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TOURISM PRODUCTIVITY UPDATE

2014

TOURISM PRODUCTIVITY UPDATE 2014

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SUMMARY

"Productivity[1] growth …..is an important determinant of long-term economic growth and real per capita income growth, which in turn are crucial (but not the only) determinants of living standards and wellbeing" (Productivity Commission, 2013)

The tourism industry is vital to Australia's economy, and in 2012–13, the industry contributed:

- **2.7% ($39 billion)** to Australia's gross value added (GVA)—higher than *Agriculture, forestry & fisheries* (2.4%)
- **$27 billion** to Australia's exports—more than any other services industry
- **544,000 employees (directly employed in tourism)** to Australia's labour force—to support over 250 million trips

This report looks at changes in tourism productivity against the average of 16 market-sector[2] industries in Australia—a metric used to benchmark productivity at the national level. These 16 industries include those that are both tourism and non-tourism related.

PRODUCTIVITY MEASURES

Three productivity measures are examined, namely, labour, capital, and multifactor (MFP) productivity:

Measure	Assessment method	Effectiveness
Labour productivity	Output per unit of labour (usually hours worked)	'Partial' productivity measures – output is related to a single input. These measures are quite limited in nature.
Capital productivity	Output per unit of capital	
Multifactor productivity (MFP)	Output per unit of combined inputs of capital and labour	A more comprehensive measure of productivity – used mainly in this report

This report primarily focuses on MFP over three cycles, 1998–99 to 2003–04 (*Cycle 1*), 2003–04 to 2007–08 (*Cycle 2*), and an incomplete cycle 2007–08 to 2012–13 (*Cycle 3*).

In *Cycle 1*, Australia's MFP experienced an average annual growth rate of 1.1 per cent, but declined by 0.5 per cent in *Cycle 2* and 0.3 per cent in *Cycle 3*. These declines were largely influenced by the Mining Boom with both the terms of trade and the Australian dollar rising to record levels. In particular, the strong appreciation of the exchange rate led to a loss in competitiveness for both Australian

[1] Productivity = a measure of the amount of output that can be produced for a given level of inputs, or the quantity of inputs required for a given output level

[2] Market sector industries are those where the exchange of goods and services generally takes place in markets at observable prices (Productivity Commission, 2013)

domestic output to import substitutes and also the export sector. Further, the decline in Australia's MFP during this period is in contrast to the relatively strong productivity growth exhibited in the late 1980s to mid-1990s—a period during which there were significant economic reforms, particularly in relation to labour and competition.

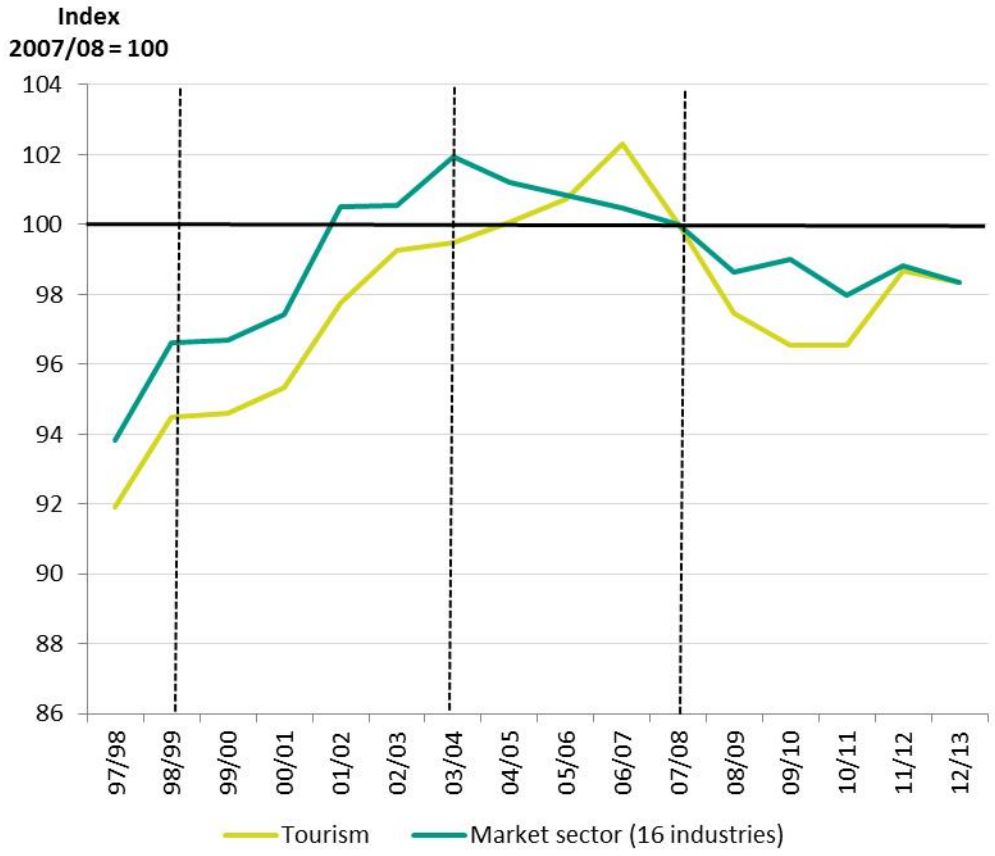
Tourism productivity growth for all three measures weakened in *Cycles 2* and *3* following solid intra-cycle growth in *Cycle 1*. While the exception to this was the weaker decline in tourism capital productivity in *Cycle 3*, labour productivity remained positive; however, its average annual growth rate declined noticeably across the three cycles.

As well as the Mining Boom, the impact of the Global Financial Crisis in *Cycle 3* increased trade and discretionary spending risks to a range of industries including tourism. The combination of these risks resulted in a softening of growth in tourism output (as represented by GVA), and weaker growth in labour input (hours worked) and capital services.

TOURISM MFP

Tourism MFP fell on average 0.3 per cent per annum during *Cycle 3*. While this was broadly in line with the market sector average, period averages often mask the differing trends that occur in an incomplete productivity cycle, such as that in *Cycle 3*. Year-on-year growth rate data show that in the first three years of *Cycle 3,* there was a sharp fall in tourism MFP followed by a strong recovery in 2011–12. Growth during this year was driven by a boost in demand for inbound and domestic tourism services. In 2012–13, both tourism and the market sector experienced slight declines in their MFP (refer Figure ES1).

FIGURE ES1: COMPARISON OF MFP FOR TOURISM AND THE MARKET SECTOR

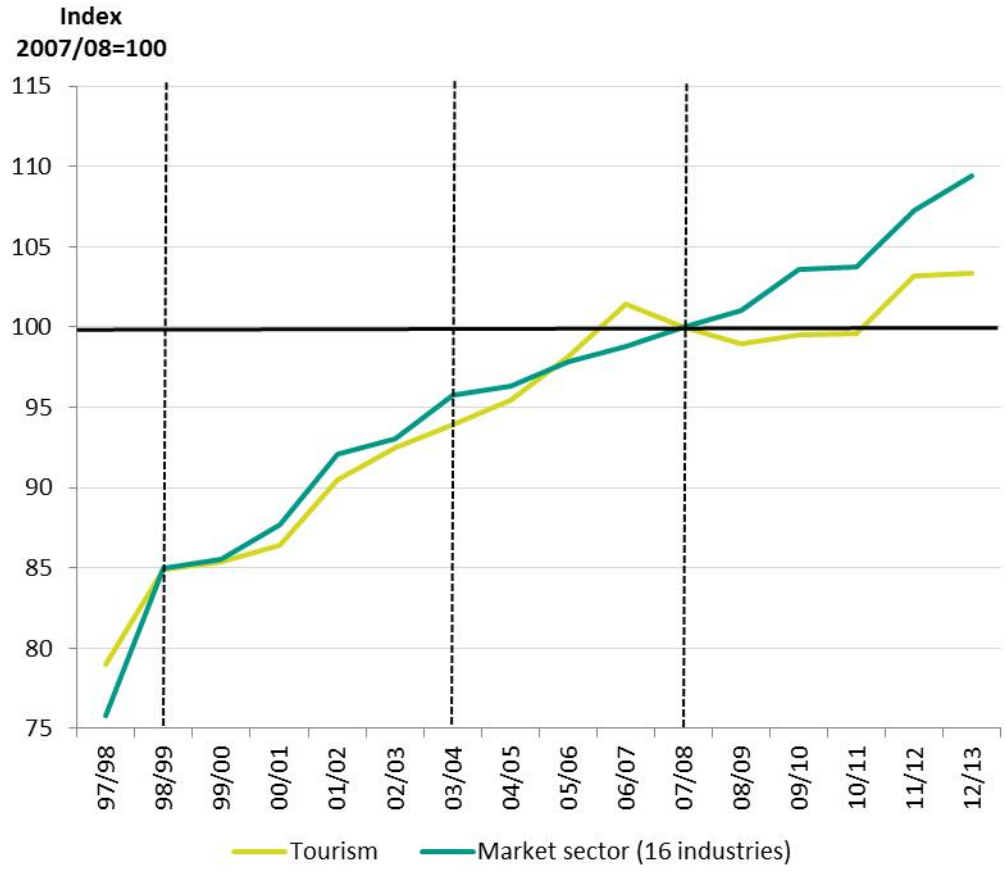


Sources: Tourism Research Australia and the Australian Bureau of Statistics (2013) Cat. No. 5260.0

LABOUR AND CAPITAL PRODUCTIVITY

Changes in both inputs and output lifted productivity for tourism labour productivity and tourism capital productivity in 2011–12. In 2012–13, however, productivity declined marginally. Tourism labour productivity rose 3.7 per cent in 2011–12, but remained flat at 0.2 per cent in 2012–13. This was driven mainly by the relatively stronger growth in tourism GVA in 2011–12 (3.1 per cent) than in 2012–13 (1.4 per cent) (Figure ES2).

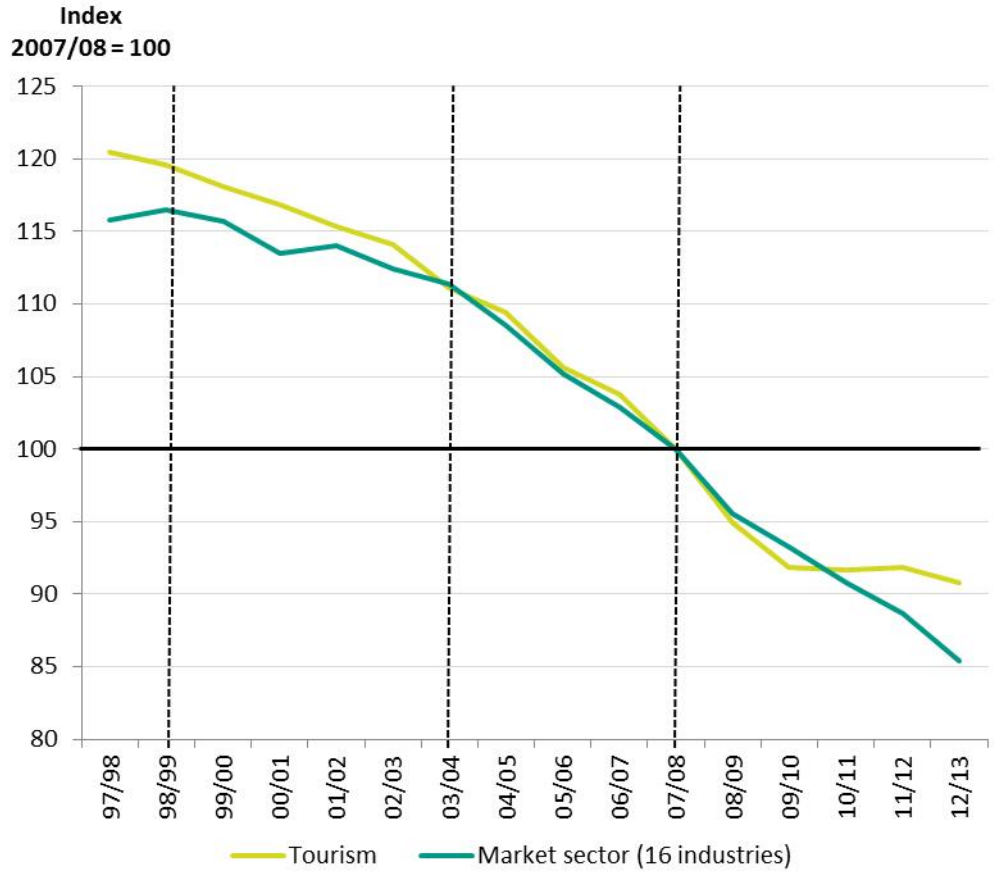
FIGURE ES2: LABOUR PRODUCTIVITY FOR TOURISM AND THE MARKET SECTOR



Sources: Tourism Research Australia and the Australian Bureau of Statistics (2013), Cat. No. 5260.0

Conversely, the sharp fall evident in tourism capital productivity for most years in this analysis was arrested from 2009–10. This reflects the combination of growth in tourism GVA, at the same time that growth in capital services slowed slightly in the two years to 2011–12. The result was a divergence of the capital productivity paths between tourism and the market sector, even though tourism still experienced a small decline in its capital productivity in 2012–13 (Figure ES3).

FIGURE ES3: CAPITAL PRODUCTIVITY FOR TOURISM AND THE MARKET SECTOR



Sources: Tourism Research Australia and the Australian Bureau of Statistics (2013), Cat. No. 5260.0

The tourism industry's use of capital has consistently increased at a faster rate throughout *Cycles 1, 2* and *3* when compared to labour. Labour intensity increased at an average annual rate of 1.5 per cent, whereas capital intensity increased at 5.1 per cent. This has resulted in the industry becoming more capital intensive. Nevertheless, labour reform remains very important for the tourism industry as labour comprises approximately 60 per cent of the industry's cost base. Areas such as access to training are necessary to enhance skills, increase customer service, and reduce the high turnover of staff—in particular in the *Accommodation and food services* industries.

This study highlights that trade and labour-intensive industries such as tourism, which have a large proportion of micro-and small businesses, remain vulnerable to the many negative shocks that an economy may experience. Furthermore, although an industry such as tourism can be impacted by such shocks, the industry's solid recovery from the impacts of the Mining Boom and GFC (strongly in 2011–12 and modestly in 2012–13) indicates that the industry has reasonable resilience. However, the industry needs to remain vigilant and also to increase its ability to manage future crises.

1. INTRODUCTION

"Productivity growth …..is an important determinant of long-term economic growth and real per capita income growth, which in turn are crucial (but not the only) determinants of living standards and wellbeing" (Productivity Commission, 2013)

This report assesses the productivity performance of tourism and its key contributing industries, against the average of the 16 market sector industries in Australia (referred to as 'market sector' hereafter). These 16 industries include those that contribute to tourism and those that don't:

Industries that contribute to tourism	Non-contributing industries
Accommodation and food services	Agriculture, forestry and fishing
Transport, postal and warehousing	Mining
Retail trade	Manufacturing
Administrative and support services	Electricity, gas, water and waste services
Arts and recreation services	Construction
Rental, hiring and real estate services	Wholesale trade
Information, media and telecommunications	
Other services	
Financial and insurance services	
Professional, scientific and technical services	

Three productivity measures are examined in the report, namely, labour productivity, capital productivity and multifactor productivity (MFP).

This report is Tourism Research Australia's (TRA) second on tourism productivity with the first report showing that tourism productivity was underperforming compared to the Australian market sector average from 1997–98 to 2008–09. At that point in time, the mining investment boom was at its height, and the negative impacts from the Global Financial Crisis (GFC) were at their peak.

As data are now available to 2012–13, this study provides a more detailed assessment of tourism productivity[3] and its ability to handle the challenges of the late 2000s. Findings are based on the latest available industry productivity statistics published by the Productivity Commission (PC) and the Australian Bureau of Statistics (ABS). The report employs updated tourism statistics—notably TRA's upwardly revised tourism expenditure estimates—which have resulted in substantially higher estimates for domestic overnight business travel than that released in 2012.

[3] Please note that as *Education and training*, *health care and social assistance*, and *Public administration and safety* are not covered in the ABS' productivity measures for the market sectors, data for them are not available. As such, they are not included in the tourism sector in this report..

THE DEFINITION OF PRODUCTIVITY

Productivity is a measure of the amount of output that can be produced for a given level of inputs, or alternatively, what quantity of inputs is required for a given output level.

The production process uses intermediate inputs, capital and labour to generate output, and the effectiveness of this process is measured in a number of ways:

- Labour productivity (LP): output per unit of labour (usually hours worked)
- Capital productivity (KP): output per unit of capital
- Multifactor productivity (MFP): output per unit of combined inputs of capital and labour
- Total productivity (TP): output per combined unit of all inputs including labour, capital and intermediate inputs.

Both LP and KP are productivity measures where output is related to a single input. These are often referred to as partial productivity measures. While these measures can be useful in some circumstances, for example when comparing the labour requirements for similar products or across industries, they do not reflect the true nature of productivity. This is because partial productivity measures attribute entire output changes to a single input, which is quite a limited view of the overall production process.

Productivity is more about technology, innovation and how multiple inputs are combined to produce output. For the purposes of this report, MFP is considered the most comprehensive and reliable method of measuring productivity.

The ABS divides time series MFP into productivity cycles to help with interpreting measured productivity. The start and end points of the cycles are points where the levels of capacity utilisation are likely to be comparable. Simply put, these start and end points are identified as peaks, or clear turning points, on the productivity line chart. Average productivity growth estimates between these points are likely to be more reliable than year-to-year changes (PC, 2013).

The methodology adopted in this paper is consistent with the approach used by the ABS and the PC. The estimates provided in this publication generated by TRA align directly with published ABS estimates at the (ANZSIC) industry level. For a detailed explanation on methodology and data transformations, please refer to Appendix A.

PRODUCTIVITY DRIVERS

According to the PC (PC, 2013), there are many factors that influence productivity growth with the main ones being:

- Investment: new or refreshed infrastructure, improved technologies
- Skills and training: training, retention, building human capital to adopt more efficient technologies
- Innovation: using existing inputs better, increasing capacity utilisation, better management that encourages adaptive behaviour
- Competition (including allowing the freedom to enter and exit markets), driving more market-related allocation of inputs
- Economies of scale.

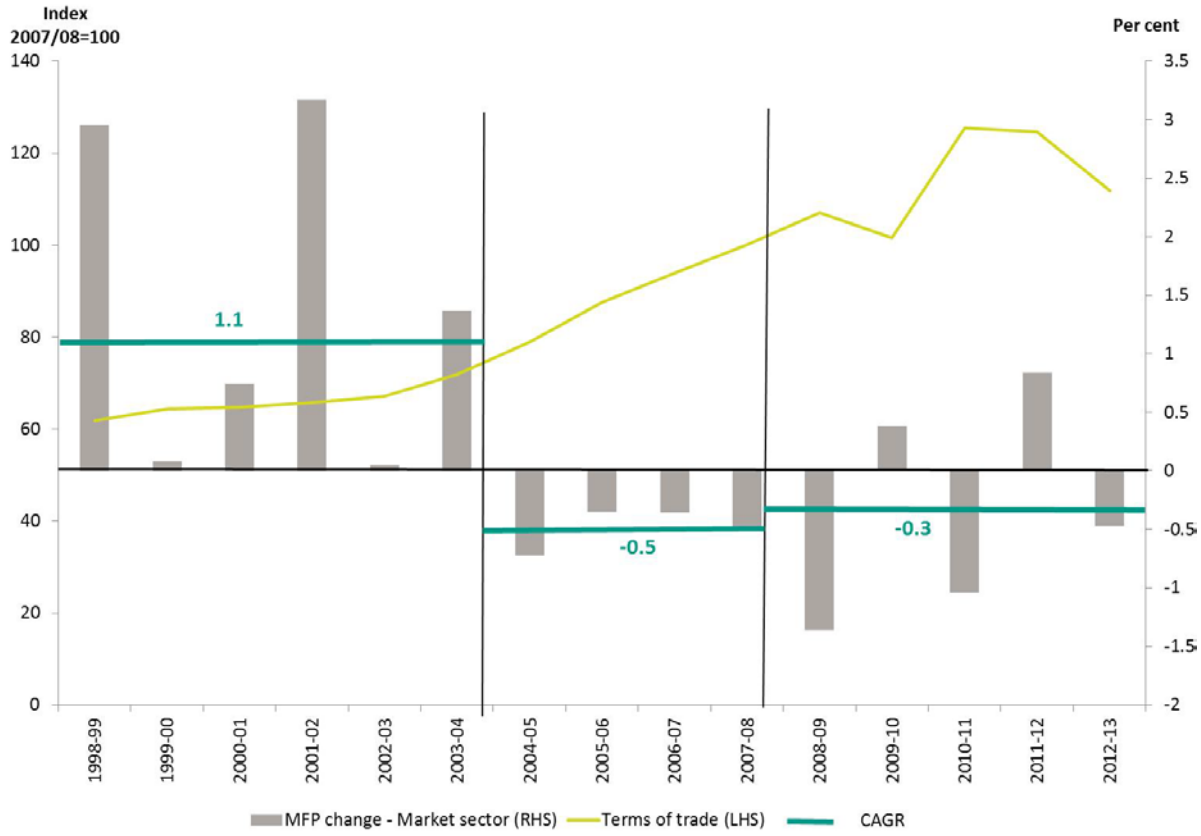
The important issue for productivity growth is how a firm or firms can adjust inputs in response to the settings imposed upon their operation. In order to be able to do that, policy settings should facilitate flexibility so that firms can adjust to changing economic conditions.

MACROECONOMIC CONDITIONS AND AUSTRALIA'S PRODUCTIVITY PERFORMANCE

Over the last three productivity cycles, Australia's MFP has fallen on the annual average basis from growth of 1.1 per cent in *Cycle 1* to successive declines of -0.5 per cent and -0.3 per cent in *Cycle 2* and *Cycle 3*, respectively. In Figure 1, the compound annual growth rate (CAGR) of MFP over each productivity cycle is provided. This result is well below that of the late 1980s to mid-1990s—a period during which there were significant economic reforms, particularly in relation to labour and competition. This section focuses on the last Cycle.

A range of factors has contributed to the reduced productivity of Australian industries in recent times. However, it has been argued that the doubling in the terms of trade associated with rising mining commodity prices has compromised overall productivity growth (PC, 2013).

FIGURE 1: AUSTRALIA'S PRODUCTIVITY TRENDS (MARKET SECTOR AVERAGE) AND TERMS OF TRADE



Sources: Derived by Tourism Research Australia from ABS Cat. No. 5204.0 and Cat. No. 5260.0

Further, as a small and open economy, Australia's productivity performance was adversely impacted by a number of shocks including the fall-out from the terrorist attacks in September 2011 (9/11), SARS in mid-2003, the GFC and the significant investment in the mining industry—the Mining Boom. While 9/11 and SARS detracted from growth in Australian tourism-related industries, the Mining Boom combined with the GFC created internal challenges for many of Australia's non-mining industries.

Directly attributable to record-high prices for mining commodity, the Mining Boom drove Australia's terms of trade to record levels. This change to Australia's terms of trade is important as it generated a strong income effect in the domestic economy. The profitability induced by higher commodity prices allowed industries to increase output without commensurate increases in productivity (PC, 2013).

The Mining Boom also triggered a strong appreciation of the Australian dollar rising to post-1983 float highs, which led to strong growth in capital and consumption imports. This included the rapid growth in the number of Australians travelling overseas. The exchange rate appreciation effect added adverse complications for domestic industries on top of the loss of price competitiveness that it generated for exports.

Internally, the increase in mining investment drew capital and labour away from non-mining related industries resulting in substantially higher wages and capital costs (at one stage, mining-related investment represented over half of all investment in Australia). These negative impacts permeated through many other industries in the economy.

The impacts of the GFC, the Australian dollar maintaining a rate above parity, and record mining investment collectively resulted in lower economic performance in many Australian industries not directly aligned to the Mining Boom. Industries with linkages to tourism, particularly *Accommodation and food services*, generally increased at a rate lower than the market sector average (Table 1). Despite this, smaller industries such as *Arts and recreation services*, and in the latest cycle, *Rental, hiring and real estate services*, recorded solid growth of 2.7 per cent and 3.7 per cent respectively.

The above growth rates apply to the industry output supply to all users in the economy, including tourism and non-tourism. Tourism GVA index is calculated by a weighted sum of industries' GVA growth rates and their tourism shares. Table 1 includes representative shares of industries in tourism for 2012–13. In the actual calculation, annual shares were used for individual years.

Tourism GVA growth for each productivity cycle was on par with the market sector average, except in the latest cycle. In *Cycle 3*, average annual growth for tourism GVA was 1.3 per cent per annum, nearly half the GVA reported in Table 1 for the market sector (2.4 per cent) and for the total national GVA (2.5 per cent).

TABLE 1: GROSS VALUE ADDED (IN REAL VALUE TERMS) FOR TOURISM AND THE MARKET SECTOR

	98/99 to 03/04	03/04 to 07/08	Incomplete 07/08 to 12/13	Tourism GVA share, by 2012-13
	(1)	(2)	(3)	(4)
Industries included in Tourism		Per cent		
Accommodation and food services	3.4	2.3	0.5	41.4
Transport, postal and warehousing	4.1	5.2	2.1	25.3
Retail trade	4.9	4.4	1.7	16.7
Administrative and support services	3.6	3.7	-0.3	6.5
Arts and recreation services	4.0	4.2	2.7	5.0
Rental, hiring and real estate services	3.0	-1.0	3.7	2.4
Information, media and telecommunications	4.2	4.8	0.7	1.7
Other services	3.6	0.5	0.4	0.9
Financial and insurance services	4.7	7.9	1.7	0.2
Professional, scientific and technical services	5.4	2.8	5.2	0.0
Tourism	**3.8**	**3.6**	**1.3**	**100.0**
Industries not included in tourism				
Agriculture, forestry and fishing	2.5	-0.7	2.9	0
Mining	2.2	4.8	5.9	0
Manufacturing	2.2	1.2	-1.3	0
Electricity, gas, water and waste services	1.2	0.9	1.4	0
Construction	5.1	6.4	3.6	0
Wholesale trade	3.4	3.2	2.8	0
Market sector (16 industries)	**3.6**	**3.7**	**2.4**	na
Total national GVA	**3.4**	**3.5**	**2.5**	na

Source: The Australian Bureau of Statistics, Cat. No. 5204.0 and 5260.0, 2013

2. COMPONENTS OF LABOUR AND CAPITAL INPUTS

CAPITAL INPUT

Changes to capital input for tourism-related industries over the three cycles have been mixed. Capital growth for three of the top four main contributing tourism industries, *Accommodation and food services*, *Retail trade*, and *Arts and recreation services,* were lower in *Cycle 3* relative to previous cycles (Table 2). *Transport, postal and warehousing* was the only industry that was higher in *Cycle 3* than in *Cycle 1*.

Again, the growth rates in Table 2 are for capital services that industries used as inputs to produce goods and services for all users in the economy, tourism and non-tourism. Essentially, this table reflects the overall condition of the industries and their relationship with tourism in a general context, while Table 2b focuses explicitly on the tourism component of the industries that make up the tourism sector.

Table 2 shows that the Mining Boom did not have a strong crowding out effect on the capital input side, as most industries also grew strongly along with the mining sector, noting some were stronger than others. This reflects the elasticity of capital supply where inputs may be sourced domestically or overseas depending on pricing (which is often driven by the exchange rate).

TABLE 2: CAPITAL SERVICES INDEX

	98/99 TO 03/04	03/04 TO 07/08	INCOMPLETE 07/08 TO 12/13	TOURISM GOS SHARE, BY 2012-13
	(1)	(2)	(3)	(4)
Industries included in tourism		Per cent		
Accommodation and food services	4.7	5.2	1.4	36.1
Transport, postal and warehousing	4.3	6.2	4.5	30.8
Retail trade	5.9	7.2	2.6	14.0
Arts and recreation services	5.8	5.7	4.1	6.2
Rental, hiring and real estate services	10.0	12.4	5.4	5.0
Administrative and support services	10.3	8.1	4.9	4.7
Information, media and telecommunications	6.7	6.7	4.8	1.9
Other services	10.3	11.7	7.8	0.9
Financial and insurance services	5.6	4.2	1.9	0.2
Professional, scientific and technical services	10.4	10.9	6.1	0.0
Tourism	**5.3**	**6.3**	**3.2**	**100.0**
Industries not included in tourism				
Agriculture, forestry and fishing	0.0	1.2	1.7	0
Mining	2.3	8.2	14.0	0
Manufacturing	3.5	5.6	0.7	0
Electricity, gas, water and waste services	4.1	6.0	5.8	0
Construction	3.4	6.0	5.6	0
Wholesale trade	5.1	7.9	2.6	0
Market sector (16 industries)	**4.5**	**6.5**	**5.7**	na

Source: Derived by Tourism Research Australia from ABS (2013), Cat. No. 5260.0

TABLE 2B: GROWTH OF CAPITAL SERVICES CONTRIBUTION FROM MAJOR INDUSTRIES TO TOURISM

	98/99 TO 03/04	03/04 TO 07/08	07/08 TO 12/13
		Per cent	
Retail trade	5.9	12.1	0.1
Accommodation and food services	4.1	3.7	4.6
Transport, postal and warehousing	6.5	7.1	1.9

Source: estimates by Tourism Research Australia

LABOUR INPUT

Growth in tourism labour input, as measured by hours worked, shows a different pattern to capital inputs. Compared to capital input, labour input was not as flexible. The constraint of labour supply placed pressure on most non-mining industries. For example, the pressure placed on *Manufacturing* and *Agriculture, forestry and fishing* (down 2.4 per cent and 2.1 per cent) was clearly evident, while hours worked in *Mining* grew by double digits in both *Cycle 2* and *Cycle 3*.

Labour input slowed for most industries in *Cycle 3* compared to *Cycle 2* (Table 3). In particular, *Retail*—a labour intensive industry—declined on average by 1.0 per cent annually. However, *Accommodation and food services* increased in *Cycle 3* from the previous cycle (up 1.1 per cent). Average growth rates of hours worked in tourism were close to those of the market sector in *Cycles 1* and *2,* while matching in *Cycle 3*.

TABLE 3: HOURS WORKED INDEX

	98/99 TO 03/04	03/04 TO 07/08	INCOMPLETE 07/08 TO 12/13	TOURISM COE SHARE, BY 2012-13
	(1)	(2)	(3)	(4)
Industries included in tourism		Per cent		
Accommodation and food services	1.7	0.9	1.1	44.1
Transport, postal and warehousing	1.3	3.1	0.5	22.4
Retail trade	1.8	3.0	-1.0	18.2
Arts and recreation services	1.8	6.3	1.3	4.3
Rental, hiring and real estate services	5.2	2.1	0.5	0.9
Administrative and support services	2.5	-0.6	2.3	7.5
Information, media and telecommunications	3.4	1.4	-0.8	1.6
Other services	0.5	1.6	-0.9	0.8
Financial and insurance services	1.3	3.5	0.4	0.2
Professional, scientific and technical services	1.6	5.3	2.9	0.0
Tourism	**1.7**	**2.0**	**0.6**	**100.0**
Industries not included in tourism				
Agriculture, forestry and fishing	-2.9	-0.6	-2.1	0
Mining	3.6	10.3	12.9	0
Manufacturing	-0.4	0.2	-2.4	0
Electricity, gas, water and waste services	2.3	6.0	4.4	0
Construction	4.1	5.4	0.7	0
Wholesale trade	-2.2	0.5	1.7	0
Market sector (16 industries)	**1.2**	**2.6**	**0.6**	na

Source: Derived by Tourism Research Australia from ABS (2013), Cat. No. 5260.0

However, the results shown in Table 3 mask the significance of the *Accommodation and food services* industry's role in a tourism context. Table 3b takes into account the changes in tourists' expenditure patterns. *Accommodation and food services* share in total tourism expenditure has grown over time—actual hours worked for tourism purposes grew more strongly (2.4 per cent) than the average growth of the entire industry (0.9 per cent) for *Cycle 2*, and similarly for *Cycle 3*. Table 3 shows that the industry struggled to increase labour input; it achieved only modest growth of 0.9 per cent for *Cycle 2*, while other industries had much higher growth rates, such as *Mining* (10.3 per cent) or *Construction* (5.4 per cent). However, the labour input in *Accommodation and food services* was devoted to service more to tourism[4] than non-tourism. Nevertheless, tourism's labour input still grew more slowly than other mining-related industries (Table 3). This tight labour market condition reflects the impacts of fly-in/fly-out on tourism-related industries (Pham *et al*., 2013) when business travel was growing.

Retail trade had a sharp turnaround from *Cycle 2* to *Cycle 3* (from growth of 2.1 per cent to a decline of 1.8 per cent). Labour input contracted primarily due to two factors. Firstly, the industry has and continues to experience a decline in output with online sales increasing at the expense of 'bricks and mortar' stores. Further, *Retail trade's* share of total tourism expenditure has also reduced, likely due to increased business travel. This sector does not usually consume as much retail product as the leisure sector.

TABLE 3B: GROWTH OF LABOUR CONTRIBUTION FROM MAJOR INDUSTRIES TO TOURISM

	98/99 TO 03/04	03/04 TO 07/08	07/08 TO 12/13
		Per cent	
Retail trade	2.6	2.1	-1.8
Accommodation and food services	1.6	2.4	1.6
Transport, postal and warehousing	1.2	2.9	0.0

Source: Tourism Research Australia and the Australian Bureau of Statistics

Tourism's use of capital and labour inputs has generally increased at a lower rate than that of the Australian market sector. For tourism, labour and capital inputs increased in *Cycle 2*, before slowing considerably in *Cycle 3*. Growth in labour input slowed 1.4 percentage points to 0.6 per cent (Table 4, row 1). This decline was consistent with the market sector, where labour inputs reduced by 2.0 percentage points (Table 4, row 4).

The major change in tourism's use of inputs between *Cycle 2* and *Cycle 3* was capital, where the annual change in the tourism capital index moderated by 3.1 percentage points—almost halving to 3.2 per cent (row 2). Over the same period, growth in market sector capital services remained strong at 5.7 per cent per year, slightly less than the average annual growth reported for *Cycle 2* of 6.5 per cent.

[4] Please note Fly-in/Fly-out (FIFO) mining workers are classified as business travel.

TABLE 4: AVERAGE GROWTH RATES FOR PRODUCTIVITY COMPONENTS: TOURISM AND THE MARKET SECTOR

		98/99 TO 03/04	03/04 TO 07/08	07/08 TO 12/13
		Per cent		
1	Tourism labour index	1.7	2.0	0.6
2	Tourism capital index	5.3	6.3	3.2
3	Tourism GVA index	3.8	3.6	1.3
4	Market sector labour Index	1.2	2.6	0.6
5	Market sector capital index	4.5	6.5	5.7
6	Market sector GVA index	3.6	3.7	2.4

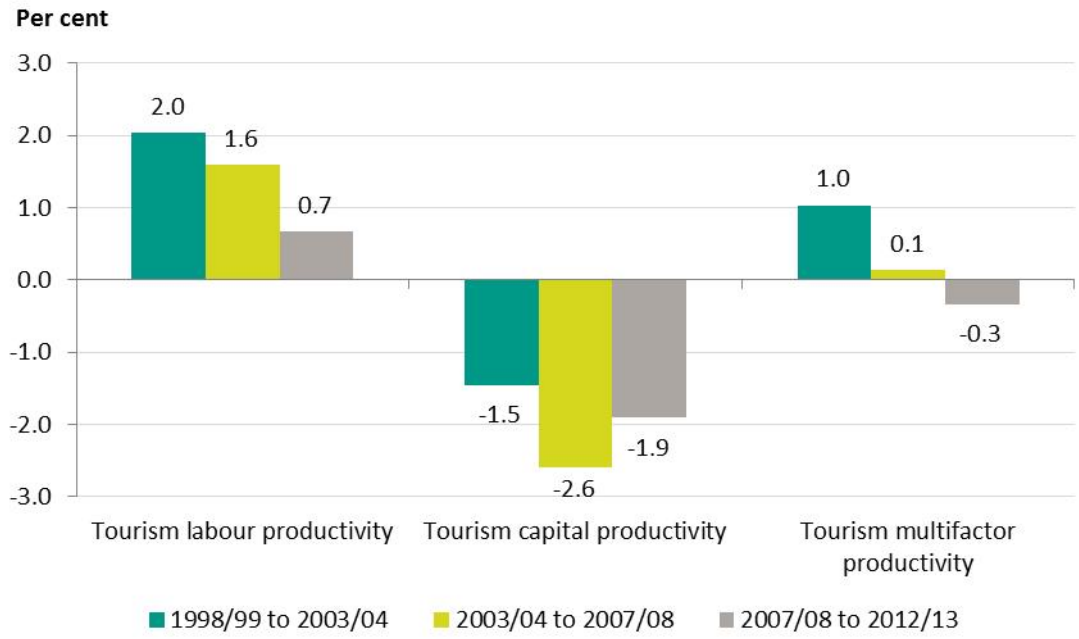
Source: Tourism Research Australia and the Australian Bureau of Statistics

Growth in tourism GVA was similar to the market sector's average (GVA) in the first two productivity cycles, but fell by nearly two-thirds in the latest productivity cycle to average 1.3 per cent per annum. In contrast, the softening in GVA growth for the market sector was less pronounced, moderating by around one-third to 2.4 per cent.

KEY FINDINGS

Analysis undertaken by TRA shows that growth on most productivity measures for tourism has either slowed or fallen over the three cycles since 1998–99 (Figure 2). It should be noted that while labour productivity has remained positive, its rate of growth has weakened across the three cycles.

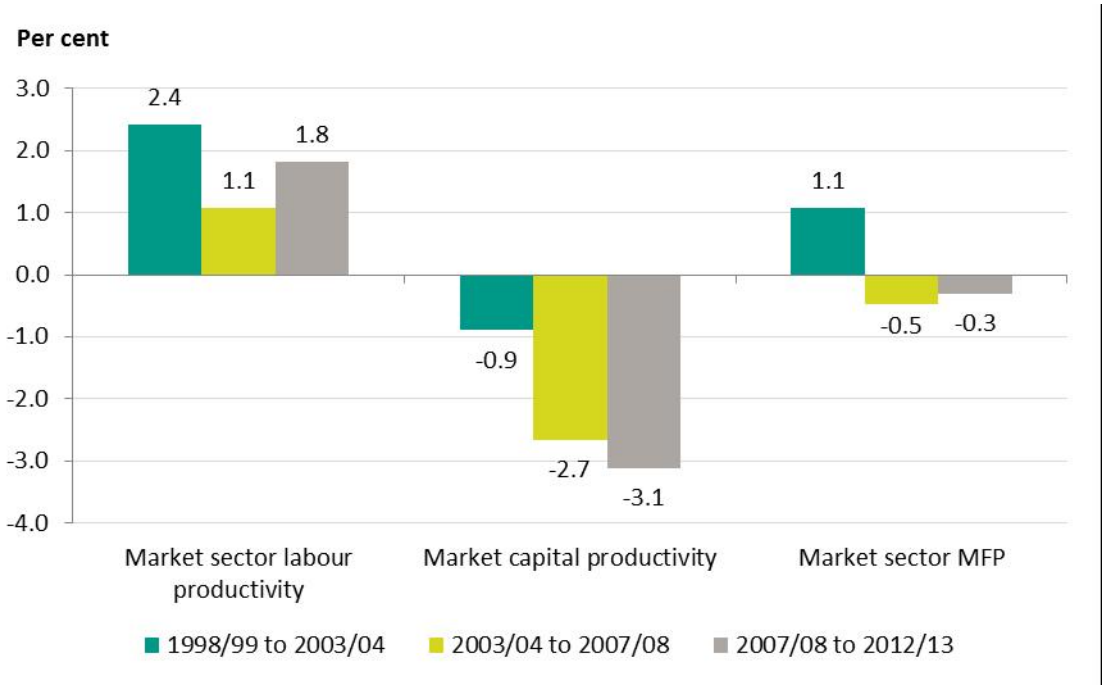
FIGURE 2: TOURISM PRODUCTIVITY FOR LABOUR, CAPITAL AND MULTIFACTOR



Source: Derived by Tourism Research Australia

In terms of average growth rates, tourism's MFP has declined over time. Tourism's MFP has converged with the market sector MFP in the last period (-0.3 per cent annually). However, the decline in tourism MFP was more gradual than that of the market sector over the whole period 1998–99 to 2012–13 (Table 5).

FIGURE 3: AVERAGE ANNUAL GROWTH OF LABOUR, CAPITAL AND MULTIFACTOR PRODUCTIVITY FOR THE MARKET SECTOR



Source: The Australian Bureau of Statistics (2013), Cat. No. 5260.0.

TABLE 5: AVERAGE ANNUAL PRODUCTIVITY GROWTH RATES FOR TOURISM AND THE MARKET SECTOR

		98/99 TO 03/04	03/04 TO 07/08	07/08 TO 12/13
			Per cent	
1	Tourism labour productivity	2.0	1.6	0.7
2	Market sector labour productivity	2.4	1.1	1.8
3	Tourism capital productivity	-1.5	-2.6	-1.9
4	Market capital productivity	-0.9	-2.7	-3.1
5	Tourism multifactor productivity	1.0	0.1	-0.3
6	Market sector MFP	1.1	-0.5	-0.3

Source: Tourism Research Australia and the Australian Bureau of Statistics (2013), Cat. No. 5260.0

Over the three productivity cycles, changing economic conditions were largely responsible for weaker productivity performance:

CYCLE 1

Rising housing and stock markets provided a wealth effect stimulating solid household discretionary spending—including on tourism—driving higher growth in MFP for both tourism (1.0 per cent per annum) and the market sector (1.1 per cent per annum). *Cycle 1's* performance likely reflects tail-end effects of microeconomic reforms undertaken in the late 1990s.

CYCLE 2

Tourism output was adversely affected by a then-rising Australian dollar (which drove domestic/import substitution and some loss in exports for non-mining industries). This resulted in weakening growth when compared to *Cycle 1*, and the Australian dollar rose by 30 per cent against the US dollar during this period. The strong exchange rate effect induced stronger capital growth from import sources in this cycle.

Labour market conditions (measured in terms of wage growth) were also strong, and subsequently drove the unemployment rate from 7.5 per cent in 2001–02 during *Cycle 1* to below 4 per cent in late-2008. Employment conditions in this cycle improved for both tourism and the market sector. The combined inputs of the tourism sector increased more strongly than in the first cycle, while the growth rate of tourism GVA weakened, resulting in very modest MFP growth of 0.1 per cent on average for tourism (Figure 2). As mining was part of the market sector, GVA of the market sector slightly improved but not as strongly as the increase in its combined inputs. As a consequence, market sector MFP declined on average by 0.5 per cent per annum.

CYCLE 3

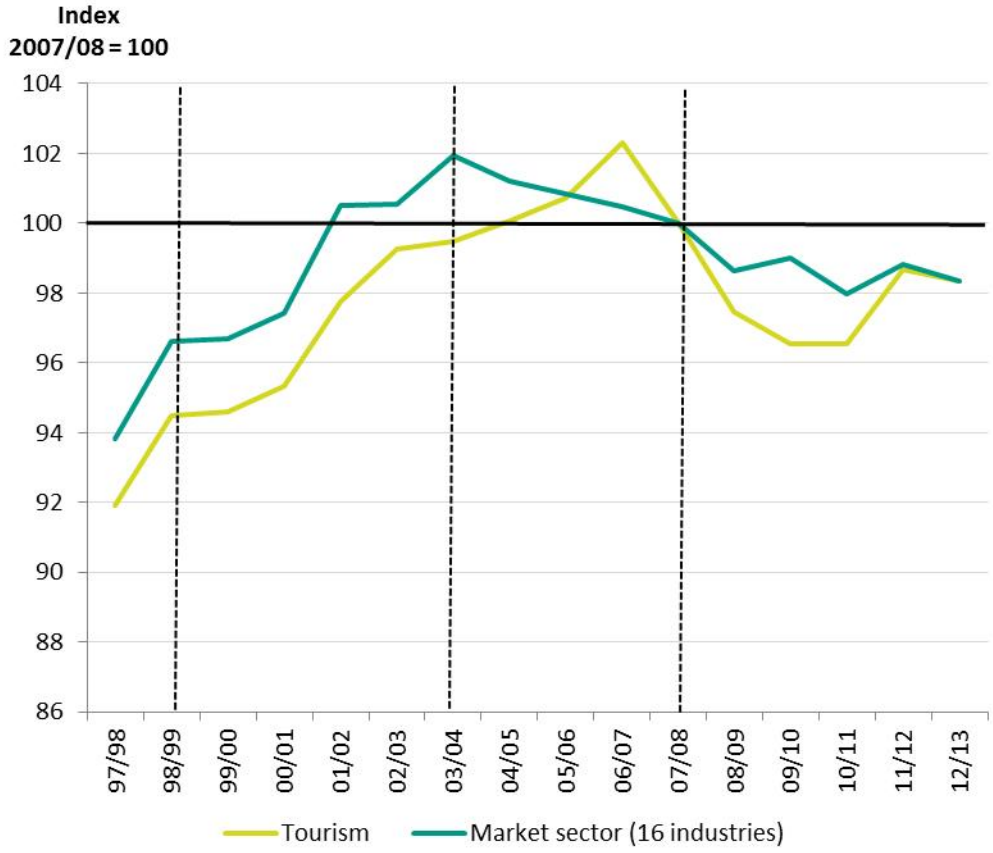
Tourism GVA was weaker than in *Cycle 2* due to a range of macroeconomic forces, namely, outbound/domestic substitution as a result of the exchange rate appreciation effect; availability of cheap long haul airlines to overseas destinations; and the impact of the GFC. However, while the *average* tourism MFP growth rate actually declined in this period, it is likely that productivity measures will increase in the remainder of *Cycle 3* given that tourism output is heading in a positive direction and noting *Cycle 3* is an incomplete cycle.

There are some differences between the trends associated with the market sector average and tourism, particularly since 2007–08 (Figures 5 and 6):

- market sector labour productivity improved slightly in *Cycle 3* (in contrast to tourism's weakening labour productivity growth)
- market sector capital productivity has continued to fall, largely driven by strong growth in inputs in industries such as *Mining* and *Utilities* without comparable increases in outputs
- the trend-contraction in tourism capital productivity was arrested in *Cycle 3*.

The relationship between market sector MFP and tourism MFP over the period 1997–98 to 2012–13 has largely been similar. As discussed earlier, the fall in tourism MFP partially reflects a decline in revenues and real GVA that were a consequence of the initial sharp and negative impact driven by the GFC on the domestic and international tourism sectors (refer Figure 4).

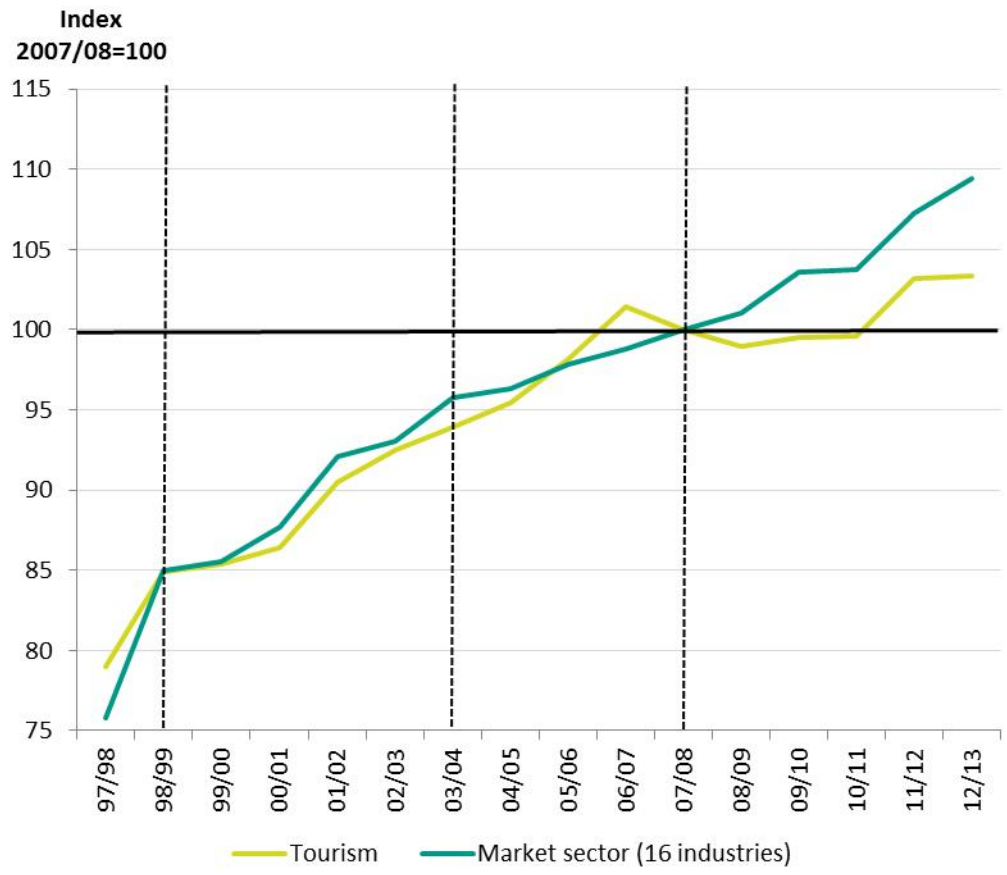
FIGURE 4: MULTIFACTOR PRODUCTIVITY FOR TOURISM AND THE MARKET SECTOR



Sources: Derived by Tourism Research Australia from the Australian Bureau of Statistics (2013), Cat. No. 5260.0 and 5249.0

The solid recovery in tourism MFP in 2011–12 reflects the combination of a considerable increase in output—as measured by GVA—relative to changes in inputs. This combination also lifted productivity for both partial measures of tourism productivity for 2011–12. Tourism labour productivity rose sharply after falling slightly in the first few years of the latest productivity cycle (Figure 5). This result reflects a relatively static 'tourism hours worked', while tourism GVA (in chain volume measure terms) grew 3.1 per cent in 2011–12, year-on-year.

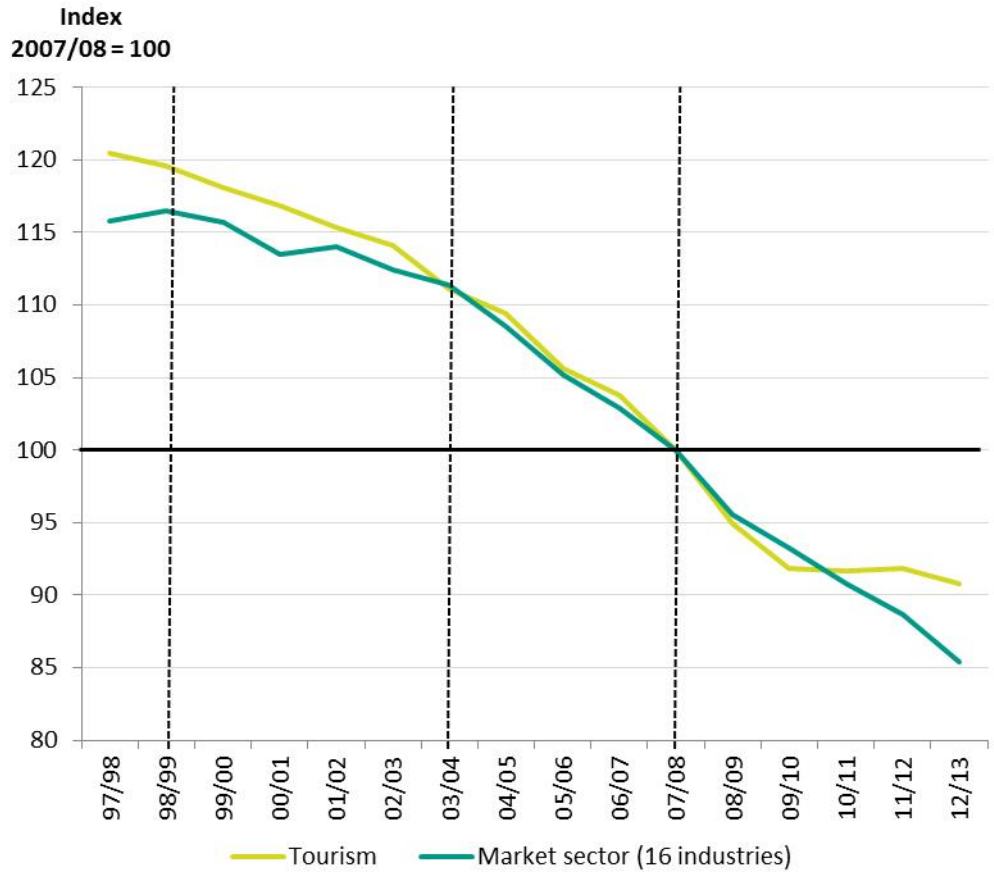
FIGURE 5: LABOUR PRODUCTIVITY FOR TOURISM AND THE MARKET SECTOR



Sources: Derived by Tourism Research Australia from the Australian Bureau of Statistics (2013), Cat. No. 5260.0

Conversely, the sharp fall evident in tourism capital productivity for most years of this analysis was arrested from 2009–10, reflecting the combination of pickup in the growth of GVA at the same time that growth in capital services slowed from 2010 to 2012 (Figure 6).

FIGURE 6: CAPITAL PRODUCTIVITY MEASURES FOR TOURISM AND THE MARKET SECTOR



Sources: Derived by Tourism Research Australia from the Australian Bureau of Statistics (2013), Cat. No. 5260.0

However, tourism GVA growth in 2012–13 moderated at 1.4 per cent, less than half that of the growth in 2011–12. This halted the momentum of productivity growth that started in 2011–12:

- labour productivity growth remains unchanged in 2012–13 (Figure 5)
- capital productivity growth dropped by 1 per cent compared to 2011–12 (Figure 6)
- MFP declined slightly by -0.3 per cent compared to 2011–12.

3 CONCLUSION

This report shows that the Australian tourism industry's MFP was broadly in line with the market sector average for the *Cycles 1* and *3,* while slightly higher when compared to the market sector for *Cycle 2*.

Tourism's capital intensity has increased over the three productivity cycles assessed, providing an opportunity to enhance labour productivity (such as through the application of more efficient equipment and machinery) when tourism demand rises. However, while tourism's capital component has increased, more investment in new and refreshed infrastructure and product is still required for the Australian tourism industry to compete in a global marketplace. An enhanced productivity will not only attract more international visitors, but will also encourage Australians to travel more at home.

Labour reforms remain very important as the cost of labour is a significant component of the industry's cost base. Areas such as training to enhance skills are necessary to improve customer service and reduce the high turnover of staff, particularly in the *Accommodation and food services* industry. This will improve labour productivity and help to manage labour costs for the industry. Furthermore, stronger growth in capital—and the subsequent increase in capital intensity—along with improved processes are required to achieve increased labour productivity.

This report found that average MFP declined for both tourism and the market sector across the three productivity cycles. However, in the last cycle, tourism MFP peaked in 2011–12 as compared to that of the market sector, which remained relatively flat largely due to inputs for *Mining* and *Utilities* outstripping outputs for those respective industries. But the increase in productivity of tourism did not continue in 2012–13, as the sector recorded weak output growth for the year. Similarly, growth in GVA of the market sector was not stronger than the growth of the combined input. Thus, MFP for tourism and the market sector recorded a marginal decline in 2012–13.

In coming years, TRA expects opportunities for growth in tourism MFP based on:

- the depreciation in the Australian dollar since 2012 which is likely to continue further improving the price competitiveness of the inbound and domestic tourism sectors. Downside risks will increase for the outbound tourism sector, particularly for the more price-sensitive tourism segment, leisure tourism
- competition for labour and capital previously driven by the investment phase of the Mining Boom is expected to ease, which will partially assist tourism's ability to recruit and attract investment as well as human capital. This remains a concern for policy makers, with regard to whether productivity could be improved automatically once the Mining Boom has passed or if it will require policy instruments to help tourism and other industries regain their productivity, as the experience in 2012–13 suggested.

This study highlights that trade and labour-intensive industries such as tourism, that also have a large proportion of micro-and small businesses, remain vulnerable to adverse shocks. Crisis management is important to enable the tourism sector to learn from what has been experienced throughout the three cycles presented. Policies that aim to improve flexibility within the tourism industry, particularly for the labour market, will support productivity growth. In doing so, businesses will be able to respond to changing conditions more easily and improve tourism productivity.

Industry stakeholders should not lose sight of the importance of tourism in Australia's economic landscape. As reported by Deloitte (2013), tourism has been identified along with gas, agribusiness, health, international education and wealth management as offering the 'next wave' for Australian economic growth. Stronger productivity growth will help ensure that the tourism sector reaches its full potential.

APPENDIX 1 METHODOLOGY

This report adopts new data and a different methodology than that used in TRA's inaugural report on tourism productivity. Shortly after TRA's first release of tourism productivity, the ABS discontinued several price series data collections that were used in the construction of the capital services indexes. The task of updating measured tourism productivity was, therefore, difficult and unreliable.

To overcome this issue, TRA changed its approach in order to rely on readily available indexes that the ABS has published for 16 ANZSIC industries as the starting point. Using corresponding TSA-based tourism-related industry structures, revised indexes were combined to form the associated tourism indexes. The main data sources used in this report are:

a) ABS, Cat. No. 5260.0.55.002 (2012): Estimates of Industry Multifactor Productivity, Australia: Detail Productivity Estimates
   - Table 8: Gross value added (GVA) chain volume indexes
   - Table 9: Labour input indexes (hours worked)
   - Table 10: Capital services indexes

b) ABS, Australian National Accounts – Tourism Satellite Accounts (TSA), Cat. No. 5249.0, 2012–13, including additional unpublished data such as tourism compensation of employees (COE), tourism gross operation surplus (GOS) and tourism GVA by contributing ANZSIC industries.

The unpublished TSA data include estimates for COE, GOS and GVA by contributing ANZSIC industries.

Data for COE were used as shares to combine labour input indexes of tourism-related ANZSIC hours worked indexes (Table 9, 5260.0.55.002) into the hours worked index for tourism. Similarly, the tourism capital services index was derived using ANZSIC capital services indexes (Table 10, 5260.0.55.002) and their corresponding GOS shares. Finally, tourism GVA is used as a share to aggregate GVA indexes of the ANZSIC industries (Table 8, 5260.0.55.002) into the corresponding tourism GVA index.

It is important to mention here that the tourism hours worked index derived usingTable 9 referred to above is not comparable with the labour hours index presented in Table 14 of the latest TSA. Table 9 excludes the *Education and training*, *Health care and social assistance*, and *Public administration and safety* industries, while TSA Table 14 includes these industries.

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