	6	269,114		146,614	
Mining	108	99	11	18	1,791,172	R	693,685	
Manufacturing	5,292	5,016	20	17	322,185		418,857	
Food, beverage, & tobacco	942	921	17	17	378,139		453,595	
Textile, clothing, footwear, & leather	393	357	19	11	118,970		124,844	
Wood & paper product	570	528	10	19	126,400		83,832	
Printing, publishing, & recorded media	330	306	6	6	18,909		32,388	
Petroleum, coal, chemical, & associated product	414	414	43	33	238,507		293,860	
Non-metallic mineral product	168	165	20	15	63,810		132,561	
Metal product	954	912	14	10	366,856		230,142	
Transport and industrial machinery & equipment	894	831	26	17	176,875		409,275	
Other machinery & equipment	228	210	39	39	1,330,890		1,719,013	
Other manufacturing	396	369	14	13	53,788		84,379	
Electricity, gas, water, & waste services[5]	120	114	10	5	397,501		150,614	
Construction	3,801	3,468	4	8	42,804		32,557	
Wholesale trade	2,958	2,862	12	8	290,202		426,821	
Machinery & equipment wholesaling	930	903	13	10	284,648		321,821	
Other wholesale trade	2,028	1,959	12	6	296,307		506,210	
Retail trade	4,296	4,215	1	R 2	83,107	R	15,349	
Accommodation & food services	4,260	4,194	3	5	8,504		6,190	
Transport, postal, & warehousing	1,425	1,362	2	2	371,848		622,277	
Information media & telecommunications	345	339	15	16	294,689	R	401,333	
Publishing	132	120	9	10	87,774		164,010	
Motion picture	129	135	12	16	64,758		106,272	
Telecommunications[5]	84	87	29	28	541,853	R	728,007	
Financial & insurance services	504	507	6	7	985,688		1,002,813	
Finance	153	159	8	6	2,042,013		2,838,054	
Insurance[5]	45	45	13	13	418,027		452,093	
Auxiliary	303	303	6	7	142,128		373,629	
Rental, hiring, & real estate services	927	804	6	4	27,736		3,852	
Professional, scientific, & technical services	3,504	3,462	13	11	517,847	R	696,977	
Other professional scientific	2,955	2,907	8	7	300,816		643,711	
Computer systems design	552	558	41	34	759,145		753,571	
Administrative & support services	1,365	1,335	5	5	357,909		239,790	
Education & training	699	717	10	10	41,998		56,581	
Health care & social assistance	2,103	2,226	2	4	409,852		15,039	
Arts & recreation services	483	486	5	2	83,887		149,095	
Other services	1,032	978	2	2	25,840		9,420	
Overall	**36,348**	**35,307**	**8**	**7**	**295,440**	**R**	**327,725**	

1. For more information on the businesses included, see 'Technical notes' in this release.
2. Percentages are of all New Zealand businesses in each business size or industry category.
3. Average is defined by total R&D expenditure in each business size and industry category divided by the number of businesses undertaking R&D in each business size and industry category.
4. Defined by rolling mean employment (RME) count. For more information on the RME count and the businesses included, see 'Technical notes' of this release.
5. Results for the commercial fishing; electricity, gas, water, & waste services; telecommunications; and insurance industries should be treated with caution due to the small numbers of businesses in these categories.

Note: All counts in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated. Due to rounding, some figures may not sum to stated totals. Sub-industries (indented) carry higher sample errors, and should therefore be treated with caution.

Symbol:
R revised
Source: Statistics New Zealand

Businesses with overseas ownership (%)

Overseas ownership
Last financial year at August 2009 and 2010

	Total number of businesses [1]		Businesses with overseas ownership		Proportion of overseas ownership			
					Up to half		Over or equal to half	
	2009	2010	2009	2010	2009	2010	2009	2010
			Percent[2]					
Business size[3]								
6–19 employees	26,817	26,184	5	6	1	2	4	4
20–49 employees	6,243	5,961	8	8	2	1	7	7
50–99 employees	1,749	1,686	20	18	3	2	17	16
100+ employees	1,539	1,479	30	31	3	3	27	29
Industry								
Agriculture, forestry, & fishing	3,132	3,117	4	5	2	1	3	4
Agriculture	2,133	2,103	5	6	2	1	3	5
Commercial fishing[4]	42	42	7	0	0	0	0	0
Forestry & logging	201	210	6	3	3	0	3	1
Agriculture, forestry, & fishing support services	756	762	0	1	0	0	0	1
Mining	108	99	25	27	3	0	25	27
Manufacturing	5,292	5,016	9	10	2	1	7	8
Food, beverage, & tobacco	942	921	15	16	1	3	13	13
Textile, clothing, footwear, & leather	393	357	6	5	2	3	4	3
Wood & paper product	570	528	4	5	1	0	4	5
Printing, publishing, & recorded media	330	306	5	6	3	0	3	6
Petroleum, coal, chemical, & associated product	414	414	19	22	4	2	15	19
Non-metallic mineral product	168	165	9	9	5	4	5	7
Metal product	954	912	8	8	2	0	6	7
Transport and industrial machinery & equipment	894	831	4	6	0	0	3	5
Other machinery & equipment	228	210	21	20	4	6	18	16
Other manufacturing	396	369	6	3	0	0	6	3
Electricity, gas, water, & waste services[4]	120	114	8	8	0	0	8	5
Construction	3,801	3,468	2	3	0	0	2	3
Wholesale trade	2,958	2,862	22	23	2	2	20	21
Machinery & equipment wholesaling	930	903	29	34	2	3	27	32
Other wholesale trade	2,028	1,959	20	19	3	2	17	17
Retail trade	4,296	4,215	3	3	0	0	2	3
Accommodation & food services	4,260	4,194	3	4	2	3	1	1
Transport, postal, & warehousing	1,425	1,362	8	11	0	2	8	9
Information media & telecommunications	345	339	19	19	3	3	15	17
Publishing	132	120	16	13	2	3	11	13
Motion picture	129	135	23	27	5	4	19	20
Telecommunications[4]	84	87	18	14	4	3	14	14
Financial & insurance services	504	507	25	23	4	3	22	20
Finance	153	159	24	28	6	6	18	21
Insurance[4]	45	45	53	47	7	7	47	40
Auxiliary	303	303	22	17	2	1	21	16
Rental, hiring, & real estate services	927	804	6	7	2	4	4	3
Professional, scientific, & technical services	3,504	3,462	11	11	3	3	8	8
Other professional scientific	2,955	2,907	7	7	2	1	5	5
Computer systems design	552	558	31	32	3	9	28	23
Administrative & support services	1,365	1,335	9	9	2	2	7	7
Education & training	699	717	8	2	2	0	6	2
Health care & social assistance	2,103	2,226	3	4	1	2	2	1
Arts & recreation services	483	486	2	4	1	1	2	4
Other services	1,032	978	3	2	1	0	2	2
Overall	**36,348**	**35,307**	**7**	**8**	**1**	**1**	**6**	**6**

1. For more information on the businesses included, see 'Technical notes' in this release.
2. Percentages are of all New Zealand businesses in each business size or industry category.
3. Defined by rolling mean employment (RME) count. For more information on the RME count and the businesses included, see 'Technical notes' of this release.
4. Results for the commercial fishing; electricity, gas, water, & waste services; telecommunications; and insurance industries should be treated with caution due to the small numbers of businesses in these categories.

Note: All counts in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated. Due to rounding, some figures may not sum to stated totals. Sub-industries (indented) carry higher sample errors, and should therefore be treated with caution. Percentages for proportion of overseas ownership will add to less than 100 where businesses have not had overseas ownership.

Source: Statistics New Zealand

Businesses that had a change in technology (%)

Degree of change in technology
Last financial year at August 2009 and 2010

	Total number of businesses[1]		Degree of technological change							
			None at all		To a minor degree		To a major degree		Complete	
	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
			Percent[2]							
Business size[3]										
6–19 employees	26,817	26,184	46	45	47	48	4	4	0	0
20–49 employees	6,243	5,961	39	39	52	55	6	5	0	0
50–99 employees	1,749	1,686	31	29	60	63	7	7	0	0
100+ employees	1,539	1,479	21	19	69	72	8	7	0	0
Industry										
Agriculture, forestry, & fishing	3,132	3,117	43	48	50	48	5	1	0	0
Agriculture	2,133	2,103	38	44	56	53	5	0	0	0
Commercial fishing[4]	42	42	43	36	50	57	7	7	0	0
Forestry & logging	201	210	58	54	40	37	0	1	0	0
Agriculture, forestry, & fishing support services	756	762	54	59	36	34	5	2	0	1
Mining	108	99	33	42	58	52	3	0	0	0
Manufacturing	5,292	5,016	41	41	51	51	6	5	0	0
Food, beverage, & tobacco	942	921	40	47	55	47	4	6	0	0
Textile, clothing, footwear, & leather	393	357	50	48	46	50	4	2	0	0
Wood & paper product	570	528	54	51	37	45	9	3	0	0
Printing, publishing, & recorded media	330	306	30	27	59	64	11	8	0	0
Petroleum, coal, chemical, & associated product	414	414	35	30	57	64	6	6	0	0
Non-metallic mineral product	168	165	36	45	54	51	11	4	0	0
Metal product	954	912	52	52	44	41	4	4	0	0
Transport and industrial machinery & equipment	894	831	35	34	55	58	5	4	0	0
Other machinery & equipment	228	210	21	21	62	63	16	14	1	0
Other manufacturing	396	369	31	34	58	50	6	11	0	0
Electricity, gas, water, & waste services[4]	120	114	45	47	50	53	8	3	0	0
Construction	3,801	3,468	45	49	49	46	2	3	0	0
Wholesale trade	2,958	2,862	39	34	54	59	6	7	0	0
Machinery & equipment wholesaling	930	903	31	22	61	69	8	9	0	0
Other wholesale trade	2,028	1,959	42	39	50	54	5	5	1	0
Retail trade	4,296	4,215	59	51	37	44	3	4	0	0
Accommodation & food services	4,260	4,194	54	54	40	38	1	4	0	0
Transport, postal, & warehousing	1,425	1,362	46	51	46	39	3	5	1	0
Information media & telecommunications	345	339	19	19	70	72	11	10	0	0
Publishing	132	120	30	20	59	70	9	10	0	0
Motion picture	129	135	9	24	79	69	12	4	0	0
Telecommunications[4]	84	87	11	10	71	79	14	10	0	0
Financial & insurance services	504	507	32	25	57	60	10	14	0	1
Finance	153	159	35	32	65	58	2	8	0	0
Insurance[4]	45	45	13	20	67	73	20	0	0	0
Auxiliary	303	303	34	23	53	57	12	17	0	0
Rental, hiring, & real estate services	927	804	38	42	53	51	5	6	0	0
Professional, scientific, & technical services	3,504	3,462	26	22	64	70	9	7	0	1
Other professional scientific	2,955	2,907	27	23	64	71	9	5	0	2
Computer systems design	552	558	21	17	66	63	11	18	0	0
Administrative & support services	1,365	1,335	44	40	46	56	6	4	1	0
Education & training	699	717	32	34	59	59	6	5	0	0
Health care & social assistance	2,103	2,226	32	35	57	57	6	5	2	1
Arts & recreation services	483	486	52	45	43	48	4	6	0	0
Other services	1,032	978	46	46	46	48	6	4	1	1
Overall	**36,348**	**35,307**	**43**	**42**	**49**	**51**	**5**	**5**	**0**	**0**

1. For more information on the businesses included, see 'Technical notes' in this release.
2. Percentages are of all New Zealand businesses in each business size or industry category.
3. Defined by rolling mean employment (RME) count. For more information on the RME count and the businesses included, see 'Technical notes' of this release.
4. Results for the commercial fishing; electricity, gas, water, & waste services; telecommunications; and insurance industries should be treated with caution due to the small numbers of businesses in these categories.

Note: All counts in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated. Due to rounding, some figures may not sum to stated totals. Sub-industries (indented) carry higher sample errors, and should therefore be treated with caution. Percentages will add to under 100 percent where businesses have answered 'don't know'.

Source: Statistics New Zealand

Average percent of workforce employed part-time and full-time

Employment status and occupational group of workforce

Last financial year at August 2009 and 2010

	Total number of businesses [1]		Employment status				Occupational group							
			Full-time		Part-time		Managers		Technicians		Trades persons		Other	
			Average percent of workforce											
	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
Business size [2]														
6–19 employees	26,817	26,184	75	75	25	25	21	22	8	9	21	20	49	48
20–49 employees	6,243	5,961	75	74	25	26	17	18	8	8	19	18	56	56
50–99 employees	1,749	1,686	77	77	23	23	16	16	8	8	14	13	62	63
100+ employees	1,539	1,479	76	76	24	24	15	16	8	9	10	9	67	66
Industry														
Agriculture, forestry, & fishing	3,132	3,117	77	74	23	26	15	15	3	2	15	15	67	67
Agriculture	2,133	2,103	79	76	21	24	18	18	3	2	14	14	65	67
Commercial fishing [3]	42	42	84	87	16	15	19	16	6	4	12	12	64	70
Forestry & logging	201	210	96	93	5	7	8	11	3	3	21	25	69	62
Agriculture, forestry, & fishing support services	756	762	65	64	35	36	7	9	1	3	17	18	74	71
Mining	108	99	93	95	8	6	22	21	4	4	14	16	61	59
Manufacturing	5,292	5,016	88	88	12	12	15	15	6	6	35	34	44	46
Food, beverage, & tobacco	942	921	76	77	24	23	14	14	5	6	18	15	62	65
Textile, clothing, footwear, & leather	393	357	88	84	12	15	13	12	6	4	29	27	52	56
Wood & paper product	570	528	90	92	10	8	15	11	4	5	38	35	42	50
Printing, publishing, & recorded media	330	306	86	87	14	13	17	15	10	9	38	36	35	41
Petroleum, coal, chemical, & associated product	414	414	91	91	9	9	15	16	11	9	17	14	57	61
Non-metallic mineral product	168	165	89	88	12	12	14	13	3	7	25	29	59	52
Metal product	954	912	94	94	6	6	14	15	7	6	41	38	39	41
Transport and industrial machinery & equipment	894	831	92	90	8	10	15	15	5	5	57	59	23	21
Other machinery & equipment	228	210	90	91	9	9	21	24	12	12	23	22	43	41
Other manufacturing	396	369	86	88	14	12	15	16	6	6	39	43	40	36
Electricity, gas, water, & waste services [3]	120	114	83	83	17	18	17	18	5	4	8	9	70	70
Construction	3,801	3,468	91	94	9	6	14	14	4	6	51	49	31	31
Wholesale trade	2,958	2,862	89	88	11	12	23	24	8	11	13	9	56	56
Machinery & equipment wholesaling	930	903	88	91	10	9	23	22	13	14	16	13	47	51
Other wholesale trade	2,028	1,959	89	87	11	13	22	24	6	9	12	8	60	59
Retail trade	4,296	4,215	73	71	27	29	18	19	6	7	16	18	60	56
Accommodation & food services	4,260	4,194	48	46	52	54	14	15	1	4	12	11	71	70
Transport, postal, & warehousing	1,425	1,362	74	79	26	21	12	11	2	4	5	8	81	76
Information media & telecommunications	345	339	70	75	29	26	22	25	18	17	5	8	53	51
Publishing	132	120	68	75	31	25	25	26	12	11	3	4	60	59
Motion picture	129	135	62	66	39	33	15	18	22	17	5	9	58	55
Telecommunications [3]	84	87	85	86	13	15	30	32	24	25	8	10	36	33
Financial & insurance services	504	507	87	87	13	13	33	37	16	15	2	3	49	46
Finance	153	159	89	86	11	14	37	36	11	10	1	3	51	50
Insurance [3]	45	45	85	87	13	11	20	21	22	17	2	3	54	57
Auxiliary	303	303	87	87	14	13	34	39	17	17	2	2	47	42
Rental, hiring, & real estate services	927	804	68	70	32	30	18	20	6	6	10	10	65	64
Professional, scientific, & technical services	3,504	3,462	84	84	16	16	44	44	27	26	5	6	24	25
Other professional scientific	2,955	2,907	83	82	17	18	42	43	26	24	6	6	25	27
Computer systems design	552	558	90	92	10	7	55	47	29	34	3	4	13	13
Administrative & support services	1,365	1,335	67	65	33	35	20	20	9	9	9	7	62	64
Education & training	699	717	60	64	40	37	32	35	18	17	15	18	35	30
Health care & social assistance	2,103	2,226	51	54	49	46	29	31	13	14	8	9	50	46
Arts & recreation services	483	486	40	44	60	55	14	17	3	5	5	10	77	68
Other services	1,032	978	90	92	10	8	13	14	9	10	57	53	21	24
Overall	**36,348**	**35,307**	**75**	**75**	**25**	**25**	**20**	**21**	**8**	**9**	**20**	**19**	**52**	**51**

1. For more information on the businesses included, see 'Technical notes' in this release.
2. Defined by rolling mean employment (RME) count. For more information on the RME count and the businesses included, see 'Technical notes' of this release.
3. Results for the commercial fishing; electricity, gas, water, & waste services; telecommunications; and insurance industries should be treated with caution due to the small numbers of businesses in these categories.

Note: All counts in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated. Due to rounding, some figures may not sum to stated totals. Sub-industries (indented) carry higher sample errors, and should therefore be treated with caution. Percentages may add to more than 100 as businesses may choose more than one method.

Source: Statistics New Zealand

Average years since business began

Years of operation Last financial year at August 2009 and 2010	Total number of businesses[1]		Average years since business began	
	2009	2010	2009	2010
Business size[2]				
6–19 employees	26,817	26,184	19	19
20–49 employees	6,243	5,961	24	24
50–99 employees	1,749	1,686	28	29
100+ employees	1,539	1,479	34	34
Industry				
Agriculture, forestry, & fishing	3,132	3,117	21	23
Agriculture	2,133	2,103	24	27
Commercial fishing[3]	42	42	16	18
Forestry & logging	201	210	12	17
Agriculture, forestry, & fishing support services	756	762	15	15
Mining	108	99	31	34
Manufacturing	5,292	5,016	25	27
Food, beverage, & tobacco	942	921	22	26
Textile, clothing, footwear, & leather	393	357	31	30
Wood & paper product	570	528	23	26
Printing, publishing, & recorded media	330	306	28	30
Petroleum, coal, chemical, & associated product	414	414	25	25
Non-metallic mineral product	168	165	27	27
Metal product	954	912	26	27
Transport and industrial machinery & equipment	894	831	25	26
Other machinery & equipment	228	210	25	26
Other manufacturing	396	369	24	29
Electricity, gas, water, & waste services[3]	120	114	14	15
Construction	3,801	3,468	19	18
Wholesale trade	2,958	2,862	23	23
Machinery & equipment wholesaling	930	903	23	23
Other wholesale trade	2,028	1,959	23	23
Retail trade	4,296	4,215	26	23
Accommodation & food services	4,260	4,194	14	14
Transport, postal, & warehousing	1,425	1,362	24	25
Information media & telecommunications	345	339	24	25
Publishing	132	120	40	42
Motion picture	129	135	16	18
Telecommunications[3]	84	87	11	12
Financial & insurance services	504	507	24	25
Finance	153	159	32	38
Insurance[3]	45	45	40	37
Auxiliary	303	303	19	17
Rental, hiring, & real estate services	927	804	17	20
Professional, scientific, & technical services	3,504	3,462	22	25
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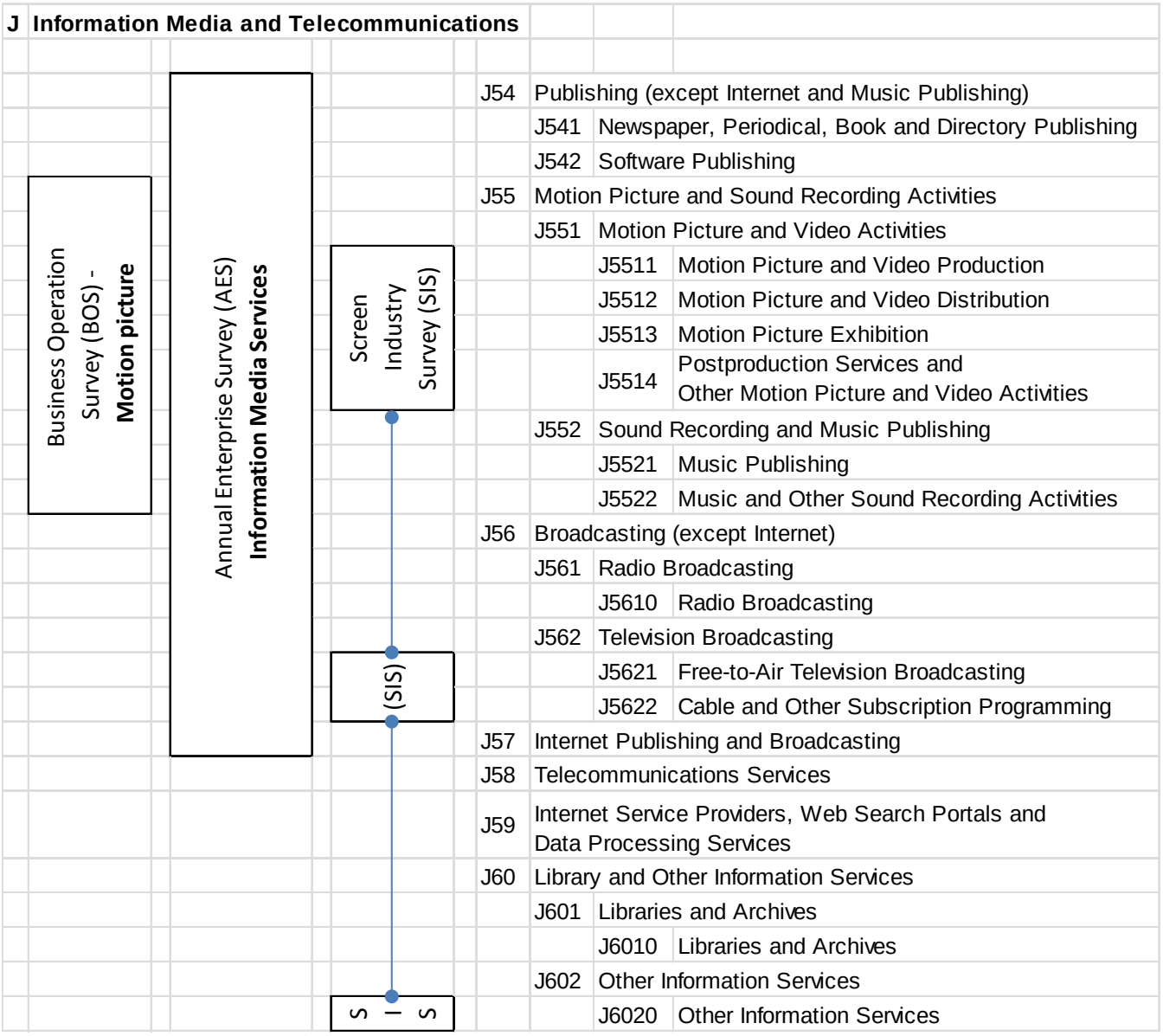
Health care & social assistance	2,103	2,226	17	16
Arts & recreation services	483	486	22	21
Other services	1,032	978	21	24
Overall	**36,348**	**35,307**	**21**	**21**

1. For more information on the businesses included, see 'Technical notes' in this release.
2. Defined by rolling mean employment (RME) count. For more information on the RME count and the businesses included, see 'Technical notes' of this release.
3. Results for the commercial fishing; electricity, gas, water, & waste services; telecommunications; and insurance industries should be treated with caution due to the small numbers of businesses in these categories.

Note: All counts in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated. Due to rounding, some figures may not sum to stated totals. Sub-industries (indented) carry higher sample errors, and should therefore be treated with caution. Percentages will add to under 100 percent where businesses have answered 'don't know'.

Source: Statistics New Zealand

Appendix G: Screen industry within the industry classification



J	**Information Media and Telecommunications**		
J54	Publishing (except Internet and Music Publishing)		
	J541	Newspaper, Periodical, Book and Directory Publishing	
	J542	Software Publishing	
J55	Motion Picture and Sound Recording Activities		
	J551	Motion Picture and Video Activities	
		J5511	Motion Picture and Video Production
		J5512	Motion Picture and Video Distribution
		J5513	Motion Picture Exhibition
		J5514	Postproduction Services and Other Motion Picture and Video Activities
	J552	Sound Recording and Music Publishing	
		J5521	Music Publishing
		J5522	Music and Other Sound Recording Activities
J56	Broadcasting (except Internet)		
	J561	Radio Broadcasting	
		J5610	Radio Broadcasting
	J562	Television Broadcasting	
		J5621	Free-to-Air Television Broadcasting
		J5622	Cable and Other Subscription Programming
J57	Internet Publishing and Broadcasting		
J58	Telecommunications Services		
J59	Internet Service Providers, Web Search Portals and Data Processing Services		
J60	Library and Other Information Services		
	J601	Libraries and Archives	
		J6010	Libraries and Archives
	J602	Other Information Services	
		J6020	Other Information Services

Business Operations Survey (BOS)

- annual GST turnover > $30,000
- Employees > 5
- had been operating for one year or more

Annual Enterprise Survey (AES)

Business meets at least one of the following criteria:

- Annual GST expenses or sales > $30,000
- RMEs > three
- GST-exempt industry
- part of a group of enterprises

Screen Industry Survey (SIS)

Business meets at least one of the following criteria:

- Annual GST expenses or sales > $30,000
- Employees > two
- GST-exempt industry
- part of a group of enterprises

ANZSIC 2006 DIVISION, SUBDIVISION AND GROUP CODES AND TITLES				3 level groupings
A	**AGRICULTURE, FORESTRY AND FISHING**			
	01	**Agriculture**		
		011	Nursery and Floriculture Production	Horticulture and fruit growing
		012	Mushroom and Vegetable Growing	
		013	Fruit and Tree Nut Growing	
		014	Sheep, Beef Cattle and Grain Farming	Sheep, beef cattle, and grain farming
		015	Other Crop Growing	
		016	Dairy Cattle Farming	Dairy cattle farming
		017	Poultry Farming	Poultry, deer, and other livestock farming
		018	Deer Farming	
		019	Other Livestock Farming	
	02	**Aquaculture**		
		020	Aquaculture	
	03	**Forestry and Logging**		Forestry and logging
		030	Forestry and Logging	
	04	**Fishing, Hunting and Trapping**		
		041	Fishing	Fishing and aquaculture
		042	Hunting and Trapping	Agriculture, forestry, and fishing support services, and hunting
	05	**Agriculture, Forestry and Fishing Support Services**		
		051	Forestry Support Services	
		052	Agriculture and Fishing Support Services	
B	**MINING**			Mining
	06	**Coal Mining**		
		060	Coal Mining	
	07	**Oil and Gas Extraction**		
		070	Oil and Gas Extraction	
	08	**Metal Ore Mining**		
		080	Metal Ore Mining	
	09	**Non-Metallic Mineral Mining and Quarrying**		
		091	Construction Material Mining	
		099	Other Non-Metallic Mineral Mining and Quarrying	
	10	**Exploration and Other Mining Support Services**		
		101	Exploration	
		109	Other Mining Support Services	
C	**MANUFACTURING**			
	11	**Food Product Manufacturing**		Food product manufacturing
		111	Meat and Meat Product Manufacturing	
		112	Seafood Processing	
		113	Dairy Product Manufacturing	
		114	Fruit and Vegetable Processing	
		115	Oil and Fat Manufacturing	
		116	Grain Mill and Cereal Product Manufacturing	
		117	Bakery Product Manufacturing	
		118	Sugar and Confectionery Manufacturing	
		119	Other Food Product Manufacturing	
	12	**Beverage and Tobacco Product Manufacturing**		
		121	Beverage Manufacturing	Beverage and tobacco product manufacturing
		122	Cigarette and Tobacco Product Manufacturing	
	13	**Textile, Leather, Clothing and Footwear Manufacturing**		
		131	Textile Manufacturing	Textile, leather, clothing, and footwear
		132	Leather Tanning, Fur Dressing and Leather Product	
		133	Textile Product Manufacturing	
		134	Knitted Product Manufacturing	
		135	Clothing and Footwear Manufacturing	

	14	**Wood Product Manufacturing**		
		141	Log Sawmilling and Timber Dressing	Wood product manufacturing
		149	Other Wood Product Manufacturing	
	15	**Pulp, Paper and Converted Paper Product Manufacturing**		
		151	Pulp, Paper and Paperboard Manufacturing	Pulp, paper, and converted paper product manufacturing
		152	Converted Paper Product Manufacturing	
	16	**Printing (including the Reproduction of Recorded Media)**		
		161	Printing and Printing Support Services	Printing
		162	Reproduction of Recorded Media	
	17	**Petroleum and Coal Product Manufacturing**		
		170	Petroleum and Coal Product Manufacturing	Petroleum and coal product manufacturing
	18	**Basic Chemical and Chemical Product Manufacturing**		
		181	Basic Chemical Manufacturing	Basic chemical and chemical product manufacturing
		182	Basic Polymer Manufacturing	
		183	Fertiliser and Pesticide Manufacturing	
		184	Pharmaceutical and Medicinal Product Manufacturing	
		185	Cleaning Compound and Toiletry Preparation	
		189	Other Basic Chemical Product Manufacturing	
	19	**Polymer Product and Rubber Product Manufacturing**		
		191	Polymer Product Manufacturing	Polymer product and rubber product manufacturing
		192	Natural Rubber Product Manufacturing	
	20	**Non-Metallic Mineral Product Manufacturing**		
		201	Glass and Glass Product Manufacturing	Non-metallic mineral product manufacturing
		202	Ceramic Product Manufacturing	
		203	Cement, Lime, Plaster and Concrete Product	
		209	Other Non-Metallic Mineral Product Manufacturing	
	21	**Primary Metal and Metal Product Manufacturing**		
		211	Basic Ferrous Metal Manufacturing	Primary metal and metal product manufacturing
		212	Basic Ferrous Metal Product Manufacturing	
		213	Basic Non-Ferrous Metal Manufacturing	
		214	Basic Non-Ferrous Metal Product Manufacturing	
	22	**Fabricated Metal Product Manufacturing**		
		221	Iron and Steel Forging	Fabricated metal product manufacturing
		222	Structural Metal Product Manufacturing	
		223	Metal Container Manufacturing	
		224	Sheet Metal Product Manufacturing (except Metal	
		229	Other Fabricated Metal Product Manufacturing	
	23	**Transport Equipment Manufacturing**		
		231	Motor Vehicle and Motor Vehicle Part Manufacturing	Transport equipment manufacturing
		239	Other Transport Equipment Manufacturing	
	24	**Machinery and Equipment Manufacturing**		
		241	Professional and Scientific Equipment Manufacturing	Machinery and other equipment manufacturing
		242	Computer and Electronic Equipment Manufacturing	
		243	Electrical Equipment Manufacturing	
		244	Domestic Appliance Manufacturing	
		245	Pump, Compressor, Heating and Ventilation Equipment	
		246	Specialised Machinery and Equipment Manufacturing	
		249	Other Machinery and Equipment Manufacturing	
	25	**Furniture and Other Manufacturing**		
		251	Furniture Manufacturing	Furniture and other manufacturing
		259	Other Manufacturing	
D	**ELECTRICITY, GAS, WATER AND WASTE SERVICES**			
	26	**Electricity Supply**		Electricity and gas supply
		261	Electricity Generation	
		262	Electricity Transmission	
		263	Electricity Distribution	
		264	On Selling Electricity and Electricity Market Operation	
	27	**Gas Supply**		
		270	Gas Supply	

	28	**Water Supply, Sewerage and Drainage Services**		Water, sewerage, drainage, and waste services
		281	Water Supply, Sewerage and Drainage Services	
	29	**Waste Collection, Treatment and Disposal Services**		
		291	Waste Collection Services	
		292	Waste Treatment, Disposal and Remediation Services	
E	**CONSTRUCTION**			
	30	**Building Construction**		
		301	Residential Building Construction	Building construction
		302	Non-Residential Building Construction	
	31	**Heavy and Civil Engineering Construction**		
		310	Heavy and Civil Engineering Construction	Heavy and civil engineering construction
	32	**Construction Services**		
		321	Land Development and Site Preparation Services	Construction services
		322	Building Structure Services	
		323	Building Installation Services	
		324	Building Completion Services	
		329	Other Construction Services	
F	**WHOLESALE TRADE**			Wholesale trade
	33	**Basic Material Wholesaling**		
		331	Agricultural Product Wholesaling	
		332	Mineral, Metal and Chemical Wholesaling	
		333	Timber and Hardware Goods Wholesaling	
	34	**Machinery and Equipment Wholesaling**		
		341	Specialised Industrial Machinery and Equipment	
		349	Other Machinery and Equipment Wholesaling	
	35	**Motor Vehicle and Motor Vehicle Parts Wholesaling**		
		350	Motor Vehicle and Motor Vehicle Parts Wholesaling	
	36	**Grocery, Liquor and Tobacco Product Wholesaling**		
		360	Grocery, Liquor and Tobacco Product Wholesaling	
	37	**Other Goods Wholesaling**		
		371	Textile, Clothing and Footwear Wholesaling	
		372	Pharmaceutical and Toiletry Goods Wholesaling	
		373	Furniture, Floor Covering and Other Goods Wholesaling	
	38	**Commission-Based Wholesaling**		
		380	Commission-Based Wholesaling	
G	**RETAIL TRADE**			
	39	**Motor Vehicle and Motor Vehicle Parts Retailing**		Motor vehicle and motor-vehicle parts and fuel retailing
		391	Motor Vehicle Retailing	
		392	Motor Vehicle Parts and Tyre Retailing	
	40	**Fuel Retailing**		
		400	Fuel Retailing	
	41	**Food Retailing**		
		411	Supermarket and Grocery Stores	Supermarket, grocery stores, and specialised food retailing
		412	Specialised Food Retailing	
	42	**Other Store-Based Retailing**		Other store-based retailing and non-store retailing
		421	Furniture, Floor Coverings, Houseware and Textile	
		422	Electrical and Electronic Goods Retailing	
		423	Hardware, Building and Garden Supplies Retailing	
		424	Recreational Goods Retailing	
		425	Clothing, Footwear and Personal Accessory Retailing	
		426	Department Stores	
		427	Pharmaceutical and Other Store-Based Retailing	
	43	**Non-Store Retailing and Retail Commission-Based Buying**		
		431	Non-Store Retailing	
		432	Retail Commission-Based Buying and/or Selling	

H	**ACCOMMODATION AND FOOD SERVICES**			
	44	**Accommodation**		Accommodation and food services
		440	Accommodation	
	45	**Food and Beverage Services**		
		451	Cafes, Restaurants and Takeaway Food Services	
		452	Pubs, Taverns and Bars	
		453	Clubs (Hospitality)	
I	**TRANSPORT, POSTAL AND WAREHOUSING**			
	46	**Road Transport**		Road transport
		461	Road Freight Transport	
		462	Road Passenger Transport	
	47	**Rail Transport**		Rail, water, air, and other transport
		471	Rail Freight Transport	
		472	Rail Passenger Transport	
	48	**Water Transport**		
		481	Water Freight Transport	
		482	Water Passenger Transport	
	49	**Air and Space Transport**		
		490	Air and Space Transport	
	50	**Other Transport**		
		501	Scenic and Sightseeing Transport	
		502	Pipeline and Other Transport	
	51	**Postal and Courier Pick-up and Delivery Services**		Postal, courier, transport support, and warehousing services
		510	Postal and Courier Pick-up and Delivery Services	
	52	**Transport Support Services**		
		521	Water Transport Support Services	
		522	Airport Operations and Other Air Transport Support	
		529	Other Transport Support Services	
	53	**Warehousing and Storage Services**		
		530	Warehousing and Storage Services	
J	**INFORMATION MEDIA AND TELECOMMUNICATIONS**			
	54	**Publishing (except Internet and Music Publishing)**		Information media services
		541	Newspaper, Periodical, Book and Directory Publishing	
		542	Software Publishing	
	55	**Motion Picture and Sound Recording Activities**		
		551	Motion Picture and Video Activities	
		552	Sound Recording and Music Publishing	
	56	**Broadcasting (except Internet)**		
		561	Radio Broadcasting	
		562	Television Broadcasting	
	57	**Internet Publishing and Broadcasting**		
		570	Internet Publishing and Broadcasting	
	58	**Telecommunications Services**		Telecommunications, internet, and library services
		580	Telecommunications Services	
	59	**Internet Service Providers, Web Search Portals and Data**		
		591	Internet Service Providers and Web Search Portals	
		592	Data Processing, Web Hosting and Electronic	
	60	**Library and Other Information Services**		
		601	Libraries and Archives	
		602	Other Information Services	

K	**FINANCIAL AND INSURANCE SERVICES**			
	62	**Finance**		
		621	Central Banking	Finance
		622	Depository Financial Intermediation	
		623	Non-Depository Financing	
		624	Financial Asset Investing	
	63	**Insurance and Superannuation Funds**		
		631	Life Insurance	Insurance
		632	Health and General Insurance	
		633	Superannuation Funds	
	64	**Auxiliary Finance and Insurance Services**		
		641	Auxiliary Finance and Investment Services	Auxiliary finance and insurance services
		642	Auxiliary Insurance Services	
L	**RENTAL, HIRING AND REAL ESTATE SERVICES**			
	66	**Rental and Hiring Services (except Real Estate)**		
		661	Motor Vehicle and Transport Equipment Rental and	Rental and hiring services (except real estate)
		662	Farm Animal and Bloodstock Leasing	
		663	Other Goods and Equipment Rental and Hiring	
		664	Non-Financial Intangible Assets (Except Copyrights)	
	67	**Property Operators and Real Estate Services**		
		671	Property Operators	Property operators and real estate services (excluding class L6711)
		672	Real Estate Services	
M	**PROFESSIONAL, SCIENTIFIC AND TECHNICAL SERVICES**			
	69	**Professional, Scientific and Technical Services (Except**		Professional, scientific, and technical services
		691	Scientific Research Services	
		692	Architectural, Engineering and Technical Services	
		693	Legal and Accounting Services	
		694	Advertising Services	
		695	Market Research and Statistical Services	
		696	Management and Related Consulting Services	
		697	Veterinary Services	
		699	Other Professional, Scientific and Technical Services	
	70	**Computer System Design and Related Services**		
		700	Computer System Design and Related Services	
N	**ADMINISTRATIVE AND SUPPORT SERVICES**			Administrative and support services
	72	**Administrative Services**		
		721	Employment Services	
		722	Travel Agency and Tour Arrangement Services	
		729	Other Administrative Services	
	73	**Building Cleaning, Pest Control and Other Support Services**		
		731	Building Cleaning, Pest Control and Gardening Services	
		732	Packaging Services	
O	**PUBLIC ADMINISTRATION AND SAFETY**			
	75	**Public Administration**		
		751	Central Government Administration	
		752	State Government Administration	
		753	Local Government Administration	Local government administration
		754	Justice	Central government administration, defence, and public safety (excluding class O7552)
		755	Government Representation	
	76	**Defence**		
		760	Defence	
	77	**Public Order, Safety and Regulatory Services**		
		771	Public Order and Safety Services	
		772	Regulatory Services	

P	**EDUCATION AND TRAINING**			Education and training
	80	**Preschool and School Education**		
		801	Preschool Education	
		802	School Education	
	81	**Tertiary Education**		
		810	Tertiary Education	
	82	**Adult, Community and Other Education**		
		821	Adult, Community and Other Education	
		822	Educational Support Services	
Q	**HEALTH CARE AND SOCIAL ASSISTANCE**			Health care and social assistance
	84	**Hospitals**		
		840	Hospitals	
	85	**Medical and Other Health Care Services**		
		851	Medical Services	
		852	Pathology and Diagnostic Imaging Services	
		853	Allied Health Services	
		859	Other Health Care Services	
	86	**Residential Care Services**		
		860	Residential Care Services	
	87	**Social Assistance Services**		
		871	Child Care Services	
		879	Other Social Assistance Services	
R	**ARTS AND RECREATION SERVICES**			Arts and recreation services
	89	**Heritage Activities**		
		891	Museum Operation	
		892	Parks and Gardens Operations	
	90	**Creative and Performing Arts Activities**		
		900	Creative and Performing Arts Activities	
	91	**Sports and Recreation Activities**		
		911	Sports and Physical Recreation Activities	
		912	Horse and Dog Racing Activities	
		913	Amusement and Other Recreation Activities	
	92	**Gambling Activities**		
		920	Gambling Activities	
S	**OTHER SERVICES**			Other services (excluding classes S9540, S9601, S9602, S9603)
	94	**Repair and Maintenance**		
		941	Automotive Repair and Maintenance	
		942	Machinery and Equipment Repair and Maintenance	
		949	Other Repair and Maintenance	
	95	**Personal and Other Services**		
		951	Personal Care Services	
		952	Funeral, Crematorium and Cemetery Services	
		953	Other Personal Services	
		954	Religious Services	
		955	Civic, Professional and Other Interest Group Services	
	96	**Private Households Employing Staff and Undifferentiated**		
		960	Private Households Employing Staff and Undifferentiated	

Appendix H: NZIER peer review

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authoritative analysis

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The Ministry of Economic Development Discussion paper on the *Growth and Dynamics of the New Zealand Screen Industry* provides a solid and factual report examining the impact of the screen industry on the economy.

The Discussion paper:

- examines the base conditions of the industry setting out what it comprises of, sources of data, structure and history
- examines the economic data (e.g. size, number of firms, employment) and contribution to the economy (gross revenue, valued and contribution to employees) in a standard economic framework
- highlights the strengths and weaknesses of the data used
- discusses the treatment of potential spill-overs, adopting an appropriately conservative approach relative to other papers surveyed
- comments on overseas studies of the screen industry and compares and contrasts them with the Discussion paper findings.

The Discussion paper provides an informative and useful guide for policymakers, stakeholders and other interested parties wanting an economic understanding of the industry. It also can be readily used to compare and contrast the screen industry with other New Zealand industries. This makes it a valuable resource and broadens our understanding of the New Zealand economy.

NZIER