

# Regional economic growth 2: States, remoteness classes and income distribution

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enlarge if you click on them.



# Contents

About the taxable income database.....	3
Key points .....	5
Indicators and trends by state/territory .....	6
Indicators and trends by remoteness class .....	31
Income distribution.....	45



## About the taxable income database

The Bureau of Infrastructure, Transport and Regional Economics (BITRE) regional economic growth update is based on the taxable income database. It was originally released as the Focus on Regions 3: Taxable Income database with an information paper in June 2005, which is available at: <http://www.bitre.gov.au/publications/22/Files/IP54.pdf>

The original database contained taxable income data at a consistent small area geography back to 1980–81. The update adds figures for 2004–05, refines some estimates back to 2001–02, and updates the monetary values to 2006–07 constant dollars.

The figures in the database derive from publicly available tax data by postcode published by the Australian Taxation Office . The BITRE has recalculated the data from all years to 2001 Statistical Local Areas (SLAs) using concordances provided by the Australian Bureau of Statistics (ABS) and estimated numbers for some missing values. The database also aggregates the data to 2001 ABS Local Government Areas and 2001 BITRE Labour Market Regions. More information on these geographical classifications can be found in the explanatory notes within the database.

The five indicators in the database are: aggregate real taxable income (ARTI), real income per taxpayer (RIPT), the number of taxable individuals (NTI), the number of non-taxable individuals and aggregate real net tax (ARNT).

**NTI (number of taxable individuals):** The number of people who submitted tax returns on which tax was payable.

**Non-taxables:** The number of people who submitted tax returns on which no tax was payable.

**ARTI (aggregate real taxable income):** the sum of individual taxable income recorded for all individuals that reside in a region. This can be used as a measure of economic growth for a region.

**RIPT (real income per taxpayer):** the aggregate real taxable income (ARTI) divided by the number of taxable individuals (NTI) in a region. RIPT is an indicator of individual economic wellbeing, ie how much income on average each taxpayer in a region receives.

**ARNT (aggregate real net tax):** This represents the actual tax paid by individuals in each region.

Having analysed these indicators in the original paper and subsequently considered feedback from regional practitioners across Australia, the BITRE believes that movements in these indicators are the best nationally available for assessing economic progress in small regions.

In particular:

- The percentage change in ARTI reflects local economic growth.
- RIPT is a good indicator of the relative average individual incomes of the people in regions and percentage changes in RIPT are indicative of changes in individual income.
- Actual and percentage changes in NTI show changes in the numbers of economically active individuals in a region.

The relationship between the key indicators in the database is:

Aggregate real taxable income (ARTI) = Number of taxable individuals (NTI)

X Real income per taxpayer (RIPT)

In other words, the total taxable income of a region reflects the number of taxpayers and the amount each taxpayer receives.

# Key points

## States and territories

- Since 2002–03, real income per taxpayer (RIPT) has increased each year in all states and territories.
- The difference between the highest and lowest RIPT values for states and territories continues to increase. In 1990–91, the difference between the highest and the lowest RIPT was \$7 934, increasing to \$12 786 in 2004–05. Throughout this period, ACT consistently had the highest RIPT, and Tasmania consistently had the lowest.
- In Queensland and, to a lesser extent, Tasmania, the number of taxpayers is driving the increase in economic growth more than the amount earned on average by each. In WA, the Northern Territory and the ACT, RIPT is a highly significant factor influencing the increase in aggregate real taxable income (ARTI).

## Remoteness classes

- Since 2002–03, economic growth in remote and very remote classes has been lower compared with the other remoteness categories. However, in the most recent year of data available (2004–05), the rates of growth were relatively uniform between the classes.
- Since 2001–02, the growth rate of number of taxable individuals (NTI) in inner regional has been consistently higher than in major cities. Moreover, the inner regional rate has either closely tracked or exceeded the major cities rate since 1991–92.
- In the ‘inner regional’ class, the number of taxpayers contributed to the ARTI growth more than the average income. Conversely, in the remote and very remote classes, the average income affected the rise in ARTI more than the number of taxable individuals.

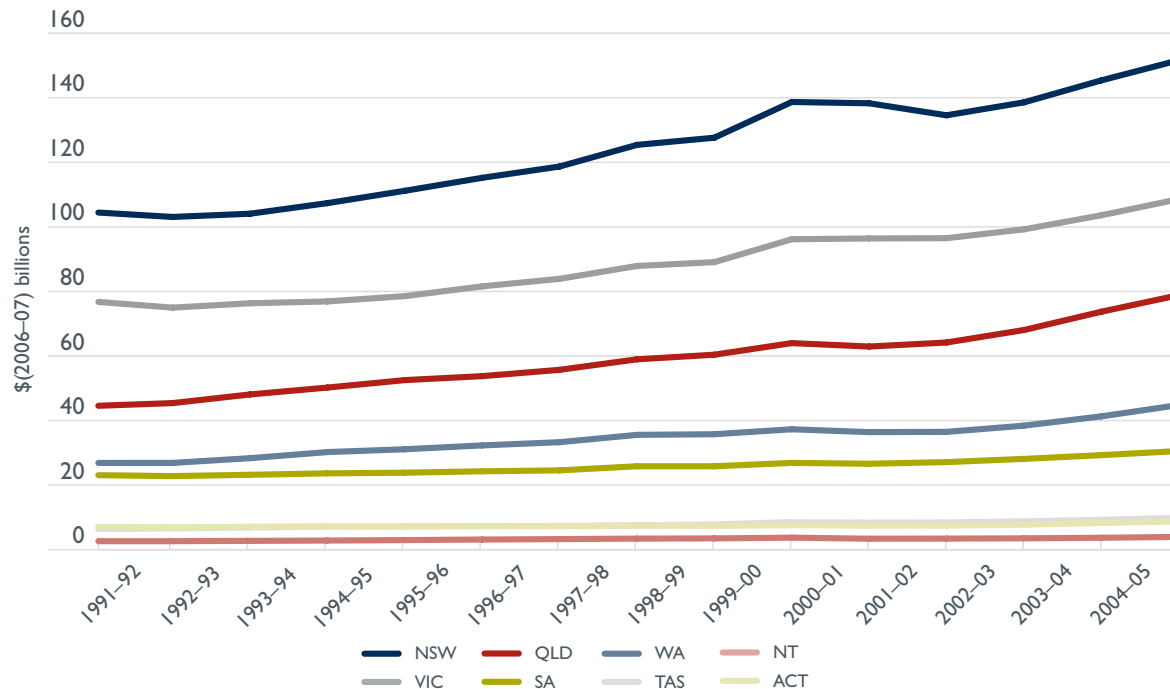
Between 2003–04 and 2004–05, the ‘very remote’ class had the highest RIPT growth at 3.6 per cent, more than one percentage point above the Australian average of 2.5 per cent. However, the very remote RIPT value was still below that of major cities.

## Indicators and trends by state/ territory

### Regional growth: Overview of aggregate real taxable income in states/ territories

In 2004–05, New South Wales had the largest share of ARTI among the states and territories, at \$152 billion (in \$2006–07), followed by Victoria at \$109 billion. This corresponds to their larger numbers of taxable individuals and is indicative of the size of the state economies. Likewise, the Northern Territory had the smallest ARTI share (\$4 billion) and the fewest taxable individuals.

#### Aggregate real taxable income by state and territory



Source: BITRE, taxable income database

This table shows ARTI growth for the long term (1991 to 2005), medium term (2001 to 2005) and short term (2004 to 2005). Note the high rates of growth in WA and Queensland and the relatively poor growth rates in NSW, SA and Victoria.

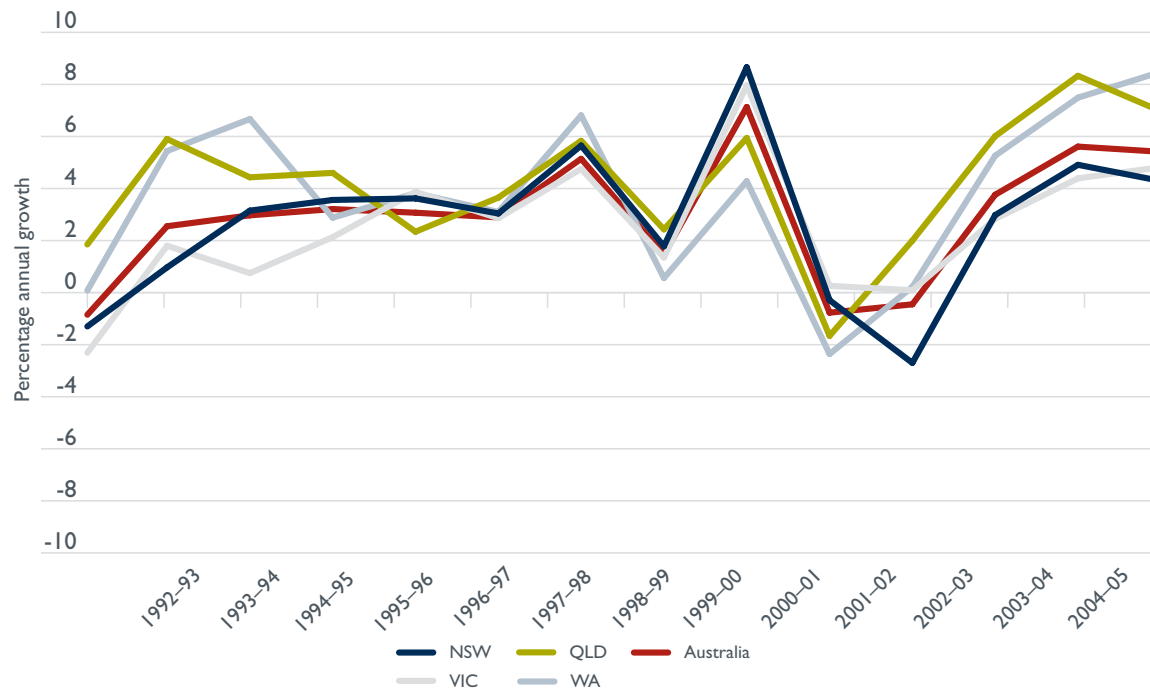
### ARTI growth by state/territory: long, medium and short term

state/territory	2004–05 (\$06–07billions)	average annual growth		
		1991 to 2005 (%)	2001 to 2005 (%)	2004 to 2005 (%)
NSW	151.6	2.7	2.3	4.3
VIC	108.6	2.5	3.0	4.8
QLD	78.8	4.2	5.8	7.0
SA	30.6	2.0	3.5	4.3
WA	44.8	3.7	5.3	8.5
TAS	8.8	1.6	4.1	5.7
NT	4.0	2.9	3.9	7.0
ACT	9.8	3.1	3.9	6.3
Australia	437.0	2.9	3.6	5.4

Source: BITRE, taxable income database

The following figures show ARTI growth by state and territory. All states and territories follow national economic trends, to a greater or lesser extent. Changes in economic growth (ARTI) can be explained by changes in the number of taxpayers (NTI) and their level of earnings (RIPT).

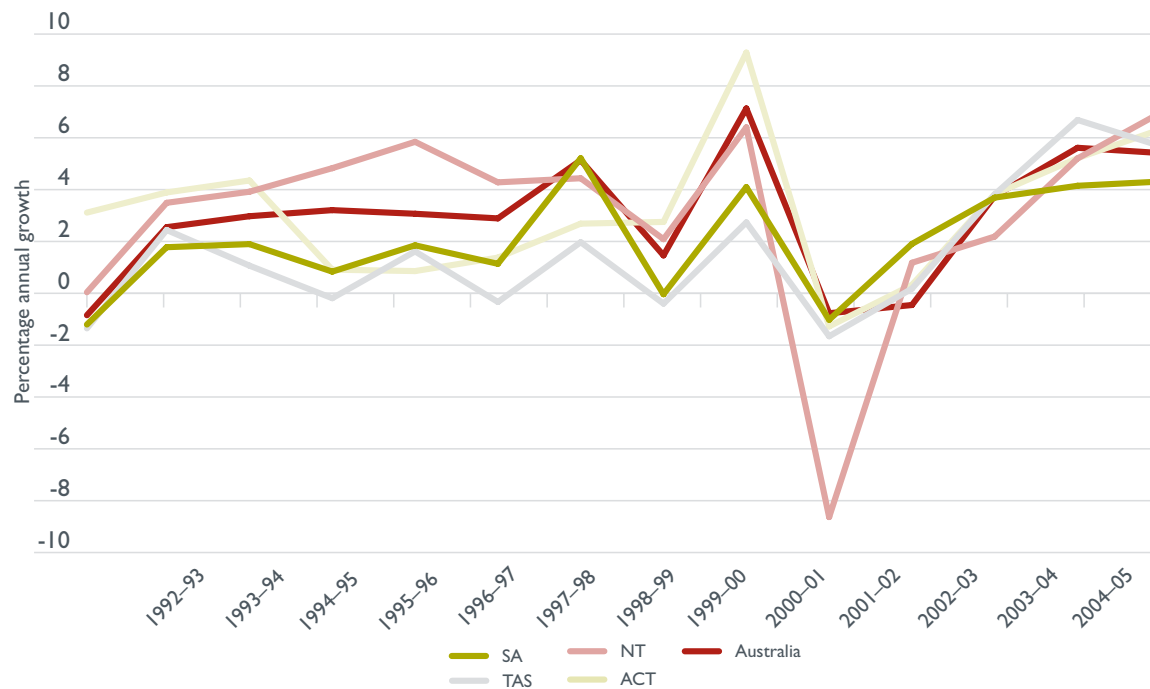
### Aggregate real taxable income growth over time — larger states



Source: BITRE, taxable income database



## Aggregate real taxable income growth over time — smaller states and territories



Source: BITRE, taxable income database

## Overview of number of taxable individuals in states/territories

In the short, medium and long terms, Queensland had the highest average annual NTI growth, with WA consistently second. Note however that in the last year, WA had higher ARTI growth than Queensland because of higher growth in RIPT for that state.

NSW had the slowest growth between 2004 and 2005 at 1.9 per cent. Tasmania had the slowest growth over the long term at 0.3 per cent.

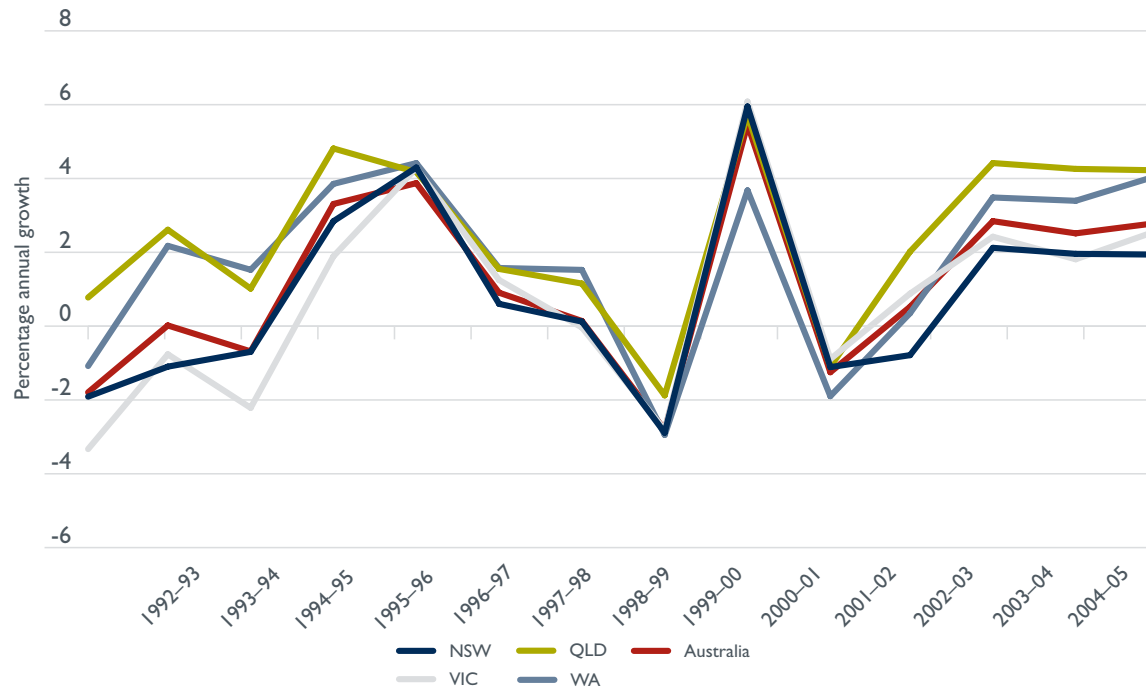
### NTI growth by state/territory: long, medium and short term

state/territory	2004–05 (million)	average annual growth		
		1991 to 2005 (%)	2001 to 2005 (%)	2004 to 2005 (%)
NSW	3.0	0.8	1.3	1.9
VIC	2.3	0.8	1.9	2.6
QLD	1.8	2.4	3.7	4.2
SA	0.7	0.4	2.0	2.1
WA	0.9	1.7	2.8	4.1
TAS	0.2	0.3	2.6	3.1
NT	0.1	1.7	1.8	2.9
ACT	0.2	1.3	2.1	2.2
Australia	9.1	1.1	2.2	2.8

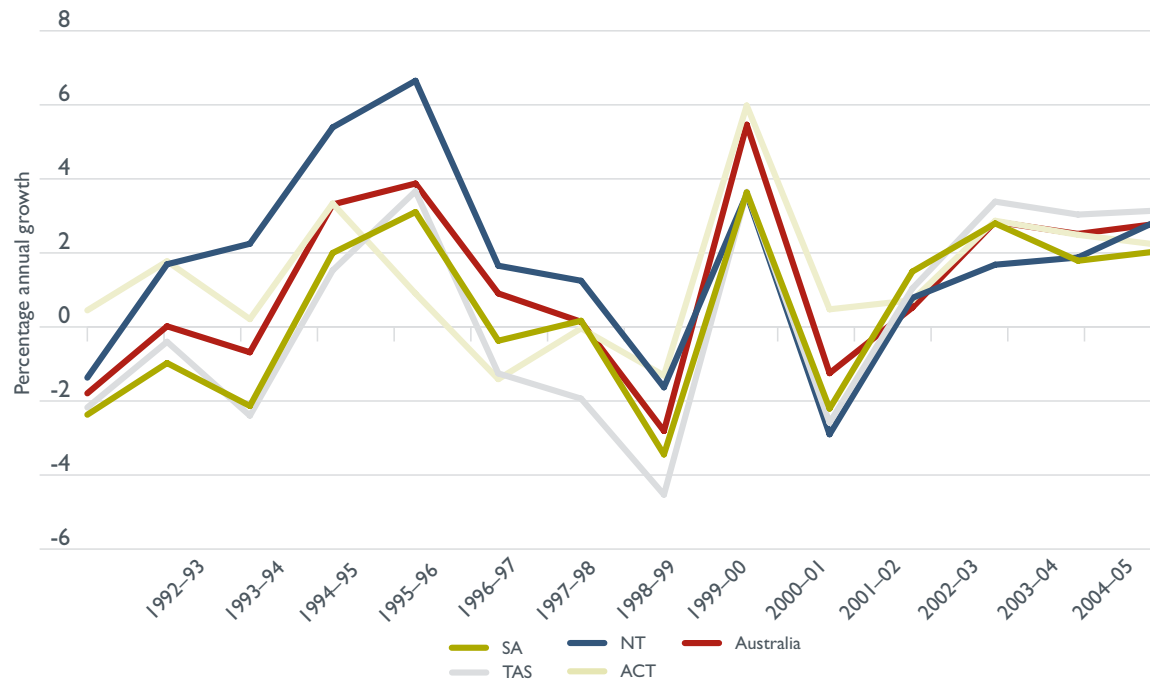
Source: BITRE, taxable income database

The following charts show the growth in NTI since the early 1990s. Since 2001–02, Queensland has exhibited the strongest growth.

### Number of taxable individuals growth — larger states



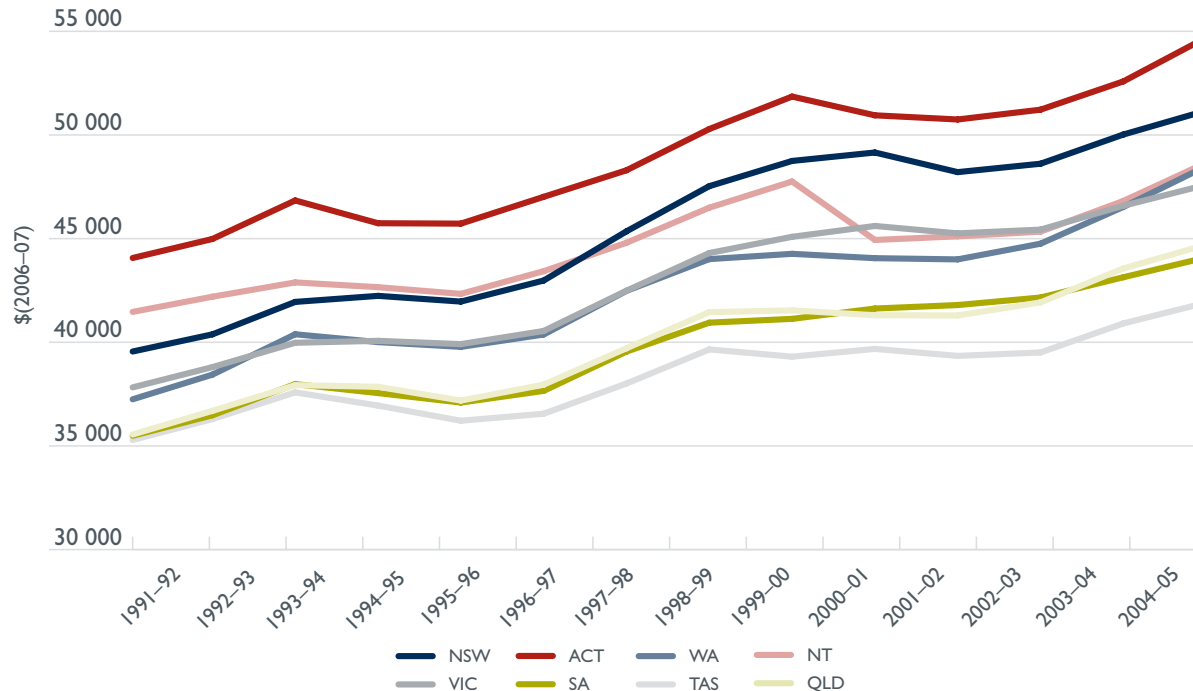
## Number of taxable individuals growth over time — smaller states and territories



## Overview of real income per taxpayer in states/territories

The ACT and NSW had the highest real income per taxpayer (RIPT) values in 2004–05, with \$54 697 and \$51 175 (in 2006–07 dollars) respectively. The overall Australian RIPT was \$48 029.

### Real income per taxpayer by state and territory



Source: BITRE, taxable income database

This figure shows the RIPT by state and territory since the start of the 1990s, in 2006–07 constant dollars. It indicates a steady rise in RIPT for all states. There are two noticeable periods of stagnation or decline: one in the mid-nineties following the early 1990s economic recession, the other during the 2001 economic downturn. In both cases, growth followed. Since 2001–02, all states and territories have experienced continual growth in RIPT.

The difference between the highest and lowest RIPT values for states and territories continues to increase. The range between the lowest and highest RIPT by state was \$7 934 in 1990–91, increasing to \$12 786 in 2004–05. The ACT consistently had the highest RIPT, and Tasmania consistently had the lowest.

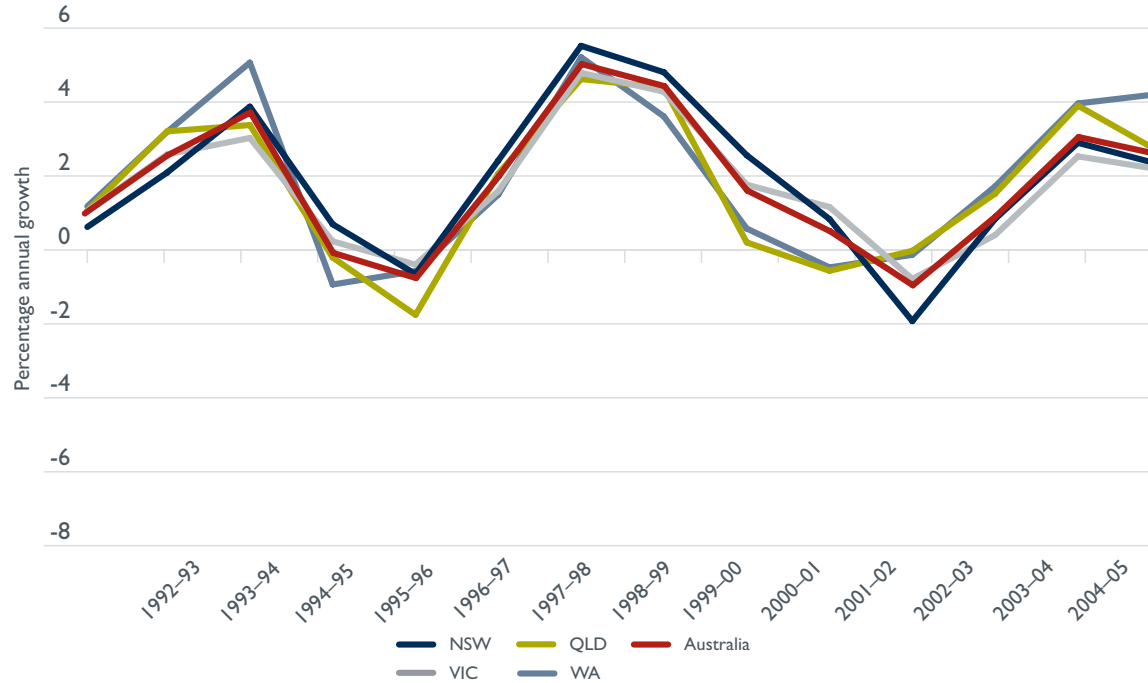
### RIPT growth by state/territory: long, medium and short term

state/territory	2004–05 (\$06–07)	average annual growth		
		1991 to 2005 (%)	2001 to 2005 (%)	2004 to 2005 (%)
NSW	51,175	1.9	1.0	2.3
VIC	47,596	1.7	1.1	2.2
QLD	44,708	1.7	2.0	2.6
SA	44,091	1.6	1.4	2.2
WA	48,493	2.0	2.4	4.2
TAS	41,912	1.3	1.4	2.5
NT	48,661	1.3	2.0	3.9
ACT	54,697	1.7	1.8	4.0
Australia	48,029	1.8	1.4	2.5

Source: BITRE, taxable income database

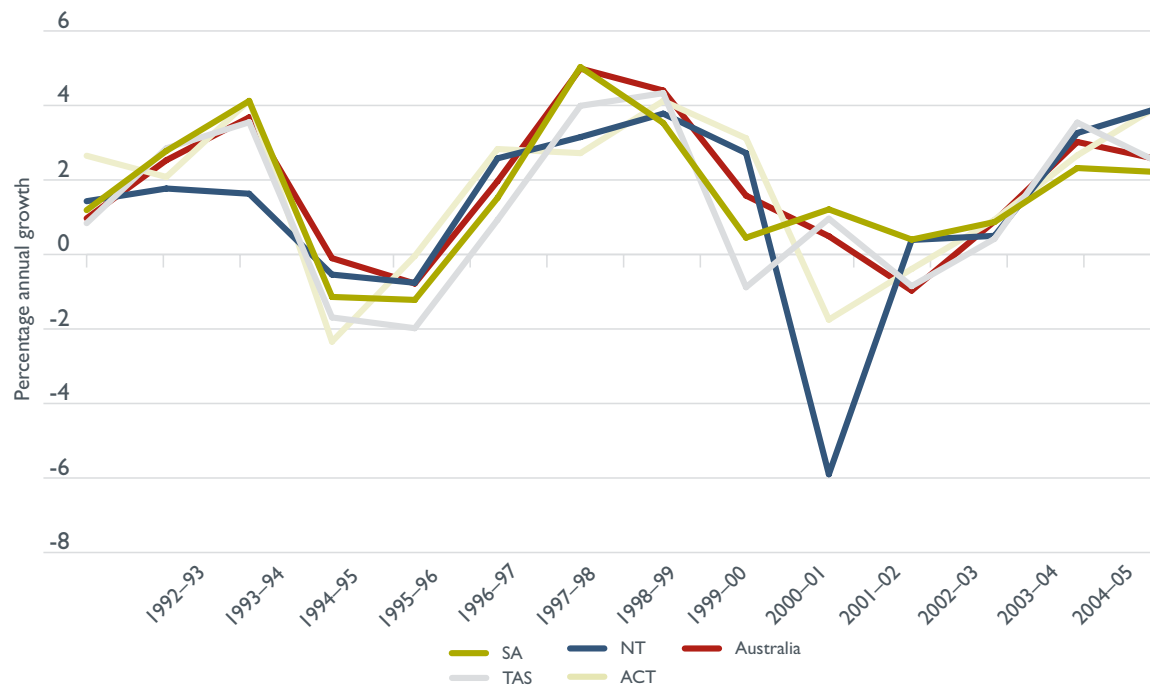
The above table shows the short, medium and long term average annual growth rates for RIPT. WA had the highest rate for all three periods, with 4.2 per cent in the short term. In the long term (1991 to 2005), WA and NSW had the highest RIPT growth rates. In the medium term (2001 to 2005), WA, NT and Queensland had the highest rates. In the short term, WA, ACT and the NT had the highest rates.

## Real income per taxpayer growth over time — larger states



Source: BITRE, taxable income database

## Real income per taxpayer growth over time — smaller states and territories



Source: BITRE, taxable income database

The above charts show RIPT growth by state and territory. The strongest RIPT growth was demonstrated by WA (4.2 per cent), the ACT (4.0 per cent) and the NT (3.9 per cent) between 2003-04 and 2004-05. The other states were clustered between 2.2 and 2.6 per cent, with the growth rates decreasing from the previous year.



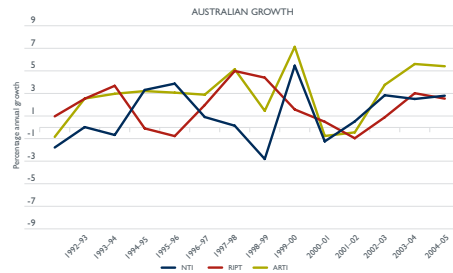
## Overview of all three indicators by state

The following charts and tables show the growth rates for NTI, ARTI and RIPT by state and territory.

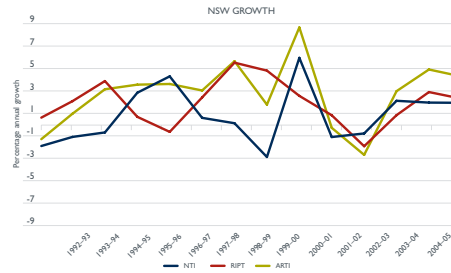
The growth rates of RIPT and NTI contribute to changes in the ARTI rate. The relative contribution of each factor (an increased number of economically significant individuals or an increase in the amount earned by each individual) can be judged from the tables below.

In the state graphs, NSW, Victoria, SA, WA and Australia as a whole have approximately equal growth rates for RIPT and NTI. In Queensland and, to a lesser extent, Tasmania, the NTI is driving the increase in ARTI more than RIPT. In the Northern Territory and the ACT, the opposite is true, with average incomes rather than the number of taxpayers influencing the increase in ARTI for each territory.

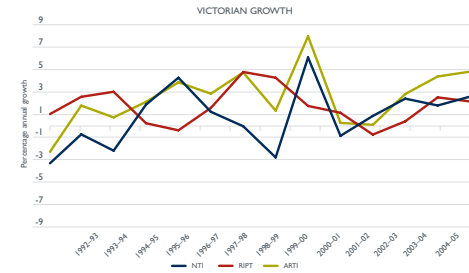
Comparing the two high growth states (WA and Queensland), it is clear that where Queensland ARTI growth is driven by a big increase in the economically active population (NTI) and moderate income growth (RIPT), WA growth is driven by strong growth in both.



Australia	average annual growth		
(%)	1991 to 2005	2001 to 2005	2004 to 2005
ARTI	2.9	3.6	5.4
NTI	1.1	2.2	2.8
RIPT	1.8	1.4	2.5



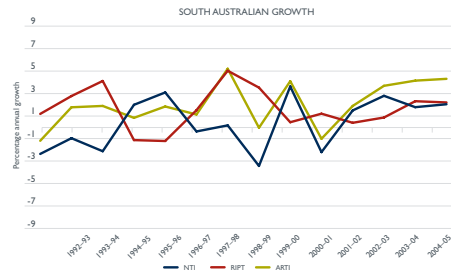
NSW	average annual growth		
(%)	1991 to 2005	2001 to 2005	2004 to 2005
ARTI	2.7	2.3	4.3
NTI	0.8	1.3	1.9
RIPT	1.9	1.0	2.3



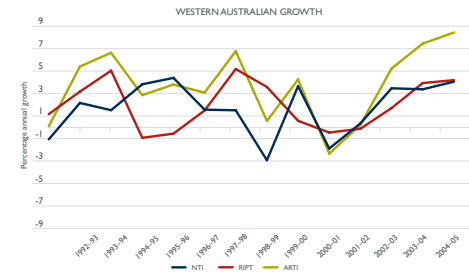
VIC	average annual growth		
(%)	1991 to 2005	2001 to 2005	2004 to 2005
ARTI	2.5	3.0	4.8
NTI	0.8	1.9	2.6
RIPT	1.7	1.1	2.2



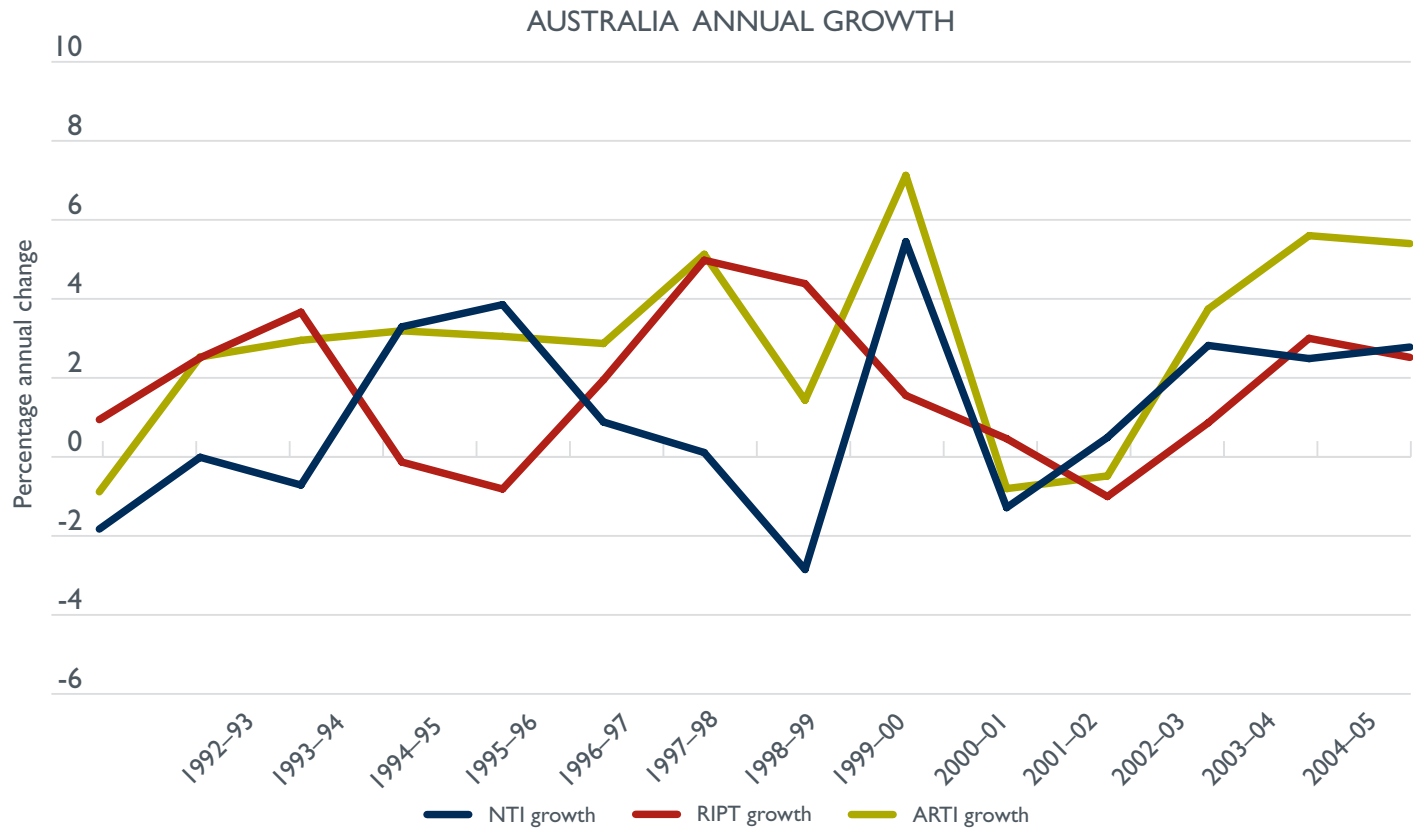
QLD	average annual growth		
(%)	1991 to 2005	2001 to 2005	2004 to 2005
ARTI	4.2	5.8	7.0
NTI	2.4	3.7	4.2
RIPT	1.7	2.0	2.6

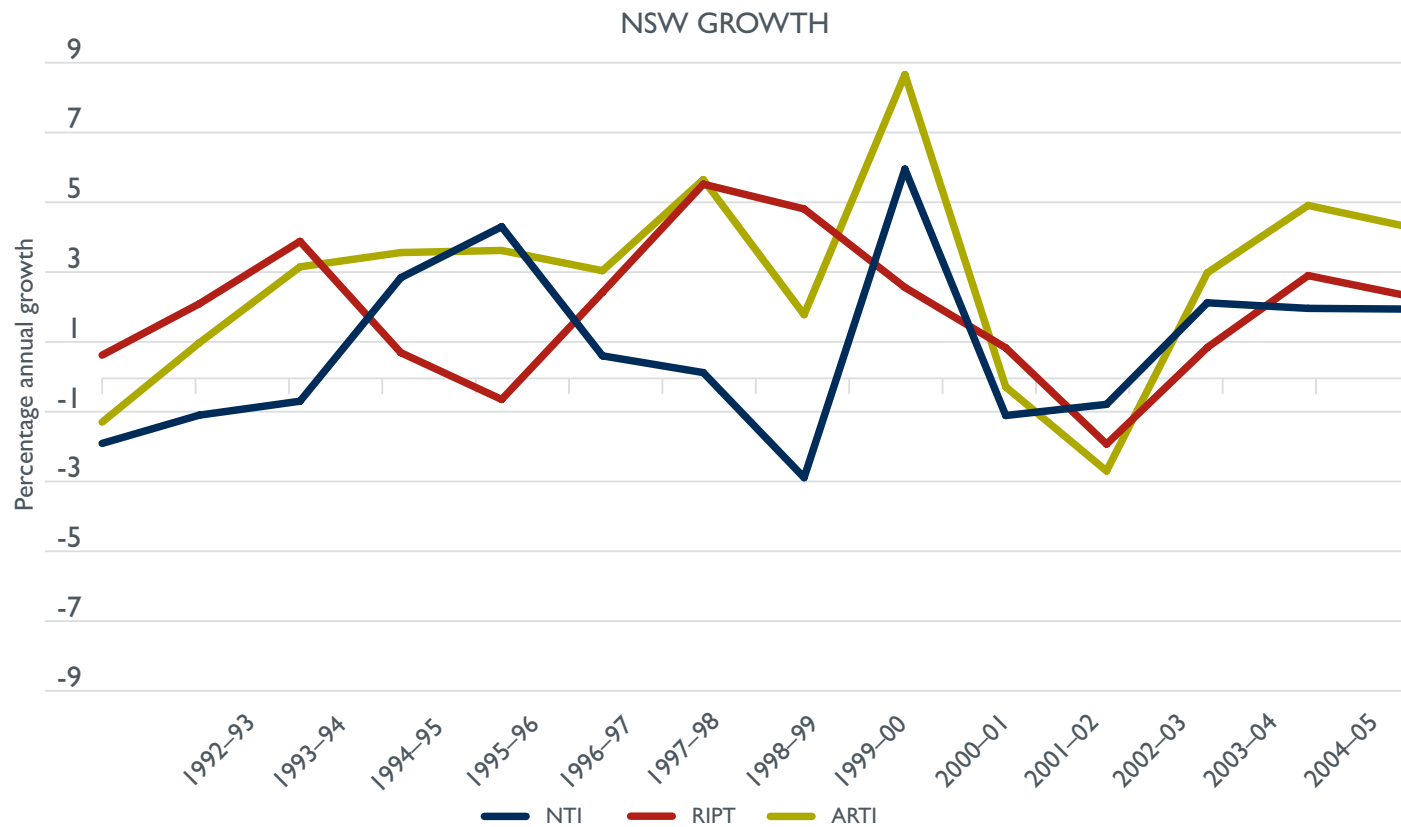


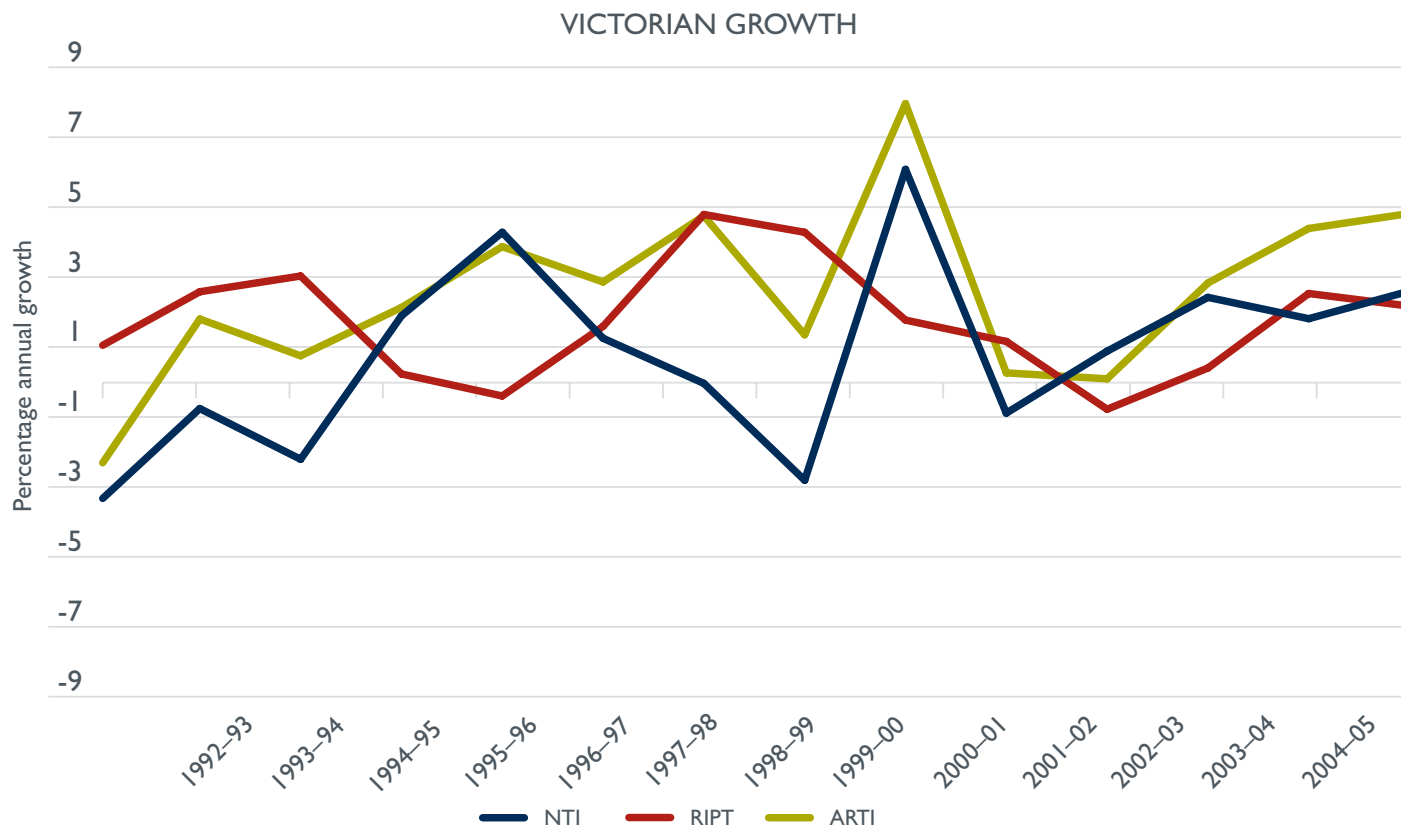
SA	average annual growth		
(%)	1991 to 2005	2001 to 2005	2004 to 2005
ARTI	2.0	3.5	4.3
NTI	0.4	2.0	2.1
RIPT	1.6	1.4	2.2

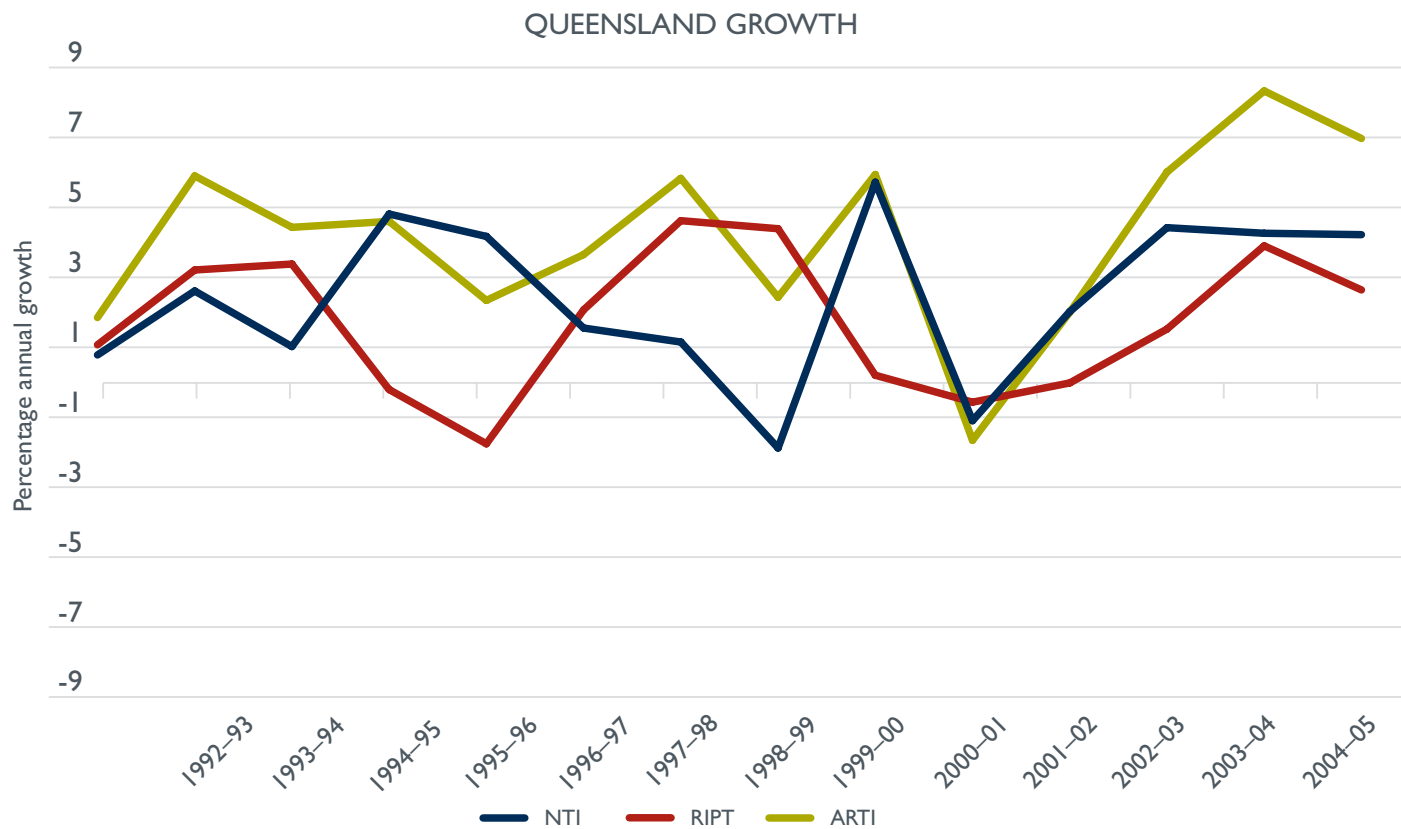


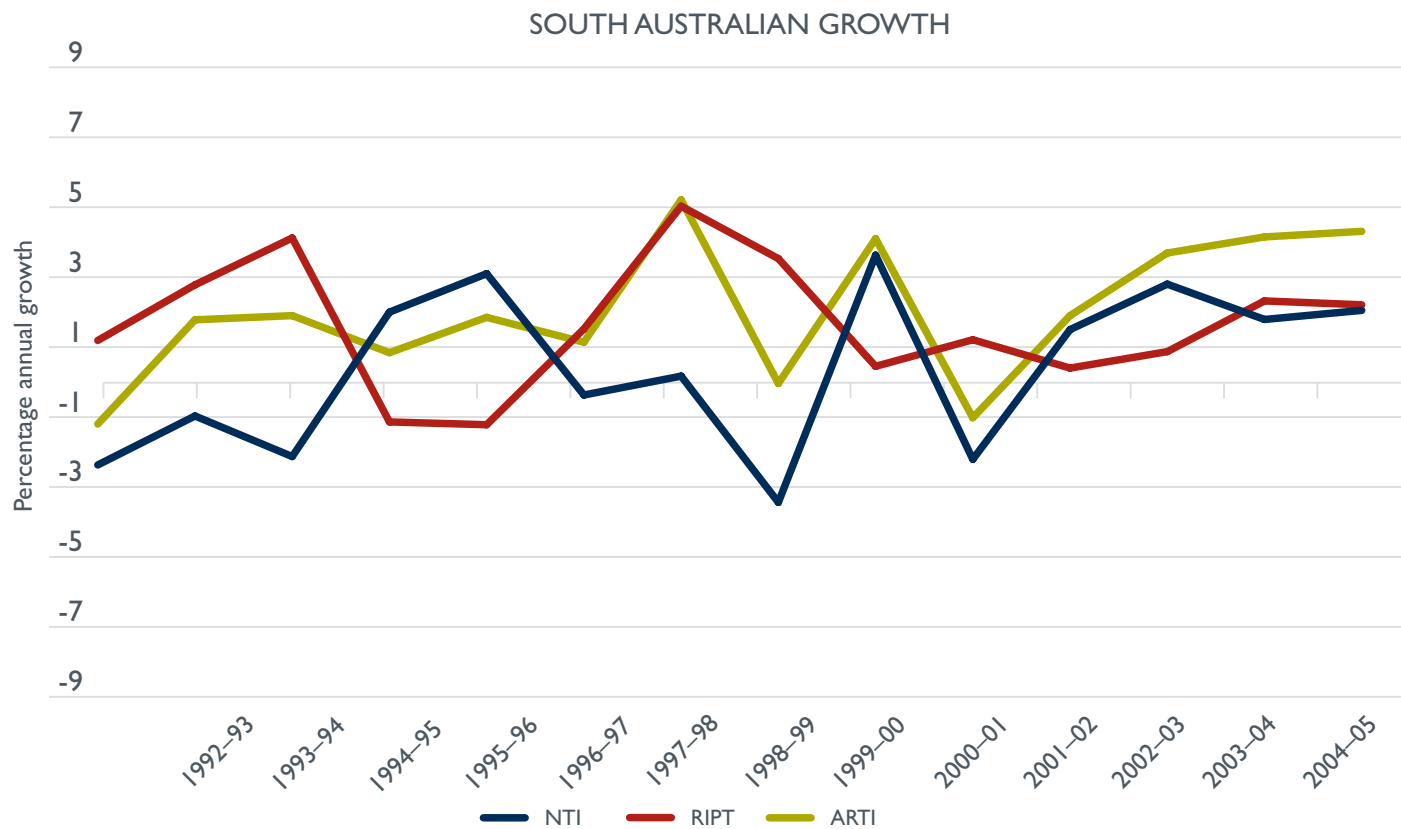
WA	average annual growth		
(%)	1991 to 2005	2001 to 2005	2004 to 2005
ARTI	3.7	5.3	8.5
NTI	1.7	2.8	4.1
RIPT	2.0	2.4	4.2

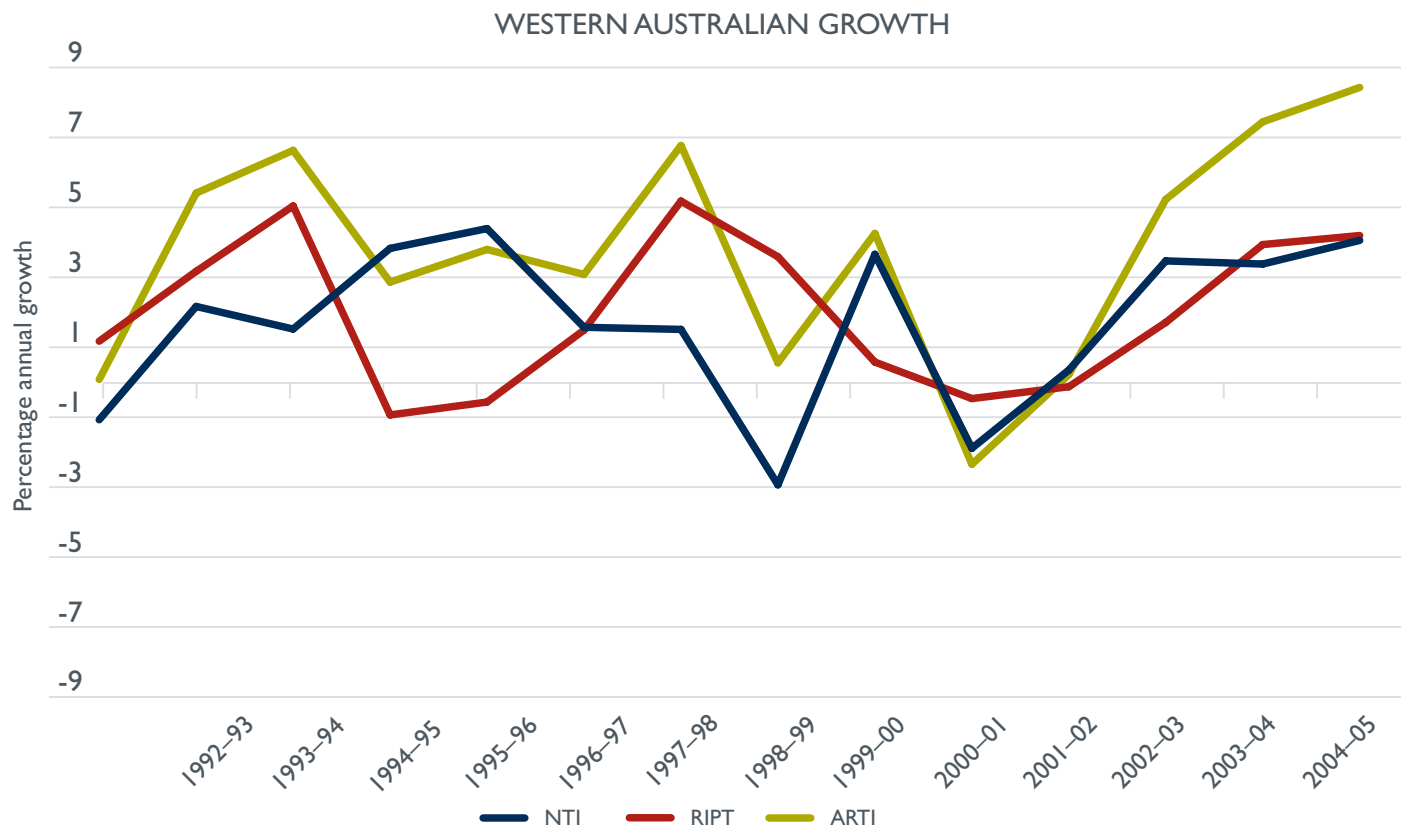




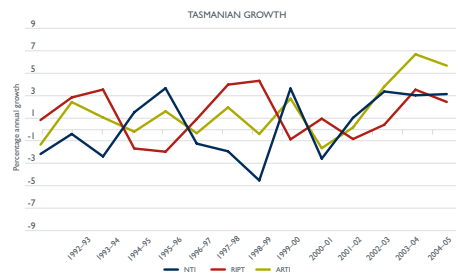






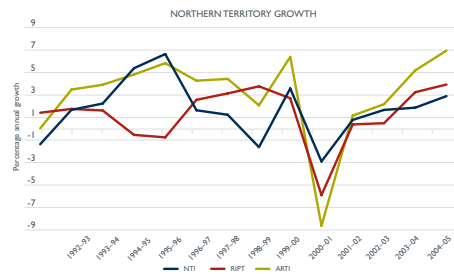




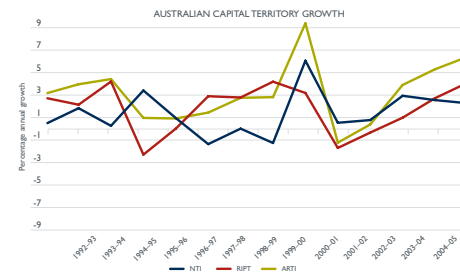


TAS	average annual growth		
(%)	1991 to 2005	2001 to 2005	2004 to 2005
ARTI	1.6	4.1	5.7
NTI	0.3	2.6	3.1
RIPT	1.3	1.4	2.5

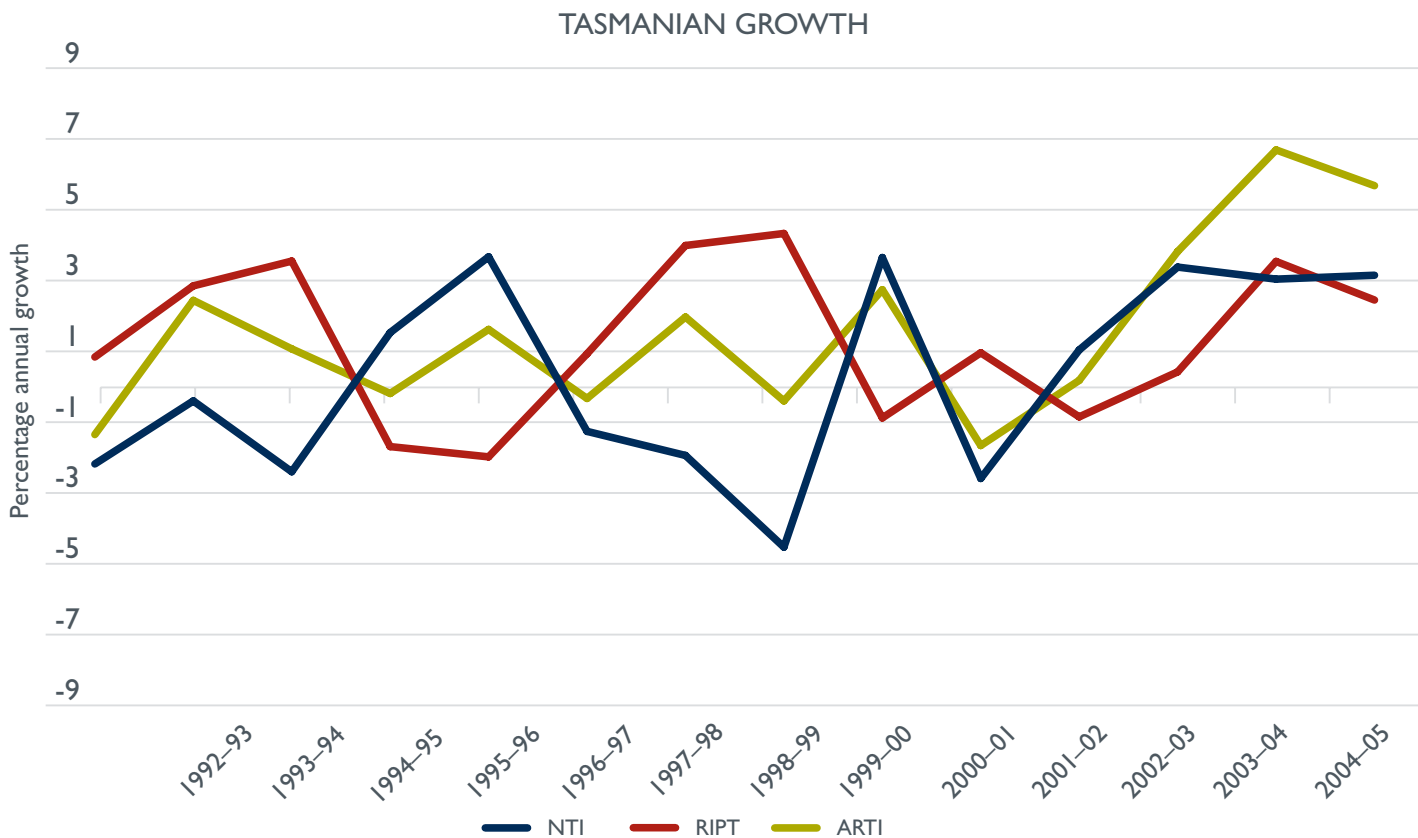
Source: BITRE, taxable income database

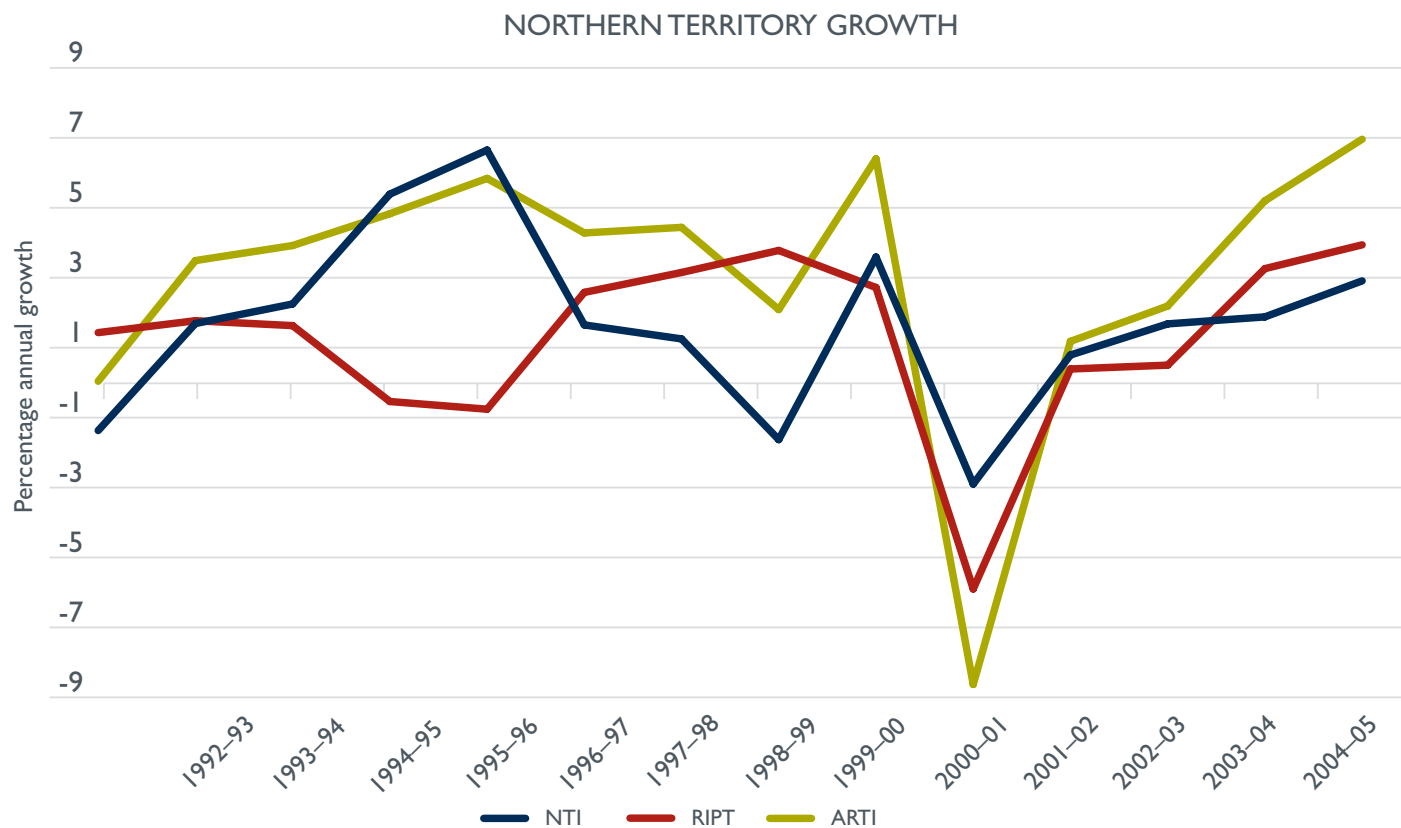


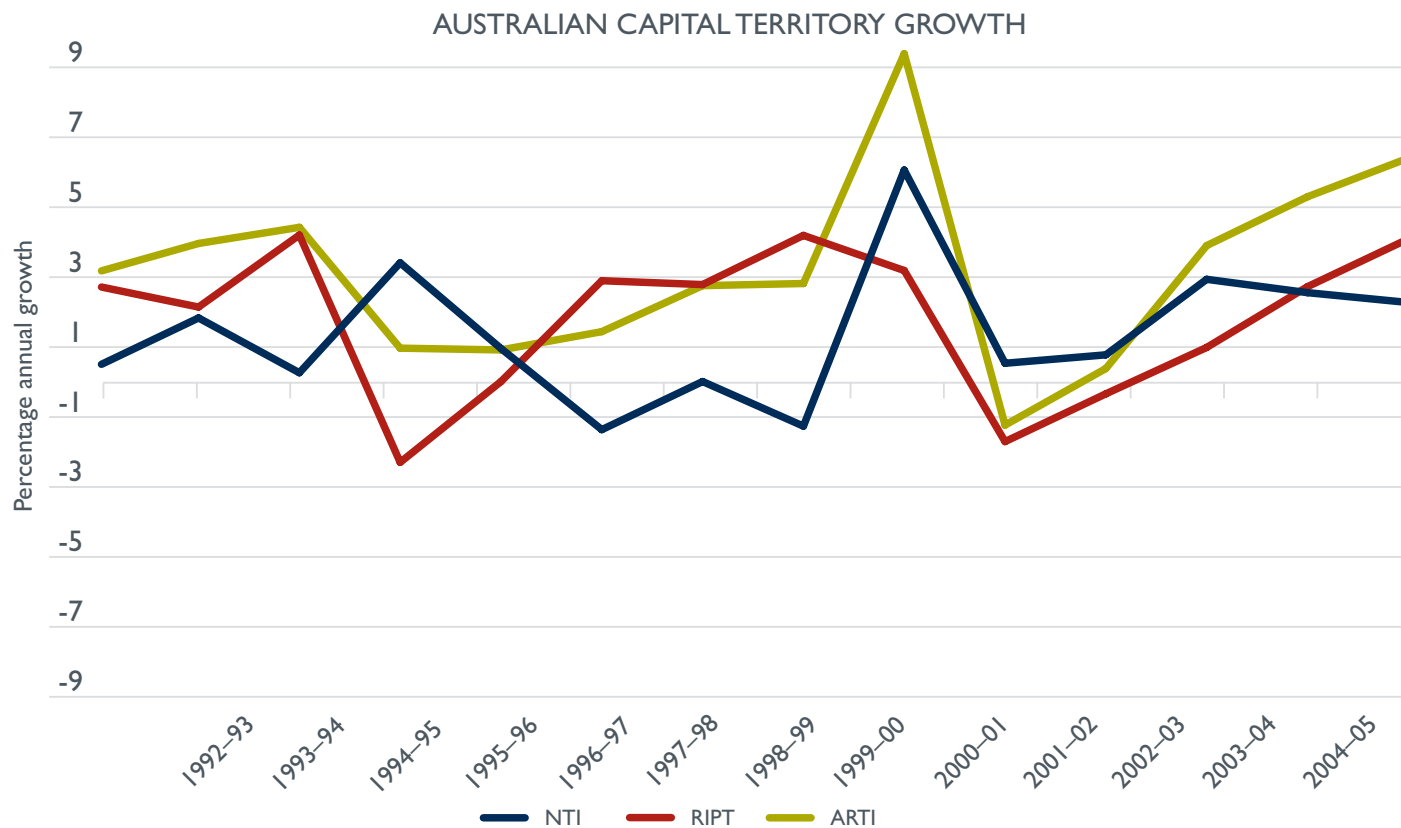
NT	average annual growth		
(%)	1991 to 2005	2001 to 2005	2004 to 2005
ARTI	2.9	3.9	7.0
NTI	1.7	1.8	2.9
RIPT	1.3	2.0	3.9



ACT	average annual growth		
(%)	1991 to 2005	2001 to 2005	2004 to 2005
ARTI	3.1	3.9	6.3
NTI	1.3	2.1	2.2
RIPT	1.7	1.8	4.0







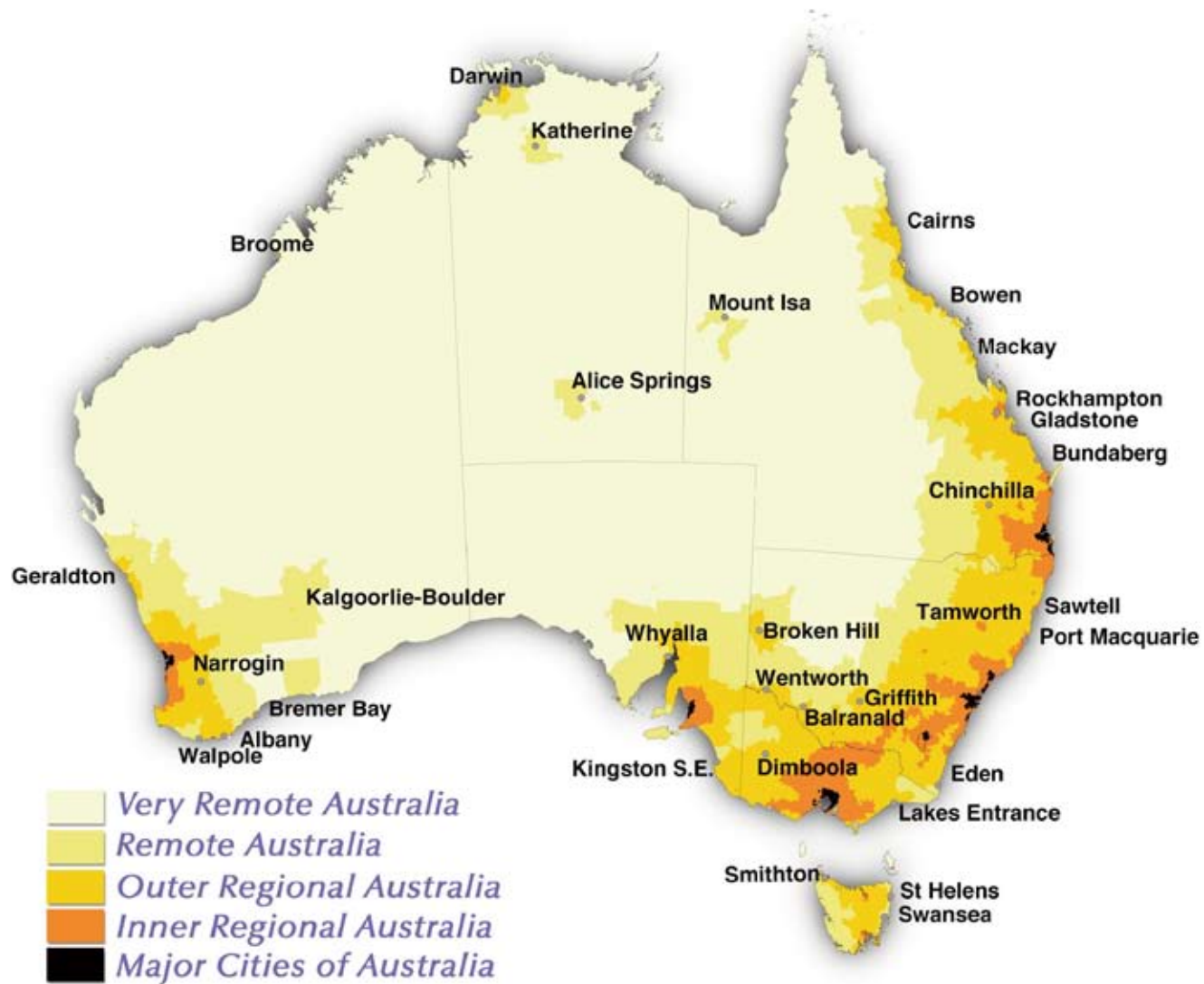
## Indicators and trends by remoteness class

In addition to analysis by state and territory, this paper also examines how the taxable income indicators vary across degrees of remoteness.

The ABS 2001 remoteness classes are based on road distance to an urban centre in five population classes. The remoteness classes are major cities, inner regional, outer regional, remote and very remote. The remoteness class boundaries used in this analysis were calculated using the 2001 Census populations. Boundaries calculated on 2006 Census data are likely to vary slightly, particularly about the fringes of the major cities. The 2001 remoteness classes are distributed as shown, across state boundaries:



Source: ABS ASGC Remoteness Structure, 2001



Source: ABS ASGC Remoteness Structure, 2001

## Overview of aggregate real taxable income by remoteness class

The following table shows the long, medium and short term growth rates for aggregate real taxable income (ARTI) by remoteness classes. The share of ARTI conveys the relative size of each class, with the major cities category accounting for \$315 billion of Australia's total \$437 billion ARTI, or about 72 per cent.

In the long term (1991 to 2005), ARTI growth in major cities and inner regional was above the overall Australian growth rate. In the medium term, inner regional had the highest growth rate at 4.7 per cent. In the short term, outer regional had the highest growth rate at 5.6 per cent, just above the rate of major cities, at 5.5 per cent. In all cases, very remote Australia had the lowest ARTI growth rate, and remote the second lowest.

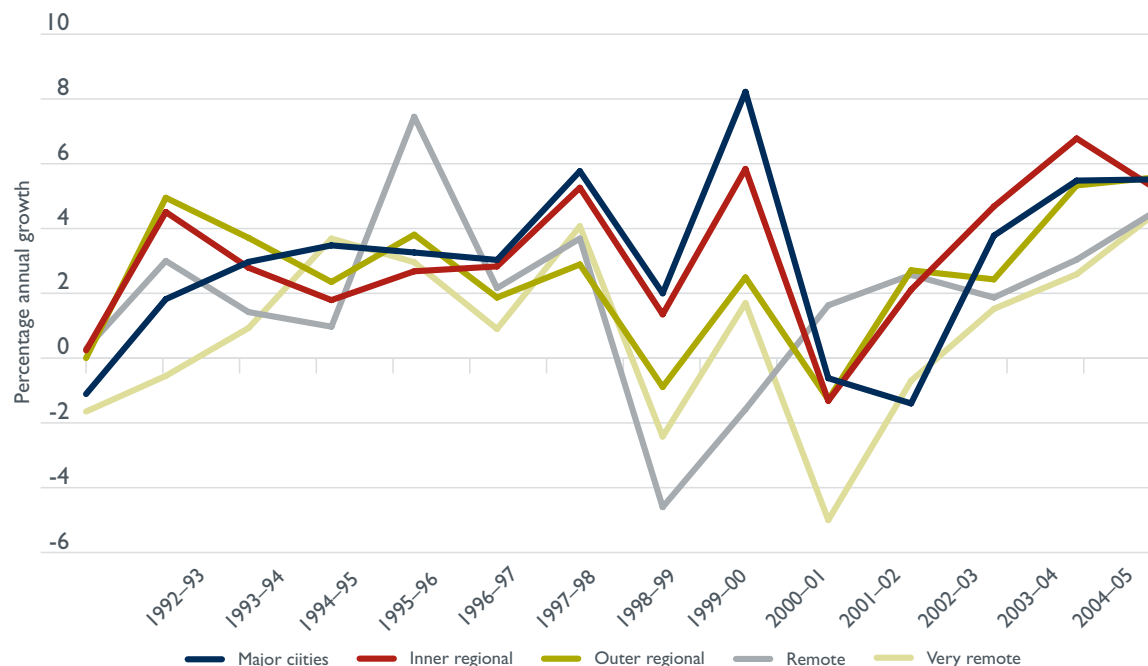
### ARTI growth by remoteness class: long, medium and short term

remoteness class	2004–05 \$(2006-07 billions)	average annual growth		
		1991 to 2005 (%)	2001 to 2005 (%)	2004 to 2005 (%)
Major cities	315.2	3.0	3.3	5.5
Inner regional	75.5	3.2	4.7	5.2
Outer regional	36.8	2.5	4.0	5.6
Remote	6.3	1.9	3.0	4.6
Very remote	2.6	0.9	2.0	4.6
Australia*	437.0	2.9	3.6	5.4

Source: BITRE, taxable income database

\* includes areas excluded from the five classes

## Aggregate real taxable income growth over time — remoteness classes



Source: BITRE, taxable income database

The above chart shows the annual rate of ARTI growth since 1991-92.

Since 2002-03, ARTI growth in remote and very remote classes has been lower than the other remoteness categories. In the most recent year of data available (2004-05), the rates of growth were relatively uniform between the classes. This represents a significant departure from recent years, especially for inner regional, which outperformed the other classes in 2002-03 and 2003-04.



## Overview of number of taxable individuals by remoteness class

### NTI growth by remoteness class: long, medium and short term

remoteness class	number (2004–05) (million)	average annual growth		
		1991 to 2005 (%)	2001 to 2005 (%)	2004 to 2005 (%)
Major cities	6.2	1.1	2.0	2.8
Inner regional	1.8	1.6	3.1	3.2
Outer regional	0.9	0.9	2.1	2.8
Remote	0.1	0.3	1.2	2.1
Very remote	0.1	-0.2	0.2	1.0
Australia*	9.1	1.1	2.2	2.8

Source: BITRE, taxable income database

\* includes areas excluded from the five classes

The above table shows the average annual rate of NTI growth for the long term (1991 to 2005), medium term (2001 to 2005) and short term (2004 to 2005).

In the past year, higher growth rates for NTI occurred in the three more accessible categories than in remote (2.1 per cent) or very remote areas (1 per cent). With the exception of the inner regional class, which showed the strongest growth (3.2 per cent), the growth rate decreased with remoteness.

## Number of taxable individuals growth over time — remoteness classes



Source: BITRE, taxable income database

The above chart shows the growth of NTI for each year since the beginning of the 1990s. It demonstrates that since 1991–92, the inner regional class has either closely tracked or exceeded the growth rates in major cities, and has been consistently higher since 2001–02.

## Overview of real income per taxpayer by remoteness class

### RIPT growth by remoteness class: long, medium and short term

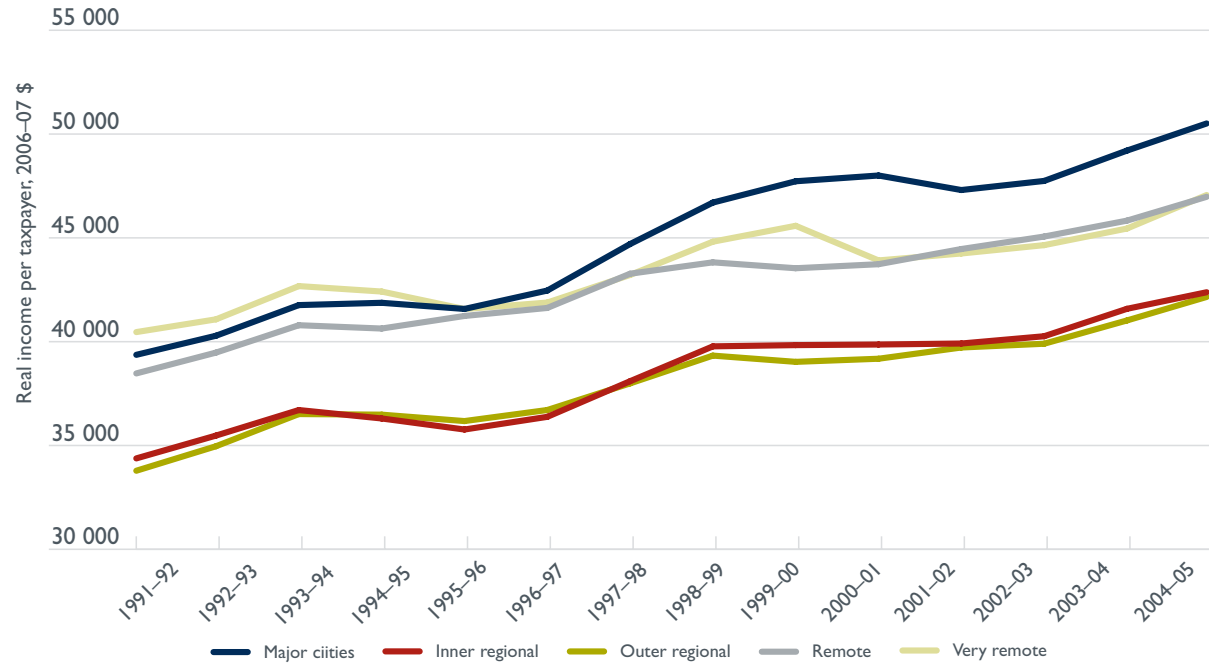
Remoteness class	2004–05 \$(06–07)	average annual growth		
		1991 to 2005 (%)	2001 to 2005 (%)	2004 to 2005 (%)
Major cities	50,510	1.9	1.3	2.7
Inner regional	42,381	1.6	1.5	1.9
Outer regional	42,155	1.7	1.8	2.8
Remote	46,978	1.6	1.8	2.5
Very remote	47,064	1.1	1.7	3.6
Australia*	48,029	1.8	1.4	2.5

Source: BITRE, taxable income database

\* includes areas excluded from the five classes

The above table shows the short, medium and long term average annual growth rates for RIPT by remoteness class. In the long term, the major cities class experienced the highest level of RIPT growth, while in the medium term it exhibited the lowest. Between 2003–04 and 2004–05, the very remote class had the highest RIPT growth at 3.6 per cent, more than 1 percentage point above the Australian average of 2.5 per cent. Outer regional (2.8 per cent) and major cities (2.7 per cent) were the next highest, while inner regional grew the least at 1.9 per cent.

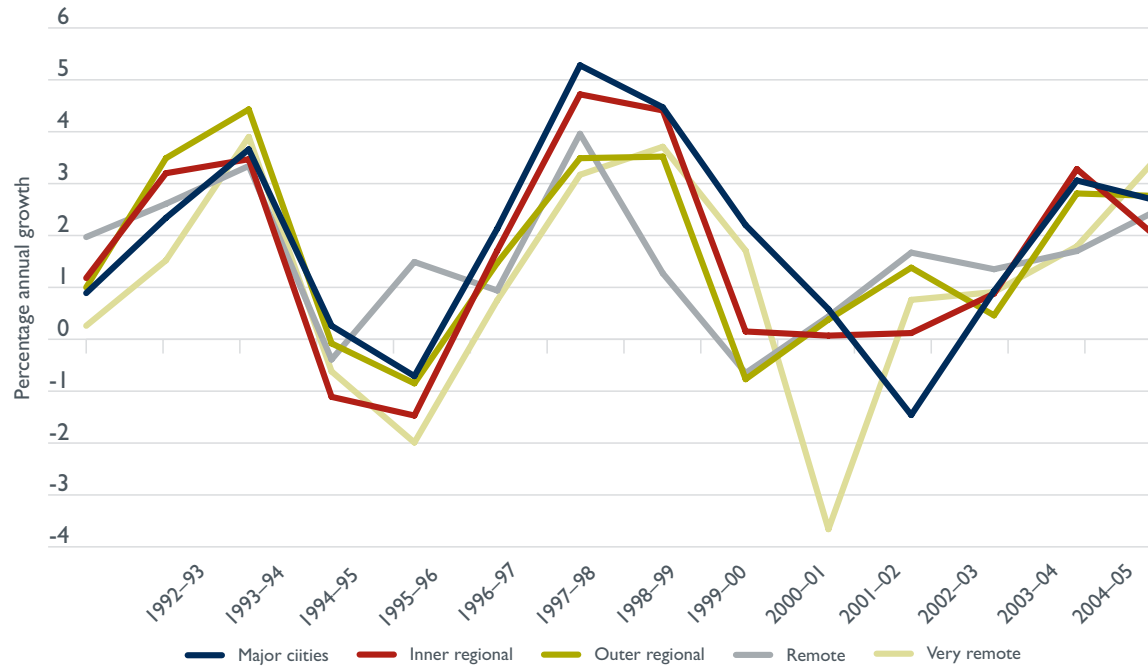
## Real income per taxpayer over time — remoteness classes



Source: BITRE, taxable income database

The above chart shows RIPT by remoteness class in constant 2006-07 dollars. Until the mid-nineties, 'very remote' had the highest RIPT values, closely followed by 'major cities' and 'remote'. Since then, the major cities class has maintained the highest RIPT values, followed by the two remote classes. Inner and outer regional consistently had the lowest values.

## Real income per taxpayer growth over time — remoteness classes



Source: BITRE, taxable income database

The above chart shows RIPT growth for each year from 1991–92 to 2004–05. The chart shows two uniform peaks: one in the early nineties, the other around 1998–99. Both were followed by periods of slower and negative growth.

## Overview of all three indicators by remoteness class

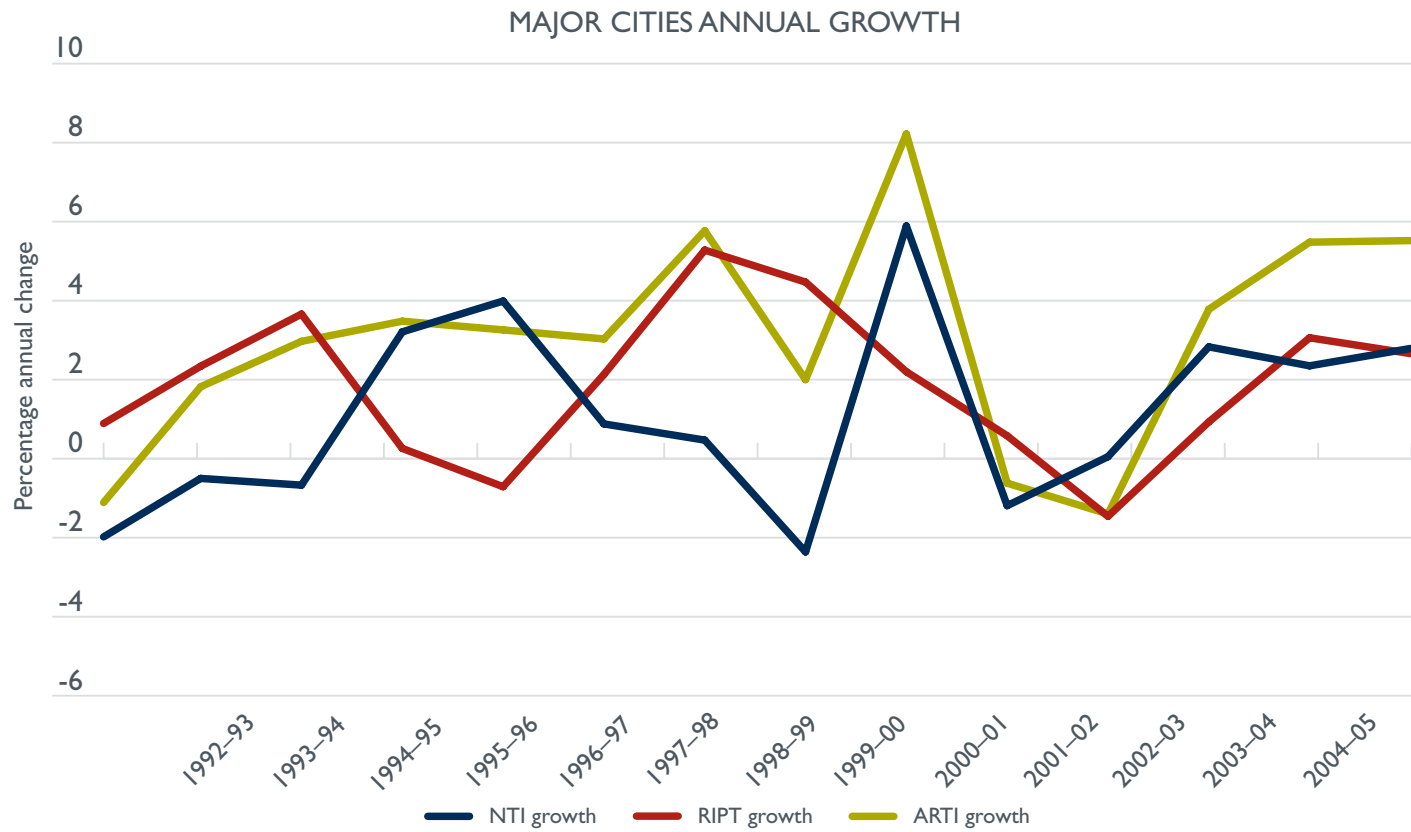
The following series of graphs tracks NTI, RIPT and ARTI for the five remoteness classes.

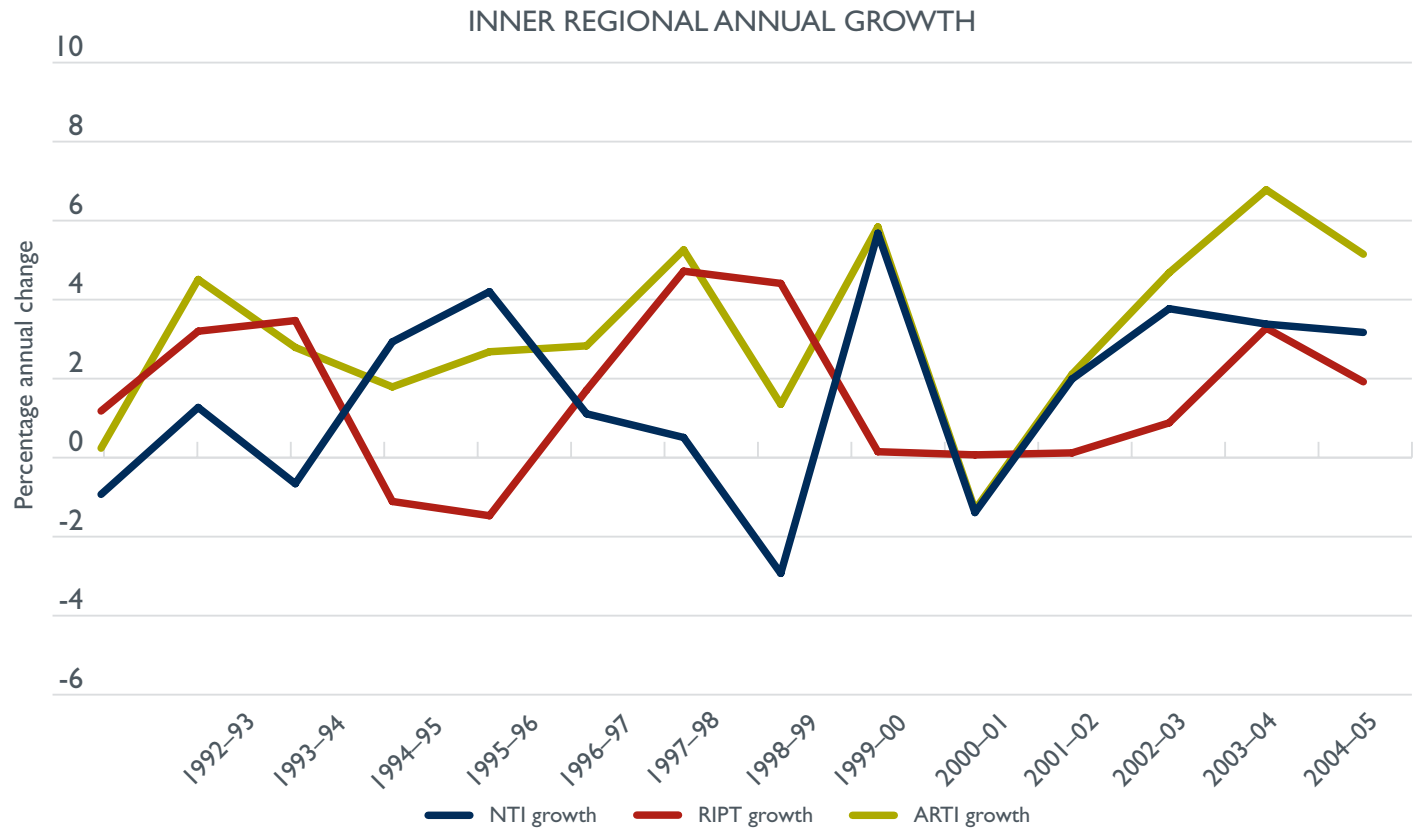
The major cities graph indicates that in 2004–05, NTI and RIPT equally contributed to the level of ARTI growth, as was the case in outer regional. In inner regional, the growth was due more to the increase in NTI. Both the remote and very remote classes had higher levels of RIPT growth than NTI growth, suggesting that the average income affected the rise in ARTI more than the number of taxable individuals.



Source: BITRE, taxable income database

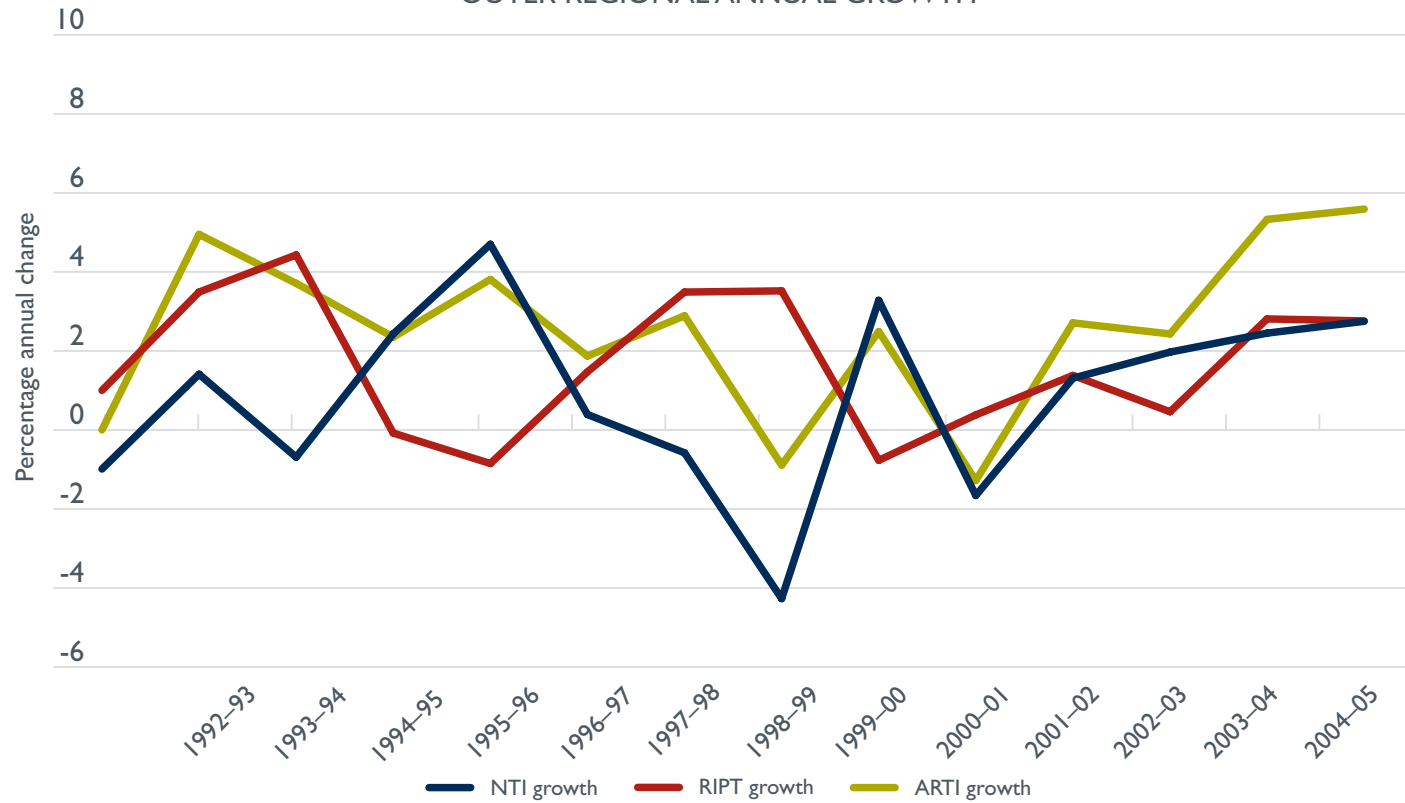
Note: The 'Australia' chart includes some unknowns excluded from remoteness class estimations.

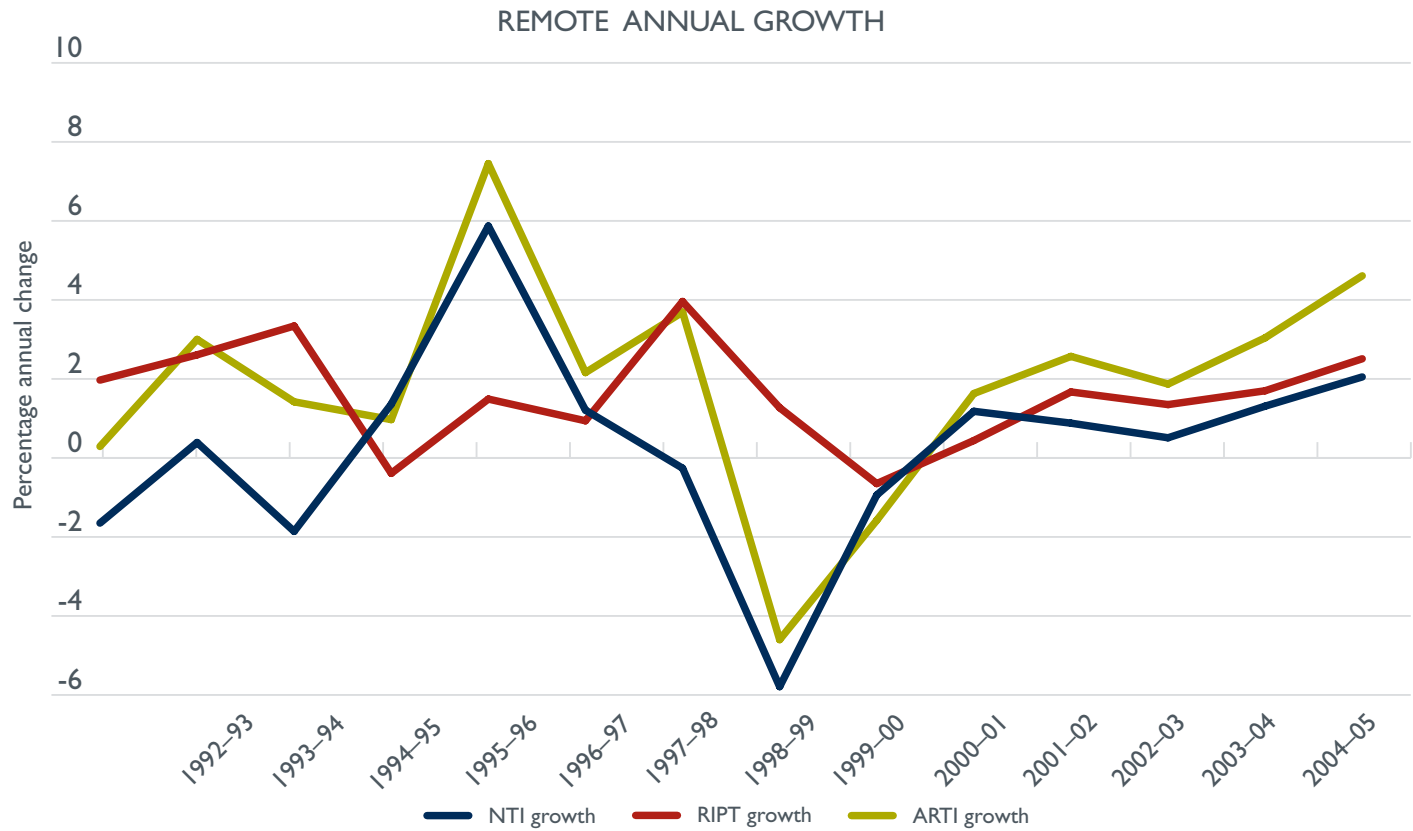


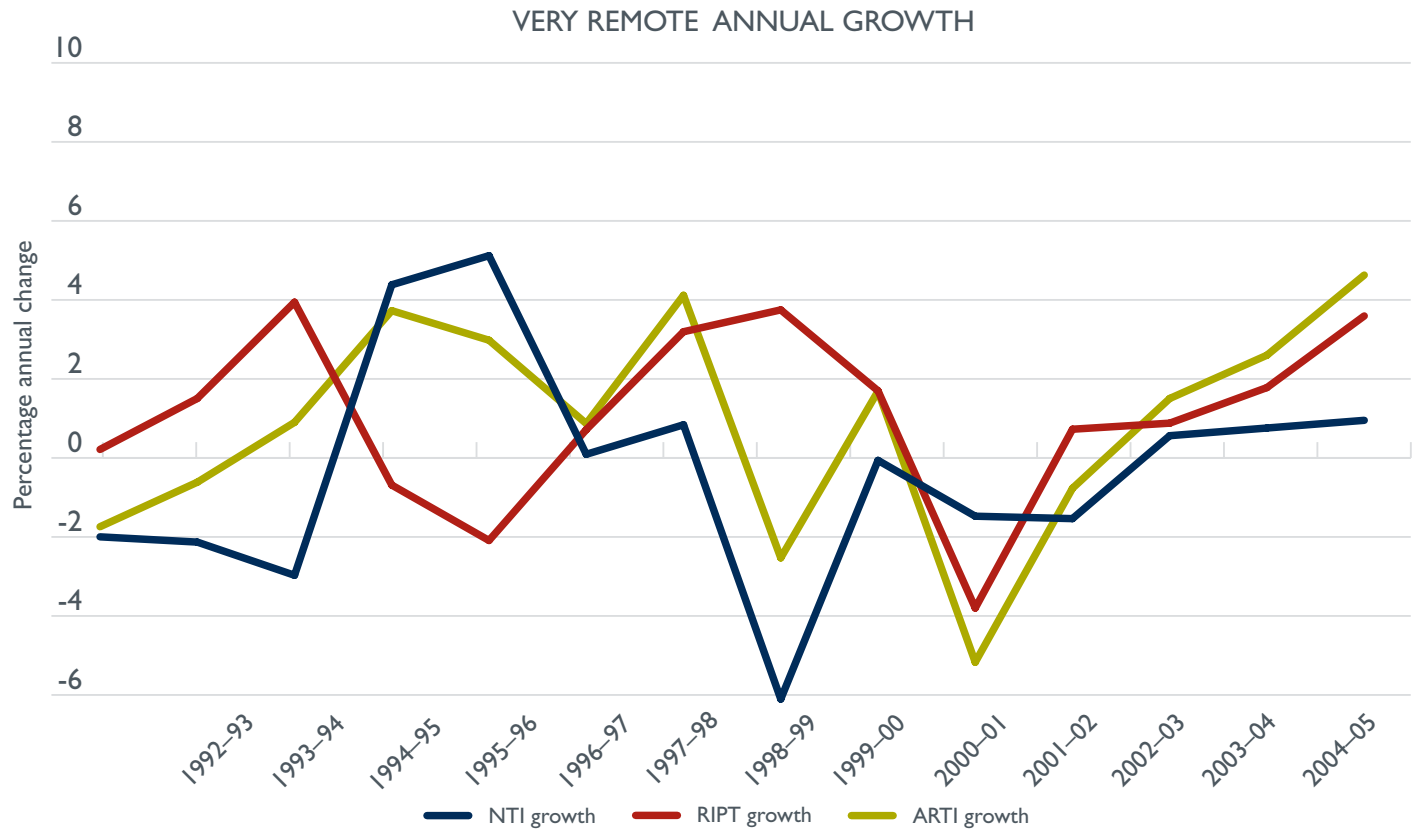


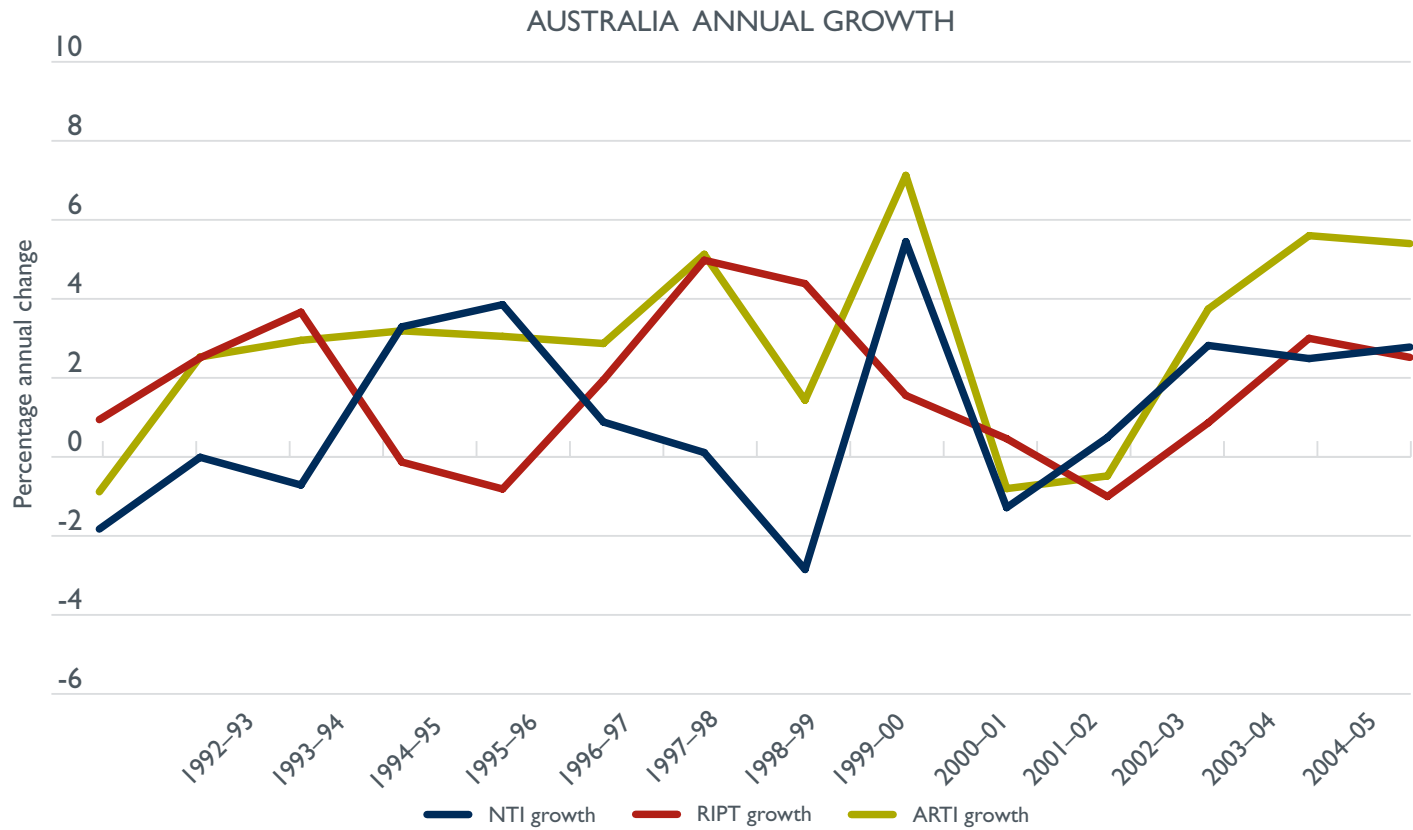


## OUTER REGIONAL ANNUAL GROWTH









## Income distribution

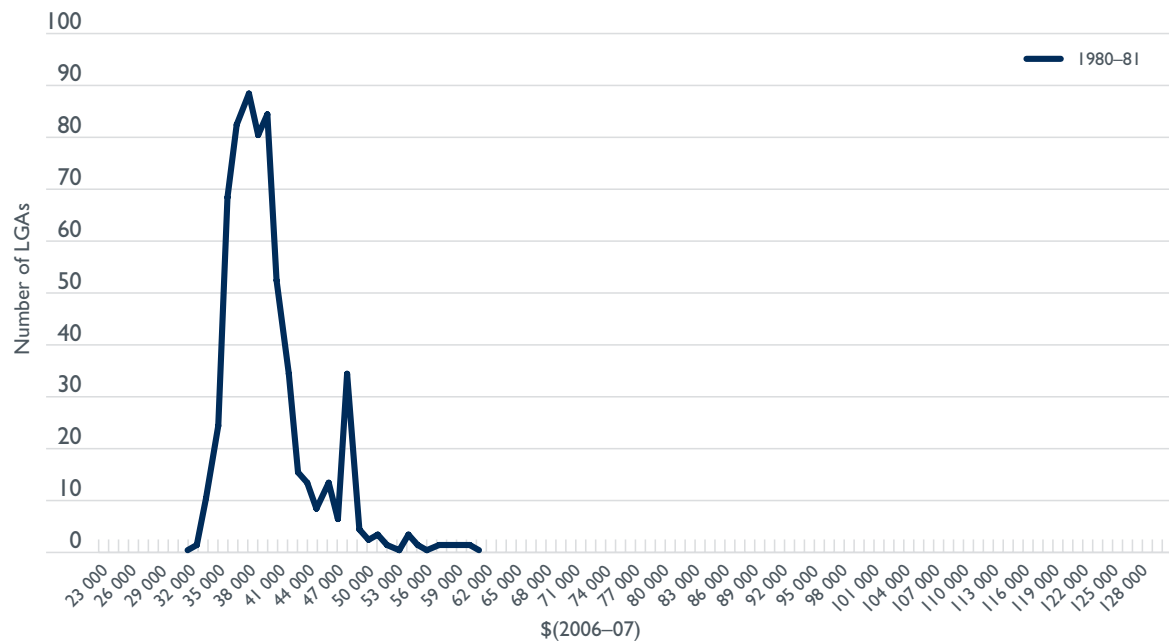
The following four figures show the distribution of Real Income Per Taxpayer (RIPT) by Local Government Area (LGA), through the period 1980–81 to 2004–05.

Three changes to the patterns should be noted:

- The distribution moves to the left in the period from 1980–81 to 1990–91, in line with the fall in real income during the 1980s. The median RIPT value in 1980–81 was \$38 430 compared with \$32 831 in 1990–91.
- Since 1990–91, the distribution moves progressively to the right, as real income rises. The median RIPT value in 2004–05 was \$41 975, compared with \$39 392 in 2000–01 and \$32 831 in 1990–91.
- The distributions develop a wider, flatter shape over time, indicating a less even distribution of income between LGAs. In addition, as time progresses, the graph becomes more skewed to the right, with a few LGAs having very high RIPTs. The highest value is for Mosman, NSW which had a 2004–05 RIPT of \$127 010.

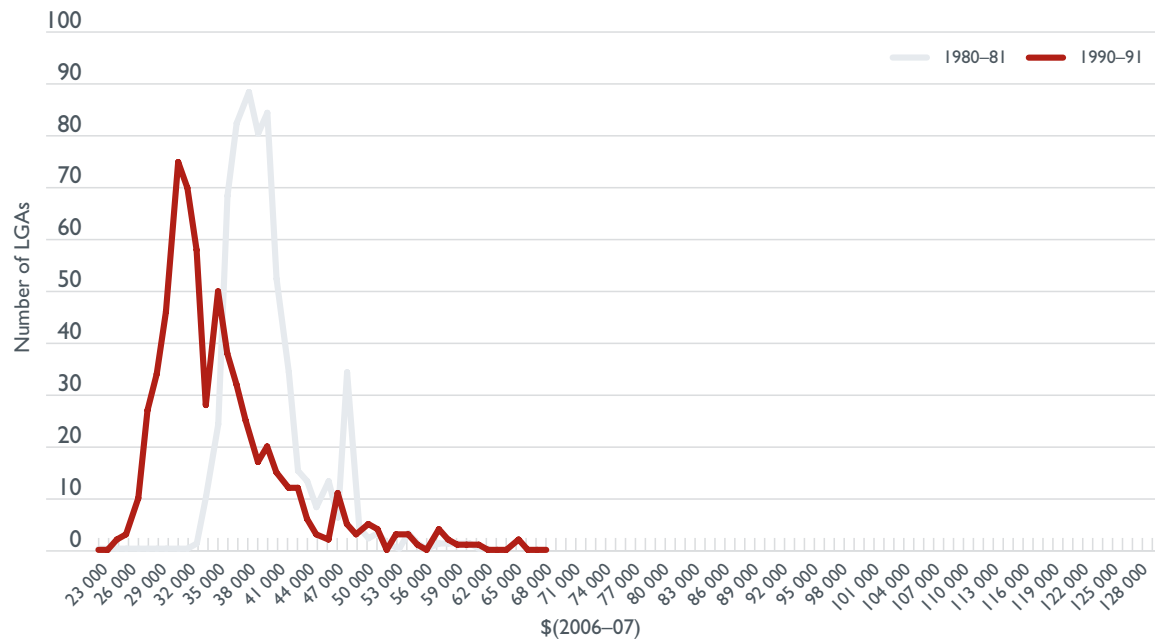
Whilst at first sight the changing distribution patterns over time suggest a more unequal distribution of income across the population, it should be noted that this is not necessarily the case. It is quite plausible that the graphs are only reflecting a heightened aggregation of people with like incomes into LGAs with little or no change in the overall income distribution.

## Distribution of RIPT by Local Government Area: 1980–81



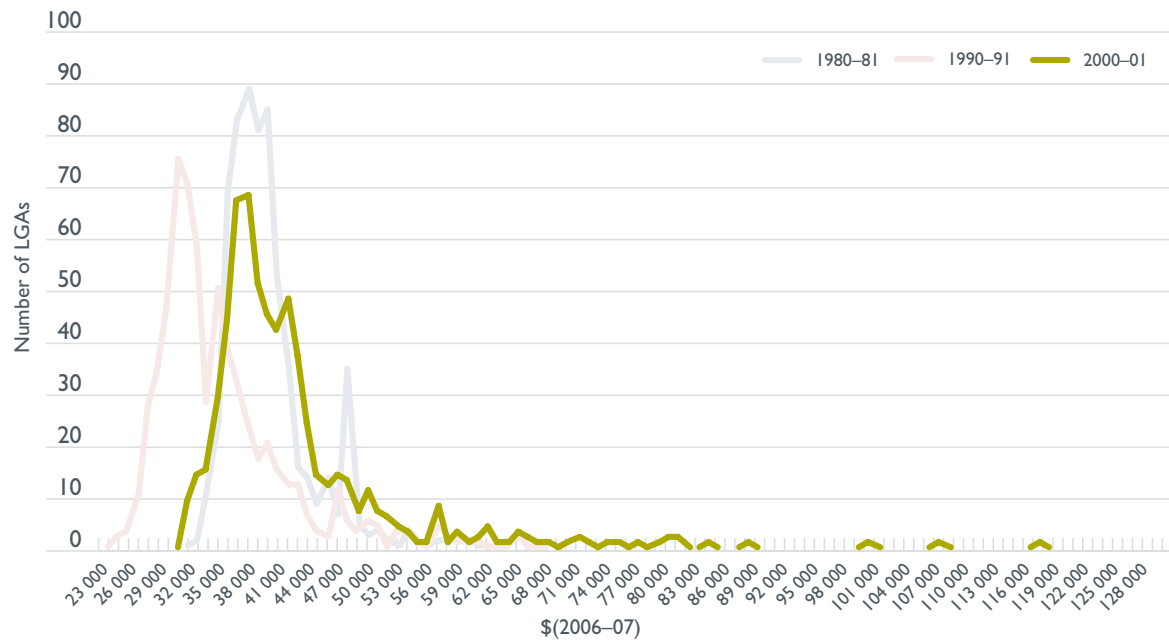
Source: BITRE, taxable income database

## Distribution of RIPT by Local Government Area: 1980–81 and 1990–91



Source: BITRE, taxable income database

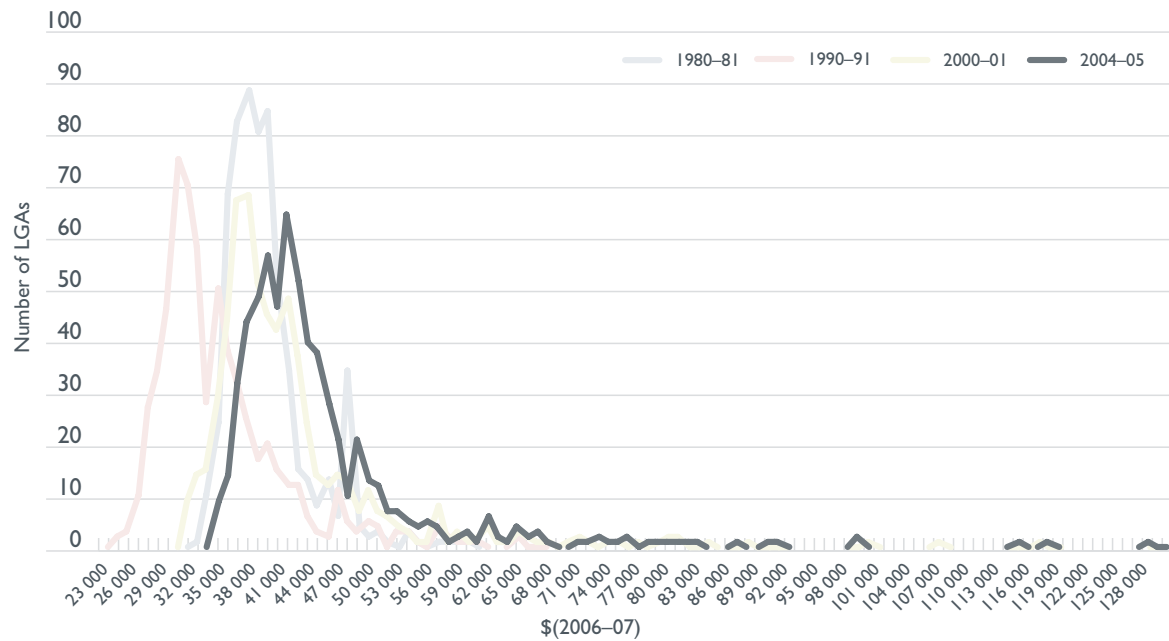
## Distribution of RIPT by Local Government Area: 1980–81, 1990–91 and 2000–01



Source: BITRE, taxable income database



## Distribution of RIPT by Local Government Area: 1980–81, 1990–91, 2000–01 and 2004–05



Source: BITRE, taxable income database