

# **1. Progress on the Development of ANZSIC 2006**

## **1.1 Background**

The joint Statistics New Zealand and Australian Bureau of Statistics development of Australian and New Zealand Standard Industrial Classification (ANZSIC) 2006 began in January 2000, with the desire to improve upon the current ANZSIC and develop a more contemporary harmonised industry classification. The current ANZSIC 1993 classification (and subsequent NZ use version – ANZSIC96) have been criticised by some users because of the adoption of a mixture of supply and demand-side concepts in defining industries. Subsequent changes in the structure, composition and organisation of industrial and business activities in New Zealand and Australia since the development of ANZSIC93/96, meant there was a need to better reflect the present day economy.

The development work has been undertaken by a team consisting of members from Statistics New Zealand (Statistics NZ) and the Australian Bureau of Statistics (ABS). Extensive consultation has taken place with both internal and external stakeholders in order to develop a new industry classification that has been informed by and meets the needs of ANZSIC users.

## **1.2 Objectives and Conceptual Framework**

ANZSIC06 is designed to create an industry classification which improves upon ANZSIC93/96 and is clearly worth the consequential effort in reworking statistical collections, administrative database designs and revising time series. In overcoming the mixed supply and demand-side framework of ANZSIC93/96, one of the major objectives for ANZSIC06 was the application of a consistent supply-side conceptual basis.

Using a supply-side framework, units engaged in similar productive activities are grouped together. The concept of production function was integral to putting the supply-side conceptual basis into practice. The term describes the transformation of intermediate inputs, through the application of labour and capital, to produce outputs.

Others objectives in the development of ANZSIC06 include:

- better meeting the needs of users of industry data;
- identifying new and emerging industries to be included in the classification;
- updating industry descriptions to reflect the adoption of new materials, technologies and production techniques; and
- better providing for the ability to develop alternative industry views.

In developing the classification, a number of specific principles have been applied. These include:

- the application of supply-side and production function concepts (discussed above);
- the recognition of the real-world organisation of units;

- the application of specific rules to complex activities such as ‘Support Services to’, ‘Public Administration’, ‘Regulatory’ and ‘Repair and Maintenance’;
- the application of economic significance criteria; and
- achieving a high level of international comparability (discussed further below).

In addition to the specific principles above, general classification principles have also been applied to ensure an effective industry classification is produced. These include:

- having mutually exclusive categories;
- reflecting the structure of the economy and being comprehensive in coverage;
- being useful in both data collection and the production of industry statistics; and
- remaining stable over a period of time or is easily updatable.

As these different concepts and objectives can often compete with one another, prioritisation has been applied in order to reach conclusions in the grouping of activities.

### **1.3 International comparability**

A significant objective of the ANZSIC06 development process was to improve comparability with major international classifications, including ISIC rev. 4 and NAICS 2002. This meant aiming for general comparability with ISIC and NAICS at the 2-digit (ANZSIC subdivision) level.\* This has been achieved to a high degree but there remain some areas where the ANZSIC 2006 treatment of activities will diverge from ISIC and / or NAICS 2002. These divergences have been driven by a number of factors which are discussed in further detail in section 2.

ISIC Rev. 4 and NAICS 2002 have been consulted extensively in the development of ANZSIC06 not only in order to meet comparability objectives but also as a way of comparing and evaluating proposals for the treatment of ANZSIC06 activities in relation to similar industrial classifications. NAICS has been particularly useful being the most contemporary industrial classification developed using supply-side and production function frameworks.

### **1.4 Input into ISIC Rev. 4**

Influencing and providing input into the development of ISIC Rev. 4 was also considered important in terms of international comparability and international cooperation in the production of statistical classifications. Due to the timing of ANZSIC06, the review team has been able to achieve this goal. This has been ongoing throughout the development of ANZSIC06 and will continue until the publication of ISIC Rev. 4 in 2007.

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\* As ISIC and NAICS have different structures at the 2-digit level, alignment with both classifications is not possible – therefore general comparability was aimed for.

New Zealand and Australia's position on ISIC has been represented in person by members of the ABS at meetings of the TSG. Written submissions and comments have also been produced by the ANZSIC review team in response to ISIC questionnaires and discussion papers. A number of Statistics New Zealand / ABS initiatives have been successful in influencing the development of ISIC Rev. 4, including:

- the development of the conceptual framework paper;
- the increased use (but not total adoption) of the supply side conceptual basis for the creation of new industry categories in ISIC Rev. 4;
- the decision to retreat from using an institutional sector concept when defining Public Administration activities;
- the divisional structure of ISIC Rev. 4;
- the detailed ISIC Rev. 4 structure; and
- progress on the treatment of commission manufacturing (outsourcing).

### **1.5 Future Work**

Now that the majority of the development work for ANZSIC06 is complete, current and future work is focussing on finalising the classification, the development of support tools, publication tasks, planning for implementation and continuing to influence the development of ISIC Rev. 4.

The publication will include discussion of the conceptual basis for ANZSIC06, guidance on the treatment of particular activities and detailed descriptions of ANZSIC classes with examples of their corresponding activities. Support tools being developed include concordances between ANZSIC06 and previous versions of the classification, international industrial classifications and other related classifications such as the Australian and New Zealand Product Classification (ANZSPC).

Comprehensive implementation plans are being developed for Statistics New Zealand surveys that collect and disseminate ANZSIC data. These detail aspects such as timing, costing and redevelopment work required to ensure the successful implementation of ANZSIC06.

## **2. Divergences between ANZSIC06 and ISIC Rev. 4**

As noted above, one of the objectives in developing the ANZSIC 2006 classification was to align with ISIC at the first and second levels, while the direction taken for ISIC at lower levels has also fed into the development process. This section discusses the significant areas where ANZSIC and ISIC have diverged and the rationale behind these decisions.

During the development of ANZSIC06, decisions on the treatment of certain activities have sometimes been difficult – often an activity could comfortably belong in more than one class. In these cases the treatment in NAICS or ISIC has often been followed to assist decision making. In addition to this, it was important to have sound justification for creating divergences, particularly where an activity has high importance in the overall classification. Figure 1 below shows alignment of the two

classifications at the top level has been successful to a high degree. Differences in the two classifications at this level have been influenced by the following major factors.

## **2.1 Economic Differences**

Essentially, ISIC serves as an all purpose industrial classifications which individual countries can utilise as a basis for a customised classification, while still allowing for a high degree of comparability. This is reflected in the development of ANZSIC06.

The coverage of ISIC Rev. 4 is designed to meet the needs of multiple countries while ANZSIC06 has been tailored specifically to measure the New Zealand and Australian economies and meet the needs of data users in those countries. While ANZSIC has been influenced by international directions and the need for comparability, its usefulness lies in its ability to accurately reflect the economies it is used to measure, and meeting the specific requirements of users. This is a significant factor in divergences between ISIC Rev. 4 and ANZSIC06.

Within the New Zealand and Australian economies, industrial activities display varying degrees of significance when compared with those in other countries. A principle in the development of ANZSIC06 was to create a ‘statistically balanced’ classification (which means having similar sized groupings at all levels of the classification). In applying this, ANZSIC06 has been developed to reflect the relative size of industries within the New Zealand and Australian economies. For example, due to the relatively small size of the waste services industry in New Zealand and Australia, this industry has been amalgamated with Electricity, Water and Gas supply as the creation of a separate subdivision was not warranted (this diverges from ISIC Rev. 4 as shown in Table 1).

## **2.2 Conceptual Differences**

ANZSIC06 and ISIC Rev. 4 have taken slightly different approaches in the application of a conceptual framework – ANZSIC has applied a consistent supply-side framework, while ISIC has opted for a mixed supply- and demand-side model.

Different weight has been applied to the competing development principles for each classification. ISIC Rev. 4 has opted to maintain a significant degree of continuity with ISIC Rev. 3 and therefore, maintained its mixed concept model. The TSG has noted that if a given grouping exists which stakeholders are content with, then it should remain as is. They noted that ISIC Rev. 4 will focus on the production function as a conceptual underpinning within the constraints of relevance, comparability, and continuity and that it is a tool to bring ISIC together rather than being a requirement for every grouping of activities.

In contrast, the more consistent conceptual approach applied in ANZSIC06 reflects significant concerns over weaknesses in the mixed model used in the development of ANZSIC93/96. While the application of the production function principle has also been applied within the constraints of other competing principles, it has clearly been given a higher degree of importance in ANZSIC06 than ISIC Rev. 4. The weight given to other concepts and principles is no doubt also a factor in divergences between the two classifications. Comparability between the two classifications is summarised in the following Figure and Tables.



**Figure 1: Comparison between ANZSIC06 and ISIC Rev. 4 at the top level**



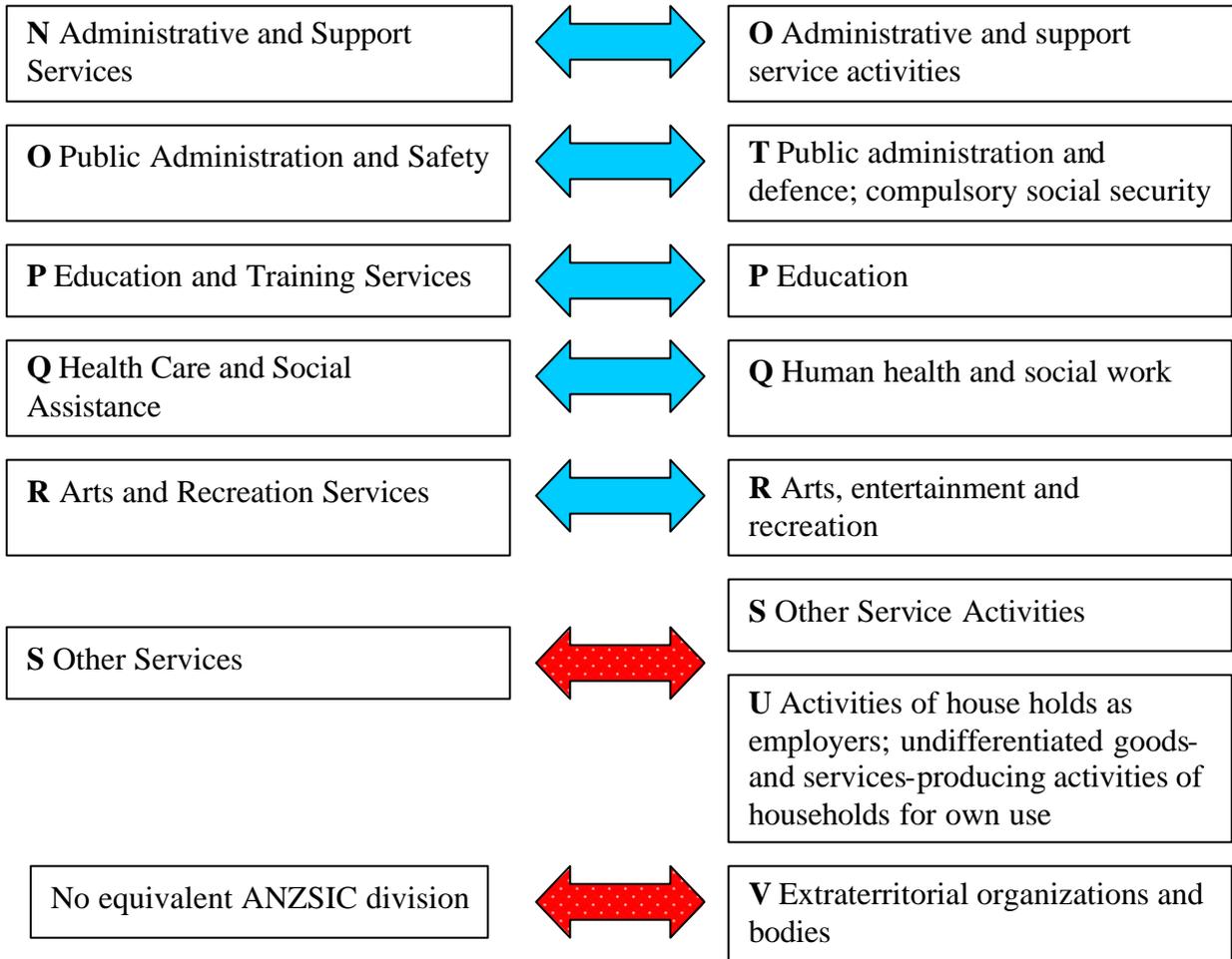
= Divisions are comparable at this level



= Divisions are not directly comparable at this level

ANZSIC 2006		ISIC Rev. 4
A Agriculture, Forestry and Fishing		A Agriculture, Forestry and Fishing
B Mining		B Mining and quarrying
C Manufacturing		C Manufacturing
D Electricity, Gas, Water and Waste Services		D Electricity, gas, steam and air conditioning supply E Water supply; sewerage, waste management and remediation activities
E Construction		F Construction
F Wholesale Trade		G Trade
G Retail Trade		
H Accommodation and Food Services		J Accommodation and Food service Activities
I Transport, Postal and Warehousing		H Transportation and storage
J Information Media and Telecommunication		K Information and Communication
K Financial and Insurance Services		L Financial and insurance activities
L Rental, Hiring and Real Estate Services		M Real Estate, rental and leasing activities
M Professional, Scientific and Technical Services		N Professional, Scientific and Technical Activities

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**Table 1: Divergences between ANZSIC06 and ISIC Rev. 4 at Division Level**

ANZSIC06	ISIC Rev. 4	Discussion
<p><b>D</b> Electricity, Gas, Water and Waste Services</p>	<p><b>D</b> Electricity, gas, steam and air conditioning supply</p> <p><b>E</b> Water supply; sewerage, waste management and remediation activities</p>	<p><b>Reasoning:</b></p> <ul style="list-style-type: none"> <li>• <u>Size</u>: Two subdivisions had initially been created in the development of ANZSIC. However, due to the small size of the Waste Services industry it was decided to combine this division with Electricity, Gas and Water.</li> </ul> <p><b>Impact:</b></p> <ul style="list-style-type: none"> <li>• Achieving comparability at this level can easily be achieved through the aggregation of the appropriate subdivisions.</li> </ul>
<p><b>F</b> Wholesale Trade</p> <p><b>G</b> Retail Trade</p>	<p><b>G</b> Trade</p>	<p><b>Reasoning:</b></p> <ul style="list-style-type: none"> <li>• <u>Production Function</u>: In the development of ANZSIC06, differences between Retail and Wholesale activities were considered significant enough to create two distinct subdivisions. These differences include things such as the display and storage of products, types of customer and advertising.</li> <li>• <u>Continuity</u>: Combining the ANZSIC06 divisions ‘Wholesale Trade’ and ‘Retail Trade’ into one was also deemed to have a significant negative impact on continuity with ANZSIC93/96.</li> </ul> <p><b>Impact:</b></p> <ul style="list-style-type: none"> <li>• Achieving comparability at this level will be straightforward where the two ANZSIC divisions can be combined into one. Dividing ISIC’s one division into two should also be straightforward, although some mixed activities (such as the sale of motor vehicles) may prove difficult.</li> </ul>

- Table 1 continued -

ANZSIC06	ISIC Rev. 4	Discussion
S Other Services	<p>S Other Service Activities</p> <p>U Activities of house holds as employers; undifferentiated goods- and services-producing activities of households for own use</p>	<p><b>Reasoning:</b></p> <ul style="list-style-type: none"> <li>• <u>Size</u>: These activities of household employers are not significant enough in the Australian or New Zealand economies to warrant the creation of a distinct division as so have been included in division S ‘Other Services’.</li> </ul> <p><b>Impact:</b></p> <ul style="list-style-type: none"> <li>• Comparability at this level can easily be achieved through the aggregation of the appropriate subdivisions.</li> </ul>
No equivalent ANZSIC division – The activities of extraterritorial organizations and bodies are included in a separate class in division O ‘Public Administration and Safety’	V Extraterritorial organizations and bodies	<p><b>Reasoning:</b></p> <ul style="list-style-type: none"> <li>• <u>Production Function</u>: In the development of ANZSIC06 the activity of representing a foreign government in Australia or New Zealand was considered the same as Australian or New Zealand units representing their home government overseas. Therefore, have been included as part of the listed division.</li> </ul> <p><b>Impact:</b></p> <ul style="list-style-type: none"> <li>• These activities have been structured in ANZSIC06 to ensure international comparability.</li> </ul>

**Table 2: Divergences between ANZSIC06 and ISIC Rev. 4 below Division Level**

ANZSIC06	ISIC Rev. 4	Discussion
<b>Non-factory Based Repair and Maintenance activities</b>		<p><b>Reasoning:</b></p> <ul style="list-style-type: none"> <li>• <u>Production Function</u>: ANZSIC06 does not view these as manufacturing activities.</li> </ul> <p><b>Impact:</b></p> <ul style="list-style-type: none"> <li>• Because these activities are still separately identifiable at subdivision level, comparability is easily achievable.</li> </ul>
Included as a separate subdivision under division <b>S</b> 'Other Services' along with other general repair and maintenance activities.	Included as a separate subdivision under division <b>C</b> 'Manufacturing'.	
<b>Scenic and Sightseeing transport</b>		<p><b>Reasoning:</b></p> <ul style="list-style-type: none"> <li>• <u>User Interest</u>: ANZSIC06 has structured these activities to facilitate the creation of tourism statistics for which there is high user interest.</li> </ul> <p><b>Impact:</b></p> <ul style="list-style-type: none"> <li>• There will be some negative impact on the ability to achieve comparability between ANZSIC and ISIC in this case.</li> </ul>
Included as a separate class and group within division <b>I</b> 'Transport, Postal and Warehousing'.	Activities are not separately identified within division <b>H</b> 'Transportation and storage'.	
<b>Computer Systems Design and Related Services</b>		<p><b>Reasoning:</b></p> <ul style="list-style-type: none"> <li>• <u>User Interest</u>: The development of ISIC has seen an interest in creating an ICT-based division which has resulted in the placement of these activities in division <b>K</b> 'Information and Communication'.</li> <li>• <u>Production Function</u>: According to production function, ANZSIC06 considers these activities to be related to other professional and technical activities.</li> </ul> <p><b>Impact:</b></p> <ul style="list-style-type: none"> <li>• Because these activities are still separately identifiable at subdivision level, comparability is easily achievable.</li> </ul>
Included as a separate subdivision under division <b>M</b> 'Professional, Scientific and Technical Services'.	Included in division <b>K</b> 'Information and Communication'.	

## **Abbreviations**

**ABS** Australian Bureau of Statistics

**ANZSIC** Australian and New Zealand Standard Industrial Classification

**ISIC** International Standard Classification of All Economic Activities

**NACE** Statistical Classification of Economic Activities in the European Community

**NAICS** North American Industrial Classification System

**TSG** United Nations Technical Subgroup on Economic and Social Classifications

**(UN) Expert Group** United Nations Expert Group on Economic and Social Classifications

**UNSC** United Nations Statistical Commission

**UNSD** United Nations Statistical Division