

Economic Significance of the Property Industry to the Northern Territory Economy

Property Council of Australia
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Key Findings

The property sector has a larger footprint on the Northern Territory economy than any other industry.

- It directly contributed \$3.9 billion to Gross State Product (GSP) in 2013-14 (17.9%), and is estimated to have contributed a further \$4.5 billion to Northern Territory GSP through flow-on demand for goods and services (20.4% of GSP).
- It also directly employed 22,763 full time equivalent (FTE) employees in 2013-14 (22.1 % of Northern Territory's total), and supported some 19,739 FTE jobs through flow-on activity (19.2% of Northern Territory's total).
- It directly paid approximately \$1.3 billion in wages and salaries to Northern Territory workers (18.4% of Northern Territory total wages and salaries paid), and a further \$1.4 billion to Northern Territory workers through flow-on activity (20.4% of Northern Territory total).
- The majority of property sector activity is generated by the non-residential property sub-sector.
- The property industry contributed approximately \$356.0 million in combined Northern Territory Government tax revenues and Northern Territory local government rates, fees and charges revenue in 2013-14. This equates to 40.1% of total Territory taxes and local government rates, fees and charges revenues in 2013-14.
- Residential property ownership is not the only way every day Australians participate in the property sector; more than 140,000 Northern Territory residents have a financial stake in the property industry through their super funds.

Executive Summary

The Northern Territory Property Industry...

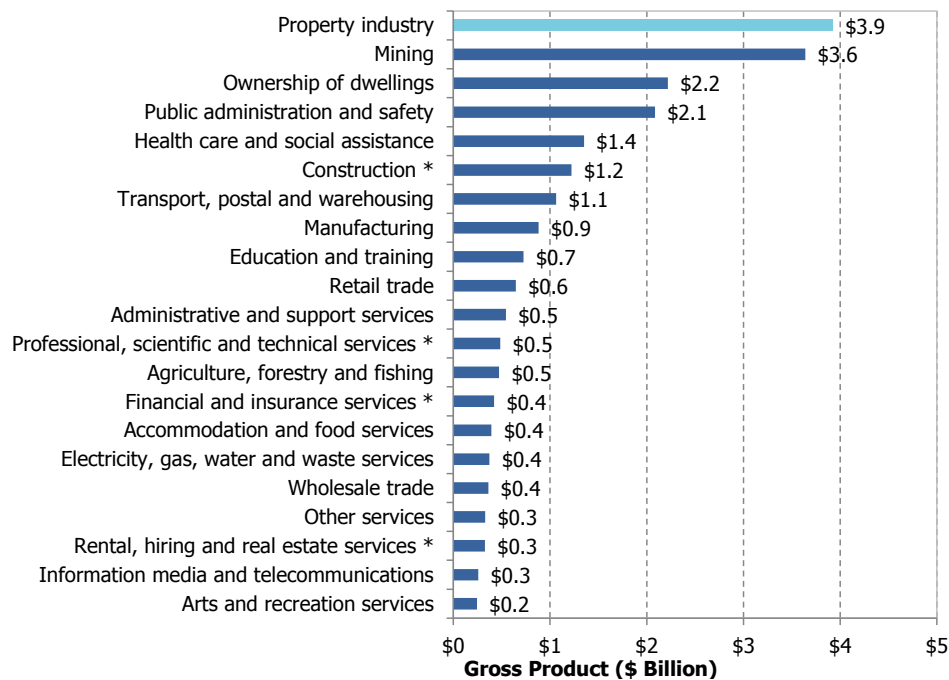
The Northern Territory property industry consists of organisations and individuals involved in developing, operating and facilitating activities within the property industry that meet the residential and non-residential property needs of the Northern Territory. Typically this includes residential and non-residential construction along with finance, property and business services associated with property development and operation. While many of these industries are also involved in non-property related activities, this report examines only the contribution of the property related components of these industries to the Northern Territory economy.

The definition of the property industry used in this report does **not** include ownership of dwellings, which are rents paid by tenants to landlords and imputed rents to owner occupiers.

The Property Industry is the largest industry in the Northern Territory...

The property industry is the largest industry in the Northern Territory. The industry is estimated to have contributed \$3.9 billion to Northern Territory GSP in 2013-14, accounting for 17.9% of GSP for the year (of \$22.0 billion).

Figure ES.1. Direct Contribution to Gross State Product by Industry, 2013-14 (\$ Billion)



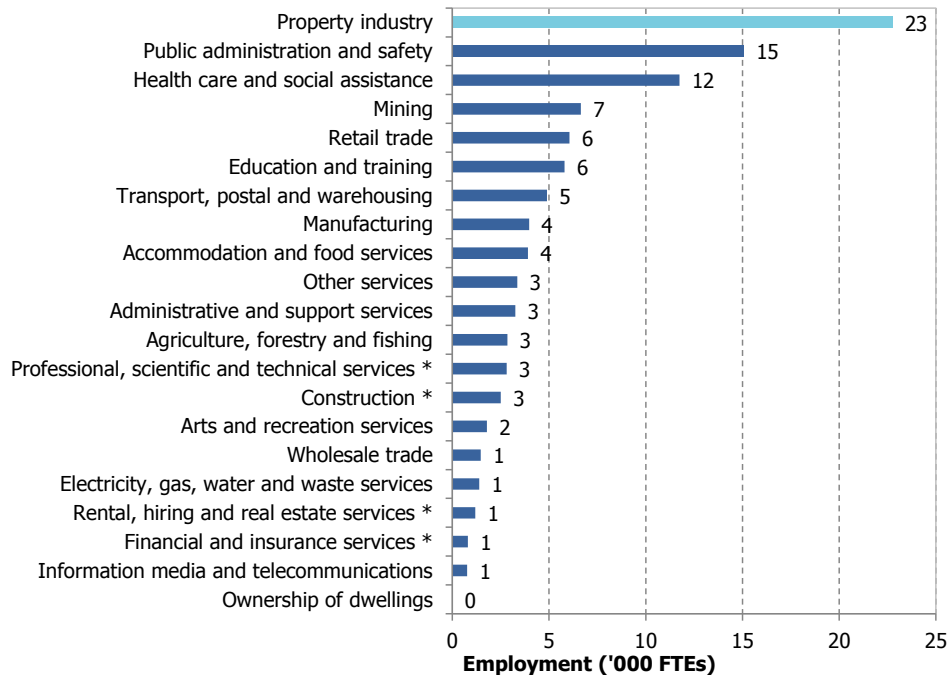
Note: * - Only non-property related activity is included for this industry classification. All property related activity is included in the property industry.

Sources: AEC, ABS (2015a, b and c; 2014a and b; 2013a and b), APRA (2013), RBA (2015a and b; 2013a and b).

The Property Industry is the largest employer in the Northern Territory...

The property industry was the highest contributing sector to employment in 2013-14. Around 23,000 full time equivalent (FTE) employees were directly employed in the property industry 2013-14, accounting for 22.1% of the total FTE employees in the Northern Territory.

Figure ES.2. Direct Contribution to Employment by Industry, 2013-14 ('000 FTEs)



Note: * - Only non-property related activity is included for this industry classification. All property related activity is included in the property industry.

Sources: AEC, ABS (2015a, b and c; 2014a and b; 2013a and b), APRA (2013), RBA (2015a and b; 2013a and b).

The Property Industry is also a strong contributor to the Northern Territory's economy through flow-on activity...

In addition to the direct contribution of the property industry to the Northern Territory economy, the property industry is estimated to have contributed a further \$4.5 billion to Northern Territory GSP through flow-on demand for goods and services, including production induced¹ and consumption induced² effects. Combined, the property industry contributed \$8.4 billion to GSP in 2013-14 through direct and flow-on activity.

The property industry also indirectly contributes to employment in the Northern Territory through flow-on demand for goods and services. The property industry supported jobs for some 19,739 FTE employees in 2013-14 through flow-on activity. In total, 42,502 FTE jobs were supported by the property industry in 2013-14 through direct and flow-on activity combined.

The Non-Residential Property Sub-Sector provides the majority of Property Industry economic activity...

The non-residential sub-sector of the property industry directly contributed 58.0% of total property industry gross product and 53.8% of employment in 2013-14, with the residential sub-sector contributing the remainder.

¹ Represents the combination of activity required from all industries that supply goods and services to the property industry, as well as the induced activity from all industries to support the production of industries supplying the property industry.

² Represents the subsequent induced activity due to spending by the wage and salary earners across all industries arising from the compensation received for their labour as part of the direct and production induced effects.

The Property Industry is a key contributor to taxation revenues...

The property industry contributed approximately \$356.0 million in combined Northern Territory Government tax revenues and Northern Territory local government rates, fees and charges revenue in 2013-14. This equates to 40.1% of total Territory taxes and local government rates, fees and charges revenues in 2013-14.

The Northern Territory Government received \$188.7 million in taxation revenue from property related activities, accounting for 26.2% of all taxation revenue to the Northern Territory Government in 2013-14.

Table ES.1. Northern Territory and Local Government Property Related Revenues, 2013-14

Level of Government/ Tax Type	Value
Northern Territory Government	
Payroll Tax (\$M)	\$46.0
Transfer/ Stamp Duties (\$M)	\$142.8
Total Property Related Taxes (\$M)	\$188.7
<i>Property Contribution to Total Northern Territory Taxes (%)</i>	<i>26.2%</i>
Northern Territory Local Governments	
Rates, Fees and Charges Revenue (\$M)	\$167.3
Combined Territory and Local Government	
Total Property Related Taxes (\$M) ^(a)	\$356.0
<i>Property Contribution to Total Territory and Local Government Taxes (%)</i>	<i>40.1%</i>

Note: (a) Includes local government rates, fees and charges.

Sources: AEC, ABS (2015d; 2014c), NT Government (2014), Alice Springs Town Council (2014), Barkly Regional Council (2014), Belyuen Community Government Council (2014), Central Desert Regional Council (2014), City of Darwin Council (2014), City of Palmerston Council (2014), Coomalie Community Government Council (2014), East Arnhem Regional Council (2014), Katherine Town Council (2014), Litchfield Council (2014), MacDonnell Regional Council (2014), Roper Gulf Regional Council (2014), Tiwi Islands Regional Council (2014), Victoria Daly Regional Council (2014), Wagait Shire Council (2014), West Arnhem Regional Council (2014).

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1. Introduction

1.1 Background

The Property Council of Australia commissioned AEC Group Pty Ltd (AEC) to estimate the economic significance of Australia's property industry, and each of its States/ Territories. The industry consists of organisations and individuals involved in developing, operating and facilitating activities that meet Australia's residential and non-residential property needs.

1.2 Definition of the Property Industry

The report uses the *Australian and New Zealand Standard Industrial Classifications (ANZSIC)* definition of industry classifications (ABS, 2008). The property industry is defined as:

- Parts of the construction industry focused on the development of residential and non-residential building, as well as all construction services.
- Architectural, engineering and professional services involved in the development of property.
- Non-residential property operators and real estate services.
- Parts of banking, non-bank finance and other financial and insurance services that facilitate the development, acquisition and ownership of property³.

While many of these industries are also involved in non-property related activities, this report only focuses on the contribution of the property related components of these industries to the Northern Territory economy. The definition of the property industry used in this report does not include ownership of dwellings, which are rents paid by tenants to landlords and imputed rents to owner occupiers. **Appendix A** provides a full list of ANZSIC classes included in the definition of the property industry.

1.3 Geographic Scope

The scope of this report is on the economic significance of the property industry in the Northern Territory and each Northern Territory Electorate. The economic significance to Australia and Australian Federal Electorates, as well as to other States/ Territories and their respective State/ Territory Electorates, are presented in separate reports.

Data for Northern Territory Electoral divisions as required for this study is not available from the Australian Bureau of Statistics. To undertake analysis for the Northern Territory Electorates, correspondence files (based on population counts) between Northern Territory Electorates in 2011 and both Statistical Area 2 (SA2) and local government area (LGA) geographic boundaries from the Australian Bureau of Statistics (ABS, unpublished) were utilised to convert SA2/ LGA data to 2011 Territory Electorates. This data was then further converted to current Territory Electorates based on the proportion of 2011 Territory Electorate land area within the most recent Territory Electorate boundaries (as outlined through GIS mapping).

All estimates of property industry activity at the Territory Electorate level are therefore subject to a softer confidence due to any inconsistencies introduced by transforming data using these correspondence files.

1.4 Methodology

The estimates in this report are produced using Input-Output transaction tables and models developed by AEC. Data sources used include State and National Accounts and industry specific ABS and other agency data. Input-Output models were used to produce estimates of the direct and flow-on contributions of the property industry to the national and Northern Territory economies, and each Territory Electorate. Measures used in this report include

³ Parts of banking and credit union operations facilitating acquisition/ ownership of commercial property is excluded due to data limitations (though residential property is included). This is outlined in more detail in **Appendix A**.

Gross State Product (GSP), Gross Value Added (GVA) activity, employment, and income (i.e., wages and salaries). **Appendix B** presents a detailed description of the methodology. All estimates are presented in nominal terms (i.e., current prices in the year received), unless otherwise stated.

2. Contribution to the Northern Territory Economy

This chapter describes the property industry's significance and economic contribution to the Northern Territory economy. It includes estimates of direct and flow-on contributions to other industries where relevant.

The contribution of the property industry's output to the Northern Territory economy is estimated across the following three key measures:

- **Gross Product:** Refers to the value of all outputs of an industry *including* taxes/subsidies on its final products after deducting the cost of goods and services inputs in the production process. Gross State Product (GSP) is the measure of a nation's total gross production.
- **Incomes:** Measures the level of wages and salaries paid to employees of each industry.
- **Employment:** Refers to the part-time and full-time employment positions supported by an industry, and is expressed in terms of full time equivalent (FTE) positions.

An additional measure, industry output, is also referenced in this Chapter. Industry output refers to the total dollar value of all goods and services produced during the year. This measure overstates the true economic contribution of the industry as it double counts the value of material and services inputs used in the production of an industry's goods and services.

The economic contribution is measured in terms of:

- **Direct impacts**, which are the first round of effects from direct operational expenditure on goods and services by the property industry.
- **Flow-on impacts**, which comprise the second and subsequent round effects of increased purchases by suppliers in response to increased sales. Flow-on impacts are disaggregated to:
 - **Industry Support Effects (Type I)**, which represent the production induced support activity as a result of additional expenditure by the property industry on goods and services, and subsequent round effects of increased purchases by suppliers in response to increased sales.
 - **Household Consumption Effects (Type II)**, which represent the consumption induced activity from additional household expenditure on goods and services resulting from additional wages and salaries being paid within the economy.

2.1 Contribution of the Property Industry to Northern Territory

The Northern Territory property industry is estimated to have directly produced some \$11.6 billion in total industry output in 2013-14. This is estimated to have directly contributed \$3.9 billion to Northern Territory GSP, or 17.9% of total GSP (see Table 2.1 and Table 2.2). Including flow-on activity, the estimated total contribution of the property industry to the Northern Territory economy was \$8.4 billion or 38.2% of total GSP.

The property industry supported an estimated 42,502 FTE employment positions in 2013-14; 22,763 directly and 19,739 through flow-on activity. This represented 41.3% of total Northern Territory employment. These jobs provided approximately \$2.7 billion in incomes (wages and salaries), representing 38.7% of total incomes in the Northern Territory in 2013-14.

Table 2.1. Estimated Direct and Flow-On Contribution of the Property Industry to the Northern Territory Economy, 2013-14

Property Industry Component	Gross Product (\$M)	Incomes (\$M)	Employment (FTE)
Direct Contribution			
Residential Building Construction	\$426.9	\$116.9	3,326
Non-Residential Building Construction	\$512.9	\$158.1	1,778
Construction Services	\$2,019.2	\$714.3	14,023
Finance	\$134.7	\$29.3	193
Insurance and Superannuation Funds	\$9.8	\$4.5	28
Non-Residential Property Operators and Real Estate Services	\$652.0	\$185.3	2,353
Professional, Scientific and Technical Services	\$169.2	\$70.2	1,061
Total Direct Contribution	\$3,924.8	\$1,278.6	22,763
Flow-On Contribution			
Production Induced (Type I)	\$1,830.8	\$711.9	8,601
Consumption Induced (Type II)	\$2,641.7	\$705.5	11,138
Total Flow-On Contribution	\$4,472.5	\$1,417.4	19,739
TOTAL CONTRIBUTION TO NORTHERN TERRITORY	\$8,397.3	\$2,696.0	42,502

Notes: Totals may not sum due to rounding.

Sources: AEC, ABS (2015a, b and c; 2014a and b; 2013a and b), APRA (2013), RBA (2015a and b; 2013a and b).

Table 2.2. Estimated % Contribution of the Property Industry to the Northern Territory Economy, 2013-14

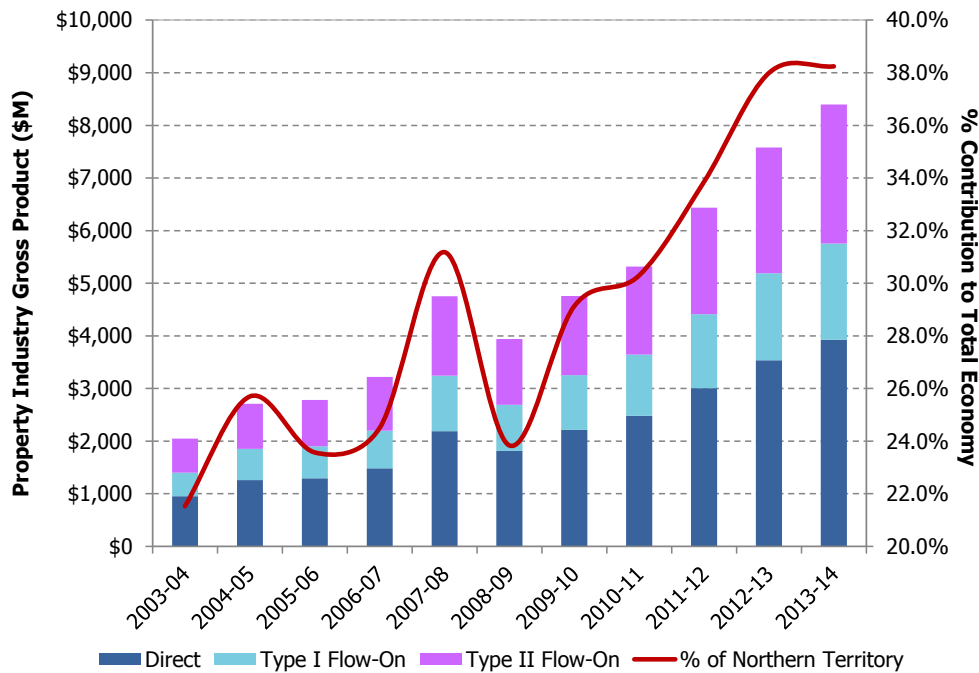
Property Industry Component	Gross Product (%)	Incomes (%)	Employment (%)
Direct Contribution			
Residential Building Construction	1.9%	1.7%	3.2%
Non-Residential Building Construction	2.3%	2.3%	1.7%
Construction Services	9.2%	10.3%	13.6%
Finance	0.6%	0.4%	0.2%
Insurance and Superannuation Funds	0.0%	0.1%	0.0%
Non-Residential Property Operators and Real Estate Services	3.0%	2.7%	2.3%
Professional, Scientific and Technical Services	0.8%	1.0%	1.0%
Total Direct Contribution	17.9%	18.4%	22.1%
Flow-On Contribution			
Production Induced (Type I)	8.3%	10.2%	8.4%
Consumption Induced (Type II)	12.0%	10.1%	10.8%
Total Flow-On Contribution	20.4%	20.4%	19.2%
TOTAL CONTRIBUTION TO NORTHERN TERRITORY	38.2%	38.7%	41.3%

Notes: Totals may not sum due to rounding.

Sources: AEC, ABS (2015a, b and c; 2014a and b; 2013a and b), APRA (2013), RBA (2015a and b; 2013a and b).

The property industry's total (i.e., direct + flow-on) contribution to GSP has more than quadrupled over the past 10 years, increasing from \$2.0 billion in 2003-04 to \$8.4 billion in 2013-14 (see Figure 2.1). This growth has largely been driven by increased property related construction activity, in particular over the past five years. Strong growth in the property industry has seen its contribution to total Northern Territory GSP increase from around 22% in 2003-04 to 38.2% in 2013-14.

Figure 2.1. Estimated Direct and Flow-On Contribution of the Property Industry to Northern Territory GSP, 2003-04 to 2013-14, Current Prices (i.e. Nominal Terms)

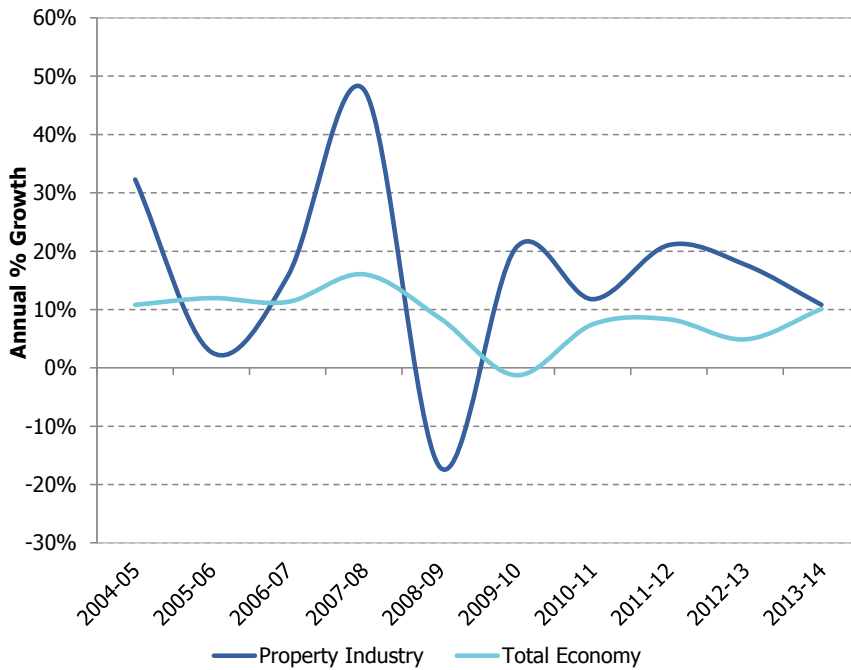


Sources: AEC, ABS (2015a, b and c; 2014a and b; 2013a and b), APRA (2013), RBA (2015a and b; 2013a and b).

Annual growth in gross product supported by the Northern Territory property industry (both directly and through flow-on activity) is presented in Figure 2.2, compared to growth in Northern Territory GSP. The figure shows growth in the property industry has averaged between 10% and 20% per annum over the five years between 2009-10 and 2013-14, which resulted in a more than doubling in gross product supported over this time (from around \$4 billion in 2008-09 to \$8.4 billion in 2013-14, as shown in Figure 2.1).

Growth in the property industry has generally tracked higher than overall GSP growth in the Northern Territory economy, with only two years recording lower annual growth than the overall economy since 2004-05.

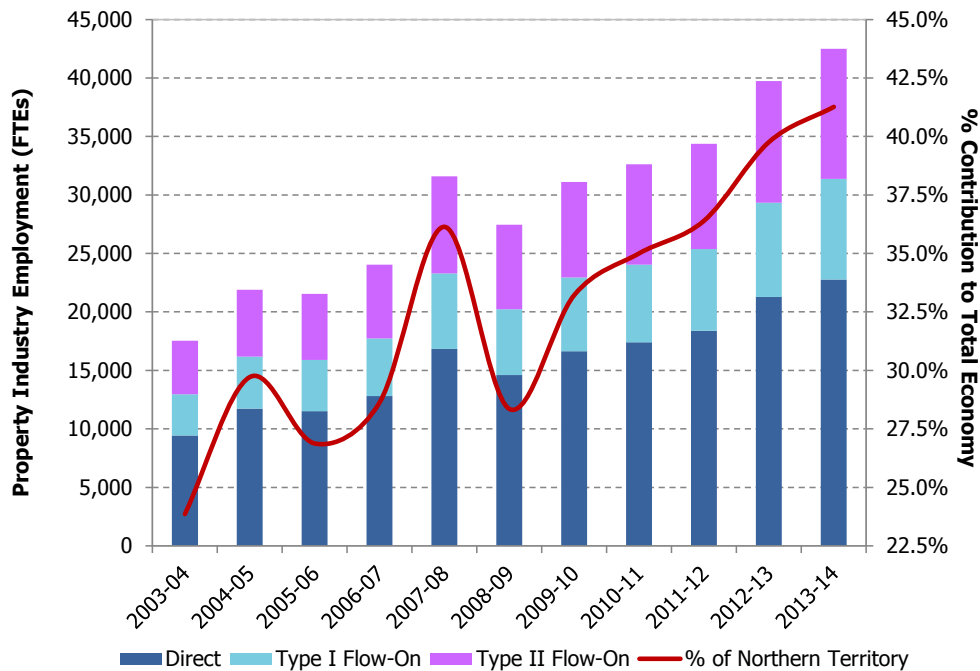
Figure 2.2. Annual Growth in Property Industry Supported Gross Product (Direct + Flow-On) and Northern Territory GSP, 2004-05 to 2013-14, Current Prices (i.e. Nominal Terms)



Sources: AEC, ABS (2015a, b and c; 2014a and b; 2013a and b), APRA (2013), RBA (2015a and b; 2013a and b).

Employment supported by property industry activities (including direct and flow-on jobs) has grown strongly between 2003-04 and 2013-14, increasing from around 17,500 FTE jobs to 42,502 FTE jobs over this period (see Figure 2.3). The percent contribution of total Northern Territory employment supported by the property industry has increased from around 24% in 2003-04 to 41.3% in 2013-14, driven by strong growth in property construction and development.

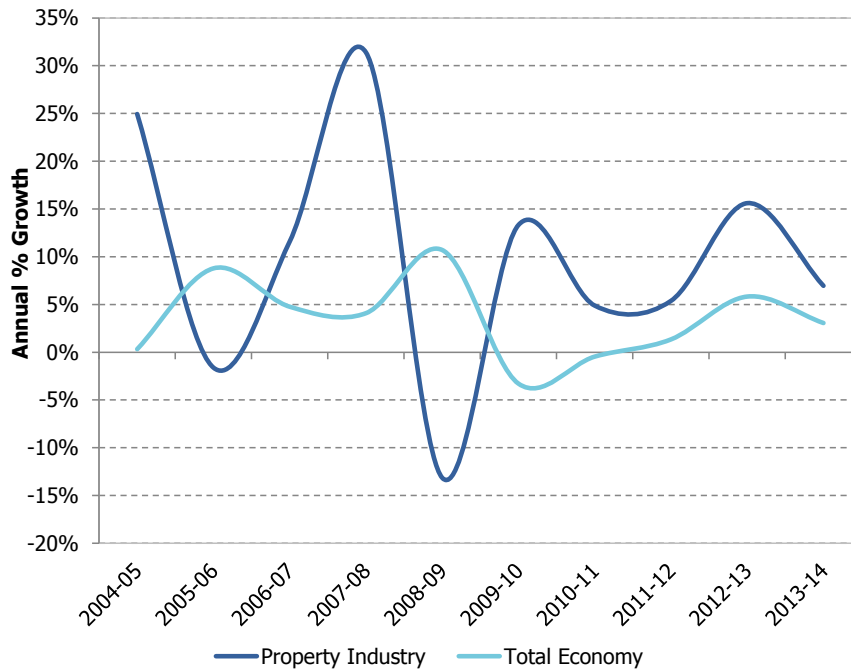
Figure 2.3. Estimated Direct and Flow-On Contribution of the Property Industry to Northern Territory Employment, 2003-04 to 2013-14



Sources: AEC, ABS (2015a, b and c; 2014a and b; 2013a and b), APRA (2013), RBA (2015a and b; 2013a and b).

Annual change in employment supported by the Northern Territory property industry (both directly and through flow-on activity) is presented in Figure 2.4, compared to the annual change in Northern Territory employment. The figure shows strong cycles in property industry growth every two to three years. As with growth in property industry gross product, growth in employment supported by the property industry has generally tracked higher than overall growth in Northern Territory employment between 2004-05 and 2013-14, reflecting an industry that has been outperforming the overall Territory average.

Figure 2.4. Annual Growth in Property Industry Supported Employment (Direct + Flow-On) and Northern Territory Employment, 2004-05 to 2013-14



Sources: AEC, ABS (2015a, b and c; 2014a and b; 2013a and b), APRA (2013), RBA (2015a and b; 2013a and b).

2.2 Contribution of Property Sub-Sectors to Northern Territory

The property industry is disaggregated into Residential and Non-Residential sub-sectors in Table 2.3 to examine their direct⁴ contributions to the Northern Territory's economy. The Non-Residential sub-sector contributed 58.0% of direct property industry gross product in the Northern Territory (\$2.3 billion), and 53.8% of employment (12,236 FTE jobs).

The methodology used to disaggregate the direct contribution of the property industry to its constituent sub-sectors is described in **Appendix B**.

Table 2.3. Estimated Direct Contribution of the Property Industry to the Northern Territory Economy by Property Sub-Sector, 2013-14

Property Sub-Sector/ Type	Gross Product (\$M)	Incomes (\$M)	Employment (FTE)
Direct Contribution			
Residential	\$1,649.8	\$525.9	10,528
Non-Residential	\$2,275.0	\$752.7	12,236
Total Direct Contribution	\$3,924.8	\$1,278.6	22,763
Percent of Total Direct Contribution			
Residential	42.0%	41.1%	46.2%
Non-Residential	58.0%	58.9%	53.8%
Total % of Direct Contribution	100.0%	100.0%	100.0%

Notes: Totals may not sum due to rounding.

Sources: AEC, ABS (2015a, b and c; 2014a and b; 2013a and b), APRA (2013), RBA (2015a and b; 2013a and b).

2.3 Comparison with Other Industries

This section presents comparisons of the direct contribution of the Northern Territory property industry to the Northern Territory's economy against other industries in the Northern Territory economy. This section only presents the direct contribution of the property industry compared to the direct contribution of other industries. Flow-on contributions cannot be presented as this would introduce double counting across Northern Territory economic activity (as flow-on contributions of the property industry represent direct activity of the industries it purchases from, and vice versa).

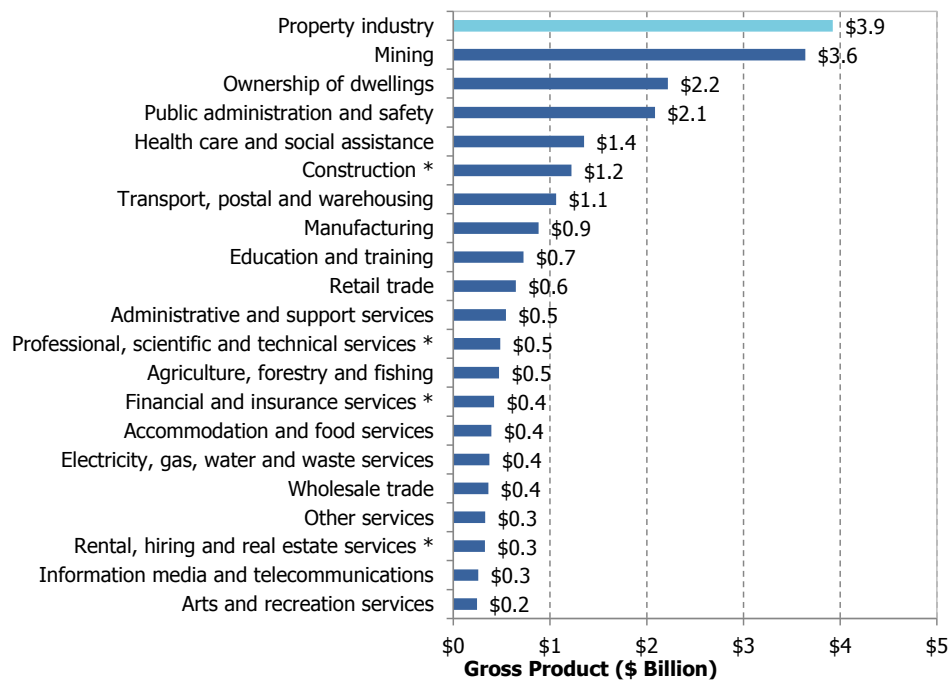
A summary table of the direct contribution of the property industry compared to other industries is provided in **Appendix C**.

2.3.1 Gross State Product

Northern Territory total GSP was \$22.0 billion in 2013-14. Figure 2.5 shows the property industry was the Northern Territory's largest industry contributing \$3.9 billion directly to the Northern Territory economy, or 17.9% of total. The property industry directly contributed approximately 8% more to GSP than the next largest sector, mining (\$3.6 billion or 16.6% of total).

⁴ Only direct contributions have been examined as insufficient data is available to appropriately identify any variances between sub-sectors contribution to flow-on effects.

Figure 2.5. Direct Contribution to Gross State Product by Industry, 2013-14 (\$ Billion)



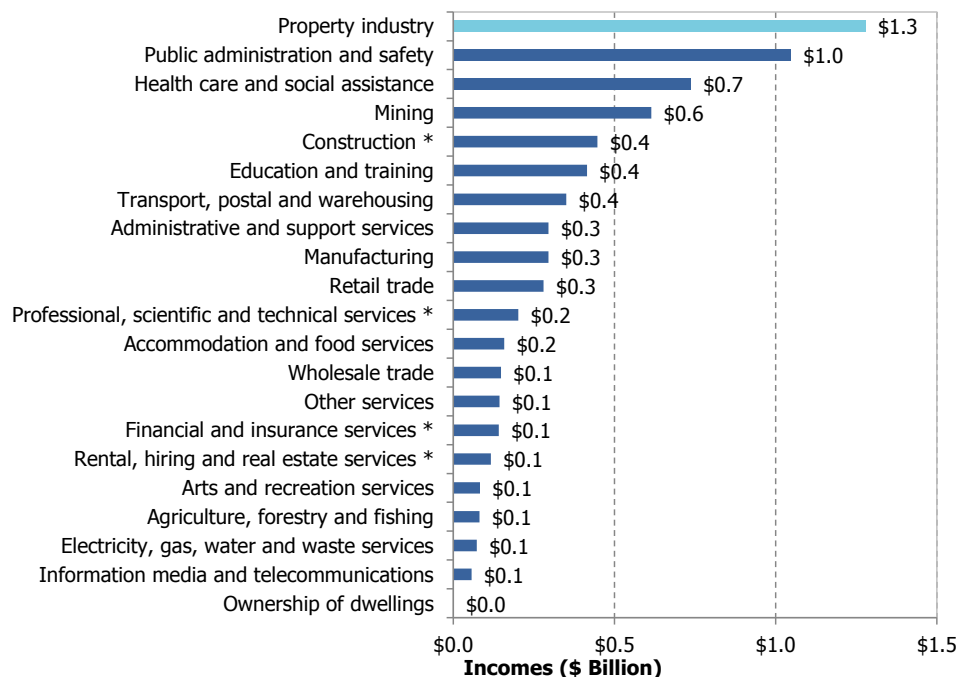
Note: * Only non-property related activity is included for this industry classification. All property related activity is included in the property industry.

Sources: AEC, ABS (2015a, b and c; 2014a and b; 2013a and b), APRA (2013), RBA (2015a and b; 2013a and b).

2.3.2 Incomes

Figure 2.6 shows the property industry was the highest direct contributing sector to incomes (wages and salaries) in the Northern Territory in 2013-14, paying approximately \$1.3 billion to Northern Territory households (18.4% of Northern Territory total wages and salaries paid directly to workers in 2013-14). The next largest income paying sector in 2013-14 was public administration and safety, paying approximately \$1.0 billion.

Figure 2.6. Direct Contribution to Incomes by Industry, 2013-14 (\$ Billion)



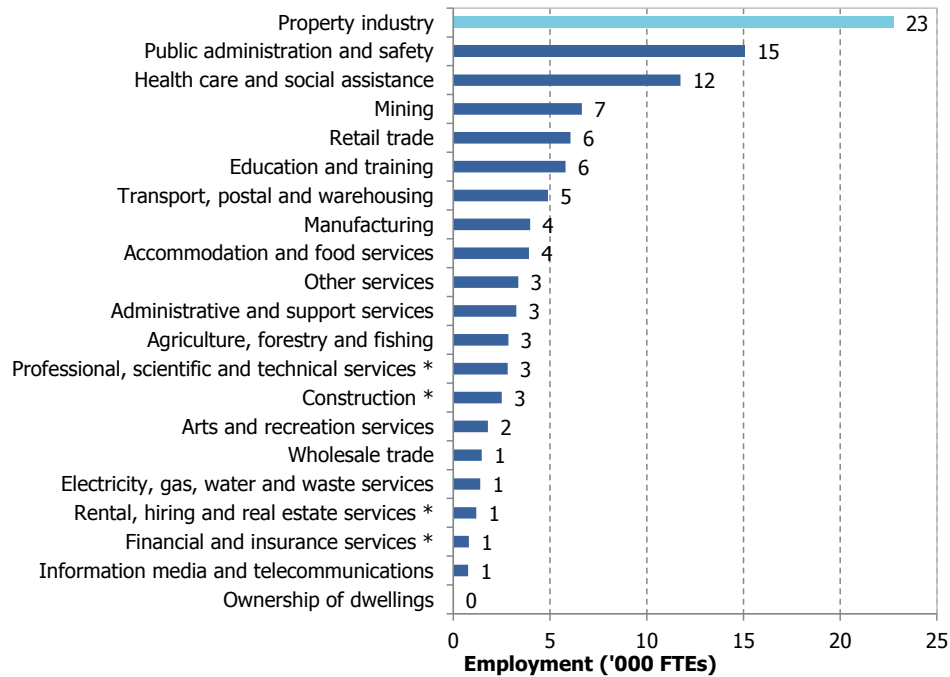
Note: * Only non-property related activity is included for this industry classification. All property related activity is included in the property industry.

Sources: AEC, ABS (2015a, b and c; 2014a and b; 2013a and b), APRA (2013), RBA (2015a and b; 2013a and b).

2.3.3 Employment

Figure 2.7 shows that the property industry was the highest direct contributor to jobs in the Northern Territory in 2013-14. The industry employed around 23,000 FTE workers (22.1% of Northern Territory total). This was approximately 8,000 more FTE workers than Northern Territory's second largest employing industry, public administration and safety, which employed 15,000 FTE workers (14.6% of the Northern Territory total).

Figure 2.7. Direct Contribution to Employment by Industry, 2013-14 ('000 FTEs)



Note: * Only non-property related activity is included for this industry classification. All property related activity is included in the property industry.

Sources: AEC, ABS (2015a, b and c; 2014a and b; 2013a and b), APRA (2013), RBA (2015a and b; 2013a and b).

3. Contribution to Territory Electorates

The following table provides a summary of the direct contribution of the property industry to each Northern Territory Electorate, in terms of gross product, incomes and employment. The direct contribution the property industry makes to each electorate's economy is presented both in value and as a proportion of total electorate economy.

Table 3.1. Direct Contribution of Property Industry by Northern Territory Electorate, 2013-14

Territory Electorate	Property Industry Contribution			% of Total Electorate		
	Gross Product (\$M)	Income (\$M)	Employment (FTEs)	Gross Product (%)	Income (%)	Employment (%)
Arafura	\$67.9	\$22.9	517	11.3%	11.6%	17.0%
Araluen	\$56.4	\$14.8	279	14.1%	10.8%	13.2%
Arnhem	\$86.0	\$25.5	538	5.9%	7.8%	12.2%
Barkly	\$50.0	\$13.2	258	5.9%	7.4%	8.9%
Blain	\$101.2	\$30.6	568	19.2%	27.5%	33.4%
Braitling	\$289.1	\$87.7	1,483	23.0%	20.1%	22.8%
Brennan	\$267.3	\$78.7	1,518	29.8%	32.4%	40.2%
Casuarina	\$127.1	\$43.4	742	11.0%	8.8%	9.7%
Daly	\$47.2	\$14.6	304	5.9%	8.5%	12.7%
Drysdale	\$31.3	\$9.4	172	20.4%	27.8%	35.2%
Fannie Bay	\$353.2	\$123.1	1,944	24.0%	23.1%	25.6%
Fong Lim	\$976.5	\$335.5	5,967	25.5%	26.1%	32.9%
Goyder (NT)	\$151.8	\$44.6	870	30.9%	34.4%	42.3%
Greatorex	\$102.6	\$34.2	600	14.5%	14.1%	16.3%
Johnston	\$84.8	\$25.6	505	23.8%	36.0%	40.2%
Karama	\$65.1	\$11.2	243	25.6%	19.4%	23.5%
Katherine	\$107.1	\$38.0	693	13.6%	13.2%	14.9%
Namatjira	\$28.6	\$9.5	159	2.6%	3.8%	4.5%
Nelson	\$177.8	\$87.5	1,594	20.4%	20.0%	23.8%
Nhulunbuy	\$44.7	\$16.4	328	9.1%	10.0%	13.7%
Nightcliff	\$119.0	\$23.7	457	34.4%	26.0%	29.3%
Port Darwin	\$389.8	\$144.7	2,144	21.4%	18.4%	20.2%
Sanderson	\$105.1	\$15.6	323	38.9%	30.9%	36.4%
Stuart (NT)	\$31.4	\$10.0	203	4.2%	5.4%	6.7%
Wanguri	\$63.7	\$18.1	352	19.8%	31.8%	37.0%
Northern Territory	\$3,924.8	\$1,278.6	22,763	17.9%	18.4%	22.1%

Notes: Totals may not sum due to rounding.

Sources: AEC, ABS (2015a, b and c; 2014a and b; 2013a and b; unpublished), APRA (2013), RBA (2015a and b; 2013a and b).

4. Taxation Contribution

This chapter outlines the direct contribution of property related activities to Northern Territory Government taxes as well as Northern Territory local government rates, fees and charges. The approach utilised in allocating Northern Territory taxes to property related activities is outlined in **Appendix D**.

4.1 Contribution to Northern Territory and Local Government Revenues

The property industry contributed approximately \$356.0 million in combined Northern Territory Government tax revenues and Northern Territory local government rates, fees and charges revenue in 2013-14. This equates to 40.1% of total Territory taxes and local government rates, fees and charges revenues in 2013-14.

Property related activities generated \$188.7 million in Northern Territory Government taxation revenue in 2013-14 or 26.2% of total Northern Territory Government taxation revenues. Transfer/ stamp duties made up the majority of property-based taxation revenue (75.6% or \$142.8 million). Property related payroll tax is estimated to have contributed \$46.0 million (24.4%).

A total of \$167.3 million in rates, fees and charges revenue is estimated to have been raised by Northern Territory local government authorities in 2013-14.

Table 4.1. Northern Territory and Local Government Property Related Revenues, 2013-14

Level of Government/ Tax Type	Value
Northern Territory Government	
Payroll Tax (\$M)	\$46.0
Transfer/ Stamp Duties (\$M)	\$142.8
Total Property Related Taxes (\$M)	\$188.7
<i>Property Contribution to Total Northern Territory Taxes (%)</i>	<i>26.2%</i>
Northern Territory Local Governments	
Rates, Fees and Charges Revenue (\$M)	\$167.3
Combined Territory and Local Government	
Total Property Related Taxes (\$M) ^(a)	\$356.0
<i>Property Contribution to Total Territory and Local Government Taxes (%)</i>	<i>40.1%</i>

Note: (a) Includes local government rates, fees and charges.

Sources: AEC, ABS (2015d; 2014c), NT Government (2014), Alice Springs Town Council (2014), Barkly Regional Council (2014), Belyuen Community Government Council (2014), Central Desert Regional Council (2014), City of Darwin Council (2014), City of Palmerston Council (2014), Coomalie Community Government Council (2014), East Arnhem Regional Council (2014), Katherine Town Council (2014), Litchfield Council (2014), MacDonnell Regional Council (2014), Roper Gulf Regional Council (2014), Tiwi Islands Regional Council (2014), Victoria Daly Regional Council (2014), Wagait Shire Council (2014), West Arnhem Regional Council (2014).

4.2 Comparison of Northern Territory Tax Contribution with Other Industries

Property related activities are estimated to have been the largest single industry contributing to Northern Territory taxes and royalty revenues in 2013-14. The property industry provided the third highest tax contribution per dollar of GSP (\$0.05), ranked only behind arts and recreation services (\$0.26) which primarily involves taxes on gambling and gaming, and financial and insurance services (\$0.12). However, total taxation revenues from the arts and recreation industry and financial and insurance services industry were significantly smaller (\$63.1 million and \$51.1 million, respectively) than the property industry.

The contribution to Territory taxes by property related activities and other industries of the economy has been estimated utilising the approach outlined in **Appendix D**.

Table 4.2. Contribution to Territory Taxes, Comparison of Property Related Activities to Other Industries of the Economy, 2013-14

Industry	Tax Estimates (\$M)	Contribution to GSP (\$M)	Tax Per \$1 of GSP Contributed (\$)
Property related taxes	\$188.7	\$3,924.8	\$0.05
Agriculture, forestry and fishing	\$2.9	\$472.7	\$0.01
Mining	\$176.4	\$3,640.2	\$0.05
Manufacturing	\$10.6	\$882.0	\$0.01
Electricity, gas, water and waste services	\$2.6	\$372.9	\$0.01
Construction	\$16.1	\$1,221.6	\$0.01
Wholesale trade	\$5.3	\$361.8	\$0.01
Retail trade	\$10.1	\$646.0	\$0.02
Accommodation and food services	\$5.7	\$393.1	\$0.01
Transport, postal and warehousing	\$12.6	\$1,063.3	\$0.01
Information media and telecommunications	\$2.0	\$257.3	\$0.01
Financial and insurance services	\$51.1	\$420.7	\$0.12
Rental, hiring and real estate services	\$4.2	\$326.4	\$0.01
Professional, scientific and technical services	\$7.2	\$485.2	\$0.01
Administrative and support services	\$10.6	\$542.7	\$0.02
Public administration and safety	\$37.6	\$2,084.3	\$0.02
Education and training	\$14.9	\$724.0	\$0.02
Health care and social assistance	\$26.5	\$1,350.9	\$0.02
Arts and recreation services	\$63.1	\$243.2	\$0.26
Other services	\$5.1	\$327.7	\$0.02
Ownership of dwellings	\$0.0	\$2,217.3	\$0.00
Not allocated ^(a)	\$67.3	-	-
Total Northern Territory	\$720.6	\$21,958.1	\$0.03

Note: (a) Taxes that have not been allocated to an industry include stamp duties on motor vehicle and other vehicle registrations. While a part of these taxes are payable by industry, the majority of these taxes are paid by households. Due to data limitations it is not possible to allocate the portion of these taxes that are paid by industry.

Source: AEC, ABS (2014a; 2014c), NT Government (2014).

5. Investment

This chapter outlines the level of investment in property assets in the Northern Territory held either directly through home ownership and/ or rental properties, or through superannuation funds.

5.1 Residential Properties Owned and Rented

As at Census night 2011, 31,528 dwellings were either owned outright by their occupant(s) or were being purchased by their occupant(s), accounting for 49.2% of total dwellings. An additional 28,836 dwellings (45.0%) were occupied by tenants paying rental incomes to owner investors. The remaining 5.8% of dwellings were occupied under alternative tenure types (e.g., public housing).

Table 5.1. Residential Properties Owned and Rented, Northern Territory, 2011

Tenure Type	Number	% of Total
Owned Outright	12,570	19.6%
Owned With a Mortgage	18,796	29.3%
Being Purchased Under Rent/ Buy Scheme	162	0.3%
Rented	28,836	45.0%
Other	3,709	5.8%
Total	64,073	100.0%

Source: ABS (2013b).

5.2 Property Invested in through Super Funds

The methodology used to estimate the amount of property investment through super funds is outlined in **Appendix E**.

Approximately \$1.78 trillion in total assets is estimated to have been held by super funds at the end of the 2013-14 financial year. It is estimated (as no direct data is available) approximately \$182 billion was held across property assets across Australia.

In the Northern Territory, a total of 140,251 people (95.5% of people with superannuation) are estimated to have an investment in property through their super fund.

A summary of super investment in property is provided in the table below.

Table 5.2. Property Investment through Super Funds, Northern Territory, 2013-14

Indicator	Value
People with Superannuation ^(a)	146,930
Derived Number of People with Investment in Property through Super	140,251
Derived Investment in Property through Super (\$M)	\$1,810.5

Note: (a) There were an estimate 14.8 million people with superannuation in Australia in June 2014. A breakdown of people with superannuation by State/ Territory has been estimated based on the number of people age 18 and over as at June 2014. Additional details of the method used is outlined in **Appendix E**.

Sources: AEC, APRA (2015; 2014), ABS (2015d; 2014d), Financial Services Council (unpublished).

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Appendix A: Definition of the Property Industry

The information contained in this report is obtained from published data produced by the Australian Bureau of Statistics (ABS) as well as other data sources as relevant. The ABS uses the Australian and New Zealand Standard Industrial Classification (ANZSIC) in the collection and publication of statistics. The 2006 ANZSIC (ABS, 2008) has been used in this report.

The property industry as defined in this report consists of the following industries.

Construction

Class 3011 – House Construction

This class consists of units mainly engaged in the construction of houses (except semi-detached houses) or in carrying out alterations, additions or renovations to houses, or in organising or managing these activities.

Not included are units mainly engaging in:

- Off-site production of prefabricated buildings or building components are included in the appropriate classes of Group 222 Structural Metal Product Manufacturing
- Providing special trade repair services such as electrical or plumbing repairs are included in the appropriate classes of Group 323 Building Installation Services
- Providing architectural or building consultancy services are included in the appropriate classes of Group 692 Architectural, Engineering and Technical Services.

Class 3019 – Other Residential Building Construction

This class consists of units mainly engaged in the construction of residential buildings (except freestanding houses) or in carrying out alterations, additions or renovations to such buildings or in organising or managing these activities.

Not included are units mainly engaging in:

- Off-site production of prefabricated buildings or building components are included in the appropriate classes of Group 222 Structural Metal Product Manufacturing
- The construction of hotels, hostels, hospitals and other public buildings are included in Class 3020 Non-Residential Building Construction
- Providing special trade repair services such as electrical or plumbing repairs are included in the appropriate classes of Group 323 Building Installation Services
- Providing architectural or building consultancy services are included in the appropriate classes of Group 692 Architectural, Engineering and Technical Services.

Class 3020 – Non-Residential Building Construction

This class consists of units mainly engaged in the construction of non-residential buildings such as hotels, motels, hostels, hospitals, prisons or other buildings, in carrying out alterations, additions or renovation to such buildings, or in organising or managing these activities.

Not included are units mainly engaging in:

- Off-site production of prefabricated metal buildings or metal building components are included in the appropriate classes of Group 222 Structural Metal Product Manufacturing
- Providing special trade repair services such as electrical or plumbing repairs are included in the appropriate classes of Group 323 Building Installation Services
- Providing architectural or building consultancy services are included in the appropriate classes of Group 692 Architectural, Engineering and Technical Services.

Class 3211 – Land Development and Subdivision

This class consists of units primarily engaged in subdividing land into lots and servicing land (such as excavation work for the installation of roads and utility lines), for subsequent sale.

Not included are units mainly engaging in:

- Constructing buildings on lots they subdivide or develop are included in the appropriate classes of Subdivision 30 Building Construction
- Construction of roads on a subcontract basis for land subdividers are included in Class 3101 Road and Bridge Construction
- Legal subdivision of land without land preparation are included elsewhere in the classification system based on the primary activity of the unit.

Class 3212 – Site Preparation Services

This class consists of units mainly engaged in earthmoving work such as levelling of construction sites, excavation of foundations, trench digging or removal of overburden.

Not included are units mainly engaging in:

- Quarrying sand or gravel are included in Class 0911 Gravel and Sand Quarrying
- Quarrying earth soil or filling are included in Class 0919 Other Construction Material Mining
- Selling sand, gravel or other quarried construction materials are included in Class 3339 Other Hardware Goods Wholesaling.

Class 3221 – Concreting Services

This class consists of units mainly engaged in concreting work, concrete pouring or other concrete work on construction projects.

Not included are units mainly engaging in:

- Terrazzo laying are included in Class 3243 Tiling and Carpeting Services
- Brick paving are included in Class 3291 Landscape Construction Services.

Class 3222 – Bricklaying Services

This class consists of units mainly engaged in bricklaying or concrete block laying.

Not included are units mainly engaging in:

- Units mainly engaged in brick paving are included in Class 3291 Landscape Construction Services

Class 3223 – Roofing Services

This class consists of units mainly engaged in roof tiling, metal roof fixing and the application of roof coatings.

Not included are units mainly engaging in:

- The installation of insulation materials are included in Class 3239 Other Building Installation Services
- The installation of roof guttering are included in Class 3231 Plumbing Services
- The installation of wooden roof trusses are included in Class 3242 Carpentry Services.

Class 3224 – Structural Steel Erection Services

This class consists of units mainly engaged in the erection (including on-site fabrication) of metal silos, storage tanks or structural steel components for buildings or other structures such as bridges, overhead cranes or electricity transmission towers.

Not included are units mainly engaging in:

- The construction of buildings (which incorporate structural steel components) are included in the appropriate classes of Subdivision 30 Building Construction
- The construction of complete structures such as bridges, towers or oil refinery plants (which incorporate structural steel components) are included in the appropriate classes of Subdivision 31 Heavy and Civil Engineering Construction.

Class 3231 – Plumbing Services

This class consists of units mainly engaged in plumbing or drainage (except sewerage or stormwater drainage systems construction). Also included are units mainly engaged in septic tank and other plumbing installation and repair.

Not included are units mainly engaging in:

- The construction of sewerage or stormwater drainage systems are included in Class 3109 Other Heavy and Civil Engineering Construction
- Installation of fire sprinkler systems are included in Class 3234 Fire and Security Alarm Installation Services
- Repairing gas appliances are included in Class 9421 Domestic Appliance Repair and Maintenance
- Pumping or cleaning septic tanks are included in Class 2921 Waste Treatment and Disposal Services.

Class 3232 – Electrical Services

This class consists of units mainly engaged in the installation of electrical wiring or fittings in buildings or other construction projects. Electrical work arising from the installation of appliances is included in this class.

Not included are units mainly engaging in:

- Repairing electricity transmission or distribution lines are included in Class 3109 Other Heavy and Civil Engineering Construction
- Installing fire and/or security systems are included in Class 3234 Fire and Security Alarm Installation Services
- Repairing electrical appliances are included in Class 9421 Domestic Appliance Repair and Maintenance.

Class 3233 – Air Conditioning and Heating Services

This class consists of units mainly engaged in the installation of heating equipment, refrigeration equipment, air conditioning equipment, or in the installation of air conditioning duct work.

Not included are units mainly engaging in:

- Manufacturing air conditioning duct work are included in Class 2240 Sheet Metal Product Manufacturing (except Metal Structural and Container Products)
- The on-site assembly of industrial furnaces from prefabricated components are included in Class 3109 Other Heavy and Civil Engineering Construction
- Installing motor vehicle air conditioning equipment are included in Class 9411 Automotive Electrical Services.

Class 3234 – Fire and Security Alarm Installation Services

This class consists of units mainly engaged in the installation of fire protection, detection and control systems, and in installing security systems.

Not included are units mainly engaging in:

- Units mainly engaged in the installation and monitoring of security systems are included in Class 7712 Investigation and Security Services.

Class 3239 – Other Building Installation Services

This class consists of units mainly engaged in building installation services not elsewhere classified.

Class 3241 – Plastering and Ceiling Services

This class consists of units mainly engaged in plastering, plaster fixing or finishing.

Class 3242 – Carpentry Services

This class consists of units mainly engaged in carpentry work or the fixing of wooden formwork on construction projects.

Not included are units mainly engaging in:

- Units mainly engaged in manufacturing prefabricated, wooden built-in cabinets, cupboards or shop fronts and their installation (except on-site fabrication) are included in Class 1492 Wooden Structural Fitting and Component Manufacturing.

Class 3243 – Tiling and Carpeting Services

This class consists of units mainly engaged in laying carpet, or setting wall or floor tiles

Not included are units mainly engaging in:

- Installing roofing tiles are included in Class 3223 Roofing Services
- Installing wooden flooring are included in Class 3242 Carpentry Services

Class 3244 – Painting and Decorating Services

This class consists of units mainly engaged in painting, decorating or wallpapering houses or other structures.

Not included are units mainly engaging in:

- Units mainly engaged in roof painting, spraying or coating are included in Class 3223 Roofing Services.

Class 3245 – Glazing Services

This class consists of units mainly engaged in glazing, including glass installation and repair work.

Not included are units mainly engaging in:

- Units mainly engaged in the fabrication of aluminium and timber framed glass products are included in the appropriate classes of Division C Manufacturing.

Class 3291 – Landscape Construction Services

This class consists of units mainly engaged in constructing landscapes, including landforming and the provision of retaining walls and paths, decks, fences, ponds and similar structures. Units also engaged in garden planting or installation of sprinkler/drainage systems in conjunction with constructing landscapes are included.

Not included are units mainly engaging in:

- Landscape consultancy and design services are included in Class 6921 Architectural Services
- Garden maintenance activities and maintenance of lawns are included in Class 7313 Gardening Services.

Class 3292 – Hire of Construction Machinery with Operator

This class consists of units mainly engaged in hiring construction machinery, plant or equipment with operator(s).

Not included are units mainly engaging in:

- Units mainly engaged in hiring earthmoving plant and equipment with operator are included in Class 3212 Site Preparation Services.

Class 3299 – Other Construction Services – not elsewhere classified

This class consists of units mainly engaged in construction services not elsewhere classified.

Rental, Hiring and Real Estate Services

Class 6712 – Non-Residential Property Operators

This class consists of units mainly engaged in renting or leasing non-residential properties.

Not included are units mainly engaging in:

- Units mainly engaged in land development and subdivision are included in Class 3211 Land Development and Subdivision.

Class 6720 – Real Estate Services

This class consists of units mainly engaged in valuing, purchasing, selling (by auction or private treaty), managing or renting real estate for others.

Not included are units mainly engaging in:

- Providing title transfer or conveyancing service are included in Class 6931 Legal Services
- Providing engineering or structural property and house inspections are included in Class 6923 Engineering Design and Engineering Consulting Services.

Financial and Insurance Services

Class 6221 – Banking (Partial Only)

This class consists of units mainly engaged in operating banks (except merchant banks). Banks incur liabilities by accepting demand and other deposits and make commercial, industrial and consumer loans.

Not included are units mainly engaging in:

- Performing central banking functions are included in Class 6210 Central Banking
- Operating building societies are included in Class 6222 Building Society Operation
- Operating credit unions are included in Class 6223 Credit Union Operation
- Operating merchant banks are included in Class 6229 Other Depository Financial Intermediation.

Not all of this class has been allocated to the property industry. The allocation of this class to the property industry is based on the share of loans and advances to the residential sector in the banks' total assets. Although part of loans to the commercial sector is property-related, data limitations regarding loans to the commercial sector precluded its inclusion.

Class 6222 – Building Society Operation

This class consists of units mainly engaged in operating building societies which accept deposits and provide specialised financing for home building or purchasing purposes.

Not included are units mainly engaging in:

- Operating development, savings and trading banks are included in Class 6221 Banking
- Operating credit unions are included in Class 6223 Credit Union Operation.

Class 6223 – Credit Union Operation (Partial Only)

This class consists of units mainly engaged in operating credit unions which accept members' share deposits and provide loans to their members for various purposes.

Not included are units mainly engaging in:

- Operating development, savings and trading banks are included in Class 6221 Banking
- Operating building societies are included in Class 6222 Building Society Operation.

Not all of this class has been allocated to the property industry. The allocation of this class to the property industry is based on the share of loans and advances to the residential sector in credit union's total assets. Although part of loans to the commercial sector is property-related, data limitations regarding loans to the commercial sector precluded its inclusion.

Class 6322 – General Insurance (Partial Only)

This class consists of units mainly engaged in providing general insurance cover (except life and health insurance).

Not included are units mainly engaging in:

- Providing insurance broking services are included in Class 6420 Auxiliary Insurance Services
- Providing insurance cover for hospital, medical, dental, pharmaceutical or funeral expenses or costs are included in Class 6321 Health Insurance
- Providing life insurance and life reinsurance cover are included in Class 6310 Life Insurance.

Not all of this class has been allocated to the property industry. The allocation of this class to the property industry is based on the share of property industry assets in the total assets of general insurance.

Class 6330 – Superannuation Funds (Partial Only)

This class consists of units of separately constituted funds mainly engaged in providing retirement benefits.

Not included are units mainly engaging in:

- Investing money on their own account in predominantly financial assets (e.g. shares, bonds, bills etc, including mortgages) are included in Class 6240 Financial Asset Investing
- Managing or in carrying out the operations of separately constituted superannuation funds on a commission or fee basis are included in Class 6419 Other Auxiliary Finance and Investment Services.

Not all of this class has been allocated to the property industry. The allocation of this class to the property industry is based on the share of land and buildings in superannuation total investment. Although part of equities and units in trusts is property-related, data limitations regarding loans to the commercial sector precluded its inclusion.

Professional, Scientific and Technical Services

Class 6921 – Architectural Services

This class consists of units mainly engaged in providing architectural services such as planning and designing buildings and structures; or planning and designing the development of land. Units apply knowledge of design, construction procedures, zoning regulations, location and land use, building codes and building materials.

Not included are units mainly engaging in:

- Units mainly engaged in managing or organising construction projects as the prime contractor are included in the appropriate classes of Division E Construction.

Class 6922 – Surveying and Mapping Services

This class consists of units mainly engaged in providing surveying and mapping services (including exploration surveying services on contract). Units in this class use a variety of surveying techniques depending on the purpose of the survey, including magnetic surveys, gravity surveys, seismic surveys or electrical and electromagnetic surveys. These services may also include surveying and mapping of areas above or below the surface of the earth.

Not included are units mainly engaging in:

- Units mainly engaged in exploring for petroleum or minerals are included in the appropriate classes of Group 101 Exploration.

Class 6923 – Engineering Design and Engineering Consulting Services

This class consists of units mainly engaged in providing engineering consulting services. These units are primarily involved in applying physical laws and principles of engineering in the design, development and utilisation of machines, materials, instruments, structures, processes and systems. Units provide advice, prepare feasibility studies, prepare preliminary and final plans and designs, provide technical services during the construction or installation phase, inspect and evaluate engineering projects, and related services.

Not included are units mainly engaging in:

- The physical or chemical transformation of materials into new products are included in the appropriate classes of Division C Manufacturing
- Managing or organising construction projects as the prime contractor are included in the appropriate classes of Division E Construction
- Undertaking scientific research are included in Class 6910 Scientific Research Services
- Providing scientific or technical laboratory or testing services are included in Class 6925 Scientific Testing and Analysis Services.

Appendix B: Significance Assessment Methodology

The economic significance estimates in this report are produced using Input-Output transaction tables and models developed by AEC for the purposes of this assessment, combined with data from a range of sources, including State and National Accounts data and various industry specific data from the ABS. The Input-Output models were used to produce estimates of the direct and flow-on contribution of the property industry to the Australian, Northern Territory and Territory Electorate economies in terms of output, gross value added activity, employment and income (i.e., wages and salaries).

Overview of IO Modelling

Input-Output (IO) analysis demonstrates inter-industry relationships within an economy, depicting how the output of one industry is purchased by other industries, households, the government and external parties (i.e. exports), as well as expenditure on other factors of production such as labour, capital and imports. IO analysis shows the direct and indirect (flow-on) effects of one industry on other industries and the general economy. As such, IO modelling can be used to demonstrate the economic contribution of an industry on the overall economy and how much the economy relies on this industry or to examine a change in final demand of any one industry and the resultant change in activity of its supporting industries.

The economic contribution can be traced through the economic system via:

- **Direct impacts**, which are the first round of effects from direct operational expenditure on goods and services.
- **Flow-on impacts**, which comprise the second and subsequent round effects of increased purchases by suppliers in response to increased sales. Flow-on impacts can be disaggregated to:
 - **Industry Support Effects (Type I)**, which represent the production induced support activity as a result of additional expenditure by the industry experiencing the stimulus on goods and services in the intermediate usage quadrant, and subsequent round effects of increased purchases by suppliers in response to increased sales.
 - **Household Consumption Effects (Type II)**, which represent the consumption induced activity from additional household expenditure on goods and services resulting from additional wages and salaries being paid within the economic system.

These effects can be identified through the examination of five types of impacts:

- **Output:** Refers to the gross value of goods and services transacted, including the costs of goods and services used in the development and provision of the final product. Output typically overstates the economic impacts as it counts all goods and services used in one stage of production as an input to later stages of production, hence counting their contribution more than once.
- **Value added:** Refers to the value of output after deducting the cost of goods and services inputs in the production process. Value added defines the true net contribution and is subsequently the preferred measure for assessing economic impacts.
- **Gross product:** Gross product (or more commonly known as Gross Domestic/ State/ Regional Product) is a similar measure to value added, but also includes taxes less subsidies on the final goods and services produced. Gross product is the most commonly used headline measure of economic activity.
- **Income:** Measures the level of wages and salaries paid to employees of the industry under consideration and to other industries through flow-on activity.
- **Employment:** Refers to the part-time and full-time employment positions generated by the economic shock, both directly and indirectly through flow-on activity, and is expressed in terms of full time equivalent (FTE) positions.

IO Assumptions

The key assumptions and limitations of Input-Output analysis include:

- The inputs purchased by each industry are a function only of the level of output of that industry. The input function is generally assumed linear and homogenous of degree one (which implies constant returns to scale and no substitution between inputs).
- Each commodity (or group of commodities) is supplied by a single industry or sector of production. This implies that there is only one method used to produce each commodity and that each industry or sector has only one primary output.
- The total effect of carrying on several types of production is the sum of the separate effects. This rules out external economies and diseconomies and is known simply as the additivity assumption. This generally does not reflect real world operations.
- The system is in equilibrium at given prices. This is not the case in an economic system subject to external influences.
- In the static input-output model, there are no capacity constraints so that the supply of each good is perfectly elastic. Each industry can supply whatever quantity is demanded of it and there are no capital restrictions. This assumption would come into play depending upon the magnitude of the changes in quantities demanded.

Despite these limitations, IO techniques provide a solid approach for taking account of the inter-relationships between the various sectors of the economy in the short-term and provide useful insight into the quantum of final demand for goods and services, both directly and indirectly, generated by the property industry.

Significance Assessment Versus Impact Assessment

The framework employed in significance assessment **differs from that employed in economic impact analysis** in that economic significance assessment primarily seeks the contribution of an existing industry as opposed to the impact of a "stimulus" in a particular industry or in several industries (West, 1993). The usual approach of comparing what the economy would be with and without the industries whose contributions are to be assessed does not work because the inter-relationship between industries means whether or not the industries to be assessed exist, there will still be demand for their outputs (e.g., a complete vehicle needs tyres so that whether or not the entire tyre manufacturer is closed down, the car manufacturer's demand for tyres still exists). From a modelling stance, this problem is solved by assuming that demand for outputs of the industries to be assessed will instead be met by imports.

Model Development

The models used in this assessment are derived from sub-regional transaction tables developed specifically for this project. The process of developing a sub-regional transaction table involves developing regional estimates of gross production and purchasing patterns based on a parent table, in this case the 2009-10 Australian transaction table (ABS, 2013a).

Estimates of gross production (by industry) in the study areas (Australia, each State/Territory and each State Electorate) were developed based on the percent contribution to employment (by place of work) of the study areas to the Australian economy (ABS, 2012), and applied to Australian gross output identified in the 2009-10 Australian table.

Industry purchasing patterns within study areas were estimated using a process of cross industry location quotients and demand-supply pool production functions as described in West (1993).

In addition to the general limitations of Input-Output analysis, there are two other factors that need to be considered when assessing the outputs of sub-regional transaction table developed using this approach, namely:

- It is assumed the sub-region has similar technology and demand/ consumption patterns as the parent (Australia) table (e.g. the ratio of employee compensation to employees for each industry is held constant).

- Intra-regional cross-industry purchasing patterns for a given industry vary from the national tables depending on the prominence of the industry in the regional economy compared to its input industries. Typically, industries that are more prominent in the region (compared to the national economy) will be assessed as purchasing a higher proportion of imports from input industries than at the national level, and vice versa.

Input-Output tables utilise an aggregated system of industry classifications based on the ANZSIC system. In total, the 2009-10 Input-Output tables produced by the ABS (2013a) define 114 distinct industries, some of which are aggregates of the industry classes outlined in **Appendix A**. Some of the property related industries in the Input-Output tables consist of both property and non-property related sub-sectors, and it is necessary to separate the property component from the non-property component in the related Input-Output industry.

The industries defined in the Input-Output tables that are included in the property industry are as follows:

- Residential Building Construction (all).
- Non-Residential Building Construction (all).
- Construction Services (all).
- Finance (partially).
- Insurance and Superannuation Funds (partially).
- Non-Residential Property Operators and Real Estate Services (all).
- Professional, Scientific and Technical Services (partially).

The separation of property from non-property related operation for those Input-Output industries listed as "partially" included in the property industry is based on either:

1. The share of total income (revenue) of the sub-sectors listed in **Appendix A** in the total income (revenue) of all sub-sectors grouped under the same Input-Output industry classification code⁵; or
2. The share of asset (loans and advances to as well as investment in) in the property industry in the total assets of all sub-sectors grouped under the same Input-Output industry classification code⁶.

These shares are then utilised to expand the original Input-Output table to separate these industries into their property related and non-property related components to facilitate the economic significance assessment of the property industry in isolation. Once the transaction table is complete, the significance model is developed through the development of coefficients as per West (1993).

Significance Assessment Approach

Contribution to Queensland and its Regions

The significance assessment is initially undertaken for the 2009-10 financial year to be consistent with the Input-Output transaction tables utilised. These estimates are then "rebased" to 2013-14 values using:

- Data from the National and State Accounts (ABS, 2014a) to identify growth between 2009-10 and 2013-14 in gross product and gross value add for each industry of the economy.
- Data on the value of building work done (ABS, 2015a) and the value of engineering construction work done (ABS, 2015b) to estimate the proportion of overall construction sector growth attributable to building construction versus engineering.

⁵ The "Professional, Scientific and Technical Services" Input-Output sector uses this approach based on data from the ABS (2010b and c).

⁶ The "Finance" and "Insurance and Superannuation Funds" sectors use this approach based on data from the RBA (2012a, b, c and d) and APRA (2009 to 2012).

- Data on labour productivity increases (ABS, 2014b) to identify changes in productivity per employee for each industry between 2009-10 and 2013-14. These estimates were then applied to 2013-14 production (estimated above) to identify 2013-14 employment for each industry.
- Estimates of incomes in 2013-14 were obtained assuming that the relationship between income and output in 2009-10 remains constant, which is consistent with the stylised fact of cost shares of output being close to constant over the long-term.

Time series estimates for Australia (and each State/ Territory) were also developed. The approach used for each year followed the same process as for 2013-14.

Estimates of the **flow-on** effects of the property industry in 2013-14 are obtained assuming constant proportion between **individual** industries' flow-on effects and the direct (**total**) effects (output, GVA, income and employment) in 2009-10. Since the relationship between industries is likely to have changed over this period, the estimates produced are indicative only. In the absence of a more recent Input-Output transaction table, which forms the basis to quantify the inter-relationships between industries, the estimates produced represent the flow-on effects of the property industry assuming no significant structural changes in the relationship between industries.

Regional allocation of the direct and flow-on effects is performed in three steps:

1. Individual Input-Output transaction tables and significance assessment models were developed for each State/ Territory and State Electorate (as described in the "Model Development" section of this Appendix). This approach produces regional estimates of direct and flow-on property industry contributions assuming each region operates in isolation, and therefore does not account for any inter-regional flow-on relationships.
2. To account for inter-regional flows of demand for goods and services between States/ Territories, the difference between the total Australian flow-on effects and the sum of flow-on effects for each State/ Territory by industry (the "inter-regional" flow-on effects) has been redistributed to each State/ Territory based on the proportion that each State/ Territory contributes to total Australian activity in each industry (i.e., if New South Wales accounts for 50% of total Australian output in retail trade, then 50% of the inter-regional retail trade flow-on effects have been allocated to New South Wales).
3. To allocate to each State Electorate the same approach is used as for States/ Territories in redistributing inter-regional flows, but uses the proportional contribution of each Federal Electorate to the State/ Territory in which it is located to allocate inter-regional flows **within the State/ Territory** rather than Australia.

Contribution to Australia by Property Sub-Sector

The direct contribution of the property industry to the Australian economy has also been disaggregated across Residential and Non-Residential property sub-sectors. The direct contribution of each property sub-sector has been estimated based on allocation of each of the Input-Output industry contributions to the sub-sectors. Allocations have been based on:

- Direct "Residential Building Construction" effects is entirely allocated to the Residential property sub-sector.
- Direct "Non-Residential Building Construction" effects is entirely allocated to the Non-Residential property sub-sector.
- All other property related Input-Output industry effects are allocated based on the proportional split of value of total building works commenced for each sub-sector in the corresponding year of analysis (ABS, 2015a).

Appendix C: Direct Contribution to Northern Territory by Industry

The following table presents a comparison of the direct economic contribution of the property industry to the Northern Territory economy compared to other industries.

Table C.1. Comparison of Direct Contribution of the Property Industry and Other Industries to the Northern Territory Economy, 2013-14

Industry	Gross Product (\$B)	Incomes (\$B)	Employment ('000 FTE)
Property industry	\$3.9	\$1.3	23
Agriculture, forestry and fishing	\$0.5	\$0.1	3
Mining	\$3.6	\$0.6	7
Manufacturing	\$0.9	\$0.3	4
Electricity, gas, water and waste services	\$0.4	\$0.1	1
Construction *	\$1.2	\$0.4	3
Wholesale trade	\$0.4	\$0.1	1
Retail trade	\$0.6	\$0.3	6
Accommodation and food services	\$0.4	\$0.2	4
Transport, postal and warehousing	\$1.1	\$0.4	5
Information media and telecommunications	\$0.3	\$0.1	1
Financial and insurance services *	\$0.4	\$0.1	1
Rental, hiring and real estate services *	\$0.3	\$0.1	1
Professional, scientific and technical services *	\$0.5	\$0.2	3
Administrative and support services	\$0.5	\$0.3	3
Public administration and safety	\$2.1	\$1.0	15
Education and training	\$0.7	\$0.4	6
Health care and social assistance	\$1.4	\$0.7	12
Arts and recreation services	\$0.2	\$0.1	2
Other services	\$0.3	\$0.1	3
Ownership of dwellings	\$2.2	\$0.0	0
Total	\$22.0	\$7.0	103

Notes: Totals may not sum due to rounding.

Sources: AEC, ABS (2015a, b and c; 2014a and b; 2013a and b), APRA (2013), RBA (2015a and b; 2013a and b).

Appendix D: Allocation of Taxes

Northern Territory Government Taxes

In estimating Northern Territory Government taxes, some tax items in the relevant State's Budget or Financial Statement papers were grouped, and were split into sub-items based on historic shares (past five years) outlined in the *Taxation Revenue, Australia, 2012-13* (ABS, 2014c) data.

Northern Territory Government taxation and royalty revenues have been allocated to property related activities based on the allocation approach outlined in Table D.1.

Table D.1. Allocation of 2013-14 Northern Territory Government Taxes to Property Related Activities

Tax Item	\$M	Method of Allocation
Payroll Tax	\$250	Across industry based on contribution to incomes
Property Taxes		
Transfer	\$143	Property related activity
Land Tax	\$0	Property related activity
Other Property Related Taxes	\$0	Property related activity
Total Property Related Taxes	\$143	
Gambling Taxes and Levies	\$60	Not property related
Taxes on Financial Institutions ^(a)	\$46	Not property related
Guarantee Fees	\$0	Not property related
Motor Vehicle Taxes		
Stamp Duty on Vehicle Registrations	\$30	Not property related
Other Motor Vehicle Taxes	\$38	Not property related
Total Motor Vehicle Taxes	\$67	
Other Taxes	\$0	Not property related
Royalties from Mining	\$154	Not property related
Total Taxation and Royalty Revenue	\$721	

Note: (a) Includes insurance.

Sources: AEC, ABS (2014c), NT Government (2014).

A summary of Northern Territory Government taxes based on the above methodology is outlined in Table D.2.

Table D.2. Northern Territory Government Property Related Taxes, 2013-14

Level of Government/ Tax Type	Value
Payroll Tax (\$M)	\$46.0
Transfer/ Stamp Duties (\$M)	\$142.8
Land Tax (\$M)	\$0.0
Other Property Related Taxes (\$M)	\$0.0
Total Property Related Taxes (\$M)	\$188.7
<i>Property Contribution to Total Northern Territory Taxes (%)</i>	<i>26.2%</i>

Sources: AEC, ABS (2014c), NT Government (2014).

Local Government Rates, Fees and Charges

Local government rates, fees and charges data for 2013-14 for the Northern Territory was sourced from relevant annual reports for each Council in the Northern Territory. Estimates of rates revenues as well as various fees and charges were used.

Appendix E: Property Investment through Super Methodology

Total Super Fund Investment

An estimated \$1.62 trillion in total assets was held by super funds at the end of the 2012-13 financial year (APRA, 2014). Historic trends between 2003-04 and 2012-13 were used to develop an indicative estimate of \$1.78 trillion in assets held through super in 2013-14.

Property Investment

As at the December Quarter 2014, property assets contributed approximately 10.25% of total asset investment for 120 MySuper products (APRA, 2015), with 95.5% of the 120 products having property assets within the portfolio. Assuming this mix is representative of asset investment across all super funds, it was derived approximately \$182 billion of the total \$1.78 trillion in super fund investment in 2013-14 is in property assets.

Number of People Investing in Property through Super

The number of people with investment in property through their super was derived based on the number of people with superannuation in Australia (Financial Services Council, unpublished) and applying the 95.5% of funds with property assets within the portfolio.

The number of people with superannuation by State/ Territory was not available, and was derived based on the number of people aged 18 or over in each State/ Territory of Australia (as a representation of the number of people that may be expected to have super) (ABS 2014d; 2015d), as a proportion of total people aged 18 or over in Australia. This percent was then applied to the total number of people with superannuation.

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