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TOURISM EMPLOYMENT IN AUSTRALIA

2011–12 to 2029–30

A photograph of a hotel lobby with a man in a suit and a woman in a hotel uniform interacting at a desk. The man is smiling and holding a pen, while the woman is handing him a card. The background features a large ornate gold mirror and a dark patterned wall.

TOURISM EMPLOYMENT IN AUSTRALIA

ACKNOWLEDGEMENTS

The authors would like to thank the Productivity Commission for their input into the modelling work and the Centre of Policy Studies at Monash University for their MMRF model as a foundation of our Tourism CGE model.

Authors

Tourism Research Australia: Dr Tien Duc Pham

University of New South Wales: Mr Ray Spurr

ISBN 978-1-921516-09-2 pdf
978-1-921516-10-8 word

Tourism Research Australia
Department of Resources, Energy and Tourism
GPO Box 1564 Canberra ACT 2601
ABN 46 252 861 927

Publication Date: October 2013



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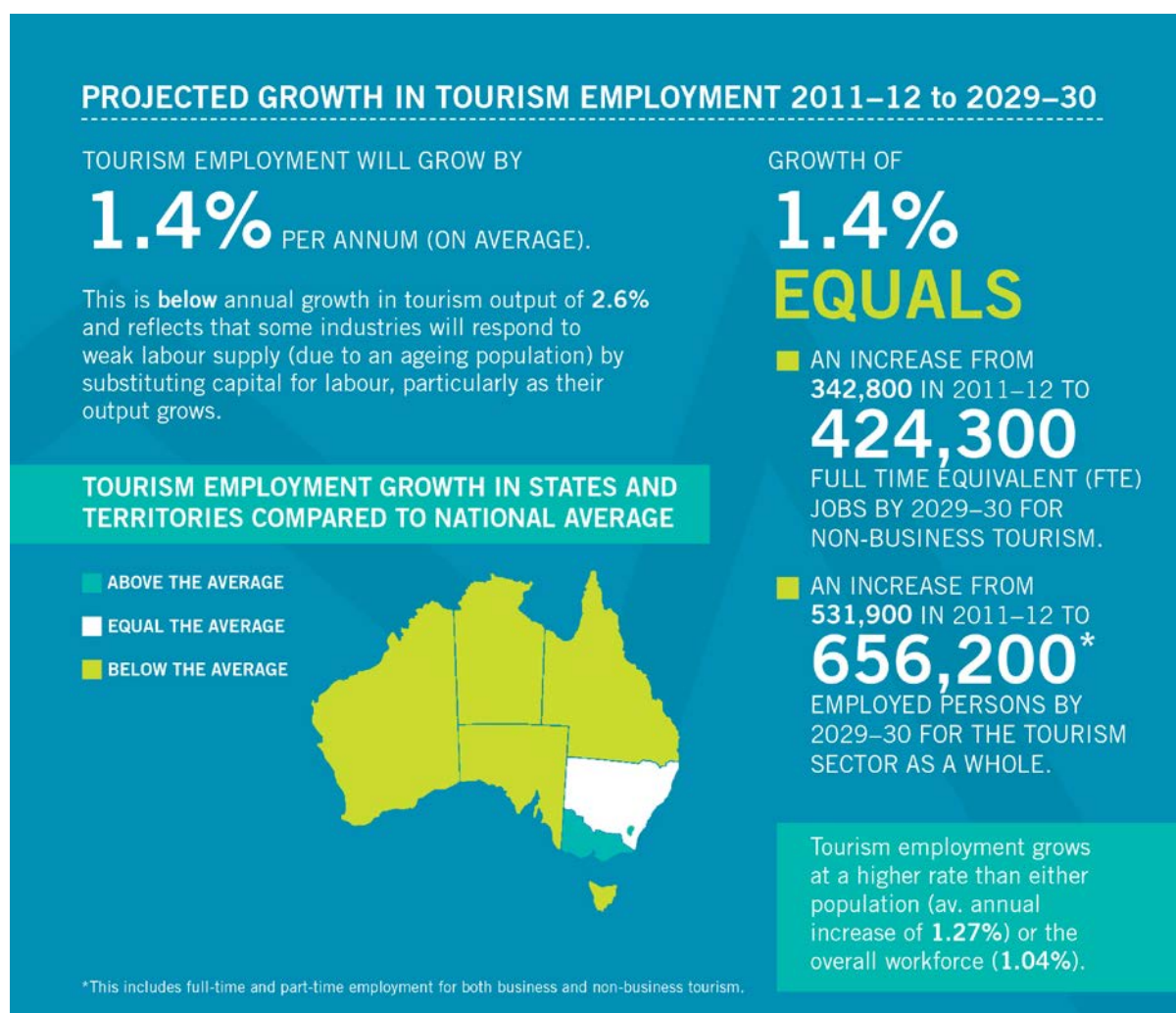
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SUMMARY

This report projects tourism employment in Australia's state and territory economies over the period 2011–12 to 2029–30. The estimates draw on macro-economic projections for the Australian economy and the interaction between tourism demand and labour supply conditions in each state or territory.



In ACT, Victoria and NSW, tourism imposes demand pressures on the labour market for all other industries.

Tourism employment in Tasmania remains stagnant throughout the projection period. This is driven by its weaker projected growth in both tourism demand, as forecast by the Tourism Forecasting Committee (TFC & TRA, 2012), and population growth relative to other states. Low population growth restricts growth in the supply of labour thus limiting growth in employment generally in Tasmania.

Tourism Research Australia's Computable General Equilibrium (CGE) model, MMRFTOUR, was used in these projections. The MMRFTOUR was built upon the base MMRF model of the Centre of Policy Studies (CoPS) at Monash University (Adams, 2008). Using macro-economic settings and tourism demand projections, the model produces projections of the contribution to the tourism sector from all industries in the economy. A specific employment module is used to extract separate tourism employment demand data from each industry across the economy in order to calculate total tourism employment. The model was run to replicate the historical period from 2005–06 to 2010–11, and then to project the economy to 2029–30. Macro-economic settings for the projection period were obtained from the Productivity Commission (PC), CoPS and the Australian Bureau of Statistics (ABS). Historical and forecast data for tourism demand have been sourced from Tourism Research Australia (TRA) and the Tourism Forecasting Committee (TFC).

INBOUND TOURISM

The macro-economic settings project a winding down of Australia's terms of trade over the projection period (2011–12 to 2029–30) making exports from Australia cheaper in overseas markets. Inbound tourism, which shares the same characteristics as exports of goods or services, also benefits. The projected rise in inbound tourism gives rise to an increase in tourism employment.

EDUCATION TOURISM

Education tourism (defined as students studying in Australia for less than 12 months) is projected to show the strongest growth in tourism output and employment. The strong growth in education tourism leads to a significant rise in its share of total tourism employment.

As demand for education tourism rises, demand for professionals is projected to increase significantly across all Australian states. The high demand for professionals occurs largely because this occupation group makes up nearly 70% of total employed persons in the education sector.

OTHER SECTORS

Other tourism-related sectors that experience strong growth in tourism output, such as transport and accommodation, also generate increases in tourism employment. This is reflected in the demand for *intermediate production and transport workers* and the *clerical and service worker* occupation groups. However, the changes in employment demand for these individual occupational groups do not occur equally across all states.

RESULTS SUGGEST:

Growth in **tourism employment** is more likely due to growth in **education tourism** than in leisure travel, the segment that we might normally look to as an indicator of tourism performance.

As a result, the profile of tourism employment moves toward more highly qualified professionals and, to some extent, away from low skill positions more commonly associated with leisure tourism.

The importance of the economic linkage between tourism and education is clear, with possible implications for tourism policy makers.

1. INTRODUCTION

This report examines the employment aspect of tourism supply. In particular, it studies the effects of tourism demand projections on employment generation for the state and territory economies over the period 2011–12 to 2029–30.

Tourism Research Australia's computable general equilibrium (CGE) model, MMRFTOUR, was used for the study. The MMRFTOUR was built upon the base MMRF model of the Centre of Policy Studies at Monash University (Adam, 2008). The model captures the effects of competition for resources between industries across the economy in response to changes imposed on the model. Thus, by imposing future movements in the economy (macro-economic projections) on the model, industry level estimates—including for output, capital and employment—can be generated which are consistent across the economy.

While the results are jointly determined by all of these projections, tourism employment estimates are predominantly influenced by projected tourism demand—derived from the TFC forecasts—and state-wide labour supply. Tourism employment projections are subject to possible changes in the macro-economic projections adopted from various sources in this study, in particular, the Productivity Commission's "experimental" projections (2012, Chapter 1, page 2).

1.1 COVERAGE AND ASSUMPTIONS

This study covers an historical period from 2005–06 to 2010–11 and a projected period from 2011–12 to 2029–30. Annual growth projections are imposed on the model year by year. Because the initial tourism demand projections from the TFC were available only to 2019–20, trends from these projections were extrapolated to 2029–30.

Projected demographic changes to population and work force trends have been incorporated in the study. The changes include information on immigration, fertility rates and increasing life expectancy. Data were taken from various sources including the Productivity Commission (2012), the Australian Bureau of Statistics (2008, 2012) and the Centre of Policy Studies (COPS) at Monash University (Adams, 2008).

The MMRFTOUR model captures only non-business tourism, which combines travel for Holidays, Visiting Friends and Relatives (VFR), and Other (including Education) in one aggregate component. Business tourism expenditure, however, is not captured in this study as industry-specific tourism expenditure data are not available.

An economic projection was built for each of the Australian states and territories. This requires information on macro conditions to set an overall path for each state¹ economy that represents a "business as usual" case—that is, assuming there will be no changes such as new policies or unexpected events. This forms the economic development trajectory on which tourism employment projections are estimated.

This summary report presents the principal outcomes from the study. A full technical report with details of methodology, data sources and modelling assumptions will be released separately by TRA.

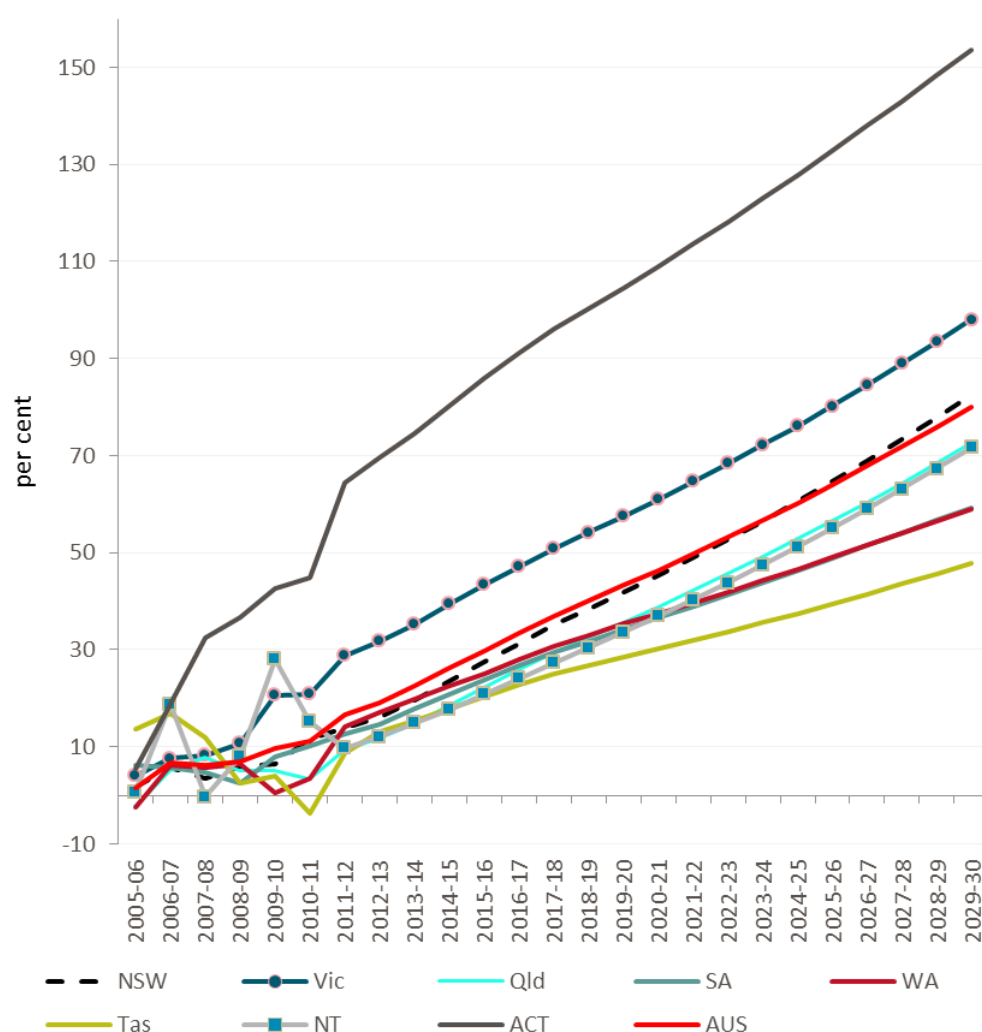
¹ In this report, references to 'states' include 'territories'.

2. TOURISM SECTOR OUTPUT – HISTORICAL CONTEXT AND PROJECTIONS

Tourists consume a diverse range of products and services. The total output of (non-business) tourism is thus the sum of goods and services provided by a wide range of industries. Domestic tourism output excludes goods and services imported from overseas. Similarly, state tourism output does not include goods and services imported from other Australian states.

Figure 1 provides a broad picture of aggregate tourism output growth at national and state levels. Tourism output is derived from TRA's historical tourism demand data and TFC's forecasts for tourism demand over the period. Among all states and territories, tourism output for the Australian Capital Territory (ACT) and Victoria is projected to be well above the national average and all other states.

FIGURE 1: TOURISM OUTPUT GROWTH BY STATES – CUMULATIVE PERCENTAGE GROWTH BY 2029-30 (BASE=2004-05)



Source: TRA's estimates

During the historical period to 2011–12, domestic tourism demand declined in all states. Possible contributing factors include the strong appreciation of the Australian dollar that made overseas travel more attractive than domestic travel and a decline in consumer confidence as a result of the global financial crisis.

However, in the case of the mining boom states—Queensland and Western Australia—these impacts were more pronounced as the cost of visiting these states rose relative to other states. This loss of competitiveness occurred due to increased cost pressures caused by mining boom generated demand for labour and other goods and services. Supply shortages in accommodation and air transport—a result of crowding out from mining-related fly-in/fly-out employment—also contributed to this effect.

Inbound tourism, on the other hand, showed positive growth rates for demand during the historical period, although variable across states. Again, and for similar reasons, Queensland and Western Australia experienced lower rates of growth than the other states.

The TFC forecasts indicate that while demand for domestic and inbound tourism is growing, the rate of increase in demand is projected to decline over time. For both domestic and inbound tourism, demand grows modestly in most states throughout the full period, growing most strongly in ACT and Victoria, particularly during the projection period.

3. TOURISM EMPLOYMENT

3.1 AGGREGATE TOURISM EMPLOYMENT

During the projection period (2011–12 to 2029–30) tourism employment grows at an average annual rate of 1.4 per cent, which is slightly more than half of the 2.6 per cent rate of growth for tourism output. This occurs because, as output grows, industries seek to substitute capital for labour in order to minimise their costs in response to the impacts of an ageing population on labour supply.

In terms of full time equivalent (FTE) jobs, tourism FTE jobs grow at an average rate of 1.4 per cent per annum over the projected period, from 342,800 (2011–12) to 424,300 (2029–30). By comparison, Australia's total labour supply is projected to grow in FTE terms by 1.04 per cent and overall population by 1.27 per cent.

Given the fact that non-business tourism takes up large proportions in total visitor nights, and the visitor night ratios of non-business tourism in the total remain constant for all states and territories in the projection period, employment results for non-business tourism will be very likely to reflect similar changes in employment for the tourism sector as a whole including business travel. Hence, the projected FTE jobs for non-business tourism in a state is used as a proxy to project changes to total employed persons for tourism as a whole in the state.

Aligning the FTE jobs to the number of jobs or employed persons²—as in the ABS' national Tourism Satellite Account—the projected growth equates to an increase from 531,900 in 2011–12 to 656,200 employed persons in 2029–30 (Table 1). It is important to note that only in Table 1 does tourism employment incorporate full-time and part-time for the tourism sector as a whole including business travel on the employed person basis. All other tables and charts elsewhere in this report present employment data for non-business tourism only.

² This includes full-time and part-time employed persons.

Table 1: Aggregate tourism employment

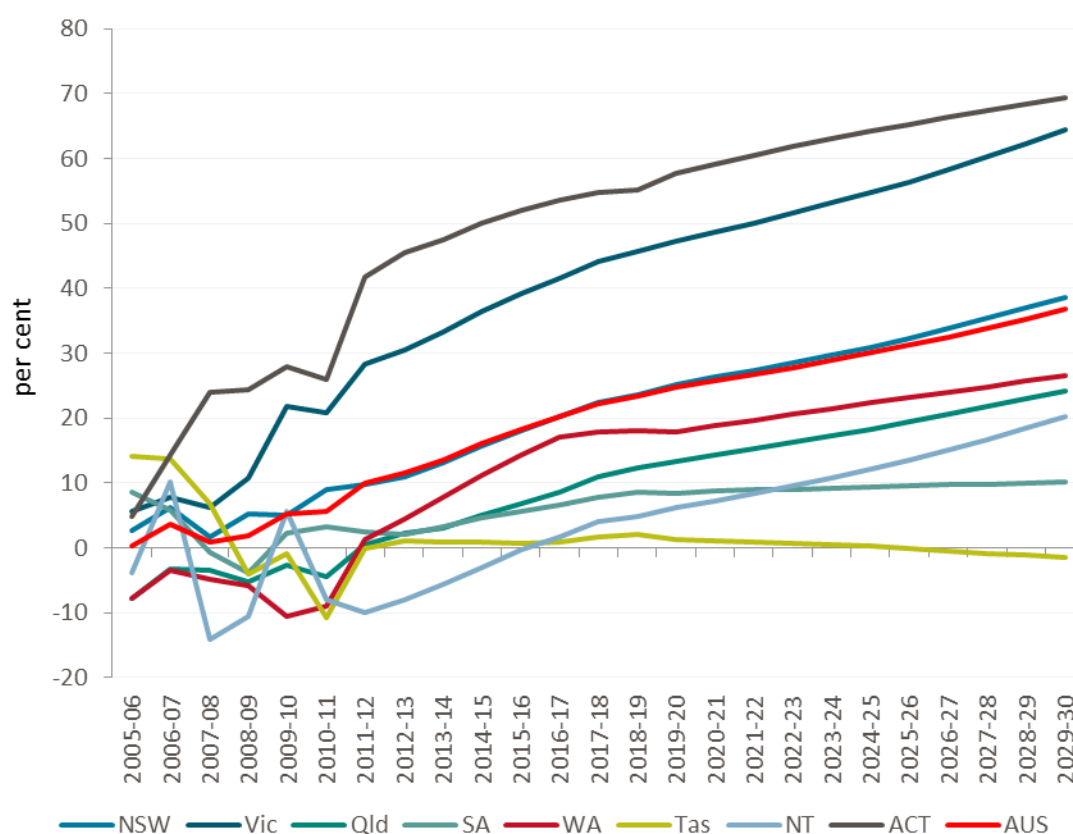
	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	AUS
	('000)								
2011–12									
FTE	113.9	86.3	81.8	18.1	25.3	8.8	4.6	4.0	342.8
Persons employed ^{a,b}	151.7	123.1	136.3	32.1	55.7	15.9	8.2	9.0	531.9
2029–30									
FTE	143.1	110.1	100.8	19.3	31.5	8.6	6.2	4.8	424.3
Persons employed	190.4	156.9	167.9	34.2	69.5	15.7	10.8	10.7	656.2

^a ABS Tourism Satellite Account, Cat. No. 5249, 2013

^b TRA State Tourism Satellite Account (Pham et al., 2013)

At the state level, aggregate tourism employment grows at faster rates in ACT and Victoria than for any other state (Figure 2). Tourism employment in Tasmania declines slightly below its 2004–05 base during the period to 2029–30 reflecting weaker tourism demand projections (TFC visitor nights forecasts), and slow growth in population (and hence in Tasmania's overall labour force).

FIGURE 2: TOTAL TOURISM EMPLOYMENT – CUMULATIVE PERCENTAGE GROWTH BY 2029–30 (BASE=2004–05)



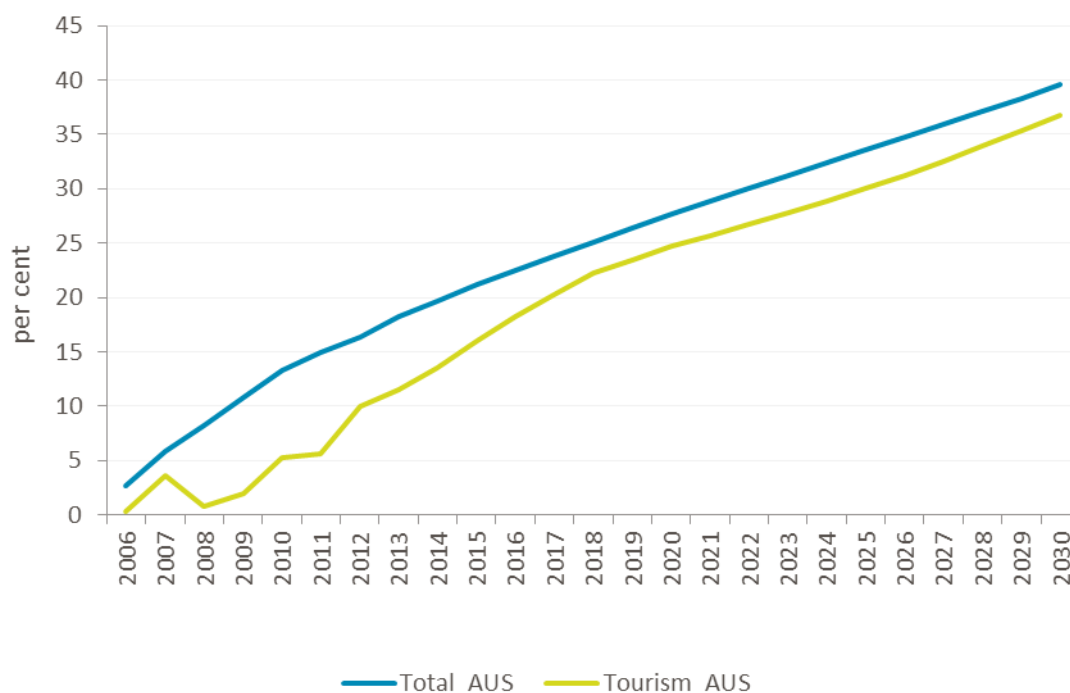
Source: TRA's estimates

3.2 TOURISM SHARE OF TOTAL EMPLOYMENT

Figures 3a and 3b compare the growth path of tourism employment against total employment over the whole base case timeframe. At the national level (Figure 3a), tourism employment is projected to recover and grow largely in parallel with total employment of the economy from 2017–18 onwards. This follows a dip during the historical period which was probably due to the effects of the global financial crisis and the mining boom. At the state level (3b), the Figure shows that tourism employment in ACT, Victoria and NSW is projected to grow more strongly than total employment in those states. In these three states, tourism will impose demand pressure on the labour market for all other industries.

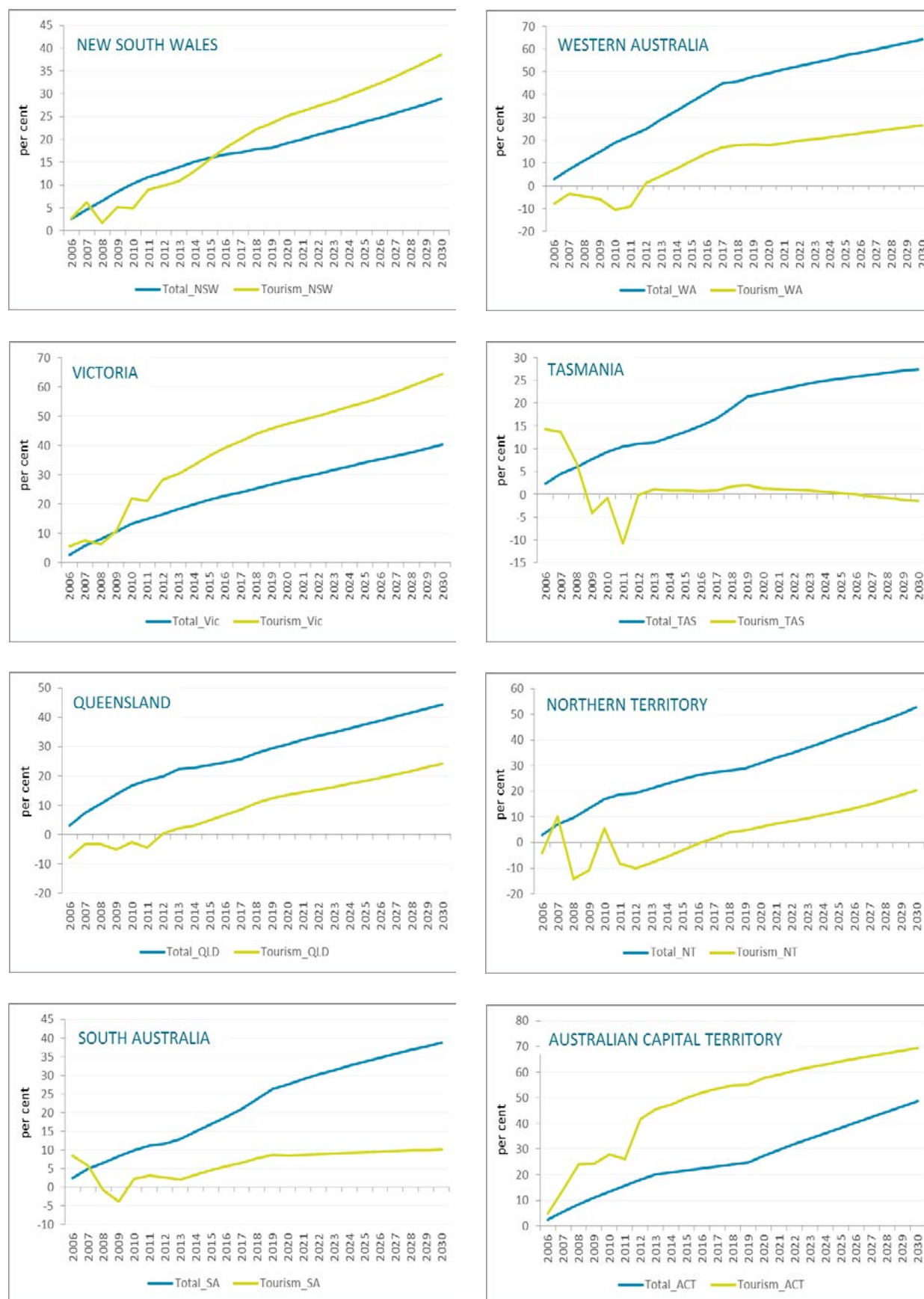
For other regions, tourism employment is projected to grow more slowly than total state employment. Tourism employment in these states does not contribute significantly to overall employment growth. In particular, tourism employment in South Australia and Tasmania falls behind total state employment and the share of tourism employment in total employment of these two states is projected to reduce.

FIGURE 3A: COMPARISON OF TOURISM EMPLOYMENT AND TOTAL EMPLOYMENT – CUMULATIVE PERCENTAGE GROWTH BY 2029–30 (BASE=2004–05)



Source: TRA's estimates

FIGURE 3B: COMPARISON OF STATE TOTAL EMPLOYMENT AND STATE TOURISM EMPLOYMENT – CUMULATIVE PERCENTAGE GROWTH BY 2029–30 (BASE=2004–05)



Source: TRA's estimates

3.3 TOURISM EMPLOYMENT BY CONTRIBUTING INDUSTRIES

Table 2 shows the cumulative growth in tourism employment in selected tourism-related industries over the period to 2029–30.

Of those industries that are most directly related to tourism, tourism output from education grows the most strongly, particularly during the projection period. This result is driven heavily by inbound tourism. The strong growth in education tourism³ brings about a significant rise in the education sector's contribution to total tourism employment. As seen in Table 2, the growth rate of tourism employment in the education sector is well above that of any other tourism industries. Within the education sector alone, Figure 4 highlights the fact that employment in tourism-related industries is growing much stronger than employment for education as a whole. This shows the importance of the tourism-related job market in the education sector.

The resilience of education tourism is clear from its continued strong growth even during the mining boom period, in which most export commodities were adversely affected due to the substantial appreciation of the Australian dollar.

Separate forecasts are not made for tourism-induced VFR growth, such as visits to Australia by the families of overseas students. Therefore, the impact on VFR of these higher rates of growth in education tourism may not be fully captured in the modelling, and the total impact of education tourism might be underestimated, to some degree, in the projections.

Apart from education, tourism employment also grows strongly in transport and accommodation. These sectors are important components in tourism expenditure, to the extent that strong tourism growth in the transport and accommodation sectors leads to a firm increase in demand for labour for these sectors by 2029–30. There is moderate growth in the gambling and recreation sector.

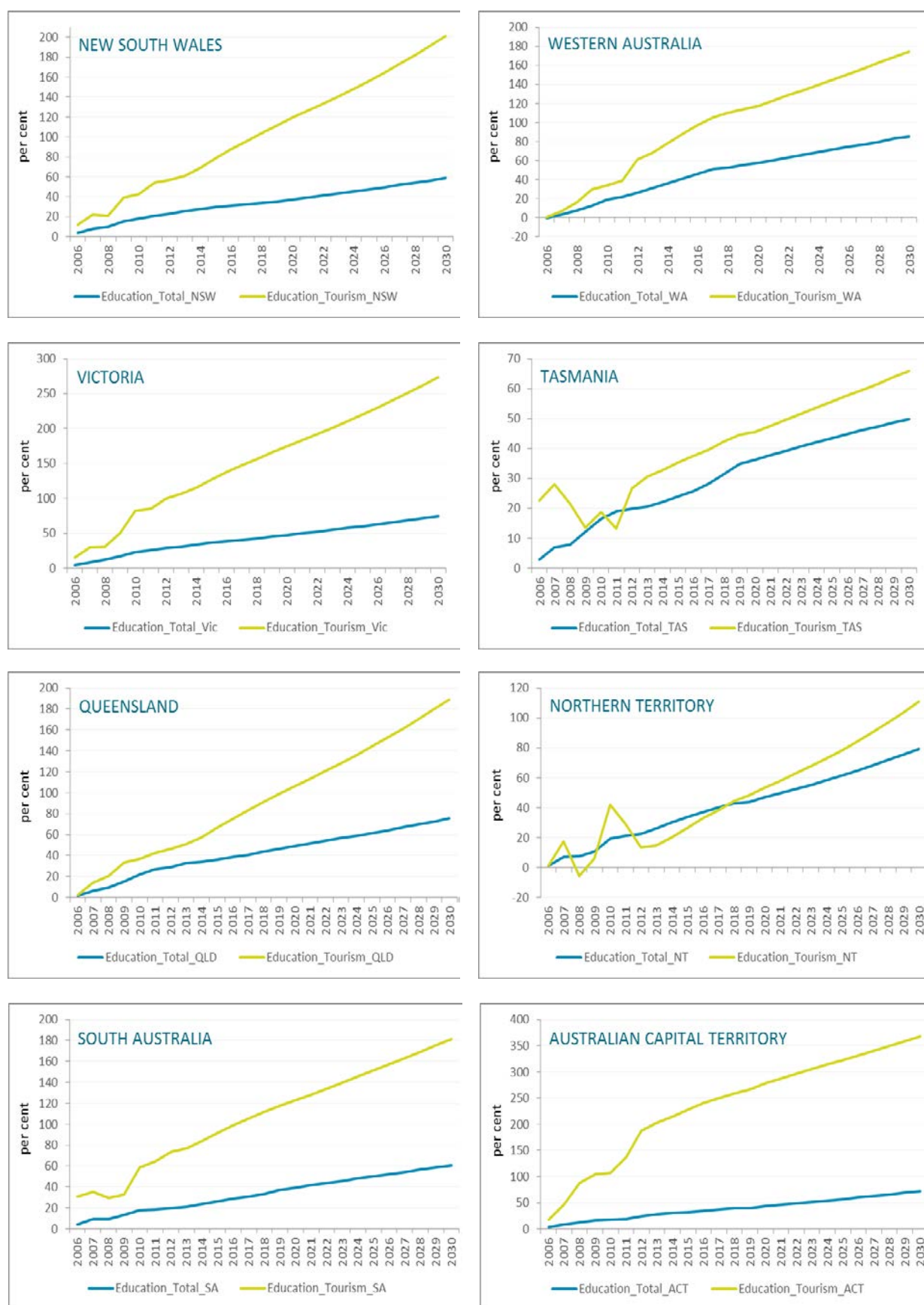
³ Education tourism in the model is based on TRA survey data for which education tourism was defined as visitors identifying education as their main purpose of visit, and remaining in Australia for no more than 12 months. The World Tourism Organization has amended the definition to students who enrol in a course of less than 12 months duration, but this change has yet to be incorporated in the data base of the model. While the change in definition is likely to have implications for the number of international students identified as tourists, it should not have materially affected the pattern of the projections outlined in this study.

TABLE 2: TOURISM EMPLOYMENT BY SELECTED INDUSTRY AND BY STATE, CUMULATIVE PERCENTAGE GROWTH BY 2029–30 (BASE=2004–05)

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Per cent								
Food	-8.2	-1.2	-5.6	-23.3	-7.3	-28.5	28.9	86.6
Drink	1.8	8.4	-15.1	-10.0	-17.1	-33.3	37.7	103.9
Retail trade	-17.3	-9.5	-23.2	-32.6	-26.7	-30.6	-14.6	-12.5
Accommodation	36.3	58.7	19.7	12.8	24.6	0.3	16.5	53.6
Road transport	63.7	95.1	51.6	34.3	46.9	14.5	25.6	105.0
Rail transport	70.6	112.4	63.5	65.4	55.0	0.00	-34.5	0
Transport other	37.3	51.8	36.6	6.6	7.1	33.8	45.6	151.3
Water transport	87.4	129.6	89.5	85.9	72.8	53.3	55.9	174.9
Air transport	74.4	113.4	74.9	70.2	53.7	48.8	53.5	103.3
Education	201.1	273.8	189.3	181.5	174.7	65.8	110.9	367.9
Gambling and recreation	28.8	33.0	30.3	17.0	19.5	7.2	45.3	33.8

Source: TRA's estimates

FIGURE 4: COMPARISON OF TOTAL EMPLOYMENT AND TOURISM EMPLOYMENT IN THE EDUCATION SECTOR – CUMULATIVE PERCENTAGE GROWTH BY 2029–30 (BASE=2004–05)



Source: TRA's estimates

3.4 TOURISM EMPLOYMENT BY OCCUPATION

Tourism employment is represented by the following nine occupations in TRA's MMRFTOUR database:

1. Managers and administrators
2. Professionals
3. Associate professionals
4. Tradespersons and related workers
5. Advanced clerical and services workers
6. Intermediate clerical, sales and service workers
7. Intermediate production and transport workers
8. Elementary clerical, sales and service workers
9. Labourers and related workers

Table 3 shows high demand across all states and territories for *professionals*, particularly in ACT, Victoria and NSW. Although Tasmania experiences a slight decline in overall tourism employment, the demand for *professionals* in the state is still positive by 2029–30. The high demand for *professionals* occurs largely because this group makes up nearly 70% of total employed persons in the education sector (Figure 5a and 5b).

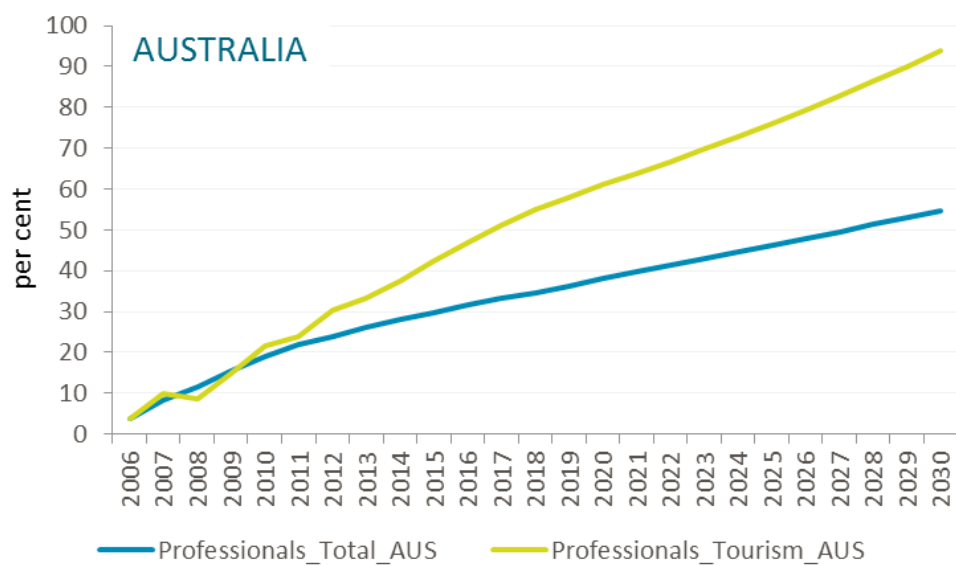
TABLE 3: TOURISM EMPLOYMENT BY OCCUPATION, CUMULATIVE PERCENTAGE GROWTH BY 2029–30 (BASE=2004–05)

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	AUS
	Per cent								
Managers and administrators	30.3	50.4	19.5	3.6	18.5	-7.6	22.1	71.7	28.8
Professionals	93.5	143.6	63.8	53.8	81.6	19.2	44.8	152.8	94.0
Associate professionals	24.9	43.8	14.5	2.3	14.4	-2.9	13.3	41.9	22.6
Tradespersons and related workers	16.5	27.8	12.8	-7.0	3.8	-7.8	11.9	36.0	14.9
Advanced clerical and services workers	41.2	70.3	32.2	16.6	30.8	6.2	25.6	74.2	42.2
Intermediate clerical, sales and service workers	32.3	55.9	20.1	6.8	21.1	-1.9	17.6	58.9	30.6
Intermediate production and transport workers	46.6	68.9	35.8	17.5	26.9	-0.1	21.8	83.3	45.1
Elementary clerical, sales and service workers	10.8	23.9	3.1	-11.7	-3.3	-13.6	6.4	21.2	8.1
Labourers and related workers	19.6	34.1	10.2	-2.3	8.7	-11.0	16.1	57.1	17.1

Source: TRA's estimates

The second highest employment category in terms of labour demand growth is intermediate production and transport workers. This is driven by projected growth in the output of tourism transport over the period. Similarly, growth in the tourism accommodation sector is responsible for the increase in demand for advanced clerical and services workers and intermediate clerical, sales and service workers.

FIGURE 5A: COMPARISON OF TOURISM EMPLOYMENT WITH TOTAL EMPLOYMENT FOR PROFESSIONALS – CUMULATIVE PERCENTAGE GROWTH BY 2029–30 (BASE=2004–05)



Source: TRA's estimates

FIGURE 5B: COMPARISON OF STATE TOURISM EMPLOYMENT WITH STATE TOTAL EMPLOYMENT FOR PROFESSIONALS – CUMULATIVE PERCENTAGE GROWTH BY 2029–30 (BASE=2004–05)



Source: TRA's estimates

CONCLUSION

Considered as a whole, tourism employment is projected to grow nationally by an average rate of 1.4 per cent per annum, an increase from 342,800 (2011–12) to 424,300 (2029–30) in FTE terms, or from 531,900 to 656,200 in terms of number of employed persons.

Tourism employment grows more slowly than does tourism output. This occurs because, as output grows, some industries will substitute capital for labour in order to deal with the effects of an ageing population on labour supply.

4.1 STATES AND TERRITORIES

Tourism employment grows most strongly in ACT, Victoria and NSW. In these three states, tourism will impose demand pressure on the labour market for all other industries. In all other states/territories, tourism is projected to grow more slowly than total state employment. For these states, tourism employment does not contribute significantly to overall employment.

More specifically, in the case of Tasmania, tourism employment remains stagnant over the projection period and its share of tourism employment in total employment is projected to reduce. This is influenced by the weakness of the forecasts for tourism demand and the projected low rate of population growth in Tasmania, and hence in growth of its labour supply. It is the population projections, in particular, which limit employment growth in Tasmania overall, as well as in tourism.

4.2 TOURISM SECTORS AND INDUSTRY GROWTH

The projections show the effect of the winding down of Australia's terms of trade over the period making exports from Australia relatively cheaper in overseas markets. This provides a stimulus to inbound tourism in much the same way as it does to exports of Australian produced goods or services generally.

Within the inbound tourism sector, education tourism is the component projected to increase most significantly across all states and territories.

As the demand for education rises, demand for professional workers is projected to increase significantly across all Australian states. The growth rates are particularly high for ACT and Victoria, although the actual number of professionals in ACT is relatively small.

The second largest increase in labour demand for tourism is projected to be for workers employed in the *intermediate production and transport* and in the *clerical, sales and services* occupation groups. The demand for workers in these groups is mainly driven by increases in output of tourism transport and accommodation.

However, the increases in demand for *professionals*; *clerical and service workers*; and *intermediate production and transport workers* does not occur uniformly across all states. As Tasmania is projected to experience declining tourism employment overall, tourism employment in most occupation groups, other than *professionals*, is projected to fall.

Therefore, growth in tourism employment over the projected period is likely to be related more to growth in education tourism than to purely leisure travel, the segment that we might normally look to as an indicator of tourism performance. As a result, the profile of tourism

employment moves toward more highly qualified professionals and, to some extent, away from low skill positions more commonly associated with leisure tourism.

The economic linkage between tourism and education is clear, and this has possible implications for tourism policy makers.

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