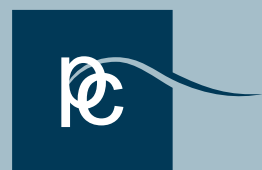


SOUTH AFRICAN PROPERTY SECTOR:

ECONOMIC CONTRIBUTION



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South African Property Sector Economic Contribution

**Prepared for the South African
Property Sector Charter Council**

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PROPERTY SECTOR CHARTER COUNCIL

Executive Summary

There is no economy that can function without fixed property. People need a place to live. Firms need a place to do business. Industries need buildings to house their factories and governments need offices. This makes the property sector critically important. In a country like South Africa, it also means it can play a key role in socio-economic transformation. It is therefore fitting that this report was commissioned by the South African Property Sector Charter Council.

The size of the property sector is overwhelming. The South African property sector was valued at R5.8tn in 2015¹. In the same year the South African Reserve Bank estimated the total value of all fixed capital stock – property, machinery, transport - at R7.6tn². This means that property constitutes 78% of all fixed capital stock in the country. The largest property sub-sector is residential worth R3.9tn. This is two-thirds of the total value of property. In the non-residential sector, commercial property was R1.3tn (21%), publicly owned property R237bn (4%) and (with the limited information on) zoned urban land R520bn (9%).

The overall economic contribution of property is almost immeasurable. Housing makes people healthy and productive. Carefully designed factories are airy and light – this helps people and makes these places more productive. Architecturally pleasing offices give a sense of pride and make for a sense of place.

This document reports the contribution of the property sector to the South African economy. The analysis is narrower than the overall contribution to well-being, health and productivity. Rather, it focuses on the GDP, taxes and jobs when buildings are constructed, as they are let out to people and firms, and when they reach the end of the design life. The latter may mean demolition, or it can mean renovation, rejuvenation and a new lease of economic life.

Three perspectives are given to the economic contribution. First, the economic contribution during the 2015 financial year. This was the key assignment objective. Second, the changes between 2012 and 2015. Third, a comparative contribution of the size of property relative to a selection of other economic sectors.

¹ This is the latest year for which total property values are available.

² <https://www.resbank.co.za/Research/Statistics/Pages/OnlineDownloadFacility.aspx>

Key Year 2015

Three key indicators are reported: contribution to GDP, taxes and jobs.

Gross Domestic Product

Gross Domestic Product (GDP) is the total value of all final goods and services produced in the country. Two levels of contribution are reported. First, is the direct contribution to GDP. Second, is indirect and induced. Direct contribution is the first-round direct contribution of an industry to GDP. Indirect and induced are the multiplier effects of the direct contribution.

The direct contribution to GDP in 2015 was R59.3bn. By phase:

- R13.4bn (22.6%) - origination;
- R43.1bn (72.7%) - transaction; and
- R2.8bn (4.7%) - end of cycle.

In the origination phase, the residential and non-residential property are 75% and 25% respectively. In the transaction phase 53% of the contribution is from non-residential and 47% from residential property. End of cycle is relatively small.

In non-residential: (made up of commercial, other commercial and public sector)

- Under Commercial:
 - The largest contributor to direct GDP in the transaction phase is retail - R8.7bn followed by offices - R5.9bn and Industrial -R4.3bn.
 - The contribution by 'other' is R4.0bn.
 - Other commercial property (such as hotel and hospitals)
- Under Public Sector:
 - The National DPW contributes the most to direct GDP at R1.5bn;
 - This is followed by the SOEs, Metros & Municipalities at R1.0bn each; and
 - Zoned urban land:
 - There is no relevant transaction expenditure for zoned urban land.

- 1 The National DPW contributes the most to direct GDP at R1.5bn;
- 2 This is followed by the SOEs and Metros & Municipalities at R1.0bn each;
- 3 Other commercial property (such as hotels and hospitals) contribute R0.5bn;
- 4 There is no relevant transaction expenditure for zoned urban land.

The multiplied (indirect and induced) contribution to GDP is R75.9bn. This is just over a quarter more than the direct contribution of R59.3bn. The total, direct and multiplied, contribution to GDP is R135.2bn.

Taxes

The property sector makes an important tax contribution. These include direct taxes (such as property taxes), VAT and multiplied taxes. The multiplied taxes include direct and indirect company taxes and personal tax. Total taxes in 2015 were R62.4bn made up of:

- R25.6bn (41.0%) in direct taxes;
- R18.6bn (29.8%) in VAT; and
- R18.2bn (29.2%) in multiplied taxes.

Of these total taxes, R22.5bn (36%) were by residential and R38.2bn (61%) by non-residential properties. End of cycle contributed R1.7bn (3%).

Employment

Employment is reported separately as direct and multiplied (indirect and induced).

In 2015 nearly 100 000 people were employed in property. 26 000 were in the origination, 69 000 in the transaction and 5 000 in the end of cycle phases. The high levels of employment during the transaction phase is important because these jobs can be sustained over time. This stands in contrast to the project-based jobs in origination and end of cycle that need continuous construction, alterations or additions.

There were 54 000 jobs in residential and 41 000 in non-residential. Retail at R12bn and offices at R9bn were the biggest job contributors in non-residential, whilst industrial and other are both R6bn.

Direct expenditure creates multiplier – indirect and induced – jobs.

- There were 178 000 indirect and induced (multiplied) jobs in 2015. The bulk of these (127 000) were in the transaction phase, followed by origination at 42 000 and 9 000 in end of cycle.
 - There were 94 000 multiplied jobs in residential,
 - And 75 000 multiplied jobs in commercial;
 - 1 000 multiplied jobs are in other commercial (schools and hospitals); and
 - 10 000 multiplied jobs are in Public sector.

The property sector sustained a total of 278 000 (direct, indirect and induced) jobs in 2015. Just over one-third (36%) were direct jobs and the balance (64%) is multiplied jobs.

Changes 2012 – 2015

The GDP contribution from transactions and origination increased between 2012 and 2015. There was a lower contribution from end of cycle. The largest increase came from transactions. Between 2012 and 2015 the contribution to direct GDP increased from:

- R43bn to R59bn in nominal values - a 39% increase.
- R50bn to R59bn in real (2015) values - a real increase of 19%.

Most importantly, the real average annual contribution to GDP grew by 5.9% between 2012 and 2015. During the same time the economy grew by 2.6%

Total employment increased from 240 000 to 278 000 between 2012 and 2015.

- This is an overall increase of 16%.
- It is an average annual increase of 5%.

The tax contribution from residential and non-residential grew over this period. There was a fall from end of cycle.

- Total nominal taxes increased from R42bn in 2012 to R62bn in 2015. This is a nominal increase of 47%.
- In real (2015) values, taxes increased from R50bn in 2012 to R62bn in 2015.

5 This is a 25% increase.

6 The average annual real growth in taxes was 7.8%.

In summary, there has been a substantial increase in the macroeconomic contribution of the property - both nominal and real - between 2012 and 2015.

Relative Contribution

There is merit in having perspective on the relative size and contribution of the property sector. In 2015 the property sector made up:

- 1% of national GDP;
- 1% of (formal, non-agricultural) employment.

It was the equivalent of:

- 40% of the construction sector contribution to GDP and 18% of construction employment;
- 11% of the retail, catering and accommodation sector contribution to GDP and 5% of employment in that sector.

Overall Conclusion

An economy cannot function without buildings in which to live and buildings in which to work. The value of buildings in this country – making up 78% of all fixed capital stock – is testament to that fact. It makes the property sector critically important. In a country like South Africa, it also means it can play a role in socio-economic transformation.

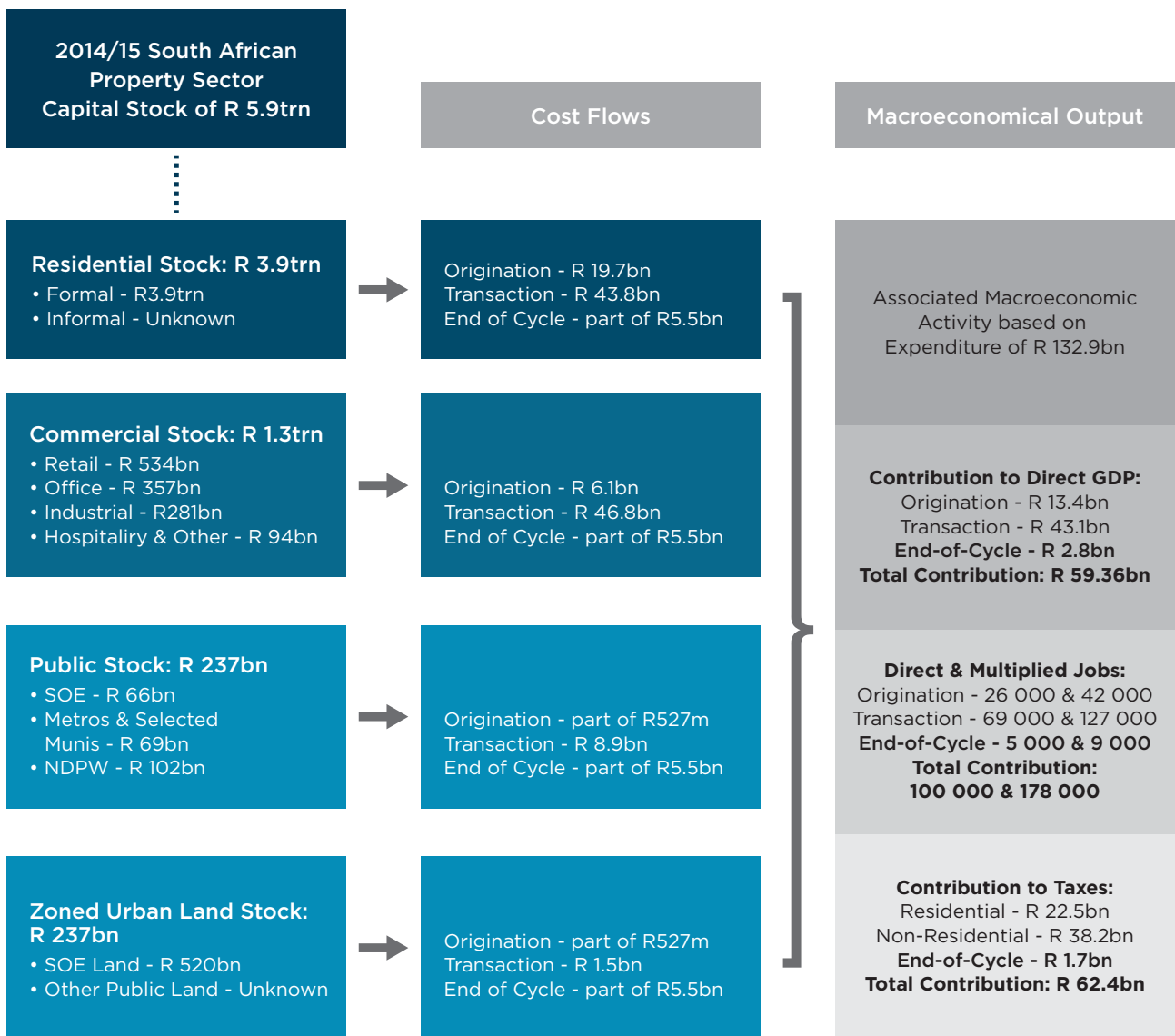
The overall economic contribution of property is almost immeasurable. Housing makes people healthy and productive. Carefully designed factories are airy and light – this helps people and makes these places more productive. Architecturally pleasing offices give a sense of pride and make for a sense of place. This report analysed a narrower part of the contribution of property – the income that is generated and jobs created from the professional and other services used when buildings are built, rented and used, and modified at the end of design life.

This part of the property sector is worth 1% of the South African economy and 1% of formal employment. It makes a GDP contribution that is the equivalent of 40% of the construction and 11% of retail, catering and accommodation sector. Its employment is the equivalent of 18% and 5% respectively of these two sectors.

The sector, between 2012 and 2015, grew faster than the economy. The part of the property sector focussed on in this report grew by 5.9% annually while the economy managed 2.6%.

The size of the sector and the associated economic activity is illustrated and summarised in Figure ES 1.

Figure ES 1: South African Property Sector



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Abbreviations

GDP	Gross Domestic Product
GGP	Gross Geographic Product
NDPW	National Department of Public Works
SAM	Social Accounting Matrix
SOE	State Owned Enterprises

Introduction

There is no economy that can function without fixed property. People need a place to live. Firms need a place to do business. Industries need buildings to house their factories and governments need offices. This makes the property sector of critical importance. In a country like South Africa, it also means it can play a key role in socio-economic transformation. It is therefore fitting that this report was commissioned by the South African Property Sector Charter Council.

Table 1: Total Fixed Capital Stock (Rm, Current Prices)

DATE	TOTAL FIXED CAPITAL STOCK
2012	7 039 971
2013	7 237 907
2014	7 433 208
2015	7 637 373
2016	7 805 695
2017	7 968 463

Source: (South African Reserve Bank, 2018)

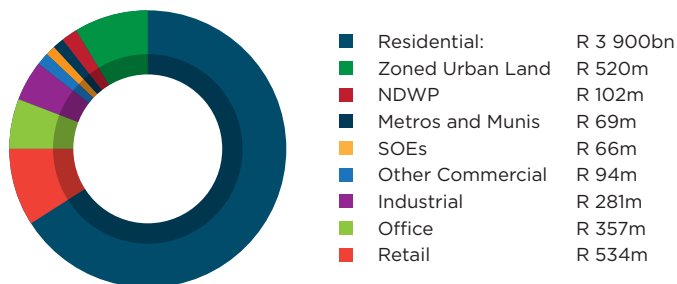
The size of the property sector is overwhelming. South African property was valued at R5.9tn in 2015³ (Property Sector Charter Council, 2015, p. 9). In the same year the South African Reserve Bank estimated the total value of all fixed capital stock – property, machinery, transport - at R7.6tn⁴. This means that property constitutes 78% of all fixed capital stock in the country.

The relative capital value of each part of the property sector is illustrated in Figure 1. The largest was residential worth R3.9tn. This is two-thirds of the total value of property. In the non-residential sector, commercial property was R1.3tn (21%), publicly owned property R237bn (4%) and (with the limited information on) zoned urban land R520bn (9%).

³ This is the latest year for which total property values are available.

⁴ <https://www.resbank.co.za/Research/Statistics/Pages/OnlineDownloadFacility.aspx>

Figure 1: Total Property Values - 2015



Source: (Property Sector Charter Council, 2015, p. 9)

The overall economic contribution of property is almost immeasurable. Housing makes people healthy and productive. Carefully designed factories are airy and light – this helps people and makes these places more productive. Architecturally pleasing offices give a sense of pride and make for a sense of place.

This document reports the contribution of the property sector to the South African economy. The analysis is narrower than the description of the overall contribution to well-being, health and productivity. Rather, it focuses on the incomes, jobs and taxes when buildings are constructed, as they are let out to people and firms, and when they reach the end of the design life. The latter may mean demolition, or it can mean renovation, rejuvenation and a new lease of economic life.

The analysis could not be extended beyond 2015 because this is the most recent property value estimate. A similar report was done for 2012 (with inputs from StratEcon) (IPD South Africa, 2014). The basis on which total professional fees are calculated differed between the 2012 and 2015 estimates. StratEcon has therefore reanalysed the 2012 input data so that comparisons can be drawn with 2015. Caution must be exercised in how the 2012 information is used. The 2012 information in this report is not comparable to the IPD South Africa report of 2014.

This report has four sections:

- The first defines the property related categorisations used in the report.
- The second, which is the key focus, reports the estimated economic contribution of the property sector for the 2015 financial year. It also compares changes in the sector between 2012 and 2015, as well as a comparative contribution that shows the size of the property sector relative to a selection of other key economic sectors.
- Section three describes the methodological approach and gives some explanations of data estimates.
- Section four concludes the report.

1. Definitions

This section defines property sector terms used in this report. These are industry, not StratEcon, definitions.

The property sector includes every structure, except informal dwellings. Costs, and the associated economic activity, were categorised into three phases in previous reports for the Property Sector Charter Council. These phases are:

- **Planning and building:** This has been labelled 'origination' and covers the development of a property from site acquisition to building completion. The costs included are fees for developers, project managers, architects and quantity surveyors, and the financing of these costs. The costs which are excluded are 'bricks and mortar' costs, other professionals (engineers, for example) and building financing fees.
- **The lifetime operation of the building:** This has been labelled 'transaction'. All non-residential properties are included in this phase and residential properties that are rented out. Owner occupied residential property is excluded from this phase. The main activities are asset management, property management, leasing and maintenance.
- **End of cycle:** The last stage of property life cycle where the building reaches its useful life span. It includes alterations and additions and may include demolition. StatsSA only gives information for alterations and additions. End of cycle costs are based on StatsSA information.

Property classifications used in this report are listed below. These cover most, but not all, property types:

- Residential. These are disaggregated into houses of more and less than 80m², flats and townhouses and other residential buildings.
- Non-Residential. These are disaggregated into:
 - Commercial and industrial - offices and banking, retail, industrial and warehousing, and other commercial buildings (such as hotels and private schools and hospitals).
 - Public which include properties owned by State Owned Enterprises (SOEs), Metros and selected municipalities, and the National Department of Public Works (NDPW).
 - Zoned urban land owned by SOEs⁵.

Origination and transactions costs are reported separately for residential and non-residential buildings. End of cycle costs could only be reported in aggregate because this is how StatsSA reports the information.

⁵ Only land owned by SOEs was considered in the report of property values in 2014/15 for the Property Sector Charter Council (2015, p. 9). Other urban zoned land is excluded because there is no available information.

2. Economic Contribution

The key measures of the economic contribution of the property sector are:

- Gross Domestic Product (GDP);
- Job creation, both direct and indirect;
- Taxes.

The results are given for each property type for origination and transaction phases. End of cycle can only be reported in aggregate. No information is available for 'other' non-residential origination phase. These omissions are shaded grey in the relevant tables. Three perspectives are given to the economic contribution. First, the economic contribution during the 2015 financial year. This was the key assignment objective. Second, the changes between 2012 and 2015. Third, a comparative contribution of the size of property relative to a selection of other economic sectors.

2.1 Key Year 2015

The key objective of this analysis was to estimate the economic contribution made by (the relevant parts) of the property sector. It starts with a summary of relevant direct expenditure. This is important because the economic estimates are based on this direct expenditure, so, it is important for stakeholders to be able to visualise this base information. This is followed by contribution to GDP, jobs and taxes.

2.1.1 Property Sector Expenditure

Relevant expenditure in the property sector is presented in Table 2. Direct expenditure, in this instance, are all relevant costs in the inception, transaction and end of cycle phases. These costs were defined in Section 1 and are given in detail in Section 3.2. All this information was supplied by IPD South Africa (2018).

Table 2: Total Direct Expenditure

Rm, 2015	Direct Expenditure			
	Origination	Transaction	End-of-Cycle	Total
Residential	19 682	43 844	5 513	
Non-residential	6 629	57 206		
Retail	2 071	20 792		
Office	1 660	14 376		
Industrial	2 371	10 069		
Other	527	11 970		
Other Commercial		1 532		
SOEs		2 598		
Metros and Munis		2 485		
NDWP		3 840		
Zoned Urban Land		1 514		
TOTAL	26 311	101 050	5 513	132 875

In 2015 total direct expenditure was R132.9bn.

The transaction phase had the highest expenditure - R101.1bn. This is 76% of the total. The origination phase had expenditure of R26.3bn (20%) and the end of cycle phase - R5.5bn (4%).

- Residential is the largest part of the origination phase - R19.7bn. Non-residential had expenditure of R6.6bn.
- Non-residential is the largest part of the transaction phase - R57.2bn. Residential had expenditure of R43.8bn. The two largest parts of non-residential are retail - R20.8bn - and offices - R14.4bn.
- There was R5.5bn expenditure for end of cycle.

2.1.2 Contribution to Gross Domestic Product

Gross Domestic Product (GDP) is the total value of all final goods and services produced in the country. It is a fundamental measure of the economic quality of life of all people in the country. It is also the most important and all-encompassing measure of the macroeconomic effect of the property sector.

Two parts of contribution to GDP are reported. First, is the direct contribution to GDP. Second, is indirect and induced. Direct contribution is the first-round direct GDP contribution of an industry. It is needed to compare a sector/industry to other sectors. Indirect and induced are the second-round expenditure from

2.1.2.1 Direct GDP Contribution

The direct contribution to GDP is given in Table 3.

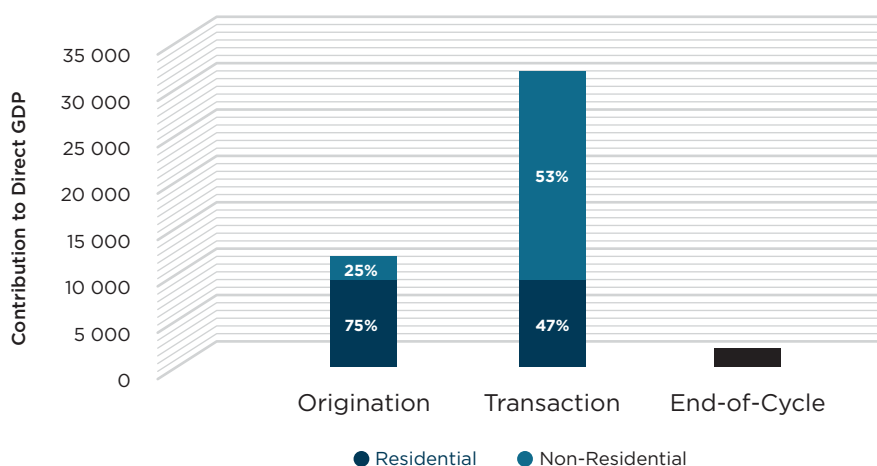
Table 3: Contribution to Direct Gross Domestic Product

Rm, 2015	Contribution to Direct GDP			
	Origination	Transaction	End-of-Cycle	Total
Residential	9 988	20 209	2 799	
Non-residential	3 365	22 932		
Retail	1 051	8 695		
Office	843	5 929		
Industrial	1 204	4 284		
Other	267	4 024		
Other Commercial		494		
SOEs		1 028		
Metros and Munis		983		
NDWP		1 519		
Zoned Urban Land		0		
TOTAL	13 353	43 140	2 799	59 292

The total 2015 direct contribution to GDP was R59.3bn. By phase this was:

- R13.4bn - origination;
- R43.1bn - transaction; and
- R2.8bn - end of cycle.

Figure 2: Contribution to Direct Gross Domestic Product



The relative contribution of residential and non-residential during the three phases is illustrated in Figure 2. During origination 75% of the contribution to direct GDP is from residential and the remaining 25% from non-residential. In the transaction phase 53% of the contribution is from non-residential and 47% from residential. End of cycle is relatively small.

Figure 3: Detailed Contribution to Direct Gross Domestic Product

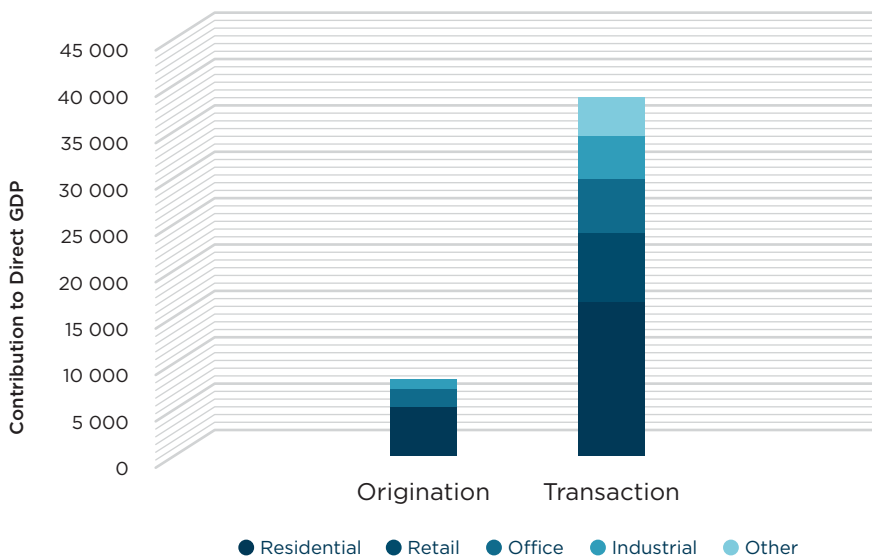


Figure 3 further disaggregates direct non-residential GDP into retail, office, industrial and ‘other’.

- In the transaction phase, the largest contributor is retail - R8.7bn, followed by offices - R5.9bn.
- The contribution from industrial and other sectors is R4.3bn and R4.0bn respectively.
- The ‘other’ sector is made up of ‘other commercial’, SOEs, Metros & Municipalities, National DPW and zoned urban land. During the transaction phase:
 - The National DPW contributes the most - R1.5bn;
 - This is followed by the SOEs and Metros & Municipalities - R1.0bn each;
 - Other commercial property (such as hotels and hospitals) contribute R0.5bn;
 - There is no relevant transaction expenditure from zoned urban land.

2.1.2.2 Indirect, Induced and Total GDP Contribution

The indirect and induced contribution to GDP is the result of the multiplier process. These economic activities occur outside the property sector. For example, in the cleaning of a building as part of daily operations, the actual cleaning is part of direct expenditure. The cost of manufacturing the cleaning products is part of the indirect expenditure. The spending of the cleaner’s salary in the retail sector is part of induced expenditure.

Table 4: Contribution to GDP - Direct, Multiplied and Total

Contribution to GDP (Rm)	Origination	Transaction	End-of-Cycle	Total
Direct Contribution	13 353	43 140	2 799	59 292
Multiplied Contribution	17 664	54 538	3 704	75 907
TOTAL CONTRIBUTION	31 017	97 678	6 504	135 199

Table 4 shows the direct and multiplied contribution to GDP. The multiplied (indirect and induced) contribution to GDP is R75.9bn. This is approximately a quarter more than the direct contribution of R59.3bn. Combined, the direct and multiplied contribution to GDP is R135.2bn.

2.1.3 Contribution to Taxes

The property sector makes an important tax contribution. These taxes include direct taxes (such as property taxes), VAT and multiplied taxes. The multiplied taxes include direct and indirect company taxes and personal tax. Table 5 lists all the taxes from the property sector.

Table 5: Contribution to Taxes

Rm 2015	Direct Expenditure	Direct Taxes	VAT	Multiplied Taxes	Total All Taxes
Residential	63 526	3 531	8 894	8 894	22 465
Non-Residential	63 835	22 045	8 937	8 937	38 245
End-of-Cycle	5 513		772	772	1 677
TOTAL	132 875	25 576	18 602	18 602	62 386

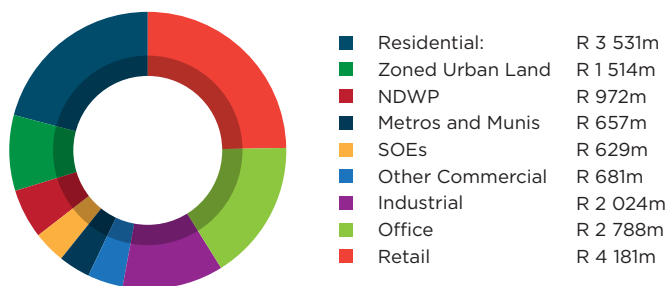
In 2015 total taxes were R62.4bn. This consists of:

- R25.6bn in direct taxes;
- R18.6bn in VAT; and
- R18.2bn in multiplied taxes.

Of these, R22.5bn was from residential and R38.2bn from non-residential. End of cycle contributed R1.7bn.

Figure 4 disaggregates transaction phase direct taxes by sub-sector.

Figure 4: Direct Taxes (Rm, 2015) - Transaction Phase



- Residential direct taxes - R3.5bn.
- Non-residential - retail contributes the most to direct taxes - R4.2bn.
- Office - R2.8bn and industrial - R2.0bn.
- Zoned urban land - R1.5bn in rates.

2.1.4 Employment

The property sector makes a significant contribution to direct and multiplied (indirect and induced) jobs. Direct jobs are those from activities in property. Indirect jobs are created in the supply chains. Induced jobs are the consequence of people spending their salaries and wages.

2.1.4.1 Direct Jobs

In 2015 nearly 100 000 people were employed in property. This is reported in Table 6 - 26 000 were in the origination, 69 000 in the transaction and 5 000 in the end of cycle phases. The high levels of employment during the transaction phase is important because these jobs can be sustained over time. This stands in contrast to the project-based jobs in origination and end of cycle that need continuous construction, alterations or additions.

Table 6: Direct Jobs

	Direct Jobs			
	Origination	Transaction	End-of-Cycle	Total
Residential	19 156	34 765	5 043	
Non-residential	6 576	33 953		
Retail	2 059	12 539		
Office	1 648	9 134		
Industrial	2 346	6 381		
Other	523	5 899		
Other Commercial		849		
SOEs		4 170		
Metros and Munis		1 406		
NDWP		2 173		
Zoned Urban Land		0		
TOTAL	25 733	68 718	5 043	99 854

There were 54 000 direct jobs in residential and 41 000 in non-residential. Retail was the biggest employer in non-residential, followed by offices.

2.1.4.2 Indirect and Induced Jobs

Indirect and induced jobs are reported in Table 7 as aggregated multiplied jobs.

Table 7: Multiplied Jobs

	Direct Jobs			
	Origination	Transaction	End-of-Cycle	Total
Residential	31 387	62 958	8 797	
Non-residential	10 553	64 482		
Retail	3 297	24 046		
Office	2 643	17 309		
Industrial	3 755	11 848		
Other	839	12 278		
Other Commercial		1 437		
SOEs		2 865		
Metros and Munis		2 741		
NDWP		4 236		
Zoned Urban Land		0		
TOTAL	41 940	127 440	8 797	178 177

- The total number of indirect and induced jobs in 2015 was 178 000. The bulk of these (127 000) were in the transaction phase.
- Residential sustained 94 000 multiplied jobs while the non-residential sector 75 000. End of cycle phase sustained almost 9 000 indirect and induced jobs.

2.1.4.3 Total Jobs

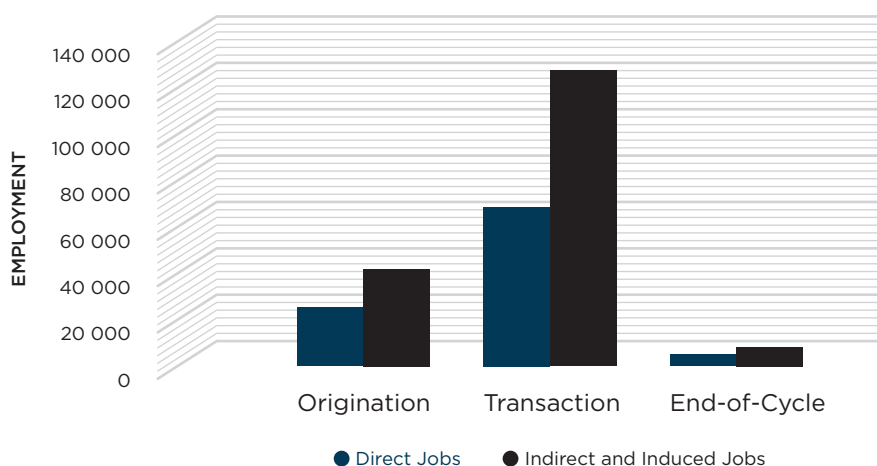
This section reports total jobs, which is the sum of direct and multiplied jobs and compares their magnitude. Total jobs number 278 000 in 2015 and are reported in Table 8.

Table 8: Total (Direct plus Multiplied) Jobs

	Total Jobs			
	Origination	Transaction	End-of-Cycle	Total
Residential	50 543	97 723	14 200	
Non-residential	17 129	98 435		
Retail	5 356	36 585		
Office	4 291	26 443		
Industrial	6 121	18 230		
Other	1 361	17 177		
Other Commercial		2 286		
SOEs		4 335		
Metros and Munis		4 147		
NDWP		6 409		
Zoned Urban Land		0		
TOTAL	67 673	196 158	14 200	278 031

Origination sustained 68 000 and end of cycle 14 000 total jobs. The transaction phase, which is more important because these are sustainable jobs, had a total of 196 000 jobs.

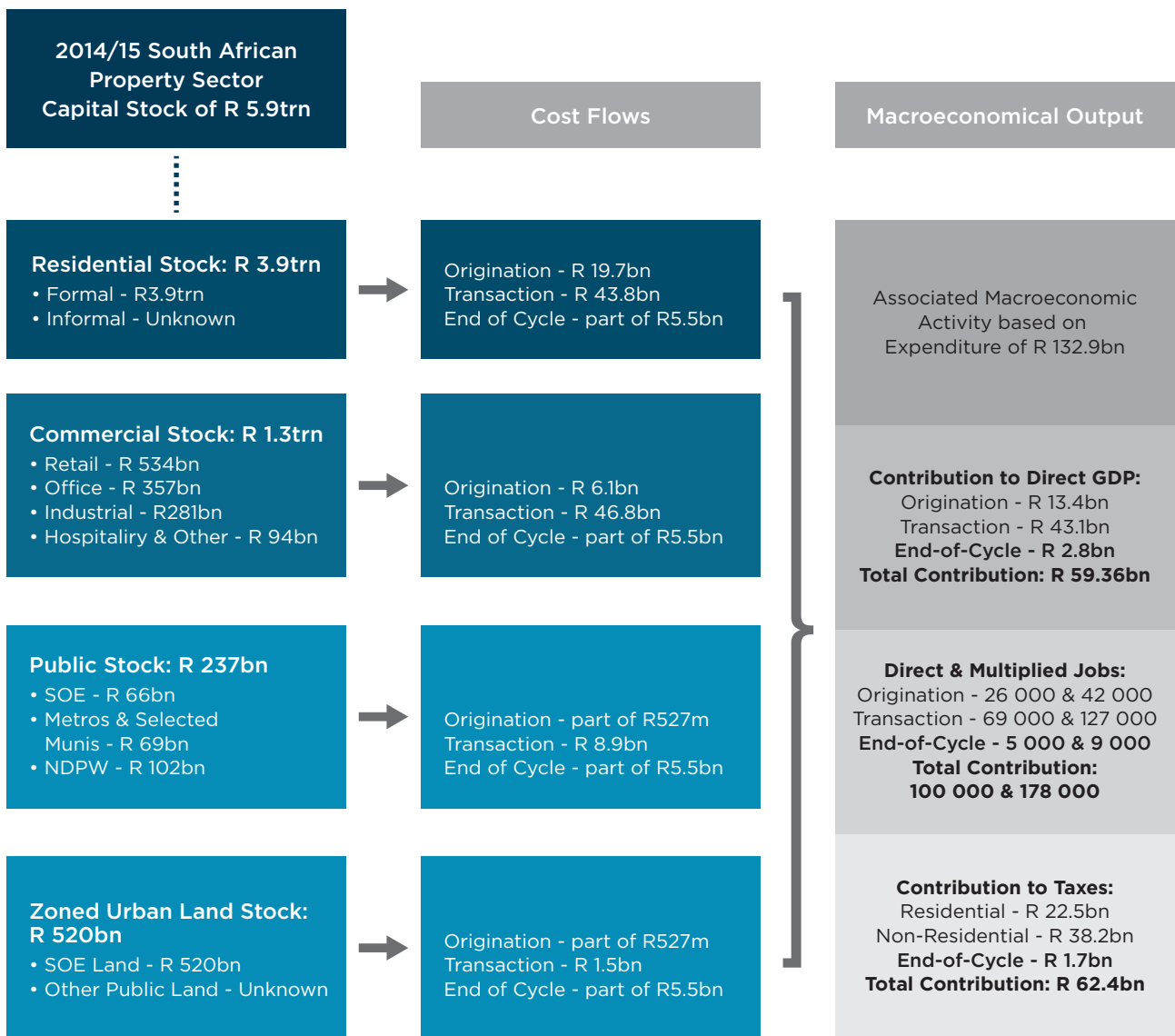
Figure 5: Total Jobs



A comparison between direct and multiplied jobs is illustrated in Figure 5.. Approximately onethird (36%) of the estimated 278 000 total jobs are direct, while the rest are multiplied jobs.

A summary of the macroeconomic contribution of the 2015 property sector is presented in Figure 6.

Figure 6: Summary of Property Sector 2015 Economic Contribution



2.2 Changes 2012 – 2015

This section reports the property economic contribution between 2012 and 2015. As before, the contribution to GDP, jobs and taxes are given.

There is a caveat to understanding this section. As already noted, all the underlying property information for the economic analysis was supplied by IPD South Africa (2018). The estimates of the 2012 economic contribution of the property sector were given in an IPD South Africa report (2014) but supplied by StratEcon. An examination of the underlying data shows that there was a change in the approach to the calculation of professional fees between 2012 and 2015. StratEcon has reworked the IPD South Africa (2014) estimates to make the 2012 results comparable to the 2015 estimates. This means that the 2012 values reported here are not comparable to those in IPD South Africa (2014). The contribution to direct GDP, which is shown in Table 9, is given in nominal prices. The last row reports the 2012 contribution in 2015 values to compare the change in real contribution.

Table 9: Direct GDP 2012 - 2015 (Rm, Nominal Prices)

Contribution to Direct GDP	2012	2015
Origination Phase	9 842	13 353
Residential Property	7 167	9 988
Non-Residential Property	2 674	3 365
Transactional and Operational Phase	29 813	43 140
Residential Property	12 869	20 209
Non-Residential Property	16 944	22 932
End of Cycle	2 909	2 799
Total Contribution (Nominal)	42 563	59 292
Total Real Contribution (2015)	49 946	59 292

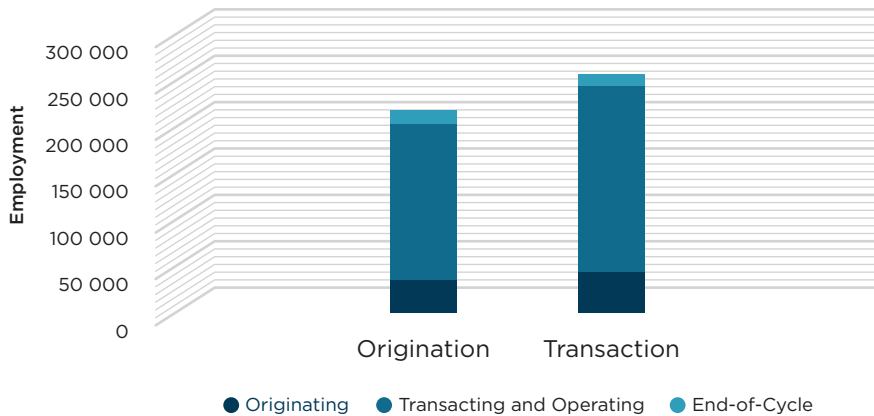
Between 2012 and 2015.

- There was an increase in contribution to direct GDP during origination and transaction but a decrease during end of cycle⁶. The increase was higher in the transaction phase.
- The total nominal contribution to direct GDP increased from R43bn to R59bn. This is a nominal increase of 39%.
- In real terms, the contribution to direct GDP increased from R50bn to R59bn.
 - This is a real increase of 19%.
 - The average annual real growth in contribution to GDP was 5.9%. South African GDP had an average annual growth rate of 2.6% over the same time.

⁶ Both the area and the value of building plans completed were higher in 2012 than in 2015

Employment by phase is illustrated in Figure 7 and by type in Figure 8.

Figure 7: Employment by Phase 2012 - 2015



Between 2012 and 2015:

- Total employment increased from 240 000 to 278 000. This is an overall increase of 16% and an average annual of 5%.
- Employment increased in two of the three life cycle phases:
 - origination increased - 59 000 to 68 000;
 - transaction increased - 164 000 to 196 000;
 - end of cycle decreased - 17 000 to 14 000.

Figure 8: Employment by Sub-Sector 2012 - 2015



Figure 8 shows that the largest job increase was in residential. Between 2012 and 2015 employment increased in:

- residential - 119 000 to 148 000;
- non-residential - 104 000 to 116 000.

In summary, there has been a substantial increase in the macroeconomic contribution of the property - both nominal and real - between 2012 and 2015. End of cycle contribution was lower but was very small to begin with.

2.3 Relative Contribution

An estimate of economic contribution is important in its own right. There is merit in providing some context to assess the relative context of this contribution. In this section the 2015 economic contribution to GDP and jobs of the property sector is compared to the total economy, the construction sector and retail and wholesale trade (which includes catering and accommodation).

The importance of highlighting the direct contribution to GDP becomes important in comparisons of this nature. StatsSA, when it reports sectoral economic contribution, does this only for direct contribution. It cannot report multiplied (indirect and induced) because the indirect contribution, for example, of one sector becomes the direct contribution of another. Reporting direct and multiplied contribution, at a sectoral level, would be double counting.

Table 11: Relative Contribution of the Property Sector

Relative Contribution	GDP (Rm)	Dir Jobs
Property Sector	59 292	99 854
South Africa Property as % of South Africa	4 051 421 1%	9 293 000 1%
Construction Property as % of Construction	148 951 40%	556 000 18%
Retail Property as % of Retail	542 200 11%	1 926 000 5%

In 2015 the property sector made up:

- 1% of national GDP;
- 1% of (formal, non-agricultural) employment.

It was the equivalent of:

- 40% of the construction sector contribution to GDP and 18% of construction employment;
- 11% of the retail, catering and accommodation sector contribution to GDP and 5% of employment in that sector.

3. Methodology and Data

The methodological approach, data analysis and estimates are given here.

3.1 Methodological Approach

The size of a national or regional economy is measured in terms of the total of all economic activities taking place within the area concerned, both in the public and private sectors. The name given to the measure of the size of the economy is Gross Domestic Product (GDP) for the country or Gross Geographic Product (GGP) for a province or other sub division of the nation.

While there are several macroeconomic effects, two of the most important are contribution to gross domestic product (GDP) and creation of jobs. The importance of job creation is obvious. Increases in GDP are synonymous with increases in peoples' economic standards of living. Increased GDP – i.e. increased production – is experienced in the form of more jobs, higher wages and reduced economic hardship. It is clearly an important measure.

3.1.1 Multiplier Effects

The actual task of calculating the macroeconomic impact of the property sector demands a detailed and multifaceted approach not least because of the so-called multiplier effects. It is well recognised that the simple act of spending – maintaining a building, for example - leads to other economic effects. Demand for paint, for example, can lead to increased production in that industry. Increased demand for paint products, in turn, leads to increased demand for raw materials and other items such as water, electricity and so on. Demand for electricity then leads to an increased demand in coal mining output. These are the so-called multiplier effects. While this process unfolds, each industry employs people and pays wages. Employees, in turn, spend their wages and cause further multiplier effects through the economy. Measuring this is further complicated by the fact that different industries demand different types of skills. This leads to different wage structures across the various industries. People earning different wages have different spending patterns. Thus, the change in overall spending patterns is dependent on which industries are affected.

The multiplier effects are measured through input output analysis. Input output analysis demands that all expenditure in and around the various sectors of the property industry be identified and estimated. This expenditure, in turn, needs to be linked to the Standard Industrial Classification of all Economic Activity (SIC codes) of the nine main sectors and the 65 sub-sectors present in the Social Accounting Matrices (SAMs) for South Africa. In addition,

because employment is part of the expenditure, estimates must be made of the likely items of expenditure because of wage payments.

The estimates that are reported here take account of these interrelated economic forces. The multiplied effects for South Africa are based on a national SAM. Relevant macroeconomic multipliers have been extracted from this SAM and used in the analysis.

Four steps are required to measure the overall economic impact of the property sector:

- First, to establish the turnover in each of the sub-sectors
- Second, to identify the major items of expenditure (refer to section 3.2).
- Each of these items is then allocated to the appropriate SAM code.
- Finally, all the SAM coded items are brought together. The total multiplier effect is calculated as the aggregate product of SAM coded spending on plant and material, as well as SAM coded spending by workers multiplied through the industry multipliers.

Therefore, the macroeconomic estimates that are made relate directly to the turnover as a result of property development and operation. Included in the macroeconomic calculations are all the backward economic linkages from this expenditure and the forward economic linkages that occur when people spend their salaries.

3.1.2 Direct Gross Domestic Product

As mentioned above, contribution to direct GDP gives a precise measure of an industry's direct contribution without multiplier effects. GDP is the value of output less the value of intermediate consumption⁷ and can be measured as the contribution to salaries & wages, dividends, profit, taxes and depreciation⁸. Direct GDP multipliers for economic subsectors can be calculated from a Social Accounting Matrix (SAM). This is done by determining the proportion of turnover spent on the factors of production (salaries and wages and gross operating surplus / operating profit) and on taxes. Therefore, if the turnover of any economic sector is known the direct GDP amount can be determined by multiplying that turnover by the relevant direct GDP multiplier.

⁷ <https://stats.oecd.org/glossary/detail.asp?ID=1184>

⁸ https://en.wikipedia.org/wiki/Gross_value_added

3.1.3 Estimating Direct and Indirect Jobs

In any macroeconomic assessment, there is a need to report the potential contribution to direct, indirect and induced jobs. The difference between the different job types is:

- Direct jobs are created because of the on-going operations within the property sector. These would be those people directly employed in the property sector and involved in the management of buildings.
- Indirect jobs are created in the supply chain. They occur because of the backward and forward linkages of firms within the economy. If, for example, a building manager procures cleaning products then the indirect jobs would be those based at the cleaning product factory.
- Induced jobs are those jobs that arise because of the expenditure of salaries and wages by direct and indirect employees. For example, the retail industry would benefit from increased induced jobs if new building developments create employment.

All job numbers are reported as full-time equivalents (FTEs). If two jobs of six-month duration each are created then they are reported as only one FTE job.

Direct jobs are calculated as follows:

- The increased turnover due to the various activities within the property sector (such as project management fees, architectural fees, conveyancing, etc) needs to be determined. These are provided as inputs into the economic model by the property sector specialists.
- Each activity needs to be aligned with the sectors in the national Social Accounting Matrix (SAM). A SAM is a mathematical representation of the South African economy. It is a matrix that indicates the revenue and expenditure of each of the economic sectors.
- The proportion of turnover of each sector that is spent directly on salaries and wages is provided by the SAM. This proportion varies for different economic sectors. Therefore, if the total change in turnover, or demand, of a sector is known then the value of salaries and wages can be calculated. For example, if it is estimated that the property sector increases project management fees by R1m and the proportion of salaries and wages for the business services industry is 19%, then the property sector would have increased salaries and wages in business services by R190 000.

- The Quarterly Employment Survey (Statistics South Africa, 2018, pp. 18-21) provides estimates of the average monthly earnings in the main economic sectors. Direct jobs are calculated by dividing the increase in salaries and wages by the average monthly earnings (converted to annual earnings). For the example above, the latest average monthly earnings for the financial intermediation, insurance, real estate and business services industry is R21 949. This is an annual salary of R263 388. This means that an increase in the salary bill of R190 000 in the business services sector would create 0.72 direct jobs.

Indirect and induced jobs are the result of the multiplier effects. These are jobs that are created in upstream and downstream industries. The approach is to extract industry multipliers from the national SAM. There is a technique whereby the SAM needs to be unitised, subtracted from the identity matrix, inverted, and the product multiplied by final demand matrices to yield the indirect and induced job multipliers. Stratecon has already extracted these industry employment multipliers through matrix algebra from the latest national SAM, for use in this analysis. These multipliers change each year, with nominal increases in salaries and wages, so that the process needs to be annualised.

In the reporting process distinction is made between the direct jobs and multiplied jobs (the indirect and induced jobs).

3.2 Life Cycle Cost Estimates

A macroeconomic analysis rests on the input data. In this case it is the cost estimate for each life cycle. This section describes the data that was used, the calculations, assumptions and limitations.

The methodology followed in this section replicated IPD South Africa⁹ in their 2014 report (IPD South Africa, 2014). IPD South Africa are recognised as industry experts in property. Some methodological issues are raised below but this did not result in any methodological departure from the previous IPD South Africa approach.

There are two property sectors listed by StatsSA – residential and non-residential. Non-residential is, turn disaggregated into commercial (retail, office, industrial, hospitality and other), public stock (SOEs, metros and municipalities, and the national department of public works) and zoned urban land stock (SOE land). Each building is categorised into three life cycle phases. These are origination, transaction and end of cycle. Stats SA reports the first two phases separately for residential and non-residential but aggregates all sectors in the end of cycle phase.

The methodology focuses purely on assessing the relevant costs in each life cycle stage. This means that the value of the building, as presented in the Statistics SA tables, are excluded from the analysis¹⁰. The latter are defined as all the bricks and mortar costs. These would include bulk infrastructure, bricks, concrete and specialist inputs like electrical and plumbing installations. The items defined and included as part of the origination phase are fees for project management, architects, quantity surveyors and financing fees, and developer profits.

Project management, architect and quantity surveying fees were estimated on the value of buildings completed. Fees are based on the value of a building. The fee percentage is related to the value of an individual building. These value differences were sourced from the relevant professional councils. The fees for quantity surveyors are given in Table 12 and architects in Table 13.

Project management fees, like quantity surveyor fees, are part of what is called “Building Work, Engineering Work, Management and Supplementary Services”¹¹. For the purposes of this analysis, following the approach adopted by IPD South Africa (2018), it has been assumed that project management fees are equal to quantity surveyor fees.

⁹ IPD South Africa is an MSCI Brand (www.ipd.com/southafrica)

¹⁰ This definition was stipulated by the Research Committee of the Property Charter and follows the convention of previous reports.

¹¹ Personal communication with IPD South Africa: e-mail dated 25 April 2018

Table 12: Quantity Surveyor Fees 2015

VALUE FOR FEE PURPOSES	BASIC FEE	
	Primary Charge	Marginal Rate
1	2	3
up to R 1 000 000	R 19 000	8,00% on balance over R 0
R 1 000 000 - R 2 000 000	R 99 000	8,00% on balance over R 1 000 000
R 2 000 000 - R 4 000 000	R 179 000	7,95% on balance over R 2 000 000
R 4 000 000 - R 8 000 000	R 338 000	7,15% on balance over R 4 000 000
R 8 000 000 - R 16 000 000	R 624 000	6,70% on balance over R 8 000 000
R 16 000 000 - R 32 000 000	R 1 160 000	5,90% on balance over R 16 000 000
R 32 000 000 - R 64 000 000	R 2 104 000	5,27% on balance over R 32 000 000
R 64 000 000 - R 128 000 000	R 3 790 400	5,15% on balance over R 64 000 000
R 128 000 000 - R 256 000 000	R 7 086 400	4,10% on balance over R 128 000 000
R 256 000 000 - R 500 000 000	R 12 334 400	3,96% on balance over R 256 000 000
R 500 000 000 - R 1 500 000 000	R 21 996 800	3,50% on balance over R 500 000 000
R 1 500 000 000 - R 3 000 000 000	R 56 969 800	3,12% on balance over R 1 500 000 000
R 3 000 000 000 and over	R 103 769 800	2,44% on balance over R 3 000 000 000

Source: (The South African Council for the Quantity Surveying Profession, 2015)

Table 13: Architect Fees 2015

Cost Bracket	VALUE OF WORKS			PLUS SECONDARY FEE	
	FROM	TO		ADD %	ON BALANCE OVER
	A	B		C	D
1	R 1	R 200 000	R 18 000	14,00%	R 1
2	R 200 001	R 650 000	R 46 000	13,50%	R 200 001
3	R 650 001	R 2 000 000	R 106 750	12,00%	R 650 001
4	R 2 000 001	R 4 000 000	R 268 750	10,50%	R 2 000 001
5	R 4 000 001	R 6 500 000	R 478 750	10,00%	R 4 000 001
6	R 6 500 001	R 13 000 000	R 728 749	9,50%	R 6 500 001
7	R 13 000 001	R 40 000 000	R 1 346 249	9,00%	R 13 000 001
8	R 40 000 001	R 130 000 000	R 3 776 249	8,50%	R 40 000 001
9	R 130 000 001	R 260 000 000	R 11 426 249	8,25%	R 130 000 001
10	R 260 000 001	R 520 000 000	R 22 151 249	8,00%	R 260 000 001
11	R 520 000 001	R 1 040 000 000	R 42 951 249	7,75%	R 520 000 001
12	R 1 040 000 001	-	R 83 251 249	7,50%	R 1 040 000 001

Source: (South African Council for the Architectural Profession, 2015, p. 112)

The income from the origination phase, and eventual contribution to GDP are based on the total value of buildings completed as given by Stats SA. In 2015 the total value of buildings completed was R56.7bn. The detail is given in Appendix A. The value of residential construction was R32.2bn, non-residential buildings R14.7bn and additions and alterations R9.8bn (Statistics South Africa, 2017, p. 27). StatsSA do not list 'end of cycle'. Rather they report 'additions and alterations'. This is taken to be 'end of cycle'.

3.2.1 Residential Property

The total origination and transaction cycle costs for residential properties are reported below.

3.2.1.1 Origination Phase

The origination phase costs are calculated from the value of buildings completed. This was done by building type and average value. In 2015, as shown in Table 14, residential space of 5.2 million m² with a value of R32.2bn was completed (Statistics South Africa, 2017, p. 27). Dwelling houses larger than 80m² was the largest segment - 3.16 million m² with a cost of R20.2bn. This is followed by flats and townhouses - 1.18 m² and R8.5bn.

Table 14: Residential Buildings Completed 2015

Buildings Reported as Completed	Dwelling - houses <80m ²	Dwelling - houses ≥80m ²	Flats and townhouses	Other residential buildings	Total Residential
Number Completed	16 012	12 161	11 493	533	40 199
Area (million m ²)	0.79	3.16	1.18	0.07	5.20
Total Value (Rm)	3 061	20 160	8 478	493	32 192
Average Value (Rands)	191 192	1 657 721	737 705	923 361	-

Source: (Statistics South Africa, 2017)

Professional fees, developer profit and financing costs are based on Table 14 and derived from the following approach and assumptions:

- The first step was to calculate the average value of each building type. This was done based on the StatsSA data by dividing the total value of buildings in a category by the number completed. The results are shown in the bottom row of Table 14. A dwelling house larger than 80m² had the highest average value - at R1.66m. This is followed by other residential buildings - R0.92m each- and flats and townhouses - R0.74m each. Dwelling houses smaller than 80m² have the lowest average value - R0.19m.
- The second step was to use the average value of a building in Table 14 and apply the value bands in Table 12 and Table 13. Professional fees are the product of the relevant value band and the number of buildings in that category. For example, the fees for a quantity surveyor for buildings larger than 80m² are calculated from the second band in Table 12, multiplied by the number completed in 2015 - 12 161 - from Table 14. The calculation is:
 - A primary charge of R99 000, multiplied by 8% of R657 721 (the amount above R1 000 000, as specified in Table 12).
 - This gives an average quantity surveyor fee of R151 618 for a house larger than 80m².
 - This, in aggregate, is R1.84bn for all 12 161 houses in this category.

- This approach was used to calculate architect and project management fees for all residential buildings.
- This approach has some potential limitations:
 - It is based on an average building value rather than the value of each building constructed. Buildings that cost more, or less, than average would have different fees.
 - Professional fee types are applied to all residential building categories. This may not be the case. For example, quantity surveyors or project managers may not be involved in the construction of dwelling houses smaller than 80m².
- Step 3 was to include developer profit. Developer profit has been assumed to be 20% of the value of buildings completed. This follows the convention established by IPD South Africa (2014).
- Step 4 was to include the financing costs of professional fees and developer profit. It is noted that the financing costs are not based on the total development costs (bricks and mortar and professional fees). This follows the convention of IPD South Africa (2014) . These were calculated using an assumed 100% Loan-to-Value (LTV) ratio and the 2014/15 mortgage financing rate of 9.25% (SARB, 2015).

The result of these calculations is shown in Table 15. In 2015, the total origination cost of residential property was R19.7bn. Houses larger than 80m² had origination costs of R11.5bn. This is more than half of the total origination cost. This is followed by flats and townhouses – R5.3bn, houses less than 80m² - R2.7bn and other residential buildings – R287m.

The division of the overall costs are:

- Professional fees, at R11.6bn, form the bulk of origination costs.
- This is followed by the developer profit, at R6.4bn.
- Financing costs, at R1.7bn, is the lowest contributor to total residential origination costs.

Table 15: Residential Origination Costs 2015 (Rm)

Buildings Reported as Completed	Dwelling - houses <80m²	Dwelling - houses ≥80m²	Flats and townhouses	Other residential buildings	Total Residential
Professional Fees	1 815	6 456	3 141	164	11 577
Developer's Profit	612	4 032	1 696	99	6 438
Financing Fees	225	970	447	24	1 666
Total Origination Cost	2 652	11 458	5 284	287	19 682

Source: (IPD South Africa, 2018) Adjusted after corrections

Origination costs are the total development costs less 'bricks and mortar' costs. These have been summed to give an indication of the relative value of origination by building type and are shown in Table 16.

Table 16: Residential Origination % Total Development Cost 2015

Residential Origination Costs (Rm, 2015/15 Prices)	Dwelling - houses <80m ²	Dwelling - houses ≥80m ²	Flats and townhouses	Other residential buildings	Total Residential
Origination Cost	2 652	11 458	5 284	287	19 682
Value of Buildings Completed	3 061	20 160	8 478	493	32 192
Total Development Cost	5 713	31 618	13 763	780	51 874
Origination as % of Development Cost	46%	36%	38%	37%	38%

Overall, origination costs are 38% of development costs. These, for houses larger than 80m² are 36% while for houses smaller than 80m² are 46%. It is speculated that the higher proportion for smaller houses is because of their lower value and therefore higher relative cost of professional fees.

3.2.1.2 Transaction Phase

The costs in the transaction phase of residential property are from property transactions and rental costs. Cost from property transactions are fees for estate agents, conveyancing, transfer and bond originators. There are many different types of rental operating costs which are listed below.

Following the convention of IPD South Africa (2014) the following are excluded:

- The value of buildings;
- Rents;
- Financing charges on the capital values of rental properties. This is the origination phase convention where the only included financing charge that was on professional fees and profit.

The operating cost of rental properties is based on rental property values. The costs of buying and selling are based on data provided by Lightstone Property (2018). This section starts by describing the assumptions for each cost and then reports all transaction costs.

3.2.1.2.1 Individual Costs – Assumptions and Approach

Rental Operating Costs

There are two steps in estimating the cost of renting out properties. First, was to estimate the 2015 value of rented residential properties. Second, was to estimate gross and net rental which are based on property values. The difference between gross and net rentals is used as a proxy for the owner cost of renting¹².

¹² This was done in consultation with IPD South Africa (pers. com: email dated 1 June 2018)

In 2015, the total residential stock of 6.3 million properties had a capital value R3.9tn (Property Sector Charter Council, 2015, p. 21) . This value was used, in a two-step process, to determine the value of rental properties.

First was to estimate the number of rental properties. This was done following the convention of IPD South Africa (2014) that rental properties are those where a single legal entity owns more than one property. The first property is assumed to be owner occupied. All others are assumed to be rental properties¹³. The estimate is shown in Table 17 where IPD South Africa (2018) estimate that 23% of residential property was rented in 2015.

Table 17: Residential Rental Properties 2015

Ownership Band	Number of Properties	Average of Band	Number to Let	Rental Properties	% of All Property
1 Property	4 241 279	1	0	0	0%
2 to 5 Properties	2 056 952	3.5	2.5	1 469 251	71%
6 to 20 Properties	11 287	13	12	10 419	92%
21 or more Properties	1 307	22	21	1 248	95%
Unknown	5 798	-	0	0	0%
Total	6 316 623	-	-	1 480 918	23%

Source: (IPD South Africa, 2018)

Second, the value of rental properties was calculated from the 23% estimated proportion against the total residential building capital value. This gives a residential to-let capital value of R935bn¹⁴ (excluding VAT).

It was assumed that the difference between gross and net rental income is the cost to the landlord of renting properties. This is the approach followed by IPD South Africa¹⁵.

Table 18: Residential Rental Costs, 2015 (excluding VAT)

Residential Operating Cost		Total (Rbn)
Value of Residential-to-Let Market		934.7
Gross rental yield ratio	7.16%	66.9
Net rental yield ratio	5.05%	47.2
Maintenance and Operating Costs	2.11%	19.7

Source: (Lightstone Property, 2018), (IPD South Africa, 2018) and (PayProp, 2016)

The gross and net rental difference was sourced from PayProp, who are a major “letting automated rental payment and reconciliation platform¹⁶”. The following steps, shown in Table 18, were used to estimate the cost of renting.

¹⁴ The Lightstone Property residential property market value was R4.5tn, which is higher than the R3.9tn for 2014/15 provided by the PSCC report. The higher Lightstone Property value has been used for the purposes of the residential rental market calculation because all IPD calculations are based on the Lightstone estimates.

¹⁵ It is not clear that this approach captures all rental costs – the most obvious omission would be landlords who pay directly for maintenance rather than having this facilitated by a letting agent. They may also exclude rates, water and other utility costs which are typically charged directly to owners.

¹⁶ <https://za.payprop.com/about>

- The average 2015 gross rental yield was 7.16% (PayProp, 2016, p. 10).
- The product of this gross rental yield and the capital value of rental properties of R935bn is R66.9bn (excluding VAT).
- The average 2015 net rental yield was 5.05% (PayProp, 2016, p. 10).
- The product of this net rental yield and the capital value of rental properties of R935bn is R47.2bn (excluding VAT).
- The difference of R19.7bn is used as a proxy for the cost of running rental properties.

Property Transactions

The cost of property transactions are commissions paid to estate agents, mortgage originators, conveyancing costs and transfer duties. Bond registration costs are included in conveyancing costs. All this information was provided by IDP South Africa (2018).

A total of 321 242 residential property transactions valued at R230bn were recorded in 2015 (Lightstone Property, 2018). The fees from these transactions were (excluding VAT):

- Estate Agents – R9.4bn¹⁷;
- Conveyancing – R10.2bn (property transfers of R7.9bn and bond registration of R2.3bn);
- Mortgage Originators – R938m.
- Transfer duties – R3.5bn.

3.2.1.2.2 Residential: Total Transaction Costs

Total residential transaction costs are given in Table 19. In 2015 residential transaction costs were R43.8bn.

Table 19: Residential Property Transaction Costs 2015

Rm, 2015 (excl VAT)	Amount
Rental Property	
Letting Costs	19 724
Property Transactions	
Estate Agents	9 448
Conveyancing	10 203
Mortgage Origination	938
Transfer Duty	3 531
Total Residential Transaction Costs	43 844

Source: (IPD South Africa, 2018)

Letting costs are the largest at R19.7bn, followed by conveyancing at R10.2bn, estate agents commission at R9.4bn and transfer duty at R3.5bn.

¹⁷ Following the convention of IPD South Africa (2014) estate agents fees on the sale of land are excluded. This exclusion would underestimate the economic value of residential property transactions.

3.2.2 Non-Residential

The total origination and transaction cycle costs for non-residential properties are reported in this section.

3.2.2.1 Origination Phase

The origination phase costs are derived from the value of buildings completed in 2015.

The origination phase costs are calculated from the value of non-residential buildings completed. This was done by building type and average value. In 2015, as shown in Table 20, there was a total 2.33 million m² non-residential space completed with a total value of R14.7bn (Statistics South Africa, 2017, p. 27). Industrial and warehouse space had the largest footprint with 0.99 million m² worth R5.1bn. This was followed by office and banking space – 0.60 million m² at R4.7bn – and shopping space – 0.55 million m² at R3.7bn. Other non-residential buildings had the smallest footprint - 0.18 million m² at R1.2bn.

Table 20: Non-Residential BuildiSource:

Buildings reported as Completed	Office and Banking space	Shopping space	Industrial and Warehouse	Other non-residential buildings	Total non-residential
Number Completed	78	80	193	29	380
Area (million m ²)	0.60	0.55	0.99	0.18	2.33
Total Value (Rm)	4 697	3 710	5 125	1 167	14 698
Average Value (Rm)	60	46	27	40	-

(Statistics South Africa, 2017)

Professional fees, developer profit and financing costs are based on the values in Table 20 and derived on the following approach and assumptions:

- First, was to calculate the average value of each building type. This was done based on the StatsSA data by dividing the total value of buildings in a category by the number completed. The results are shown the last row of Table 20. Office and banking space had the highest average value, at R60m per building. This is followed by shopping space and other non-residential buildings at R46m and R40m. Industrial and warehouse space had the lowest average cost, at R27m per building.

- Second, was to apply the average value of a building in Table 20 to the value bands in Table 12 and Table 13. Professional fees are the product of the relevant value band and the number of buildings in that category. For example, the fees for a quantity surveyor for offices are calculated from the seventh band in Table 12 (for buildings valued between R32m and R64m), multiplied by the number completed in 2015 - 78 - from Table 20. The calculation is:
 - A primary charge of R2.1m, multiplied by 5.27% of R28.4m (the amount above R32m, as specified in Table 12).
 - This gives an average quantity surveyor fee of R3.6m for offices and banks.
 - This, in aggregate, is R280m for all 78 offices and banks in this category.
- This approach was used to calculate architect and project management fees for all residential buildings.
- This approach has some potential limitations:
 - It is based on an average building value rather than the value of each building constructed. Buildings that cost more, or less, than average would have different fees.
 - Professional fees are limited to architects, quantity surveyors and project managers. These potentially exclude relevant structural and civil engineers, mechanical and electrical engineers and other professionals
- Third, add in developer profit. Developer profit has been assumed at 20% of the value of buildings completed. This follows the IPD South Africa (2014) convention.
- Fourth, include financing costs of professional fees and developer profit. These are not financing costs on the total development costs (bricks and mortar, and professional fees). This follows the convention of IPD South Africa (2014) . These were calculated using an assumed 80% Loan-to-Value (LTV) ratio (IPD South Africa, 2018) and the 2014/15 mortgage financing rate of 9.25% (SARB, 2015).

The results are given in Table 2118. In 2015, the total origination cost of non-residential property was R6.6bn. Industrial and warehouse space had origination costs of R2.4bn, closely followed by office and banking space at R2.1bn. Shopping space had origination costs of R1.7bn, with other non-residential buildings making up the balance of R0.5bn.

The division of the overall costs are:

- Professional fees, R3.2bn, are about half the origination costs.
- Developer profit was R2.9bn.
- Financing costs, R0.5bn, is the smallest part of non-residential origination costs.

Table 21: Non-Residential Origination Costs 2015

Buildings reported as Completed	Office and Banking space	Shopping space	Industrial and Warehouse	Other non-residential buildings	Total non-residential
Professional Fees	989	804	1 183	257	3 233
Developer's Fees	939	742	1 025	233	2 940
Financing Fees	143	114	163	36	457
Total Origination Cost	2 071	1 660	2 371	527	6 629

Development costs are the sum of origination and 'bricks and mortar' costs. These are shown in Table 22.

Table 22: Non-Residential Origination % Total Development Cost

Non-Residential Origination Costs (Rm, 2014/15 Prices)	Office and Banking space	Shopping space	Industrial and Warehouse	Other non-residential buildings	Total non-residential
Origination Cost	1 928	1 546	2 208	491	6 172
Value of Buildings Completed	4 697	3 710	5 125	1 167	14 698
Total Development Cost	2 071	5 255	7 333	1 658	20 870
Origination as % of Development Cost	29%	29%	30%	30%	30%

In total origination costs are 30% of development costs. These are 29% for both office and banking, and shopping. Industrial and warehouses, and other non-residential buildings are 30%.

3.2.2.2 Transaction Phase

The costs in the transaction phase of non-residential property are from property transactions, relevant rental costs and maintenance costs of all non-residential buildings. Cost from property transactions are brokerage and financing fees. There are many different types of rental operating costs which are listed in the next section below.

Following the convention of IPD South Africa (2014) the following are excluded:

- The value of buildings;
- Rents;
- Transfer duty;
- Loan/bond registration fees;
- Other legal fees;
- Financing charges on the capital values of rental properties. This is the origination phase convention where the only financing charge included was on professional fees and profit.

This section starts by describing the assumptions and approach. Non-residential transaction costs are based on data provided by IPD South Africa (2018).

3.2.2.2.1 Individual Costs – Approach and Assumptions

The transaction costs of non-residential buildings are operating costs, commercial transaction fees and financing costs.

Operating Costs

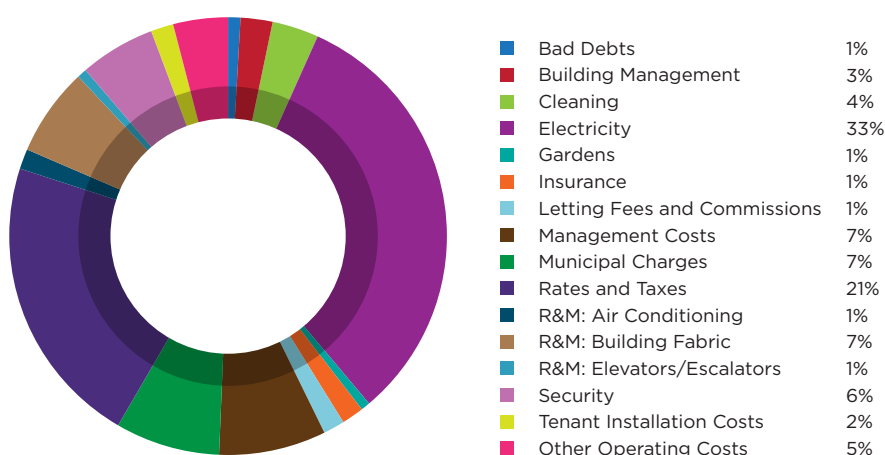
Operating costs were estimated in the following steps. Step 1 - determine the size of the nonresidential property sectors. This was used in step 2 to estimate operating costs based on industry ratios relative to property values. Finally, step 3 was to disaggregate the costs into relevant expense categories.

Table 23: Non-Residential Property Operating Costs

R millions	Retail	Office	Industrial	Other Commercial	Metros & Munis	SOEs	DPW	Zoned Urban Land	All Non-Residential
Market Size	534 000	357 000	281 000	94 000	69 000	66 000	102 000	520 000	2 023 000
Operating Costs (excl VAT)	20 301	14 007	9 786	1 457	2 543	2 432	3 759	1 514	55 799

This information for the first two steps was provided by IPD South Africa (2018) and based on the PSCC non-residential property values for 2014/15 (2015). The results of the first two steps are summarised in Table 23.

Figure 9: Commercial Property – Operating Costs, 2015



The final step was to disaggregate the operating costs into expense categories that are appropriate for the economic analysis. This was done using ratios provided by IPD South Africa (2018). Figure 9 illustrates the relative proportions of these expenditure items for all non-residential property types. The chart indicates that electricity, at 33%, and rates and taxes, at 21%, are two important expenditure items.

Property Transactions

The total 2015 cost of non-residential property transactions and (relevant) financing fees was R1.41 billion (excluding VAT) (IPD South Africa, 2018). This is made up of R203m from sales and R1.20bn from financing fees (R1.20bn).

3.2.2.2 Non-Residential: Total Transaction Costs

Total non-residential transaction costs are given in Table 24. In 2015 non-residential transaction costs were R57.2bn.

Table 24: Non-Residential Property Transaction Costs

Rm, 2015 (excl VAT)	Amount
Operating and Maintenance Costs	55 799
Non-Residential Transaction Fees	1 407
Total Non-Residential Transaction Costs	57 206

Source: (IPD South Africa, 2018)

Operating and maintenance costs form the bulk of the non-residential transaction costs, with R55.8bn out of R57.2bn.

3.2.3 End of Cycle Phase

The end of cycle costs for all properties are reported in this section. These costs are understood from IPD South Africa (2014) to include the cost of alterations, additions and demolition. StatsSA reports only alterations and additions. It also reports all sectors in aggregate, so it is not possible to distinguish between residential and non-residential.

The end of cycle cost was estimated in two steps. First, was to use the value of alterations and additions as reported by StatsSA in 2015. Second was to estimate the value of professional fees, developer profit and financing costs based on the origination phase approach.

End of cycle costs are shown in Table 25 and are based on a total of 8 144 alterations and additions with a building value of R9.8bn (Statistics South Africa, 2017). The relevant professional fees from section 3.2 and developer profit of 20% (IPD South Africa, 2014) were used. The end of cycle cost is the product of these fees and profit, and the end of cycle building value. These are reported below.

Table 25: End of Cycle Costs – All Properties

Rm, 2015 (excl VAT)	Alterations and Additions
Professional Fees	3 086
Developer's Profit	1 960
Finance Costs	467
Total End of Cycle Cost	5 513

Source: (Statistics South Africa, 2017), (The South African Council for the Quantity Surveying Profession, 2015) and (South African Council for the Architectural Profession, 2015)

Professional fees (R3.1bn) are the largest part of end of cycle costs. These are followed by developer profit (R1.96bn) and finance costs (R0.5bn).

4 Conclusion

An economy cannot function without buildings in which to live and buildings in which to work. The value of buildings in this country – making up 78% of all fixed capital stock – is testament to that fact. It makes the property sector critically important. In a country like South Africa, it also means it can play a role in socio-economic transformation.

The overall economic contribution of property is almost immeasurable. Housing makes people healthy and productive. Carefully designed factories are airy and light – this helps people and makes these places more productive. Architecturally pleasing offices give a sense of pride and make for a sense of place. This report analysed a narrower part of the contribution of property – the income that is generated and jobs created from the professional and other services used when buildings are built, rented and used, and modified at the end of design life.

This part of the property sector is worth 1% of the South African economy and 1% of formal employment. It makes a GDP contribution that is the equivalent of 40% of the construction and 11% of retail, catering and accommodation sector. Its employment is the equivalent of 18% and 5% respectively of these two sectors.

The sector, between 2012 and 2015, grew faster than the economy. The part of the property sector focussed on in this report grew by 5.9% annually while the economy managed 2.6%.

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Appendix A: Building Statistics Reported by Statistics South Africa - A Sample

Statistics South Africa

Table 19 - Buildings reported as completed to larger municipalities at current prices by type of building: South Africa

Category of building	Type of Building	Measuring unit	Dec 2015	Nov. 2016	Dec. 2016	Jan. - Dec. 2015	Jan. - Dec 2016	% change 1/
Residential buildings	Dwelling-houses <80 square meters	Number	1 339	1 565	1 428	16 102	15 562	-2.8
		Square meters	67 103	73 401	70 479	791 335	754 023	-4.7
		R '000	239 255	379 175	311 930	3 061 368	3 344 829	9.3
	Dwelling-houses ≥80 square meters	Number	977	1 055	1 110	12 161	12 236	0.6
		Square meters	245 011	263 726	338 312	3 158 281	3 067 088	-2.9
		R '000	1 622 235	1 810 383	2 446 220	20 159 545	20 497 827	1.7
	Flats and townhouses	Number	927	935	2 121	11 493	13 691	19.1
		Square meters	119 763	105 010	207 243	1 175 415	1 371 463	16.7
		R '000	923 266	808 083	1 651 210	8 478 448	10 503 470	23.9
	Other residential buildings 2	Square meters	1 926	5 178	17 129	73 155	73 317	0.2
		R '000	12 634	31 315	105 780	492 576	635 536	29.0
Total residential buildings	R '000	2 797 120	3 029 411	4 515 140	32 191 937	34 981 662	8.7	
Non-residential buildings	Office and banking space	Square meters	70 283	53 285	17 584	604 604	504 926	-16.5
		R '000	644 147	421 996	129 840	4 697 010	4 143 021	-11.8
	Shopping space	Square meters	48 470	60 988	34 365	545 840	516 164	-5.4
		R '000	350 979	417 343	289 000	3 709 605	4 045 022	9.0
	Industrial and warehouse space	Square meters	84 315	82 338	68 511	994 020	1 077 824	8.4
		R '000	445 971	440 720	401 412	5 124 538	5 859 837	14.3
	Other non-residential buildings 3	Square meters	1 426	63 111	28 058	183 576	307 146	67.3
		R '000	8 101	402 065	165 052	1 167 075	1 907 427	63.4
	Total non-residential buildings	R '000	1 449 198	1 682 124	985 304	14 698 228	15 955 307	8.6
	Additions and alterations	Dwelling houses	Square meters	78 054	118 547	83 779	1 160 751	1 224 180
R '000			484 850	714 513	553 593	6 452 664	7 247 585	12.3
Other buildings		Square meters	36 82	36 727	36 825	431 340	376 880	-12.6
		R '000	279 872	321 254	319 526	3 348 299	3 230 146	-3.5
Total additions and alterations	R '000	764 722	1 035 767	873 119	9 800 963	10 477 731	6.9	
Recorded buildings completed	Total at current prices	R '000	5 011 040	5 747 302	6 737 563	56 691 128	61 414 700	8.3

1. The percentage change between cumulative figures for 2015 and 2016.

2. Other residential buildings include institutions for the disabled, boarding houses, hotels and tourism accommodation e.g. hotels, motels, guest houses, holiday chalets, bed and breakfast accommodation and casinos.

3. Other non-residential spaces includes churches, sport and recreation clubs, schools, cresses, hospitals and all other non-residential space.

4. Other buildings include other residential buildings, non-residential buildings and internal alterations. No square meters are collected for internal alterations.