RHODES UNIVERSITY
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TRANSFORMATION SUMMIT

JULY 2017

Rhodes University

Budgets and Resource allocation

ABSTRACT

The budget and resource allocation impact on the future direction of the university. But the budget is subservient to the mission, vision, core values and strategic plan of the university. The budget and resource allocation must flow from a strategic planning process and must align with the mission, vision and strategic objectives of the university. The outcomes of the transformation summit must find their way into the strategic plan of the university to ensure that they receive appropriate resources and are reflected in the budget.

Contents

1. Introduction

A budget is a financial plan that represents planned future financial outcomes with the aim of achieving particular objectives (Pienaar, 2014). It consists of income expectations and planned expenditure for a particular period ranging from the short-term to the long-term. Resource allocation refers to the process of allocating scares resources to different activities or programmes within an organisation to achieve its objectives (Prager, Sealy & Co., LLC; KPMG LLP; and Attain LLC, 2010). Both budgeting and resource allocation, therefore, are mechanisms used in the achievement of particular objectives, which in the case of an organisation, can be its mission and vision. They also form part of the strategy development process.

One of the key issues for the transformation summit is the budget and how resources should be allocated to achieve the outcomes or objectives that may be decided upon. The challenge for the budget and for any resource allocation framework is that resources are indeed scarce. This is borne out by the recent statements and communication on the weak financial position of the university and the need to make decisions that ensures the financial viability and sustainability of the university in the short- and long-term.

It should be recognised that financial sustainability underpins and should be reflective of a transformation plan, and is critical for the achievement of the objectives in the plan. In addressing the question of the financial sustainability of Rhodes University, it is important to take cognisance of the university's mission and vision statements. There should be an alignment between the mission and vision statements and the university's current and future needs (KPMG LLP and Prager, McCarthy & Sealy, LLC, 1999). Furthermore, how the resources are allocated or used should be carefully considered in generating appropriate strategies for the university to be financially sustainable in the future (Prager et al., 2010).

The financial sustainability question for Rhodes University is also seated in the context of a call for free education from the student body and constraints in government funding, placing pressure on income growth and creating uncertainty with regard to the funding framework of universities in South Africa.

Financial sustainability cannot be addressed without consideration of the environment and of society. Together, the economic, environmental and social systems are integrated when shaping discussions on sustainability in general (Drexhage and Murphy, 2010). It is expected that the transformation summit will reflect on environmental and societal issues.

The budgets and resource allocation working group consisted of Prof Rosaan Kruger (Dean of Law), Prof Laurence Juma (Deputy Dean of Law), Prof Gavin Keeton (Economics), Prof John Williams (Accounting), Mr Qondakele Sompondo (Manager: Alumni Relations & Fundraising), Mr Faisal Ackerdien (Senior Manager: Research & Academic Accounting) and Mr Geoff Erasmus (Deputy Director: Finance).

One of the aims of this document is to provide some transparency on the financial performance and health of the university. Therefore, the sections that follow will start by looking at the university's historical financial performance in terms of income and expenditure, followed by a look at the financial health of the university in the context of financial sustainability using financial ratios. The document concludes with a look at budgets and resources allocation as strategic tools and mechanisms to achieve the university's mission, vision and strategic objectives.

2. Income

2.1. University income

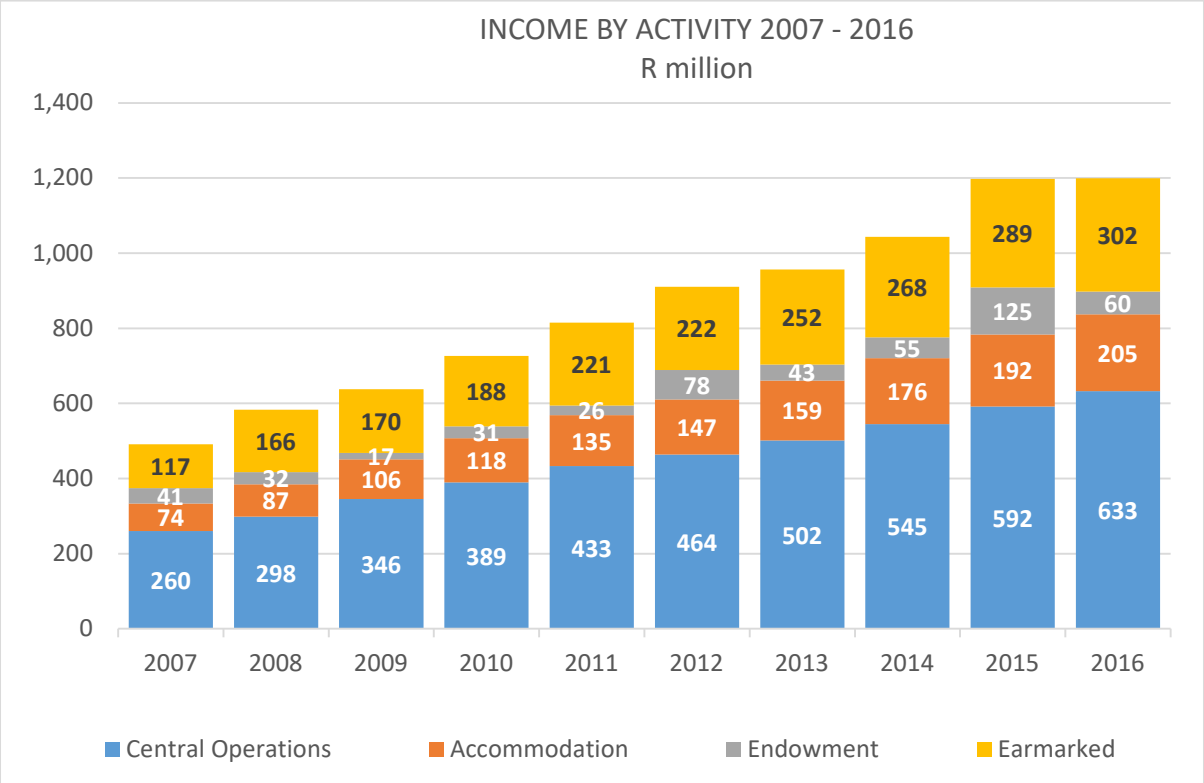
The university generates income from four different sources. The table below shows the different revenue streams and the levels of revenue generated in 2016.

Table 1: Total university income 2016

Council Directed Funds				Council Managed Earmarked Funds	Total University Funds
Central Operations	Accommodation	Endowed Funds	Sub-total		
R 633m	R 205m	R 60m	R 898m	R 302m	R1.2b

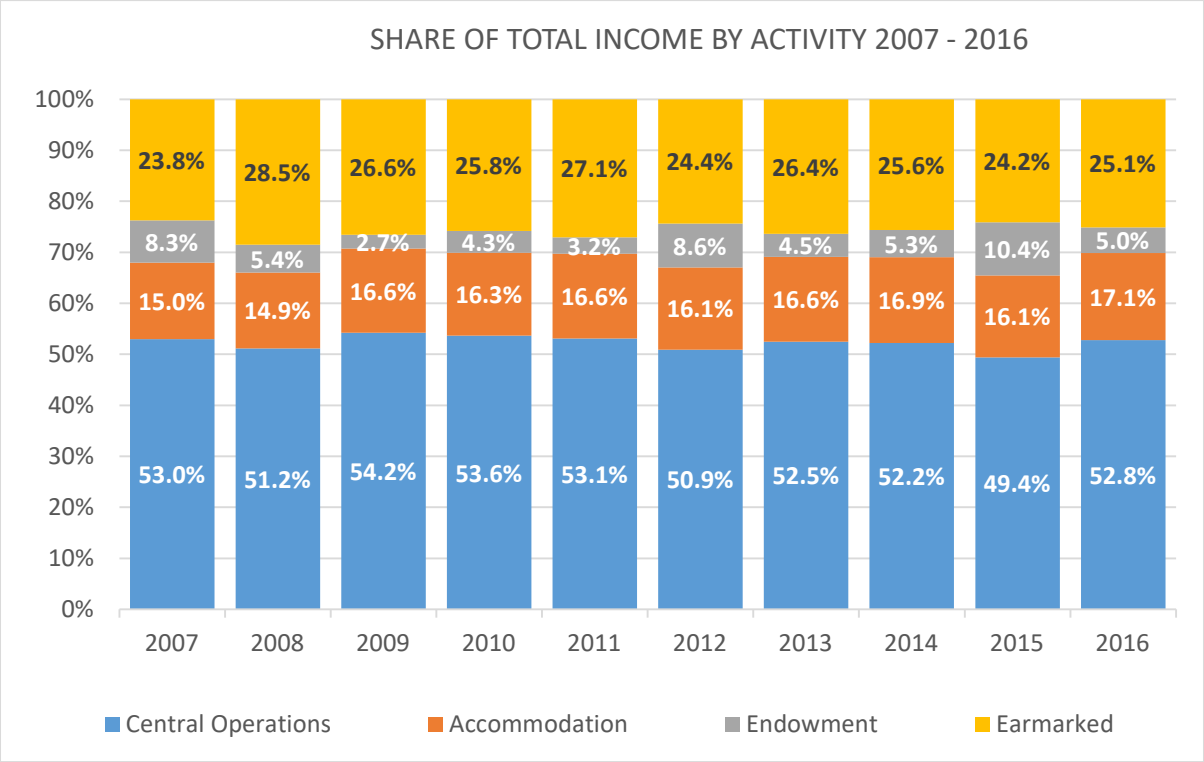
During 2016 the university generated total income of R1.2 billion through Council Directed activities of R898 million and Council Managed earmarked activities of R302 million. It is substantially through council directed activities that surpluses must be generated to add to unrestricted funds.

Figure 1: Income by type 2007 - 2016



Total income grew from R492 million in 2007 to R1.2 billion in 2016, with each activity contributing to this growth. The table below shows the share of total income that each activity represented over the period.

Figure 2: Share of Total income by activity 2007 – 2016



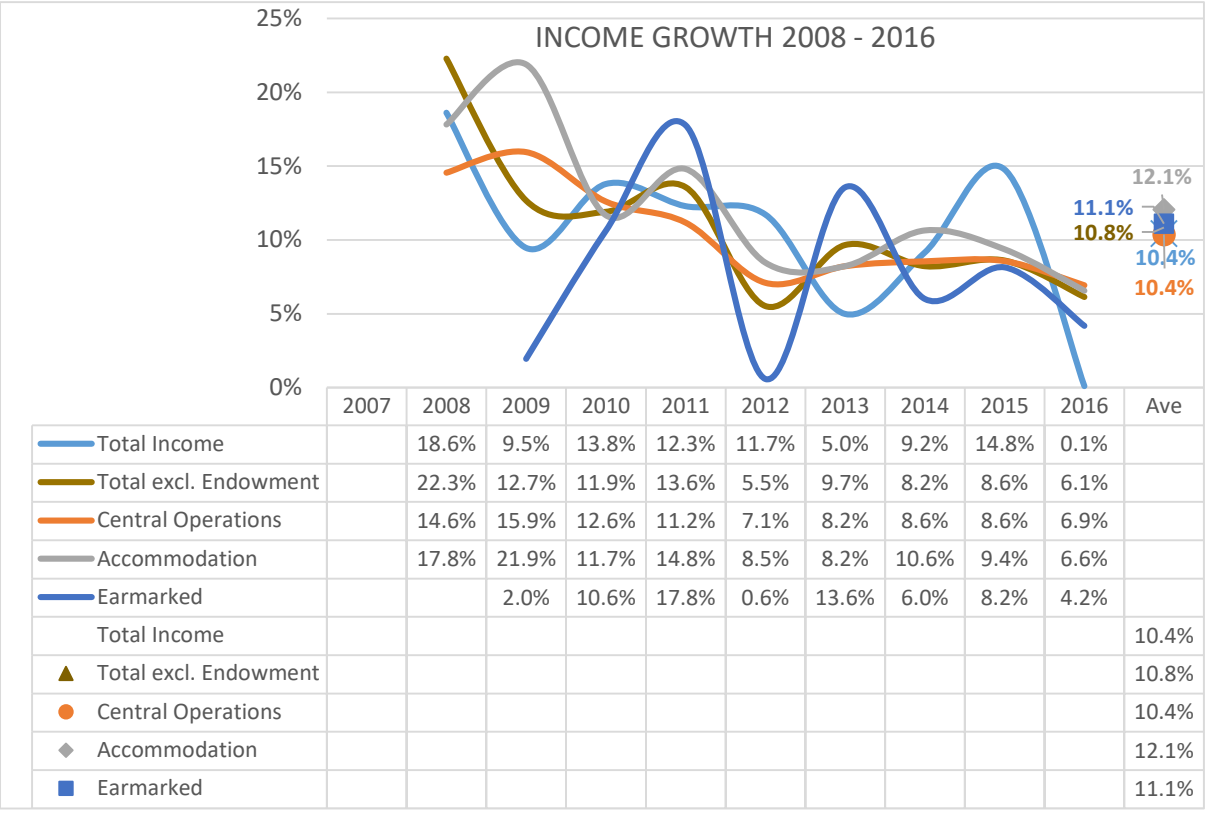
Central Operations activity is the largest generator of income, generating 52.8% of total income in 2016, followed by earmarked activities at 25.1%, accommodation at 17.1% and endowment income at 5%.

From 2007 until 2016 central operations' share of total income declined slightly while endowment income declined by a bigger margin from 8.3% to 5%.

The shares of accommodation and earmarked income increased from 2007 until 2016.

To understand the growth in income over the period 2007 until 2016 further figure 3 illustrates respective growth rates by income-generating activities.

Figure 3: Income growth 2008 - 2016



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Ave
Total Income		18.6%	9.5%	13.8%	12.3%	11.7%	5.0%	9.2%	14.8%	0.1%	
Total excl. Endowment		22.3%	12.7%	11.9%	13.6%	5.5%	9.7%	8.2%	8.6%	6.1%	
Central Operations		14.6%	15.9%	12.6%	11.2%	7.1%	8.2%	8.6%	8.6%	6.9%	
Accommodation		17.8%	21.9%	11.7%	14.8%	8.5%	8.2%	10.6%	9.4%	6.6%	
Earmarked			2.0%	10.6%	17.8%	0.6%	13.6%	6.0%	8.2%	4.2%	
Total Income											10.4%
Total excl. Endowment											10.8%
Central Operations											10.4%
Accommodation											12.1%
Earmarked											11.1%

Note: In the figure and table above endowment funds and earmarked funds do not have complete data displayed due the large year-on-year volatility in the growth rates making the graph difficult to display and interpret.

Total income grew by an annual average rate of 10.4%, significantly higher than the annual average inflation rate of 6.1% over the same period.

Except for 2013 and 2016 all the years commanded significant growth in total income. It is in particular the earlier years of 2008 until 2011 that significant growth is seen across all the major activities.

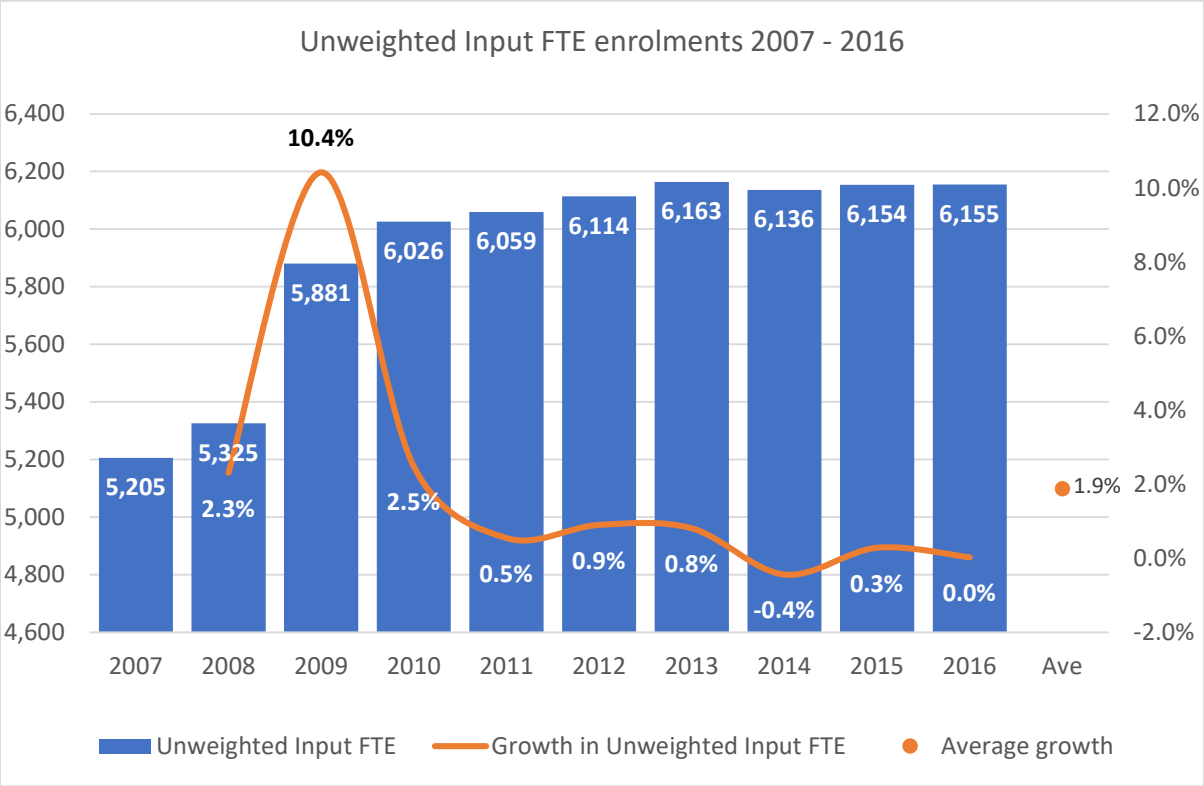
Accommodation activities showed the highest growth at an average annual rate of 12.1%, followed by earmarked activities at 11.1% and central operations at 10.4%.

2.2. Drivers of income

Before going into further detail of income growth it would be beneficial at this point to note some of the potential drivers of such growth, which are student enrolments, graduating students and research outputs.

Unweighted input FTE's (full-time equivalents) represent student enrolments during a particular year. This input can be used as a basis to measure tuition fees per unit or resource productivity.

Figure 4: Unweighted Input FTE enrolments 2007 – 2016

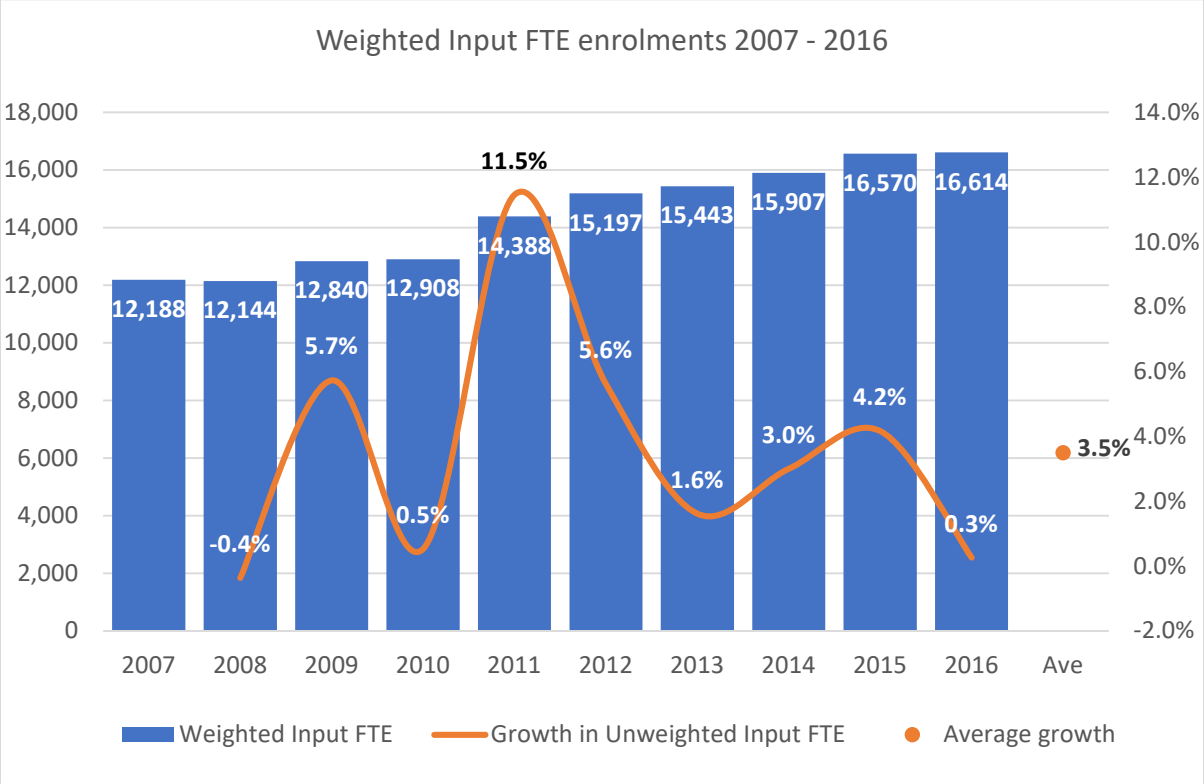


In 2009 there was a significant increase in enrolments with an increase of 10.4% over 2008. This would have raised the level of tuition fee income during the year and set a new base for total tuition fees income going forward. It also had the potential to increase certain costs that have a direct relationship with the level of student enrolments. The expected net result is the realisation of some economies of scale and the generation of additional surpluses. From 2010 the number of unweighted FTE enrolments levelled out towards 2016.

Weighted input FTE's represent unweighted student enrolments which are weighted according to the level of study (undergraduate, honours, masters, doctorate) and the course of study (arts, mathematics, education, physics, etc.). This figure is higher than the unweighted input FTE's due to the weighting applied. Weighted input FTE's are used to calculate the government subsidy portion known as the Teaching Input Subsidy. The subsidy is granted two years after the actual year in which the students were enrolled.

The following figure presents the weighted input FTE's for the years 2007 until 2016. Note that the year represents the year in which the weighted input FTE's were recognised for subsidy purposes, e.g. the weighted FTE's presented in 2016 as subsidy earning inputs represent the actual FTE's recorded in 2014.

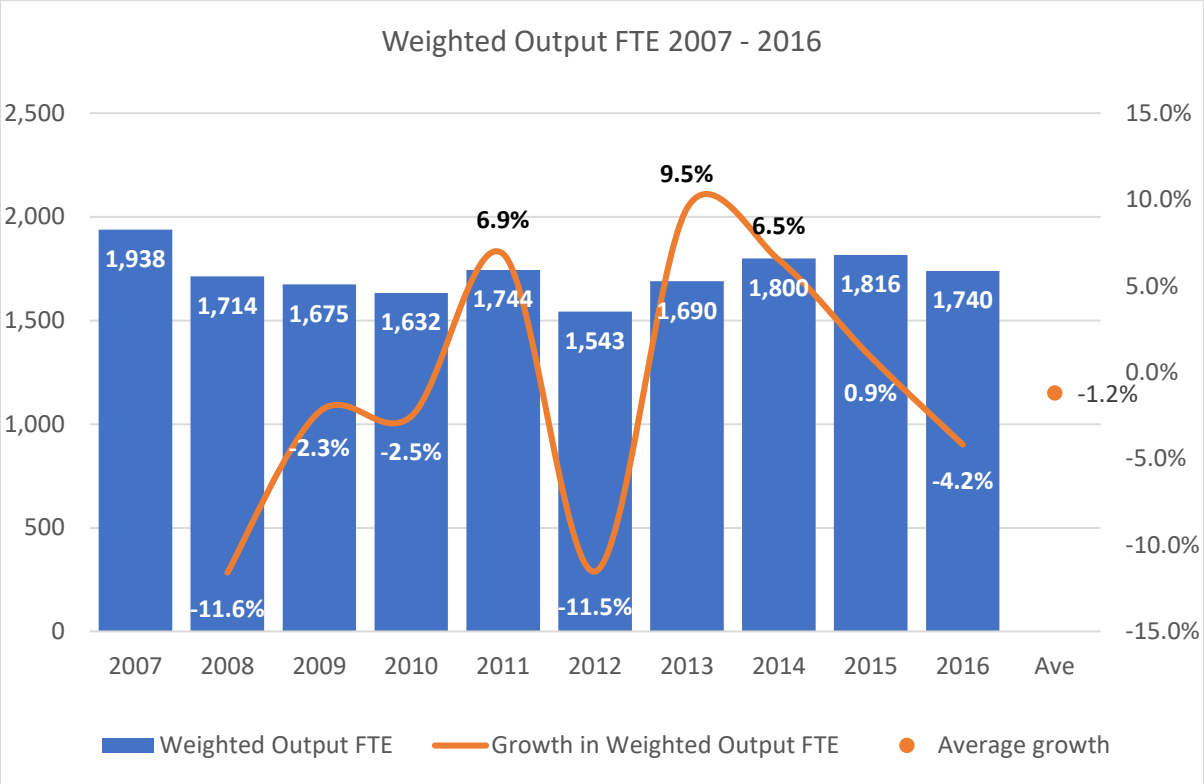
Figure 5: Weighted Input FTE enrolments 2007 – 2016



The significant growth rate in 2011 coincides with the growth rate in unweighted input FTE's in 2009 (see figure 4). The average annual growth rate of 3.5% is higher than that of the unweighted input FTE's. This indicates, at a high level, a shift in enrolments from courses with a low weighting to courses with a higher weighting. It may also indicate a shift in focus from undergraduate to postgraduate activity.

Teaching output FTE's represent the number of graduates in a year weighted according the level of study (undergraduate degree, honours). It excludes research masters and doctoral outputs. Teaching output FTE's are used to calculate the Teaching Output subsidy, and similarly to weighted input FTE's, the subsidy is granted two years after the actual teaching outputs were recorded.

Figure 6: Weighted output FTE's 2007 – 2016



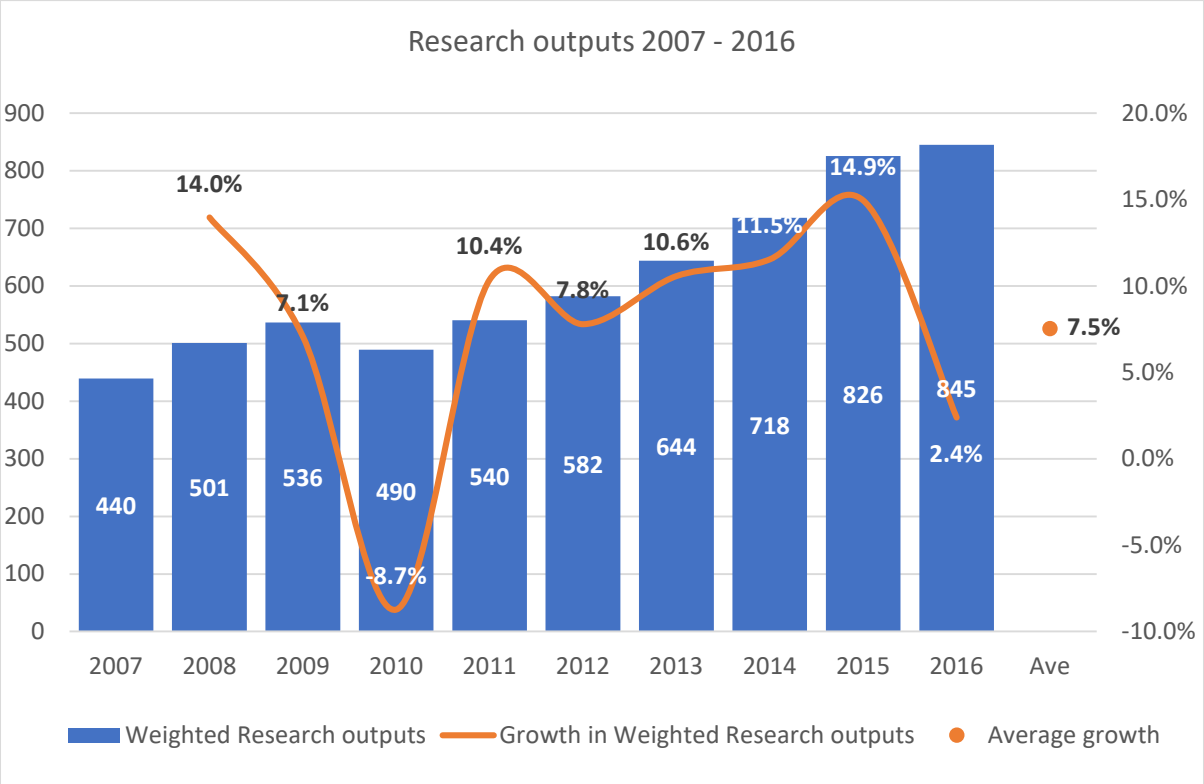
Weighted output FTE's declined on average by 1.2% for the period 2007 until 2016 (actual years 2005 until 2014). The overall decline from 2007 until 2016 is 10.2%. This suggests a decline in graduation rates given that unweighted and weighted teaching inputs increased, and could also indicate a shift in focus from undergraduate activity to postgraduate activity. In 2007 the graduation rate was 30% and in 2015 it was 27%.

In 2007 undergraduate enrolments represented 80.2% of total enrolments while in 2015 they represented 78.9%.

This decline in teaching output FTE's is concerning since it means that, as a share of the national teaching output subsidy available, the university is earning relatively less compared to previous years and potentially in relation to other institutions. It has an impact on the pipeline for postgraduate studies and the income earning base in that subsidy category.

It may indicate that students either exit studies before completion or take longer to complete them, which in both cases mean that more resources are applied than planned. This trend requires further investigation.

Figure 7: Research outputs 2007 – 2016



Research outputs increased at an annual average rate of 7.5% from 2007 until 2016. The research outputs in 2016 were 92% higher than those in 2007. This is good news in terms of increased research output subsidy, but there may be a question as to whether or not it is at the expense of something else, like the decline in non-research graduation rates.

In summary to this section it is evident that the university went through some changes in enrolments and teaching and research outputs. After an initial high growth rate in unweighted teaching inputs in 2009 the growth slowed down to quite low levels which may have an impact on subsidy earning potential in future years. There was some compensation in that the higher growth rate in weighted input FTE's dampened the negative impact of low growth in unweighted enrolments.

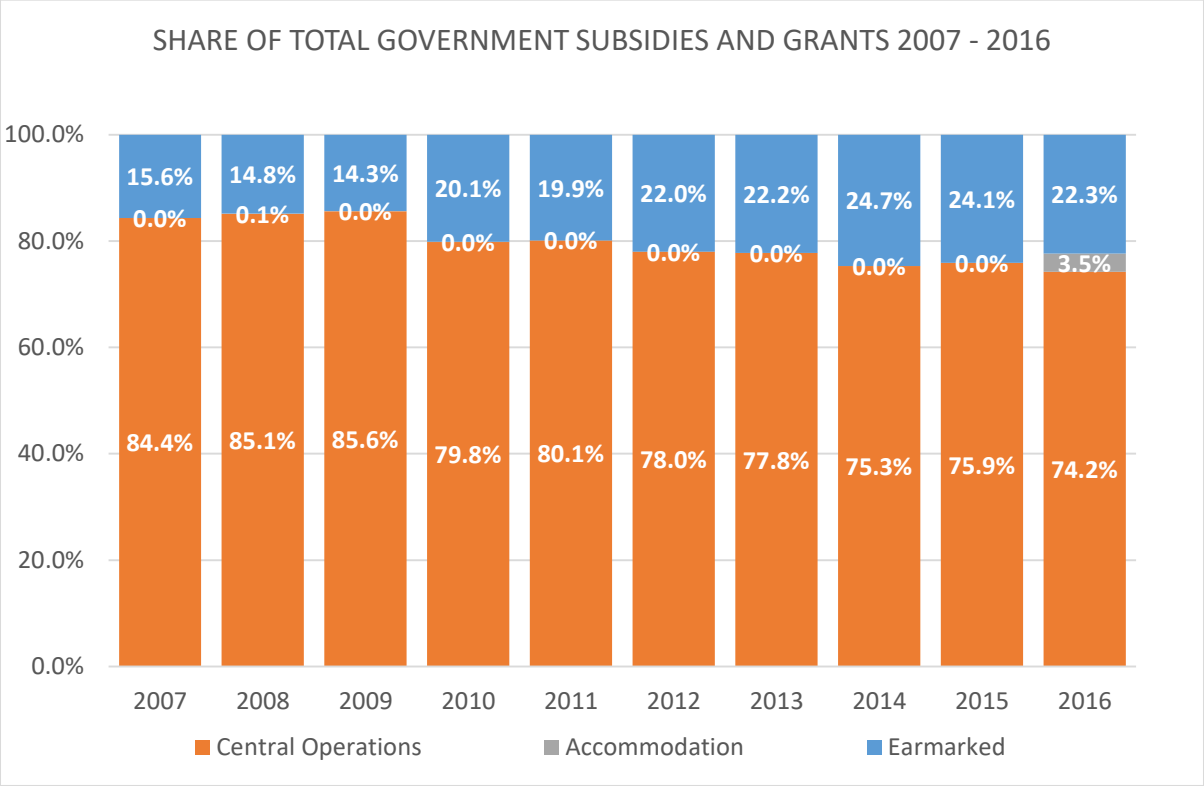
The decline in Weighted Output FTEs is of great concern and must be investigated urgently.

2.3. Recurrent income

The university recognises recurrent income as government subsidies and grants, tuition fees and residence fees.

Figure 8 shows what proportion of government subsidies and grants are generated by central operations, accommodation and earmarked activities respectively for the years 2007 until 2016.

Figure 8: Share of total government grants and subsidies 2007 – 2016



The proportion of government subsidies and grants generated by central operations in 2007 was 84.4%, but it gradually declined to only 74.2% in 2016. The converse happened to earmarked activities where government subsidies and grants grew from a 15.6% share in 2007 to 22.3% in 2016. The 3.5% share from accommodation in 2016 relates to the government funding the shortfall in tuition fees due to no increase in that year.

This figure further illustrates the suggestion made earlier that there has been a shift in focus from undergraduate activities to postgraduate, research and development activities. Further analysis needs to be done to understand the impact in more detail.

Figure 9: Growth in Central operations vs Earmarked government subsidies & grants

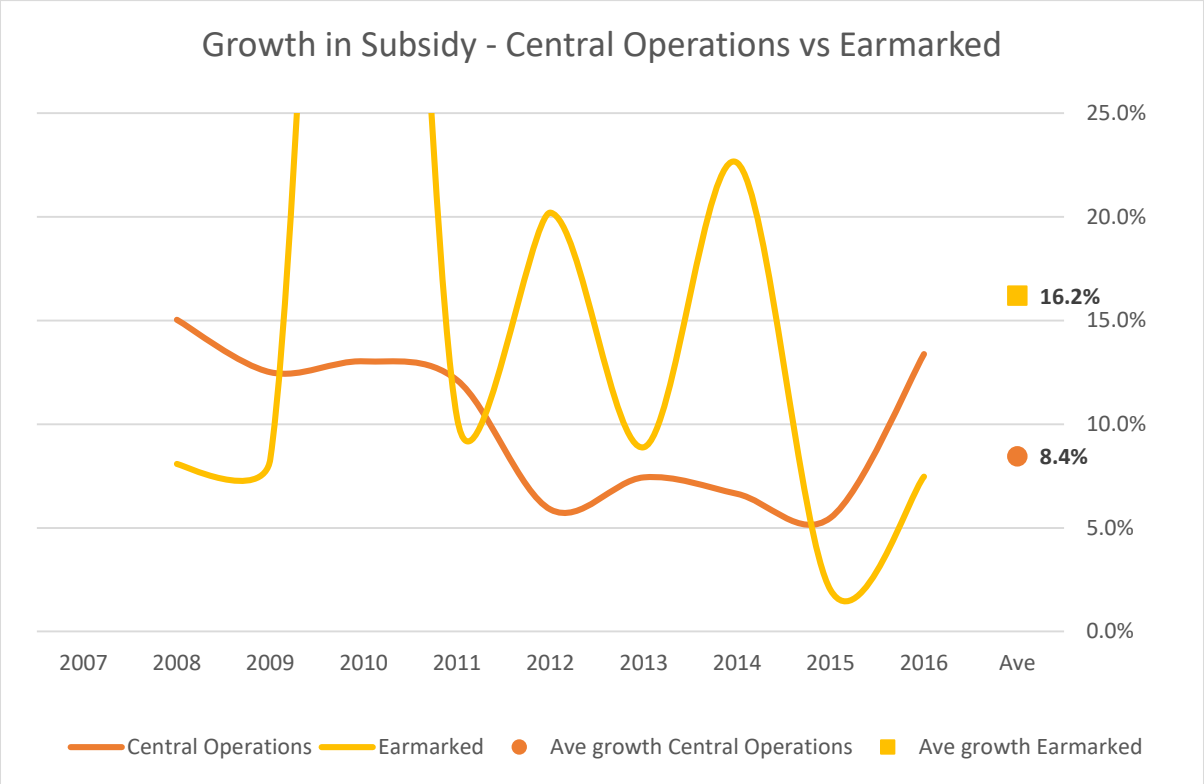
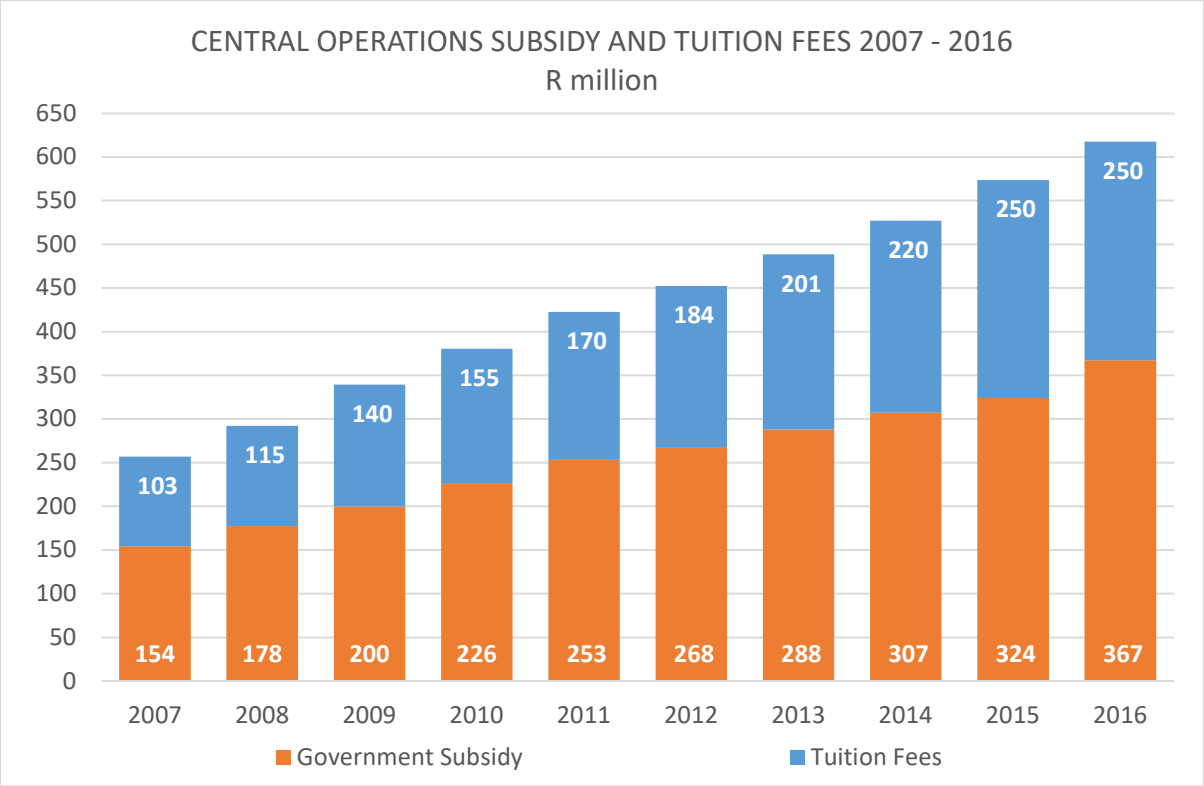


Figure 9 shows the growth rate of government subsidies and grants for central operations and earmarked activities respectively. Central operations government subsidies and grants grew at an average annual rate of 8.4% (138% overall), while that of earmarked activities grew at an average annual rate of 16.2% (286% overall).

Central operations represent one of the core missions of the university, which is the teaching and learning activities. As seen earlier, it generates the largest portion of income (52% in 2016) for the university. The following figures provide an analysis of the trends in income by source from 2007 to 2016.

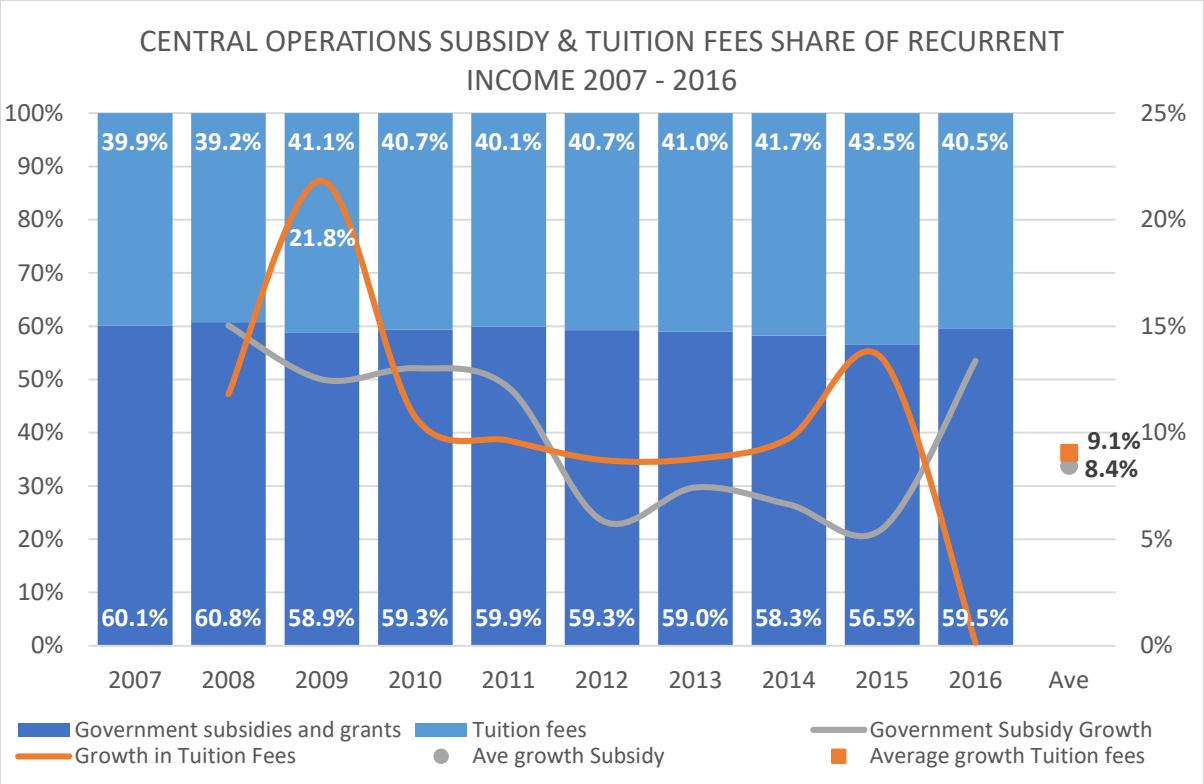
Figure 10: Central operations Subsidy and Tuition fees 2007 – 2016



Government grants and subsidies and tuition fees made up 97.6% of central operations income in 2016, slightly down from 98.6% in 2007. Subsidies and grants have grown from R154 million in 2007 to R367 million in 2016, an overall growth rate of 138%, while tuition fees have grown from R103 million to R250 million, and overall growth rate of 143%.

Figure 11 illustrates the proportion of recurrent income for government subsidies and grants and tuition fees respectively, as well as their growth rates, from 2007 until 2016.

Figure 11: Central operations subsidy & tuition fees share of recurrent income 2007 – 2016

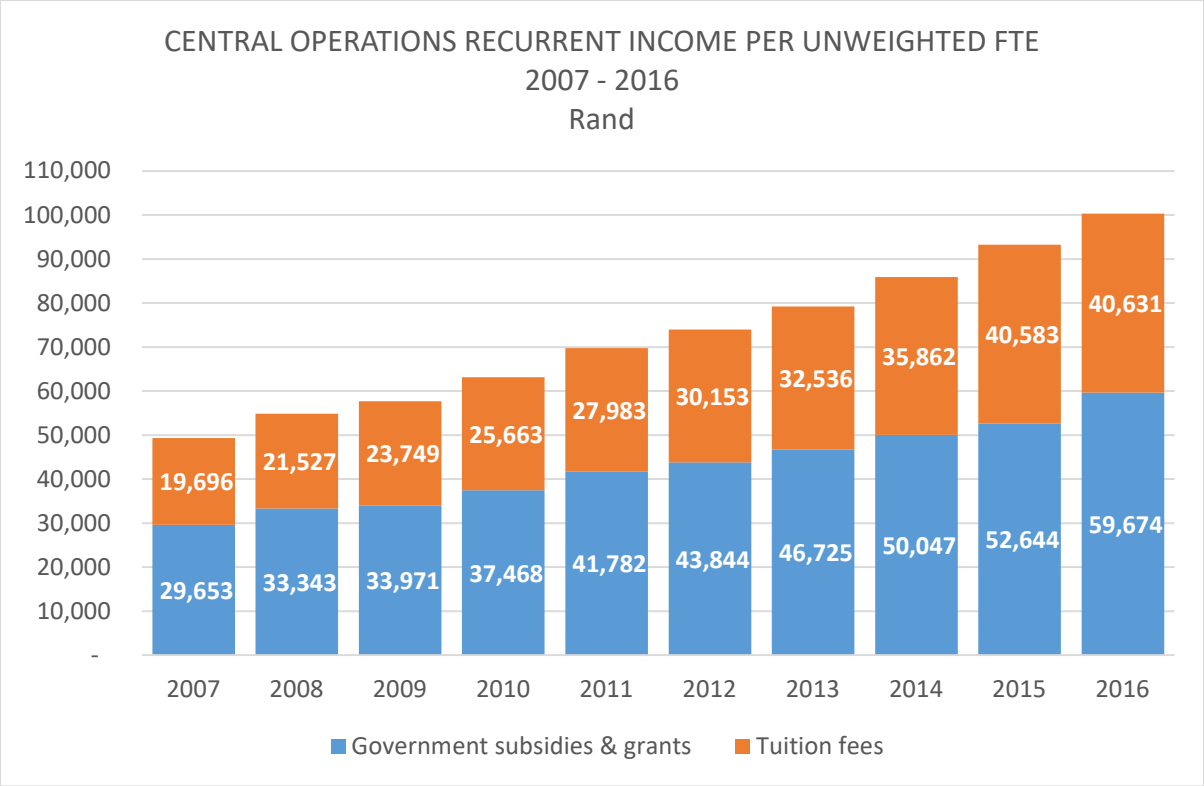


The share of government subsidies and grants in 2007 was 60.1% and declined to 59.5%, while the share of tuition fees grew from 39.9% to 40.5%. Note that in 2015 the share of government grants and subsidies were 56.5% and tuition fees 43.5%. Up to 2015 the graph suggests an increasing dependence on tuition fees relative to government subsidies and grants. In 2016 government announced that tuition fees will not be increased and that it will fund the shortfall to universities. The change on the graph in 2016 reflects this, where the share of government funding increases and tuition fees decreases.

The figure also shows the growth rates of government subsidies and grants and tuition fees respectively. Government grants and subsidies grew at an average annual rate of 8.4% and tuition fees at 9.1%. These increases include the 1.9% per annum growth in unweighted FTE's discussed above. If it were not for the government intervention in the tuition fees increase the picture would have looked different.

Until now the focus has been on gross nominal values which provide an overall view of income levels, trends and growth. An interesting analysis is the determination of values per unit of measure such as FTE student. As part of a brief discussion figures 12 and 13 illustrates central operations recurrent income per unweighted FTE.

Figure 12: Central operations recurrent income per unweighted FTE 2007 – 2016



In 2007 central operations generated government subsidies and grants per unweighted FTE enrolled student of R29 653 and tuition fees of R19 696, resulting in total recurrent income per unweighted FTE enrolled student generated of R49 349. In 2015 government subsidies and grants amounted to R52 644 and tuition fees to R40 583, totalling R93 227. In 2016 government subsidies and grants shows a big jump of 13.4% and tuition fees almost no increase. This is as a result of no fee increases in 2016 and government funding the shortfall.

In 2016 the total recurrent income generated by government subsidies and grants and tuition fees amounted to R100 305 per unweighted FTE enrolled student, 103% more than 2007 and also more than the inflation rate of 72% over the period until 2016. Until 2015 student fees grew at a faster rate (106% for 2007 until 2015) than government subsidies and grants (78%).

Figure 13: Central operations growth in recurrent income per unweighted FTE 2007 – 2016

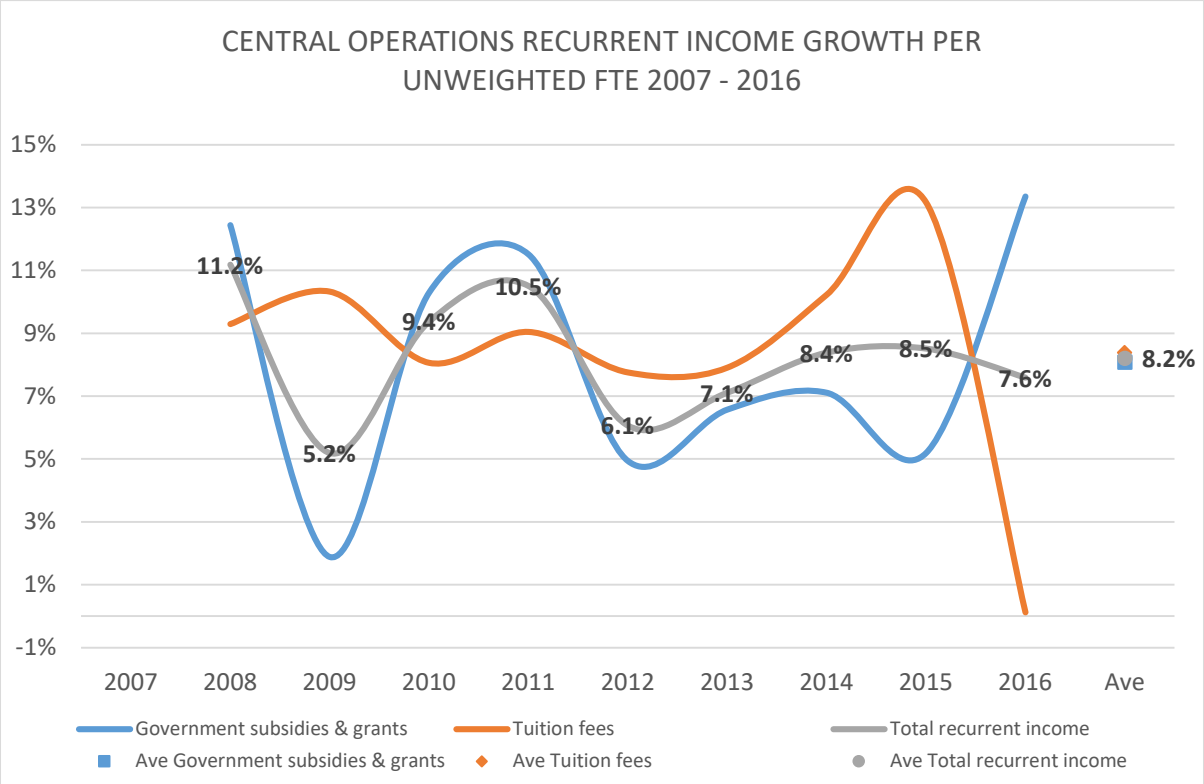


Figure 13 illustrates the growth rates for total recurrent income, government subsidies and grants from 2007 until 2016. Total recurrent income grew by an average annual rate of 8.2%, with government subsidies and grants and tuition fees in the same territory. It must be noted again that 2016 sees an adjustment in the growth rates due to government funding the tuition fees shortfall under a no fee increase dispensation.

The range of increases in tuition fees is from 7% to 10% over the period. This is consistent with higher education inflation in South Africa over the period. It does not mean that it was sustainable given the subdued economic climate that sees consumers under increasing financial pressure and the increasing demand to provide affordable quality higher education.

2.4. Net student fees

While student fees are recognised in full on the university's income statement, not all of the student fees will realise an inflow of cash. Cash is the lifeblood of any organisation in that it pays for the services, in the form of salaries and water & electricity, that need to be rendered.

There are two particular items that reduce the amount of cash generated from student fees. These items are student financial aid and bad debts. In both cases student fees are recognised as income for accounting purposes, as is the case in all the figures above, but no cash will be generated from them.

Figure 14 illustrates the how net student fees are calculated.

Figure 14: Net Student fees

Student fees are charged when students register; financial aid is then subtracted because the fees are funded by the university and not the student, then bad debts are subtracted as these are fees that will not be recovered in cash.

The Net Student Fees represent the actual cash that the university expects to receive from the student fees charged.

Figure 15: Student fees, Provision for Bad debts and Student financial aid 2007, 2011 – 2016

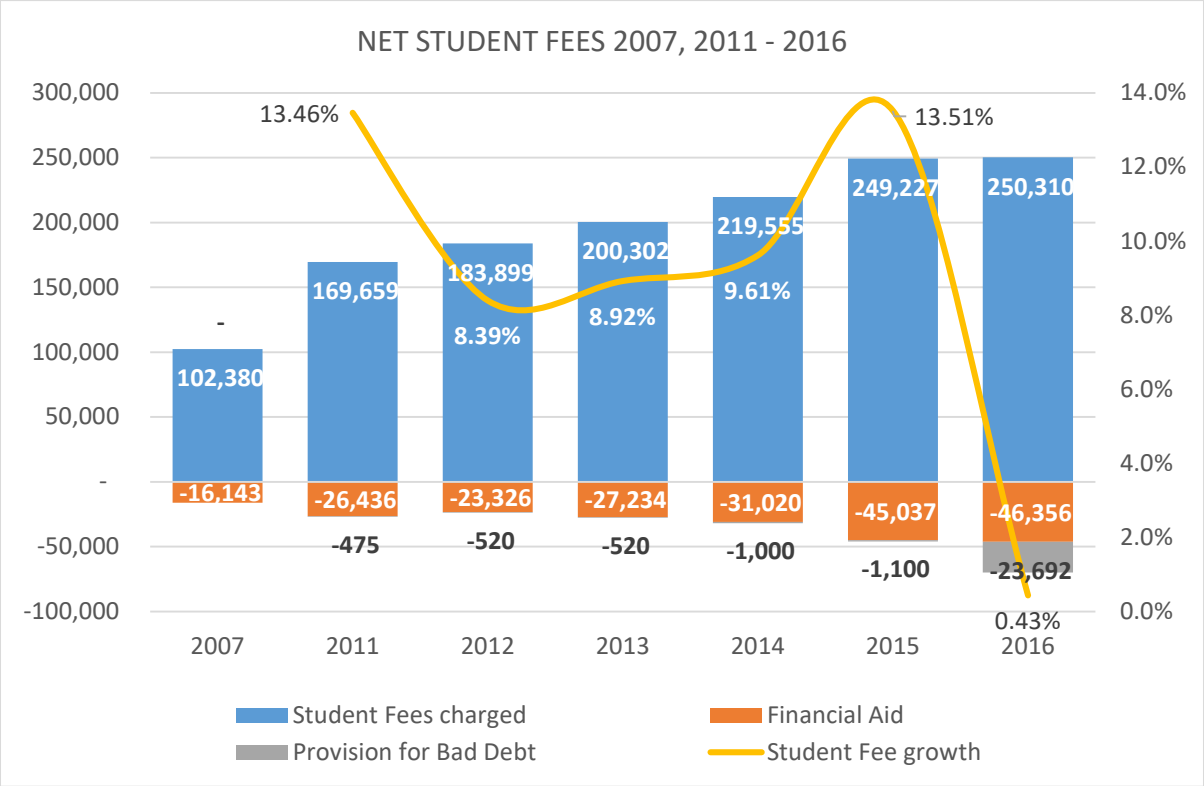


Figure 15 shows the calculations of the net student fees.

- Financial aid rose from R16.1 million (15.8% of fees paid) in 2007 to R46.4 million (18.5% of fees paid) in 2016.
- Financial aid jumped 45% in 2015. Half the increase in fees in 2015 went to assist students who could not pay fees. This demonstrates the growing squeeze on students which led to the #feesmustfall campaign in the same year.
- A substantial part of the student body either could not, or would not, pay the fees charged in 2016 even though they were unchanged from 2015's levels.
- Together with the freeze on fees, the jump in Provision for bad debt in 2016 meant net fee income received fell R23 million from 2015-16 to a level lower in rand terms than in 2014.
- It should be noted that if net student fees (cash actually received) were used in the previous tables, the increases in fee income and total income would be less than shown.

2.5. Conclusion on Income

In summary to the discussion on income, it is evident that income grew significantly from 2007 until 2016. Total income grew by 144%, ahead of inflation over the same period of 72%. This is at an average annual growth rate of 10.4%. Income grew across all university activities.

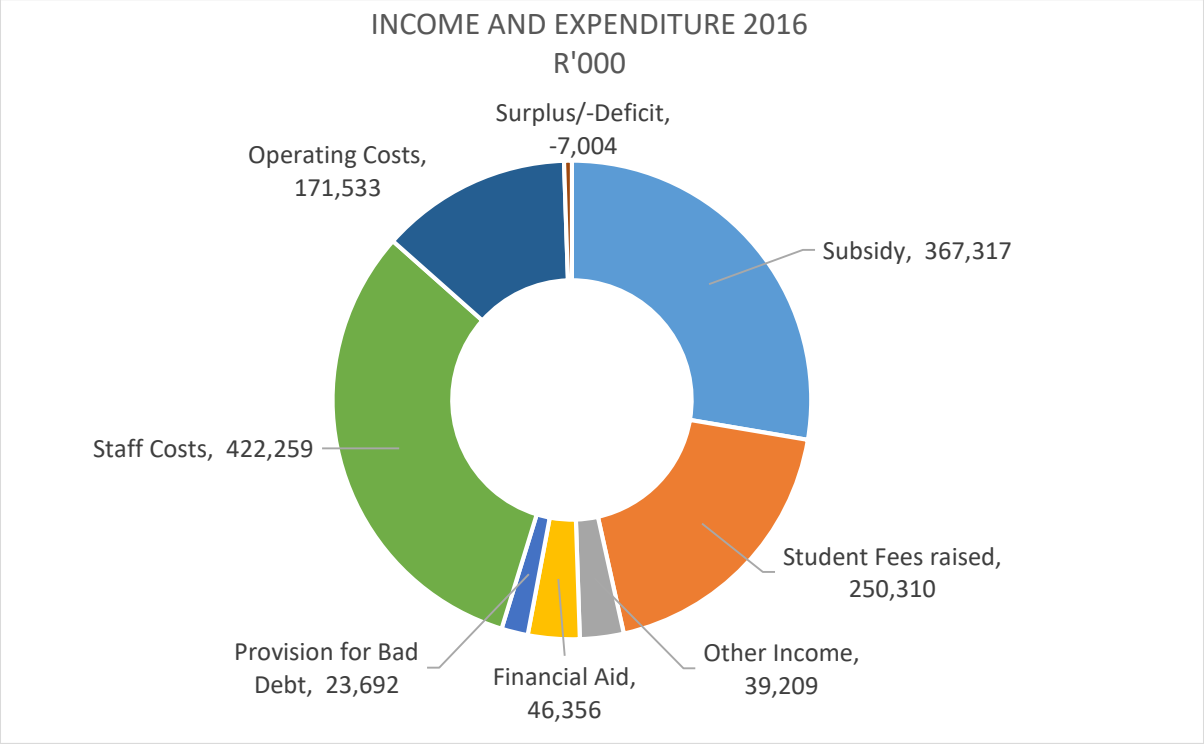
Central operations income grew by an average annual rate of 10.4%. The main drivers of this growth are increased student enrolments and research outputs. Recurrent income per unweighted FTE grew by an average annual rate of 8.2%, ahead of inflation. This suggests that, at least from an unweighted enrolment basis, total income per student did not regress. This observation excludes the impact of student financial aid and bad debt on cash actually received. It is also less than the increase in University expenditure, as the following section reveals.

3. Expenditure – Central Operations

The discussion on expenditure will be based on what is known as the budgetary control statement, also known as the BCS. It is the university's internal mechanism used to develop the budgets for central operations and accommodation respectively, and it is used to measure and control income and expenditure against the budgets.

The following figure presents income and expenditure categories and values for the year 2016. Expenditure is on the left and income on the right of the circle. Income from and expenditure on residences is not included in any of the numbers.

Figure 16: Income and Expenditure 2016



- Expenditure in 2016 exceeded revenue by R7.0 million.
- This is after a provision for bad debts (unpaid fees) of R23.7 million.
- The University's sources of income in 2016 were:
    - Government subsidy R367.3 million (56%)
    - Student fees R250.3 (38%)
    - "Other" (3rd stream) income R39.2 million (6%).
- Expenditure in 2016 can be divided into:
    - Staff costs R422.3 million (64%[1])
    - Operating costs R171.5 million (26%)
    - Provision for bad debt R23.7 million (7%)
    - Financial aid R46.4 million (4%).

[1] Note that expenditure includes Financial Aid and Provisions for bad debt. When total costs are defined as staff and operating costs in Figures 16 and 17, staff costs are 71% of total costs.

- Expenditure did not include significant underspend on maintenance, where the university has an estimated backlog of more than R1 billion.

Figure 17: Income and Expenditure 2007, 2011 – 2016

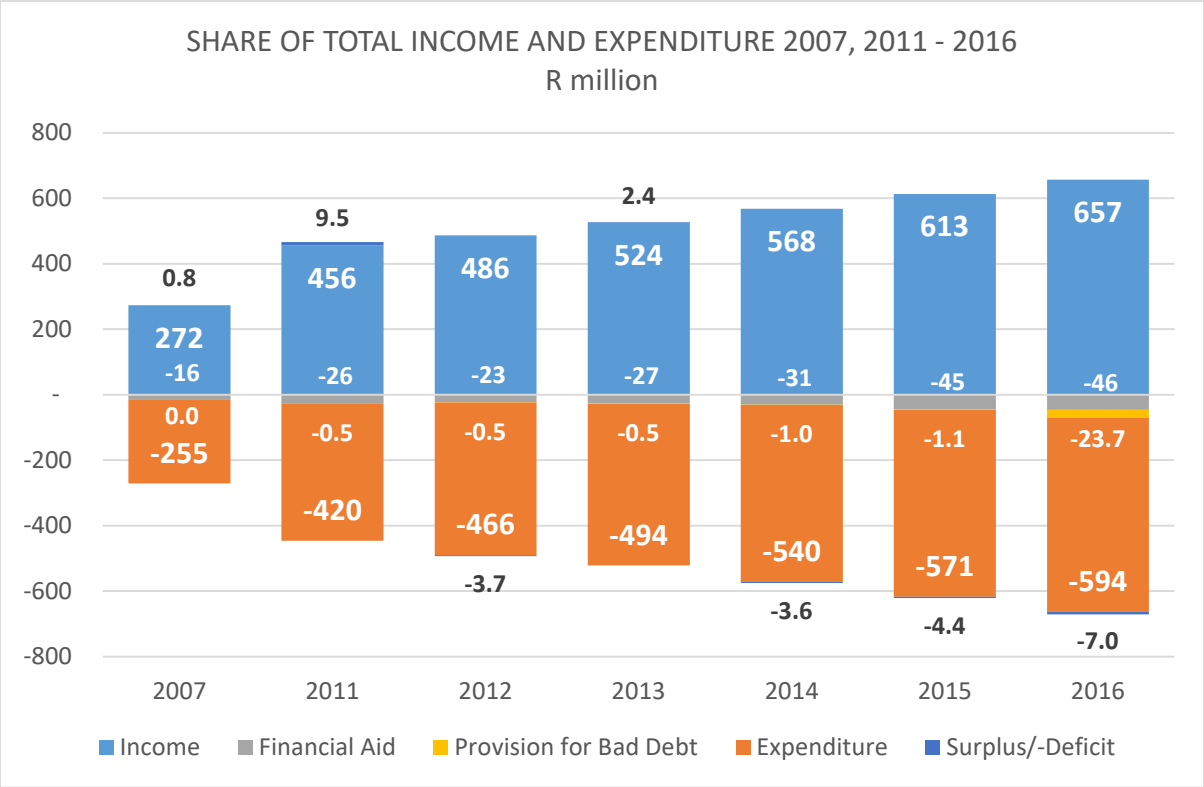


Figure 17 illustrates the evolution of spending and revenue since 2007. It shows:

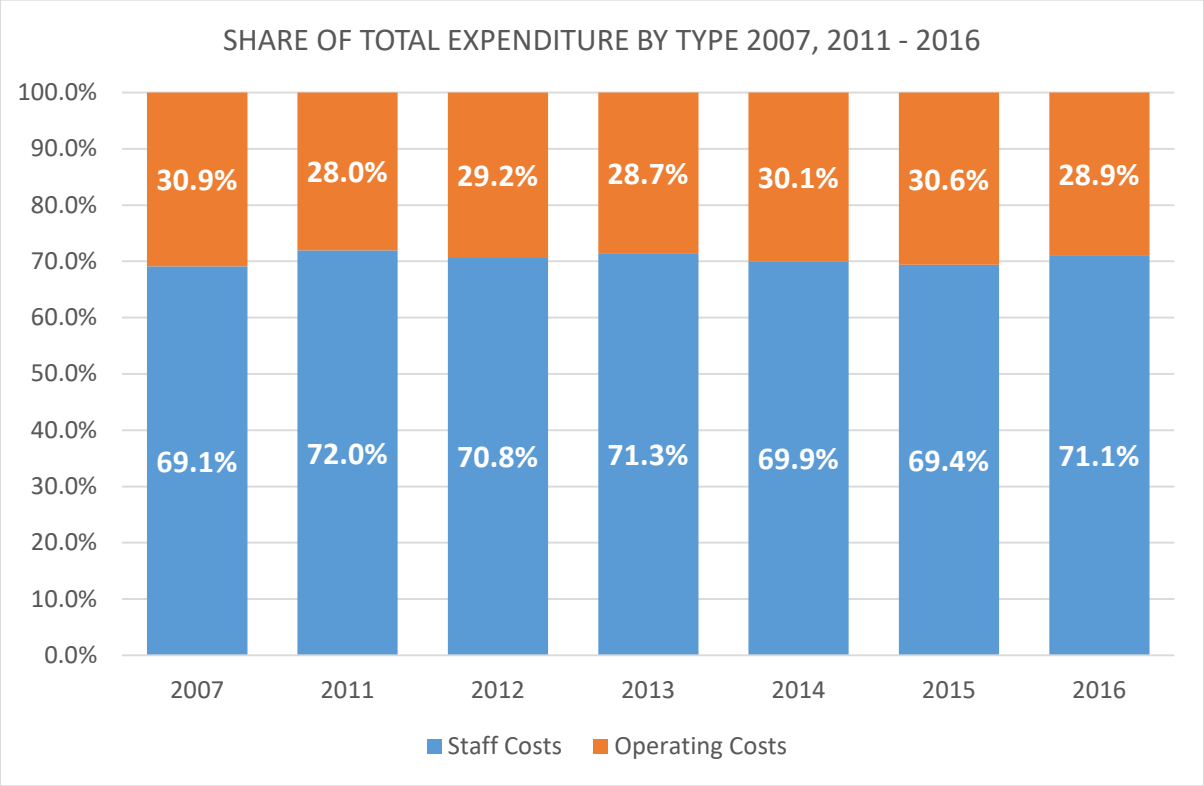
- Between 2007 and 2016 income increased from R272 million to R657 million (+141%)
- Total expenditure (excluding financial aid and bad debt) increased over the same time from R255 million to R594 million (+133%).
- Including Financial aid and bad debt, expenditure rose from R271.3 million to R663.8 million (+145%).
- The University ran small surpluses in 2007, 2011 and 2013, but deficits in 2012, 2014, 2015 and 2016.
- Rhodes University has run an increasing deficit each year since 2014. This deficit was funded from reserves or borrowings so is not sustainable in the medium and long-term.

3.1. Total expenditure

Figure 17 illustrates the growth in total expenditure from R255 million in 2007 to R594 million in 2016; growth at an overall rate of 133%.

Total expenditure is firstly broken down into Staff costs and Operating costs, and figure 18 shows the relative share of these costs of total expenditure.

Figure 18: Share of Total expenditure by type 2007, 2011 – 2016

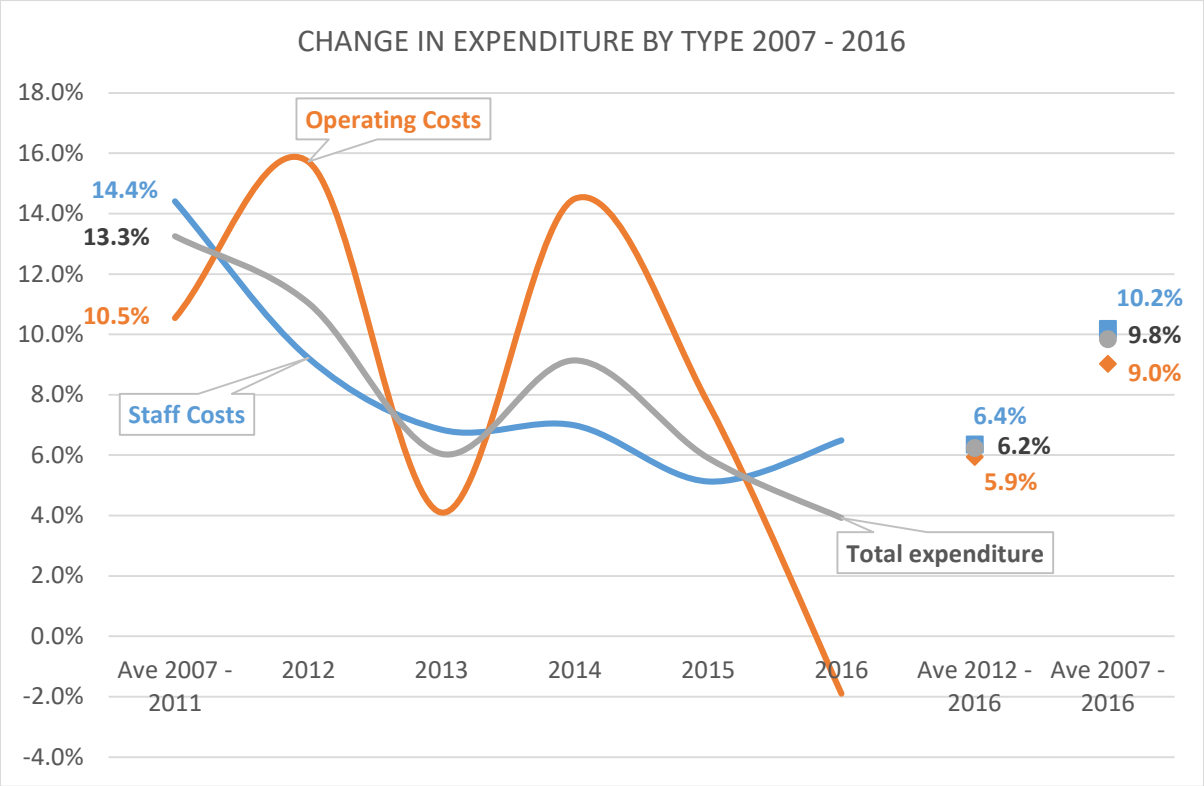


Staff costs as a share of total expenditure were 69.1% in 2007 and 71% in 2016, while operating costs declined as a share over the same period.

Staff costs as a share of total expenditure were at their highest in 2011 at 72%. The constituent parts of these changes will be examined later.

Figure 19 shows the change in expenditure from 2007 until 2016, as total expenditure, staff costs and operating costs respectively.

Figure 19: Change in expenditure by type 2007 – 2011, 2012 – 2016



For the years 2007 until 2016 the average annual increase in total expenditure was 9.8%; staff costs increased by an average annual rate of 10.2% and operating costs by 9%.

The biggest change in total expenditure is seen for the period from 2007 until 2011. Total expenditure increased on average by 13.3%. This was driven mainly by staff costs increasing at an average annual rate of 14.4% and operating costs increasing by 10.5%. This coincides with the high increase in student enrolments over the same period (see figure 4).

From 2012 until 2016 the average annual increases for the respective expenditure items range from 5.9% for operating costs to 6.4% for staff costs, with the average increase for total expenditure on 6.2% close to inflation.

Figure 20 provides a different perspective of total expenditure, in that it shows expenditure by function instead of by type. The functions are made up as follows:

- Total Departments includes academic departments, Deans' offices and CHERTL
- Institutes and Units represents grants and support given to ISEA, IWR, RUMEP, etc.
- Academic Support includes Library services, Research & Development, Community Engagement and International Office
- Administrative Support includes all the divisions not in the other functions. Divisions include the Registrar's office, Human Resources, Finance, Infrastructure & Operations, Student Affairs, etc.

Figure 20: Total expenditure by function 2007, 2011 – 2016

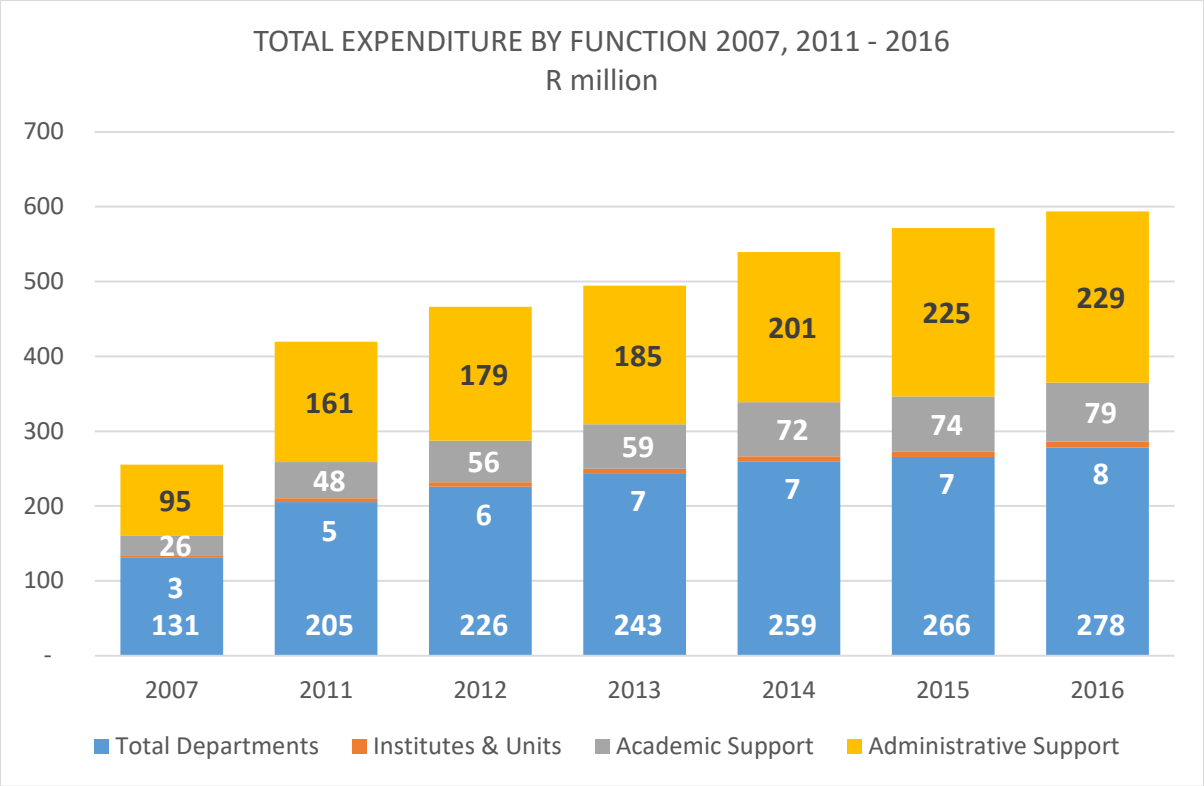


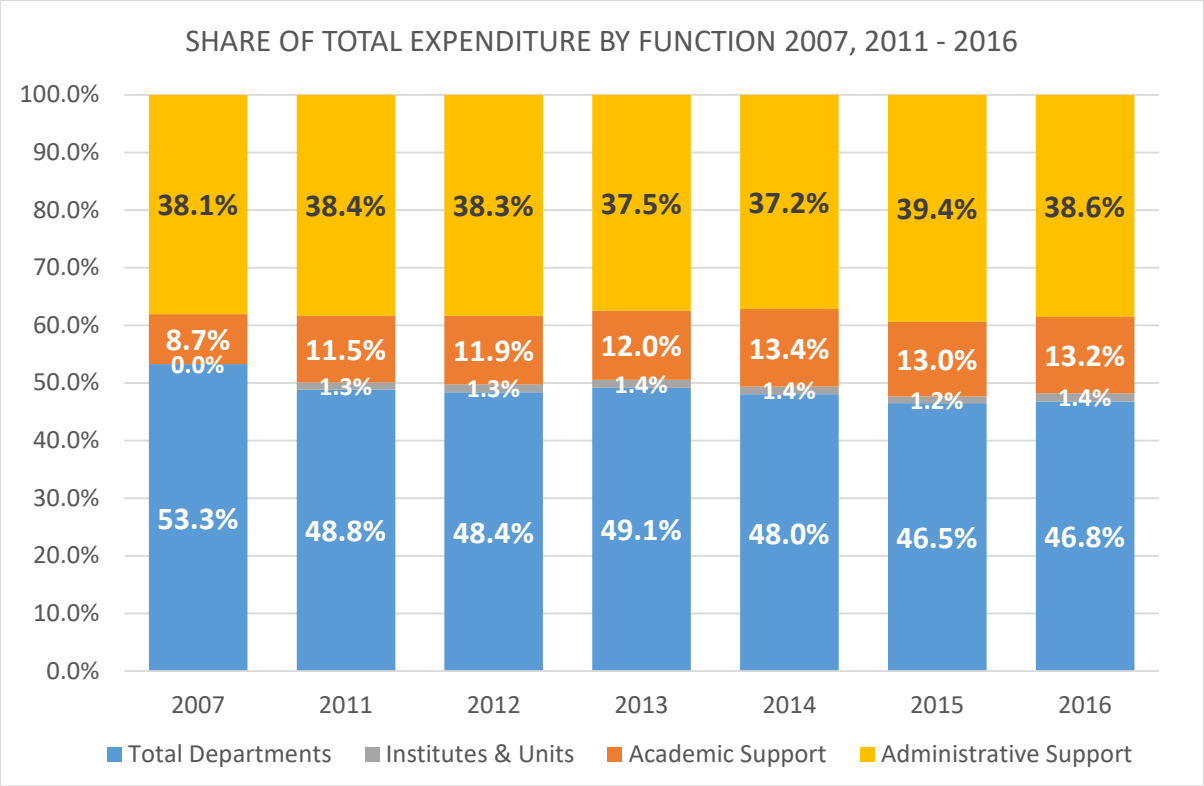
Figure 20 shows the evolution of expenses incurred or grants provided by each of the respective functions for the years 2007, and 2011 until 2016. Total expenditure rose from R261 million in 2007 to R594 million in 2016. The following are the key figures:

- Total Departments expenditure rose from R131 million in 2007 to R278 million in 2016
- Administrative Support expenditure rose from R95 million to R229 million
- Academic Support expenditure rose from R26 million to R79 million
- Institutes and Units expenditure and grants rose from R3 million to R8 million

The figures that follow provide more detail of what happened with expenditure in total and by function for the years 2007 and 2011 to 2016.

Figure 21 examines the relative share of total expenditure for each function, and figure 22 shows the change in expenditure in total and by function over the period.

Figure 21: Share of total expenditure by function 2007, 2011 – 2016 in %



The share of Total Departments expenditure of total expenditure declined from 53.3% in 2007 to 46.8% in 2016.

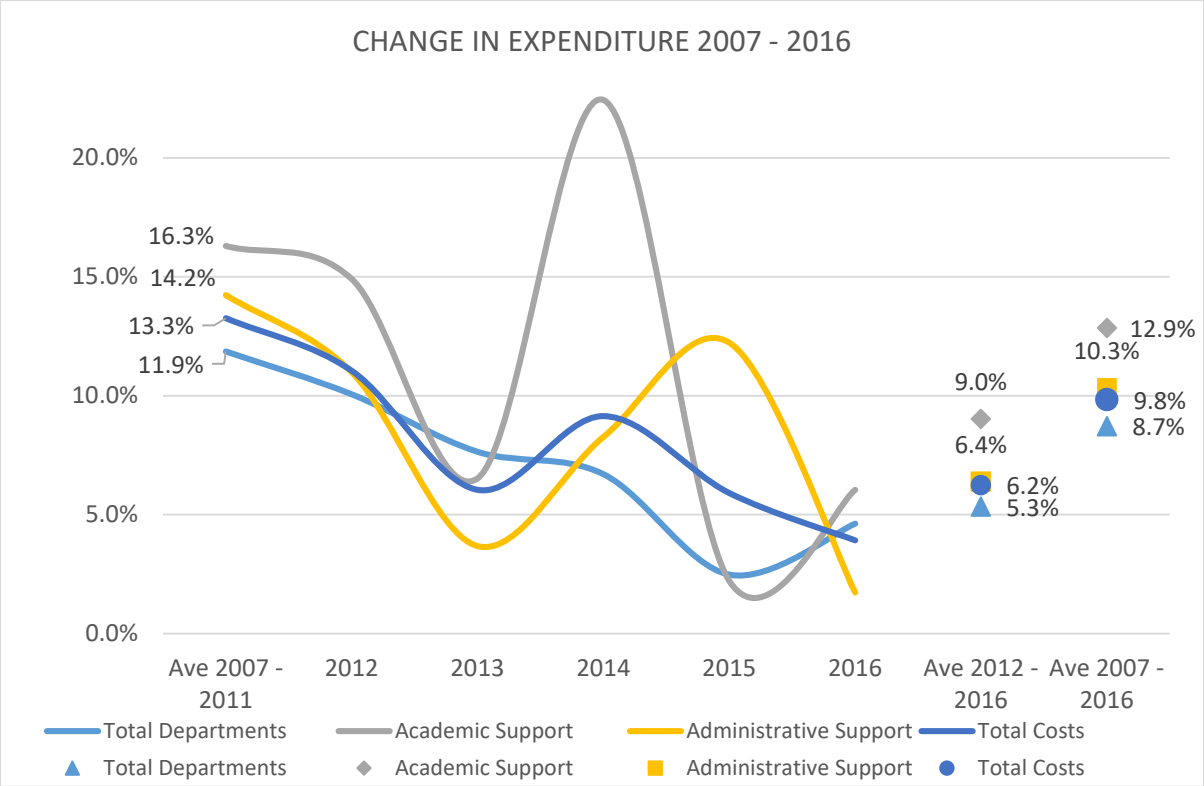
The share of Institutes and Units expenditure and grants grew from a very small percentage to 1.4%.

Administrative Support expenditure share grew from38.1% to 38.6%.

Academic Support expenditure share grew significantly over the period, from 8.7% in 2007 to 13.2% in 2016.

For all the functions, except Administrative Support, there is a significant change between 2007 and 2011.

Figure 22: Growth in expenditure 2007 – 2016



Total expenditure (costs) rose by an average annual rate of 9.8% from 2007 until 2016; this is an overall increase of 133% from 2007-2016 (versus 72% rise in CPI).

- The breakdown of increases per function shows:
    - 8.7% average annual increase in academic department costs; 112% overall
    - 10.3% average annual increase in administrative support costs; 136% overall
    - 12.9% average annual increase in academic support costs; 197% overall.[2]
- Not shown in the figure due to its low share and to simplify the graph is a 11.4% average annual increase in Institutes and Units; 163% overall.

The years from 2007 until 2011 show significant increases in expenditure across all functions.

- The average annual increase of total expenditure was 13.3%.
- Academic Support expenditure increased the most, at an average annual increase of 16.3%.
- Administrative Support increased by 14.2%
- Total Departments increased by 11.9%

The figures suggest that the Academic Support function contributed the most to the high increases in expenditure. The following figures analyse this function further. The function is broken up into two groups, the higher value contributors of Library Services staff costs, books and electronic resources and R&D grants, and lower value contributors of R&D staff costs, Community Engagement and International Office.

[2] This shows what is always the arbitrary nature of comparing just 2 years – in this case 2007 and 2016. Probably academic support expenditure was much too low in 2007 and had to be substantially increased. However, from 2011-16 academic support rose from 11.5% of total costs to 13.2%.

Figure 23: Academic Support expenditure 2007, 2011 – 2016

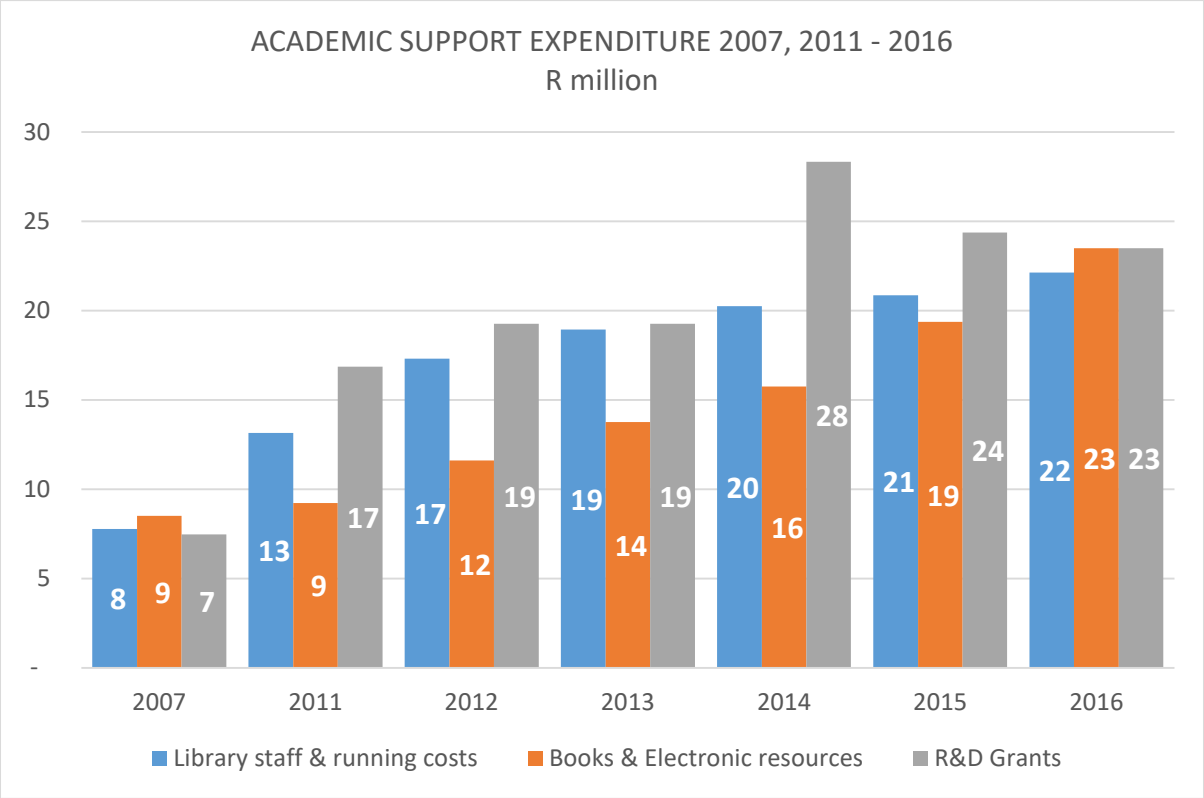
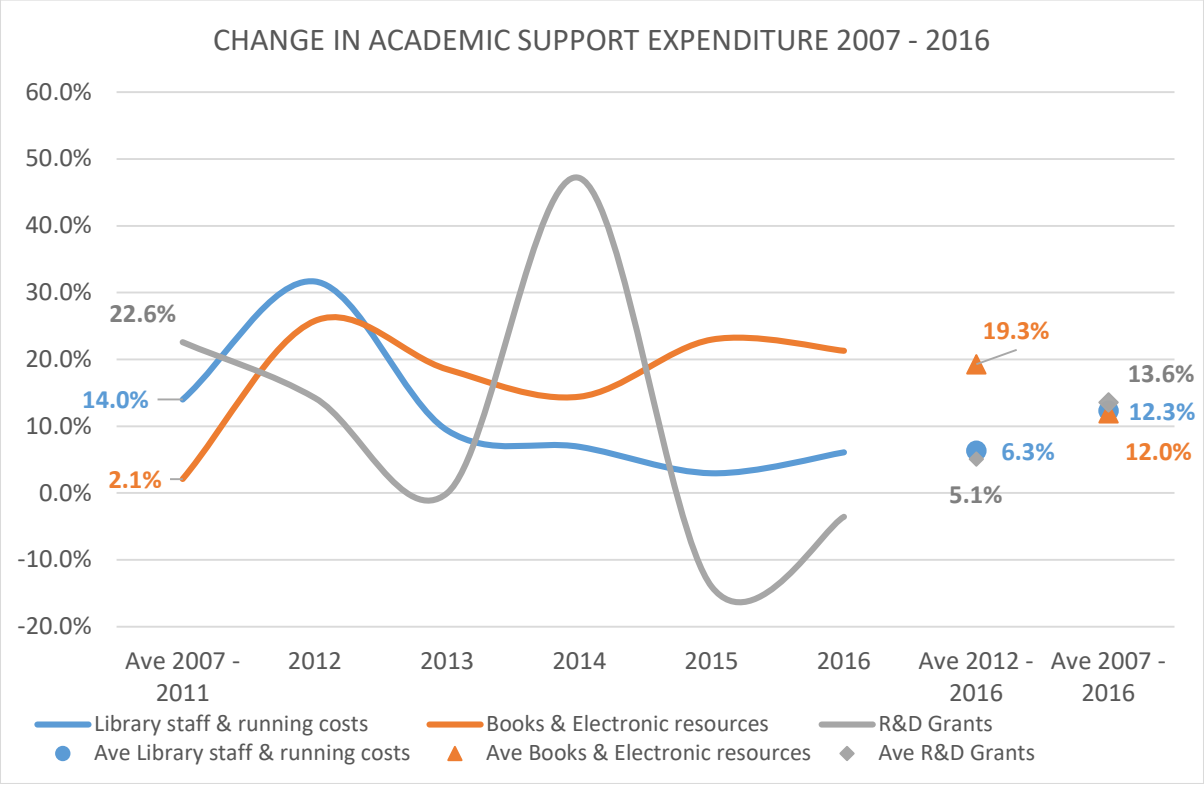


Figure 24: Growth in Academic Support expenditure 2007 – 2016

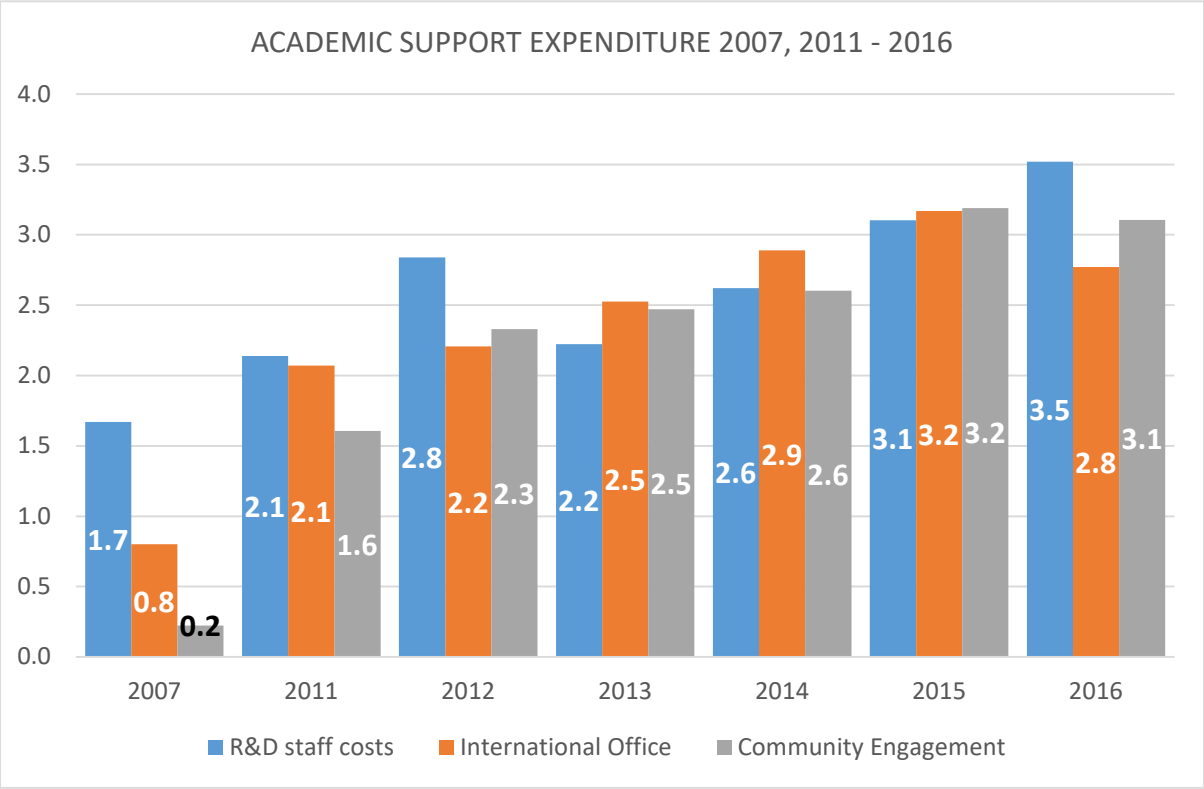


The average annual growth for R&D grants from 2007 until 2016 were the highest at 13.6%. It must be noted that a once-off large contribution in 2014 drives up the overall expenditure growth for R&D grants.

The years 2007 until 2011 saw high growth rates for Library staff and running costs (14%) and R&D grants (22.6%). This coincides with the development of the new library and the increased focus on research activity. The high growth rate in books and periodicals since 2012 coincides with the weakening of the Rand against foreign currencies. A large proportion of resources are sourced internationally and paid for in foreign currencies.

Figures 25 and 26 look at the areas that contribute at relatively lower levels to the Academic Support function expenditure.

Figure 25: Academic Support expenditure 2007, 2011 – 2016



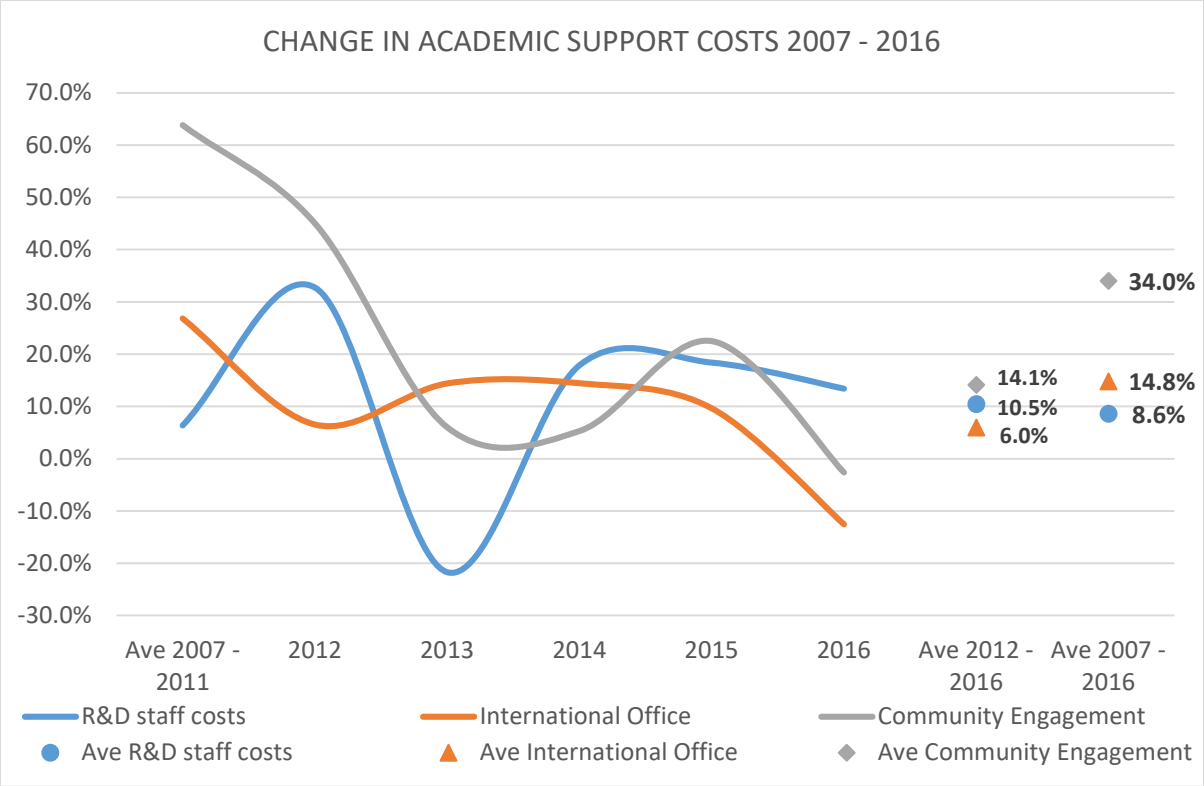
R&D staff costs include the staff costs of the DVC: Research & Development and the Research Office. Staff costs grew from R1.7 million in 2007 to R3.5 million in 2016 (0.59% of total expenditure in 2016).

Staff costs and grants for the International Office grew from R800 thousand in 2007 to R2.8 million in 2016. (0.47% of total expenditure in 2016).

Community Engagement staff costs and grants grew from R200 thousand in 2007 to R3.1 million in 2016. (0.52% of total expenditure in 2016).

In all three of these expenditure areas there are significant growth from 2007 until 2011, and from 2012 growth eases off slightly.

Figure 26: Growth in Academic Support expenditure 2007 – 2016

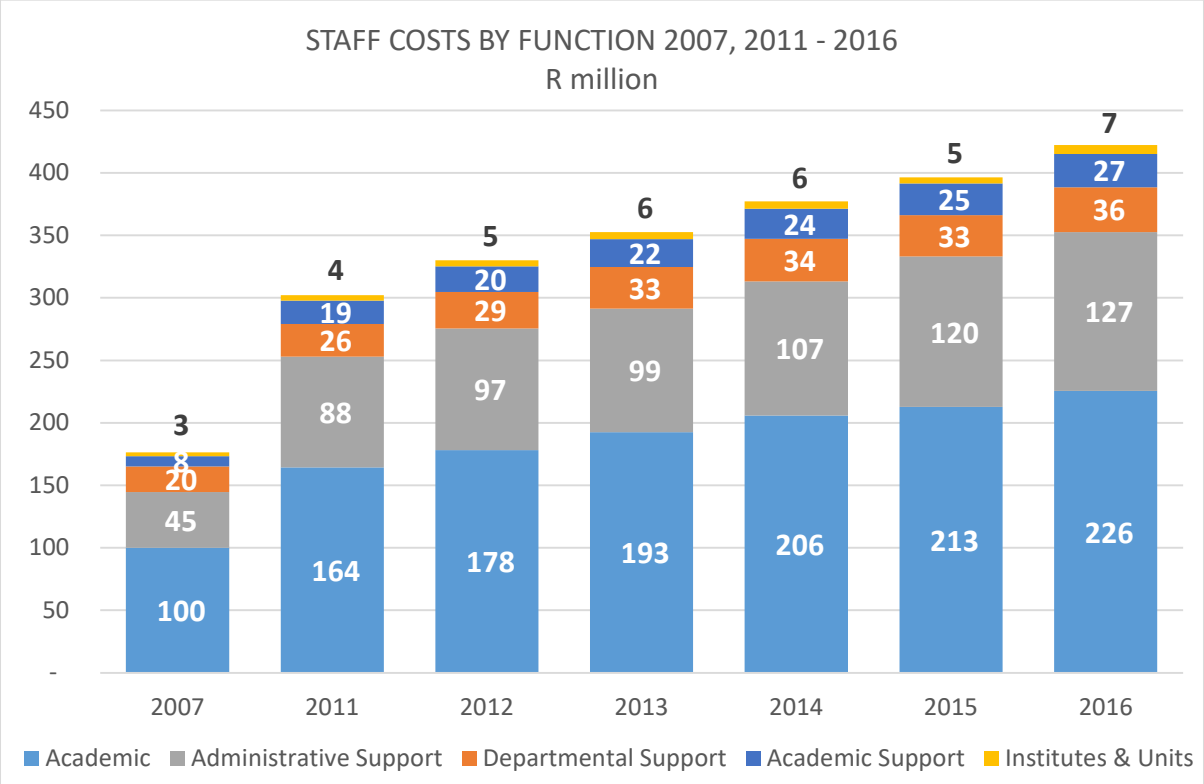


3.2. Staff costs

The following figures analyse staff costs by function and looks at the share of total staff costs of each function and the respective growth rates.

Note that total departments are split into academic and departmental support; the former being academic staff and the latter technical and administrative support within departments.

Figure 27: Staff costs by function 2007, 2011 – 2016



Total staff costs increased from R176 million in 2007 to R423 million in 2016.

Academic staff costs hold the largest share of total staff costs, followed by Administrative support staff cost. Figure 28 expands on this and shows how the share of total staff costs have changed over the years.

Figure 28: Share of Total staff costs by function 2007, 2011 – 2016

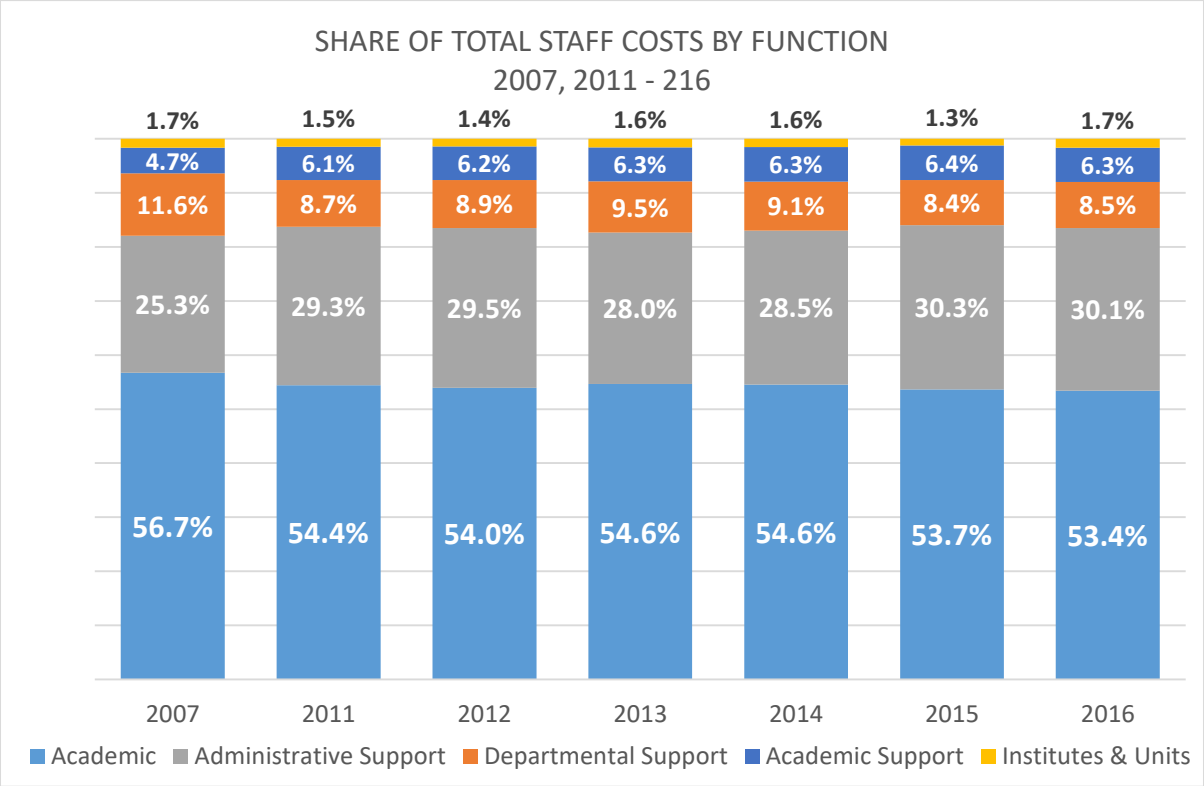
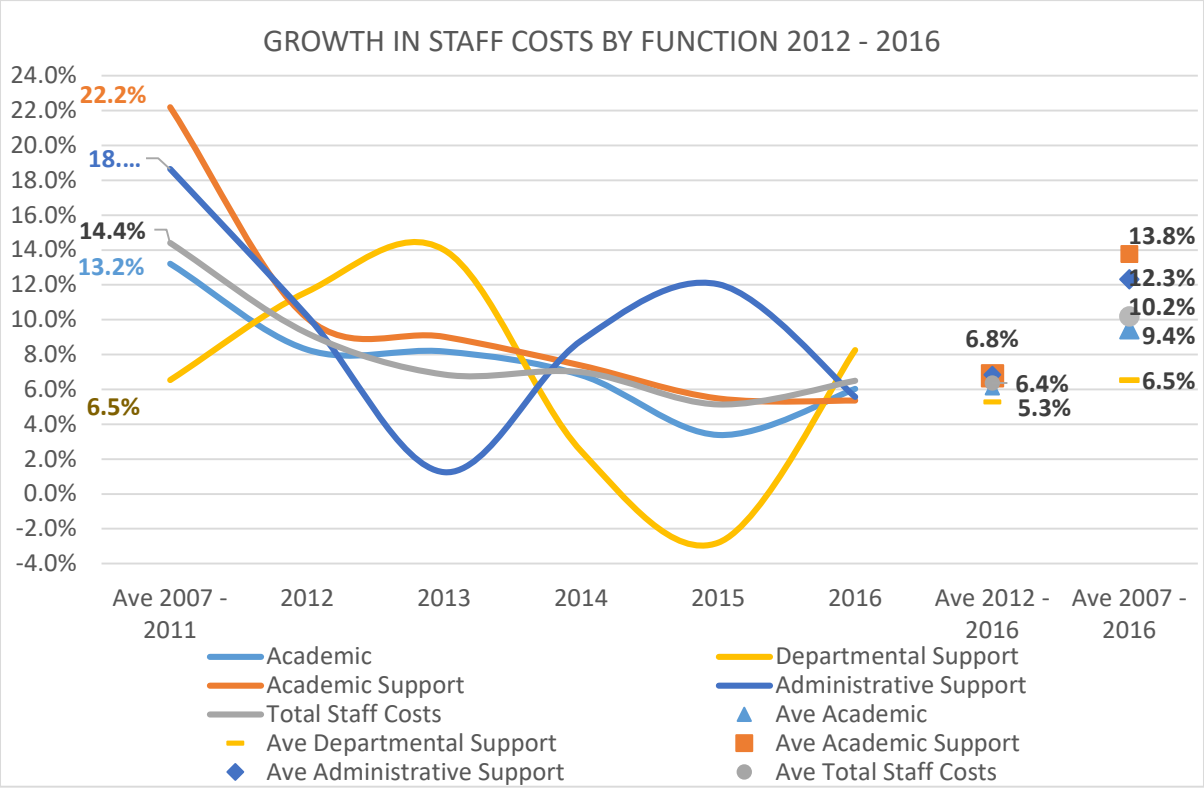


Figure 28 shows the share of total staff costs by function.

- Academic staff costs fell from 56.7% of total staff costs in 2007 to 53.4% in 2016.
- Departmental Support fell from 11.6% to 8.5%.
- Academic Support rose from 4.7% to 6.3%,
- Administrative Support rose from 25.3% to 30.1%.

For all the functions staff costs as a share of total staff costs changed significantly from 2007 until 2011. Moderate changes occur from 2012 until 2016

Figure 29: Growth in staff costs by function 2007 – 2016



Total staff costs increased from 2007 until 2016 as follows:

- Total staff costs rose at an average annual rate of 10.2%; 139% overall
- Academic staff costs rose at an average annual rate of 9.4%, 155% overall
- Departmental Support staff costs rose at an average annual rate of 6.5%; 77% overall
- Academic Support staff costs rose at an average annual rate of 13.8%; 219% overall
- Administrative Support staff costs rose at an average annual rate of 12.3%; 185% overall
- As a share of the University's total costs, staff costs rose from 69.7% in 2007 to 71.1% in 2016.
- The much higher than inflation rise in staff costs across all functions except Departmental Support means that either staff numbers rose, or above inflation salary increases were awarded to existing staff, or new appointments were made to existing positions at higher salaries[3].

3.3. Conclusion on Expenditure

Total expenditure grew by an average annual rate of 9.8% for the years from 2007 until 2016. This growth is much higher than the inflation rate over the same period of around 6.1%.

The highest levels of growth were during the years 2007 until 2011 when student enrolments increased significantly and research activity increased. High expenditure growth is seen across the university (except in Departmental Support), with particularly high increases until 2011 in the Academic Support function.

The much higher than inflation rise in staff costs across all functions occurs mainly from 2007-2011 when structural changes were made and salaries aligned with national norms. Increases thereafter are mostly in line with inflation.

[3] A breakdown of staff numbers by function would allow a clearer conclusion to be reached.

4. Increasing research focus

For the years under review, 2007 until 2016, the university has steadily shifted more focus onto research activities. This is evidenced by a greater increase in postgraduate student enrolments than undergraduate enrolments, doubling the number of research outputs, increased expenditure from the central budget and increasing external funding for research and development activities.

In their article, The Research University in Transition: The Emerging Global Model, Mohrman, Ma and Baker (2008) briefly describe the features that sets the research university apart from other universities. These include a focus on the production of new knowledge particularly in science and technology, and a focus on increasing PhD graduates. In addition, research universities have to provide resources such as laboratories and equipment, library resources and technical and administrative support to deliver to the high research standards expected (Mohrman et al., 2008).

From 2007 until 2011 the university has contributed significantly higher resources to academic support activities from income generated in central operations. Academic support consists to the largest degree of Library Service and Research & Development, with smaller expenditure on the International Office and Community Engagement.

Over this period the average annual growth in expenditure for Academic Support was 16%, an overall increase of 85%. For the entire period from 2007 until 2016 the average annual growth in expenditure was 12.9%, an overall increase of 204%. Library staff and running costs increased by an average of 12.3% (175% overall), R&D grants increased by 13.6% (229% overall) and Library resources increased by 12% (156% overall). Figure 35 further demonstrates the levels of expenditure increases in Academic Support.

While there might be some other reasons for increases above inflation, such as the weakened Rand as an exchange currency used to purchase electronic library resources, the pattern of increases in Academic Support suggests that the increasing focus on research activity and output is costing the university relatively more than other activities.

Mohrman et al. (2008) goes further to expand on the idea of an Emerging Global Model of the research university. Research universities that fit into this model are characterised by increasing internationalisation, increasing complexity of internal support, increasing diversification of funding and high cost of research activities. This sounds to some degree like the journey that Rhodes University is on, but on a much smaller scale.

The challenge for Rhodes University is to balance the ambitions to increase postgraduate and research activity with the associated high costs, with the need to maintain and increase the intake and performance of undergraduate students. Further investigation into the costs and benefits of different strategies in this regard needs to be done.

5. Financial sustainability

5.1. Understanding Financial Sustainability

Financial sustainability is concerned with the generation of income and the provision of sufficient resources for the achievement of the organisation's mission, the payment of its debt and the funding of its future capital requirements. The Financial Sustainability Strategy Group (FSSG) (2016) under the auspices of the Higher Education Funding Council for England states that financial sustainability is "based upon generating sufficient cash" to meet its obligations. Patricia León (2001) describes financial sustainability as the organisation's capacity to generate sufficient income to sustain or grow operations to meet its mission, goals or objectives. The FSSG goes on to propose in specific terms that the generation of cash must meet the organisation's "future capital, debt repayment and strategic needs".

Financial sustainability generally takes a long-term view, but it also takes into account the organisation's ability to withstand short-term financial pressures. Sontag-Padilla, Staplefoote and Gonzalez Morganti (2012) state that the "goal of financial sustainability for non-profits is to maintain or expand services within the organization while developing resilience to occasional economic shocks in the short term". Financial sustainability is characterised by a future orientation involving the maintenance and growth of services, assessed in terms of financial and non-financial measures and achieved through financial and non-financial strategies.

It is evident from the afore-going that the key driver of financial sustainability is the generation and maintenance of sufficient resources, also known as net assets or unrestricted funds. In turn, sufficient resources are attained by the generation of surpluses. Surpluses are achieved by generating income in excess of the costs incurred on the related activities. Therefore, strategies to generate surpluses include increasing income, reducing expenditure, doing both of the aforementioned, or increasing income ahead of the increase in expenditure.

While the focus of these strategies are on income and expenditure, they are essentially linked to the performance of the university's assets. In other words, where there are assets that do not deliver required returns a decision needs to be made as to their future, i.e. modify the assets, sell the assets, or otherwise.

5.2. The use of financial metrics

While sustainability is not measured in financial terms only, financial measures aid organisations to carry out their mission and to achieving their goals (KPMG LLP, 2002). Organisations that are managed well use its mission to achieve its objectives and use financial measures to determine affordability (KPMG et al., 1999). Therefore, it is important that the journey to achieving financial sustainability include financial ratios.

In its 2005 publication of "Strategic Financial Analysis for Higher Education", Prager, Sealy & Co., LLC; KPMG LLP identified close to twenty financial ratios relevant for higher education institution. However, the publication identified four key ratios that higher education institutions should focus on for financial health and sustainability. It must be noted that these ratios are combined into a sophisticated financial index that represents the overall financial health of the institution, and it is not the intention of this paper to do the same. These key financial ratios are:

- *Primary Reserve ratio (short-term viability and flexibility)* – indicates how long the organisation can operate on its "expendable reserves without relying on additional net assets generated by its operations". In addition, a sufficient level of expendable reserves provides the flexibility to take advantage of opportunities that may arise in the short-term. Expendable net assets are those reserves that can be accessed quickly to cover debt obligations. An increase in expendable net assets are the result of surpluses generated by unrestricted activities.

- *Net Income ratio (short-term viability and long-term sustainability)* – indicates whether or not the institution lived within its means, in other words, have the activities pursued with unrestricted funds resulted in a surplus or a deficit. A surplus contributes to reserves in general, and to unrestricted reserves in particular, affecting all of the other three ratios.

- *Return on Net Assets (long-term sustainability)* – indicates whether or not the institution is financially better off compared to the prior year. A long-term view is taken due to the multiple factors that may influence returns, such as inflation fluctuations and investment decision. A positive ratio indicates growth in unrestricted funds while a negative ratio indicates a decline.

- *Viability ratio (long-term sustainability)* – indicates how much of unrestricted funds is available to cover debt in the event that the institution needs to settle its obligation on the date of the balance sheet.

According to KPMG et al. (1999) the following key financial ratios and benchmarks can be used to determine financial health and achieve financial sustainability:

Table 2: Key financial ratios and benchmarks

Key financial ratio	Benchmark
Primary Reserve ratio	0.4 times or 4.8 months of annual operating expenditure
Net Income ratio	between 2 and 4 percent of annual operating income
Return on net assets ratio	3 to 4 percent in real terms
Viability ratio	between 1.25 and 2.00 times

Care should be taken when attempting to apply these thresholds to publically funded universities. These thresholds apply more readily to private and public institutions who have direct responsibility, independent of government, for strategic, operational, financial, debt and investment decisions (Prager et al., 2010).

Public institutions might find the thresholds too high where government funding places limitations on operational and financial flexibility, which in turn "limits the institutions' ability to adapt to a changing market" and seizing new strategic opportunities without additional specific funding (Prager et al., 2010).

Different institutions might treat financial situations and transactions that appear to be similar very differently (Prager et al., 2010). With this and other factors, it is advisable that institutions develop ratios that are most suited to their particular requirements. Whichever way the ratios are calculated, the methods of calculations and their meanings must be transparent, particularly to the governing board (Prager et al., 2010).

5.3. RU Historical financial position

An analysis of the financial position of the university for the years from 2007 until 2016 reveals some interesting results. The analysis focuses on the financial health of the university using the key financial ratios mentioned in the previous section. Before presenting the analysis, the university's financial model needs to be explained, in broad terms.

Financial model

The university generates income through four broad streams: Central Operations, Accommodation (Residence Operations), Endowments and Contracts. The first three streams are consolidated under the broader category of Council Directed Funds, while Contracts fall under Council Managed Earmarked Funds. The figure below represents this structure.

Figure 30: RU Financial Model

Council Directed Funds				Council Managed Earmarked Funds	Total University Funds
Central Operations	Accommodation	Endowed Funds	Sub-total		
(a)	(b)	(c)	(d)	(e)	(f)
			(a)+(b)+(c)		(d) + (e)

Central Operations represents the core activities of teaching and learning and the academic and administrative support activities, and generates income mainly through the government subsidy and tuition fees. Accommodation represents the residential and associated support activities, and generates income mainly through residence fees. Endowed Funds represents income generated through bequeaths and donations for specific purpose, such as bursaries, as well as surplus funds generated by university activities to be used as reserves for future use. These endowed funds are managed by the university's Board of Governors.

The university enters into various contracts which include research, short courses and consulting services. In addition, the university receives funding from government for earmarked programmes such as teaching and research development and infrastructure development. All these funds are represented by the broad category of Council Managed Earmarked Funds.

Unrestricted funds

As described in the key ratios section 4.2 earlier, one of the elements to describe the financial health of an institution is unrestricted funds. The analysis of the financial health of the university involves an understanding of unrestricted funds and a review of the key financial ratios described earlier: Primary Reserve ratio, Net Income ratio, Return on Net assets ratio and Viability ratio. The calculation of these ratios includes results taken from the annual financial statements of the university, as well as the supporting information to the results that are not published in the statements.

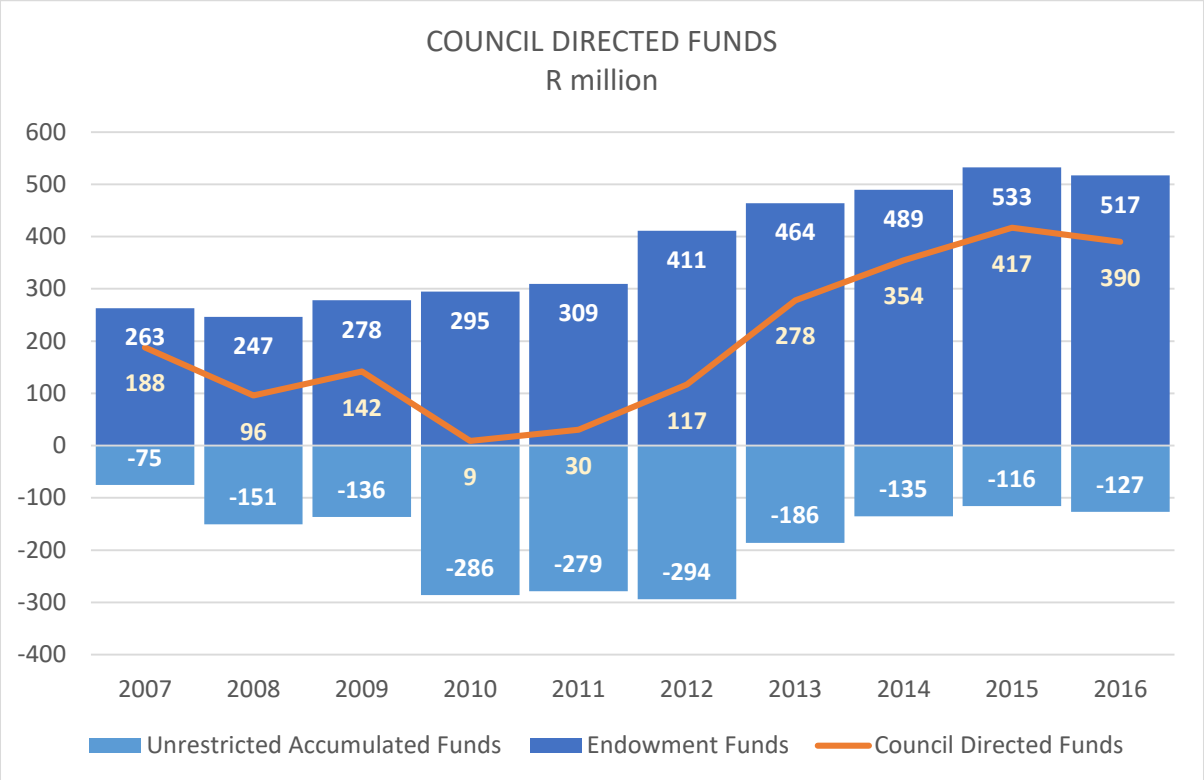
A glance at the Balance Sheet of the university reveals relatively healthy financial figures with Council Directed Funds in 2016 at R390 million, which is double than the value in 2007, and long-term borrowings at a low R355 thousand. Investments are at R545 million and Cash and cash equivalents were at R294 million. However, that is not the full story since the balance sheet does not fully reveal how much of the funds under the control of Council are unrestricted. For the immediate discussion that follows, attention

will be given to Council Directed funds to determine how much of these funds are unrestricted; these funds, in the largest part, represent the funds that are more easily accessible to and available for use by Council.

When one analyses the Council Directed Funds on the Changes in Equity Statement, then the situation does not look so healthy. The Council Directed Funds are made up of unrestricted accumulated funds and endowment funds. At the end of 2016 the unrestricted accumulated funds were a negative R127 million, but it is offset by unrestricted funds recorded against endowment funds which are vested in investments managed by the Board of Governments. The net unrestricted funds at the end of 2016 were valued at around R19m (see figure 33). This is a paltry figure Compared with the R390 million of Council Directed Funds on the balance sheet.

The figure below presents the level of Council Directed Funds from 2007 until 2016 and its constituent unrestricted accumulated funds and endowment funds.

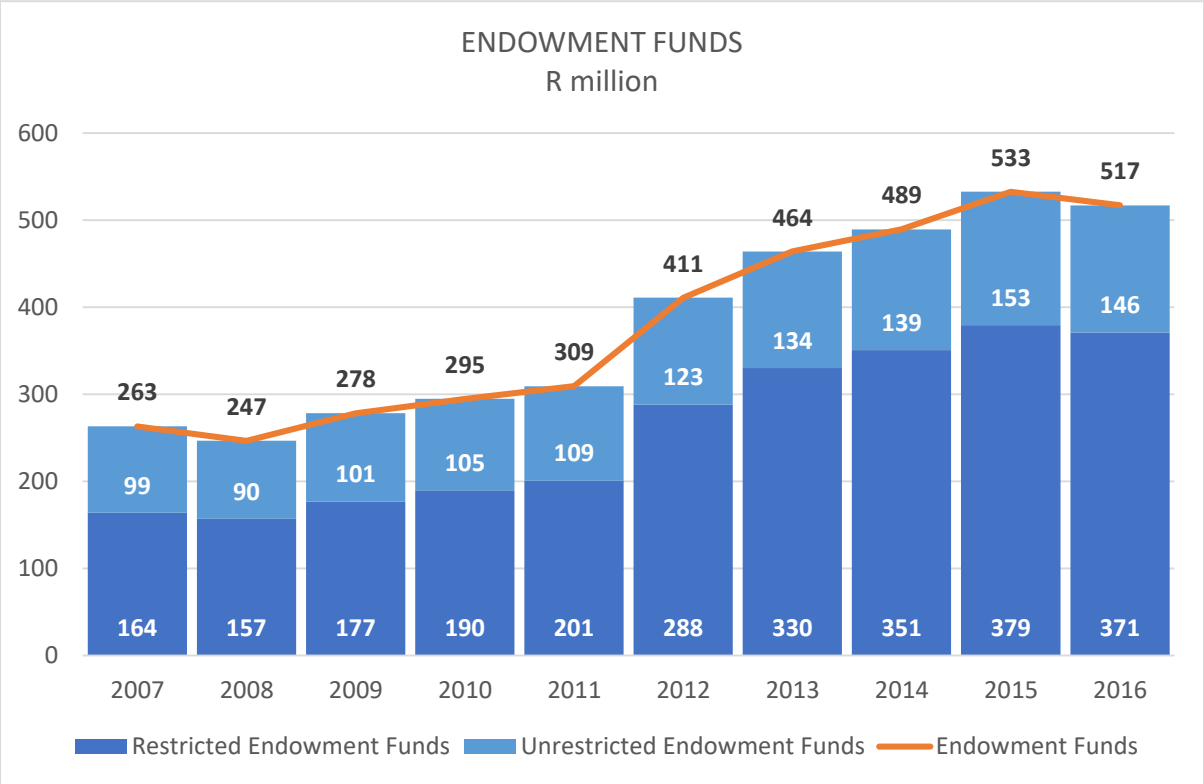
Figure 31: Council Directed Funds 2007 – 2016



The level of Council Directed Funds declined from R188 million in 2007 to R9 million in 2010. During this period there was a steady growth in endowment funds but this growth was offset by a larger decline in the unrestricted accumulated funds. From 2010 until 2016 Council Directed Funds show strong growth, firstly due to strong growth in endowment funds from R295 million to R517 million, and secondly due to a marked improvement in the unrestricted accumulated funds from negative R286 million to negative R127 million.

As a matter of clarity and for further understanding it is useful to look at what happened with the endowment funds and unrestricted accumulated funds respectively. The following graph presents the level of endowment funds and its constituent unrestricted and restricted funds.

Figure 32: Endowment funds 2007 – 2016



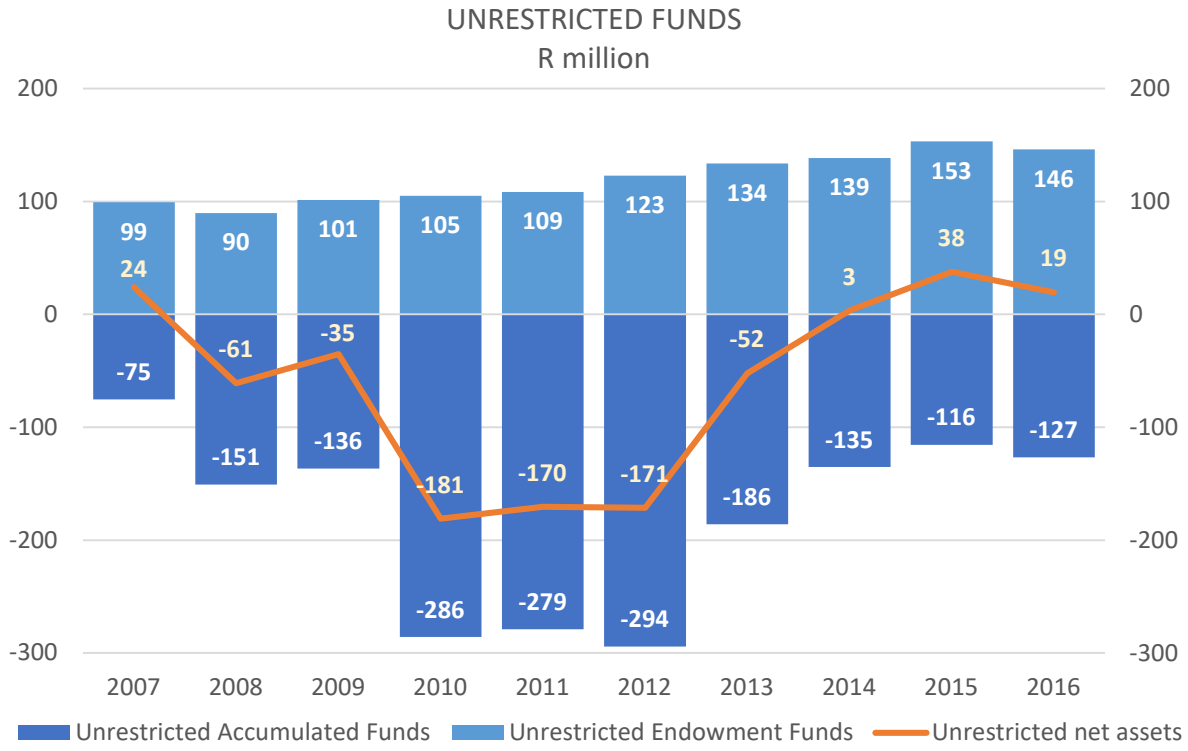
Note that Unrestricted Endowment Funds represents funds that the Rhodes University Council has discretion over. Restricted endowment funds are funds that are earmarked and restricted for specific purposes; these funds are managed by the university's Council in accordance with the conditions placed on them by the respective funders.

The overall level of endowment funds shows a healthy growth from R263 million at the end of 2007 to R517 million at the end of 2016. This represents an average annual growth rate of 7.8%. Unrestricted endowment funds grew from R99 million to R146 million at an average annual rate growth rate of 4.4%, and restricted endowment funds grew from R164 million to R371 million at an average annual growth rate of 9.5%.

The overall growth of endowment funds is healthy, firstly because it is ahead of the annual inflation rate over the period, and secondly it includes disbursements from endowment funds which generally reduce the fund balances. There could be two reasons for this healthy growth. Firstly, there would have been new injections to the endowment funds from external sources, and secondly, the returns on the underlying investments over the period were much higher than the disbursements that were made.

In figure 31 and figure 32 unrestricted funds were identified within the accumulated funds and endowment funds respectively. When these unrestricted funds are added together we get total (or net) unrestricted funds available for use by the university's Council. The following figure illustrates this.

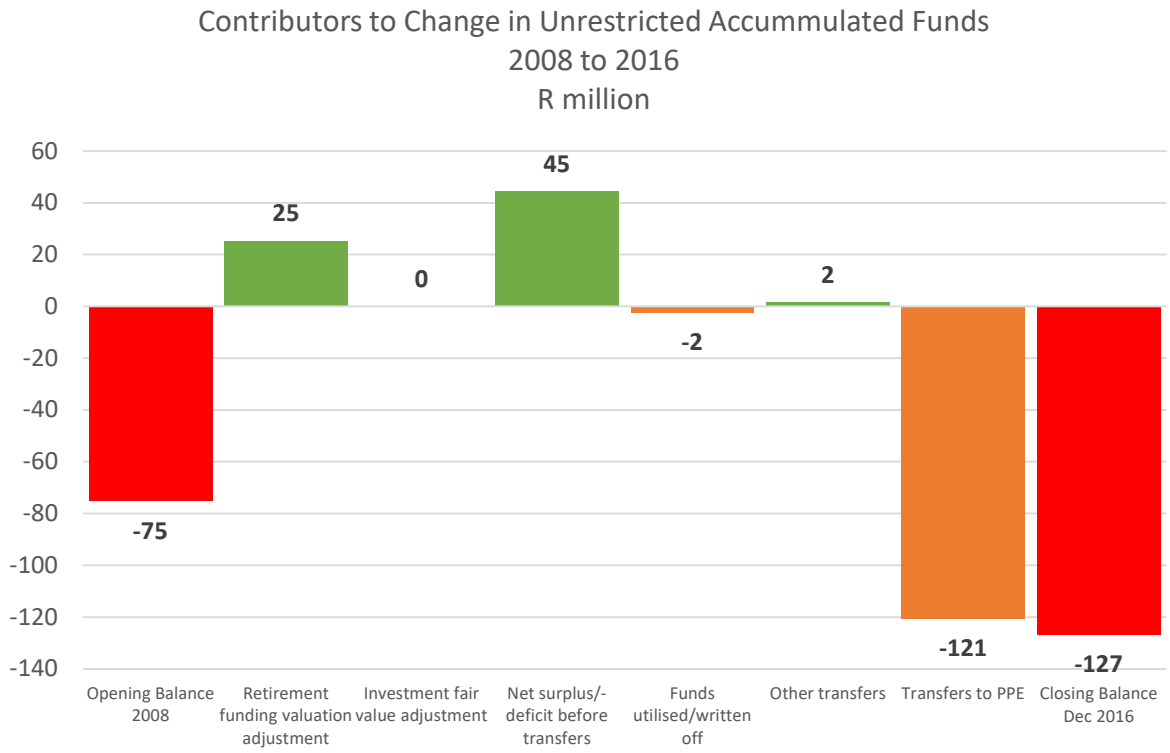
Figure 33: Unrestricted Funds 2007 - 2016



For four of the ten years from 2007 until 2016 the level of unrestricted funds was positive. At the end of 2007 unrestricted funds stood at R24 million and at the end of 2016 they stood at R19 million. For the period of 2008 until 2013 the level of unrestricted funds was negative. This was due to, as illustrated in the figure above and figure 31, the decline of already negative accumulated funds from 2008. From 2013 there is an improvement in the negative accumulated funds, and together with the growth in endowment funds unrestricted funds returned to positive levels from 2014.

The analysis excludes the periods before 2007, so it is not evident why unrestricted accumulated funds are at a negative value of R75 million. From 2007 the unrestricted accumulated funds declined by R219 million to R294 million at the end of 2012, then improves to negative R127 million at the end of 2016. The decline from 2007 until the end of 2016 is R52 million. The following figure shows what the contributors to this decline were.

Figure 34: Change in unrestricted accumulated funds 2007 – 2016



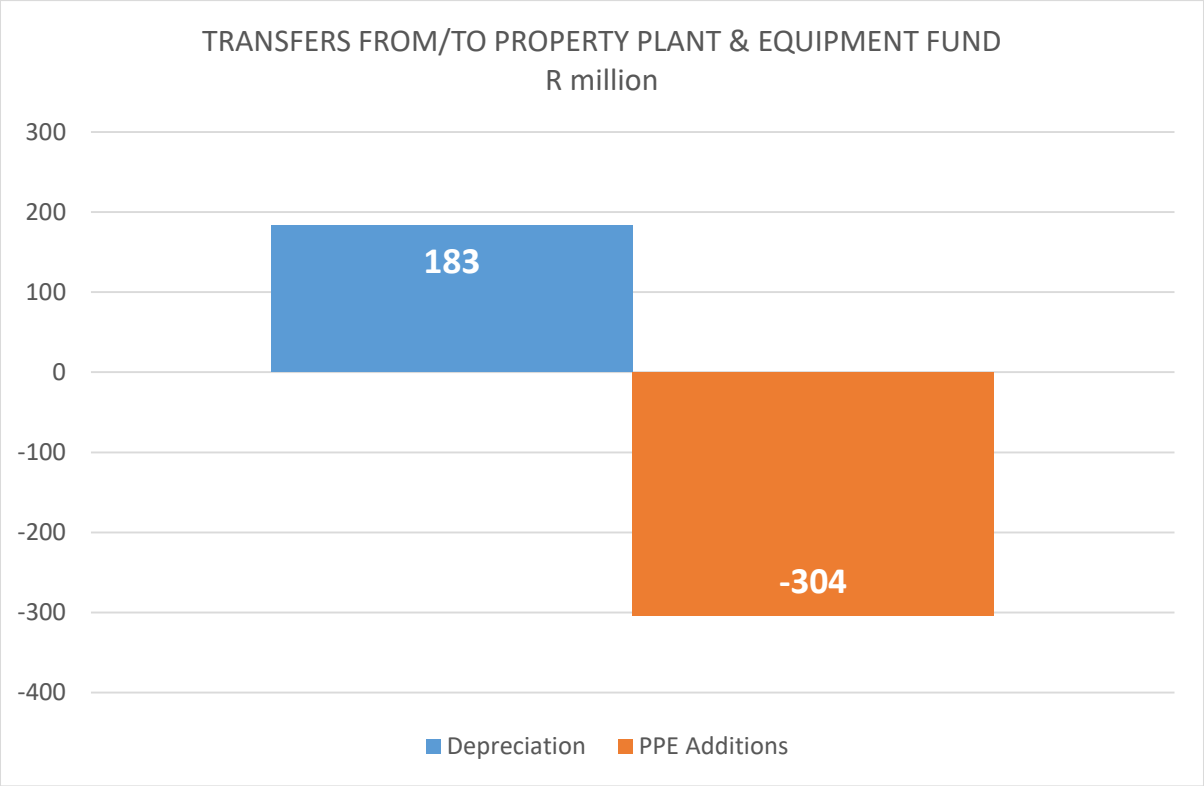
The figure shows unrestricted accumulated funds at the end of 2007 (Opening Balance 2008) at negative R75 million. Each of the following columns represents elements which impacted either positively or negatively on the unrestricted accumulated funds. The elements that were positive are Retirement funding valuation adjustments of R25 million, operating surpluses of R45 million and Other transfers of R2 million, totalling R72 million The elements that were negative are Funds written off/utilised of R2m and Transfers to PPE of R121 million.

The biggest contributor to the decline in unrestricted accumulated funds was Transfers to PPE, offset by positive contributions from retirement funding valuation adjustments and operating surpluses which limited the extent of the decline.

Transfers to PPE funds represent the investment of university funds in property, plant and equipment., and therefore, PPE funds are not available in the form of cash or any other liquid assets. The investment in property, plant and equipment includes the building of residences and the purchase of laboratory equipment.

The following figure shows how the Transfers to PPE actually represents net transfers to PPE, in the form of additions to fixed assets and transfers from PPE in the form of depreciation.

Figure 35: Transfers from/to Property, Plant & Equipment funds



From the end of 2007 until the end of 2016 depreciation contributed positively to unrestricted accumulated funds to the extent of R183 million. Additions to PPE funds were R304 million; these are "own" funds used to acquire fixed assets in the form of buildings, equipment and vehicles. The net transfers from unrestricted accumulated funds to the PPE funds were R121 million.

The addition to fixed assets is not a negative issue in itself since growth in capacity to generate additional income or to achieve the mission or strategic objectives may require initial capital investments.

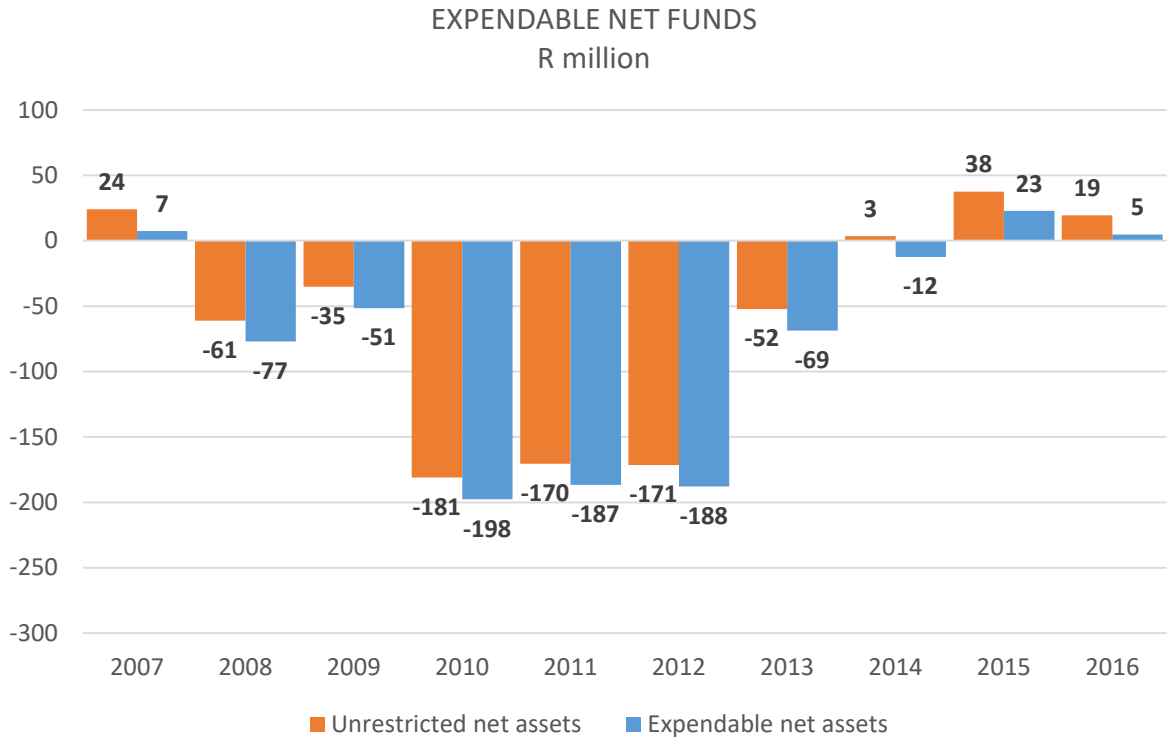
In summary to this section it is evident that there are limited unrestricted funds that are easily available and accessible to the university Council. Unrestricted funds at end of 2016 were at a low R19 million after being in negative territory for six years from 2008 until 2013. The main reason for the negative position of unrestricted funds are the decline in unrestricted accumulated funds driven mainly by additions to fixed assets.

5.4. RU Key financial ratios

Primary reserve ratio

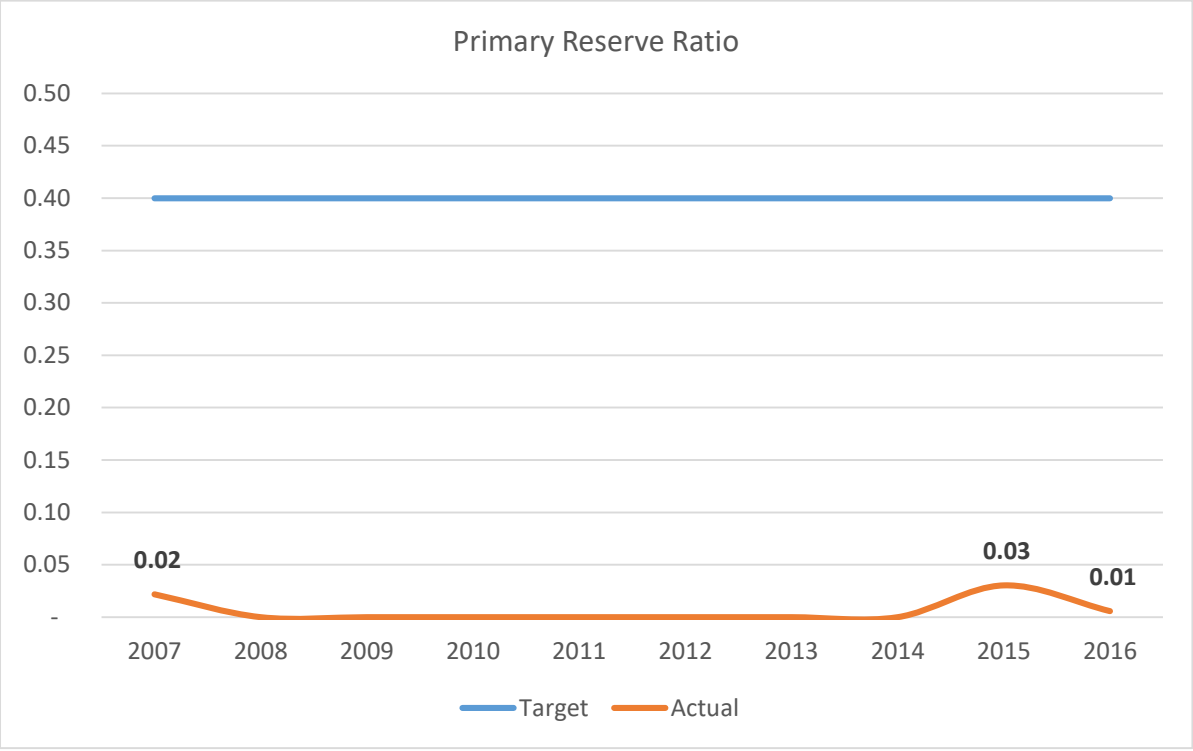
The primary reserve ratio indicates how long the institution can operate on its expendable net funds. The expendable net funds are calculated by subtracting from unrestricted funds the net investment in property, plant and equipment (PPE). The following figure illustrates the level of expendable net funds for the period 2007 until 2016.

Figure 36: Expendable net funds vs Unrestricted funds 2007 – 2016



Expendable net funds follow the same trend as unrestricted funds, with the difference being the assets funded through borrowings. Using expendable net funds, the primary reserve ratio is calculated.

Figure 37: Primary reserve ratio 2007 – 2016

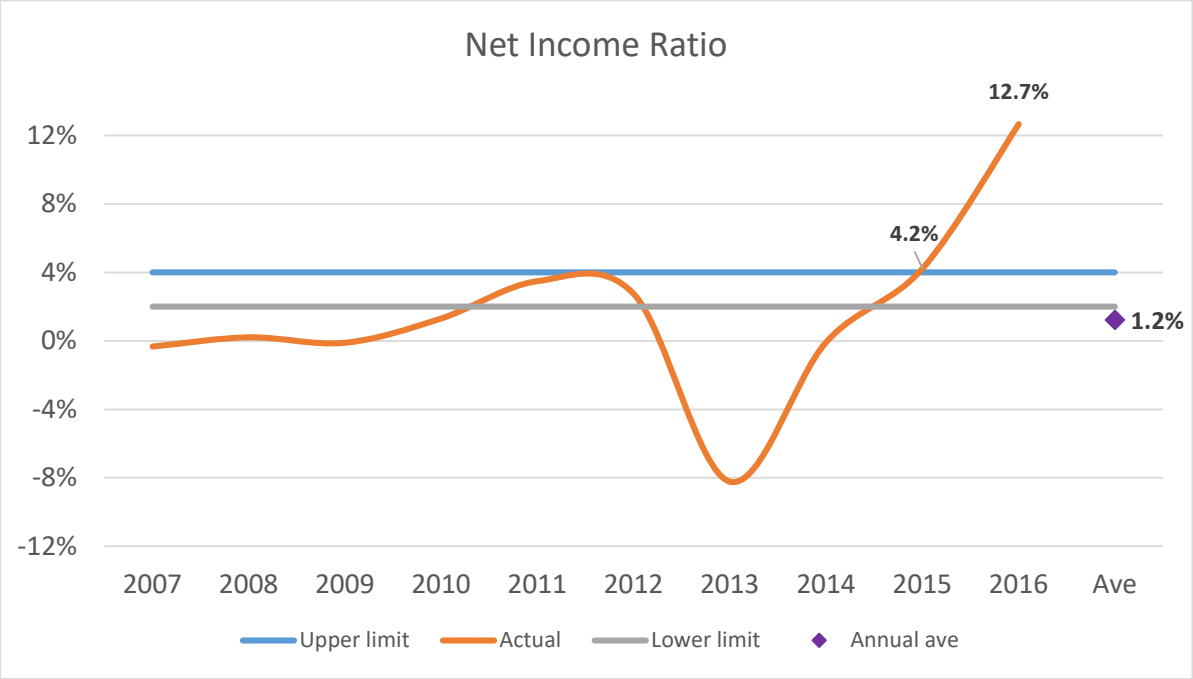


It is only during the years 2007, 2015 and 2016 that the primary reserve ratio is positive. For the remaining years, it is negative due to negative expendable net funds. During those years that the ratio is positive, it is well below the benchmark of 0.4 and the net expendable funds do not even cover 1 month of operating expenditure.

Net income ratio

The net income ratio indicates whether or not the institution generated a surplus or deficit from the use of unrestricted funds. Over the long term it is expected that the return should be between 2% and 4%. The following figure illustrates the actual performance for the years 2007 until 2016.

Figure 38: Net income ratio 2007 – 2016

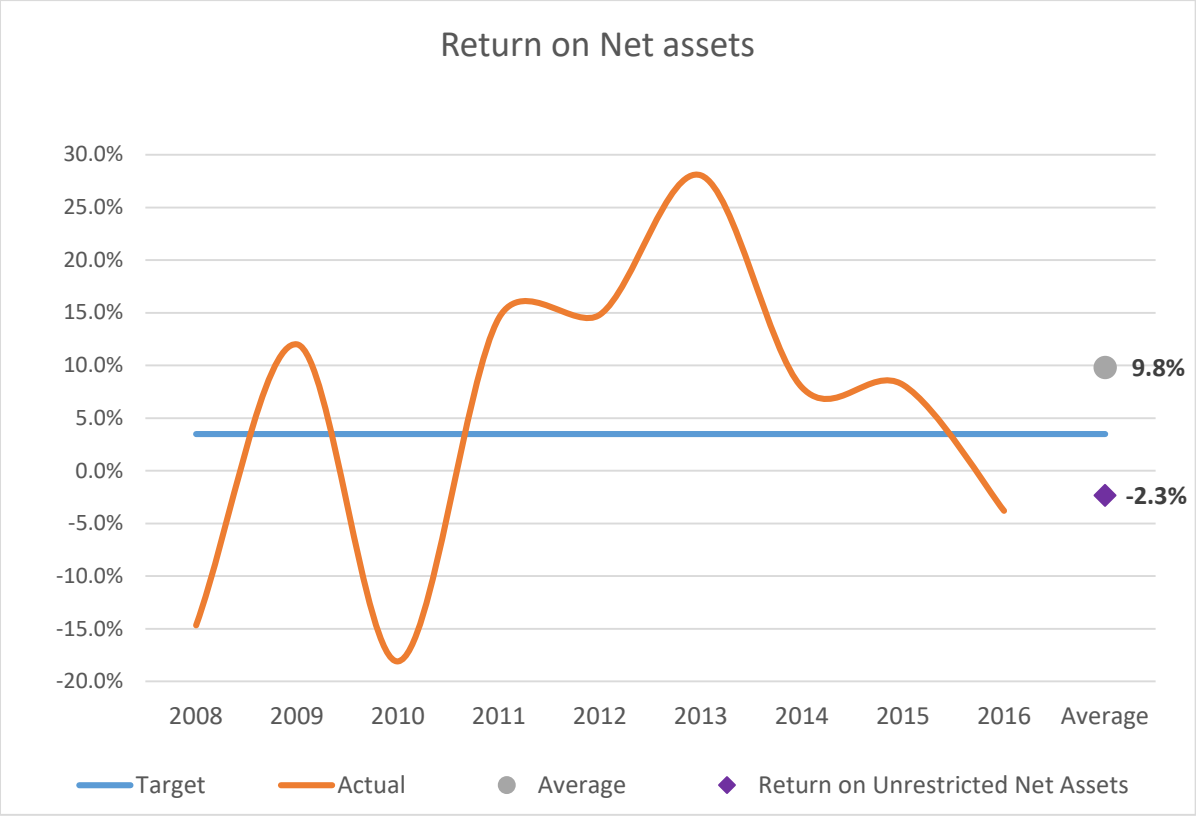


The average return for the period is 1.2%, well below the lower expectation of 2%. The trend shows some volatility, which is expected with changes in the level of activity. While it is still early to draw any particular conclusions, it is encouraging to see the strong ratios of 4.2% and 12.7% for the last two years respectively.

Return on Net assets

The Return on net assets ratio indicates whether or not the institution is in a better financial position than the previous year. Since a number of factors may influence the ratio, such as inflation and investment decisions, a long-term view of the ratio is taken. The following figure illustrates the actual performance of the university.

Figure 39: Return on Net assets 2007 – 2016

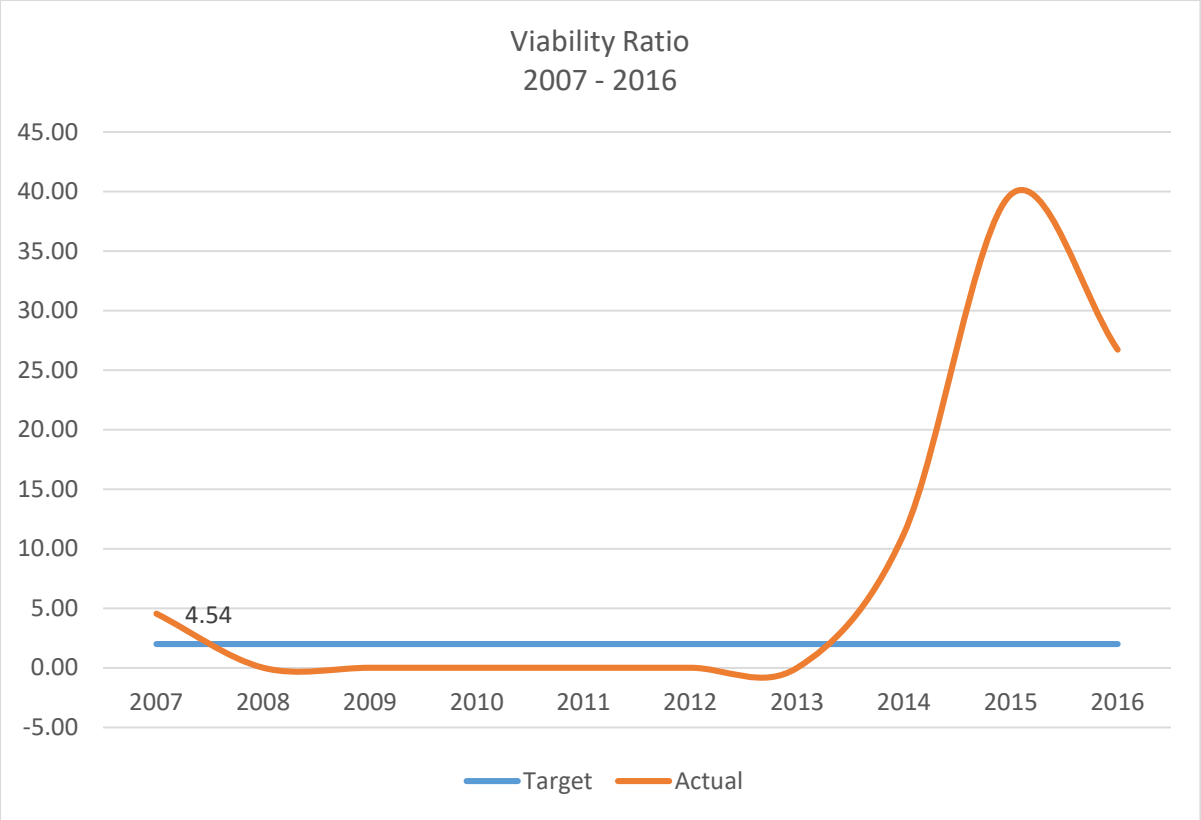


For the actual result the total assets, including those for restricted use, are included. The positive result is driven by strong growth in earmarked funds. These funds are restricted and cannot be used for general university operations. When restricted funds are excluded and the ratio is calculated for return on unrestricted funds only, then the result is an average return of 2.5%, below the average benchmark figure of 3.5% and well below the overall return of 9.8%.

Viability ratio

The viability ratio indicates how much of unrestricted funds is available to cover debt in the event that the institution needs to settle its obligation on the date of the balance sheet. It is expected that the institution holds unrestricted funds that are at least two times the level of debt. The figure below illustrates the actual results for the university.

Figure 40: Viability ratio 2007 – 2016



Similar to other ratios that use either unrestricted funds or expendable net funds in their calculations, the viability ratio is negative for the periods during which the funds were negative. At the end of 2007 the university held 4.54 times more unrestricted funds than debt. For the years 2014 until 2016 the university held unrestricted funds that were 10 times more than the amount of debt. Between 2007 and 2016 the university's long-term borrowing never exceeded R2 million, and from 2014 it tapered off to R0.4 million at the end of 2016. Therefore, the high ratio at the end means little in terms of the university's ability to acquire significant loan funding.

5.5. Conclusion on Financial Sustainability

The financial ratios indicate that the university's financial health was relatively weak for the past ten years.

- The *primary reserve ratio* at less than 0.05 means that the university could not even cover one month's of operating expenditure from unrestricted funds.
- The *net income ratio* averaged 1.2% over the term, well below the lower expectation of 2%, which means that there have insufficient additions to unrestricted funds from operating activities.
- The *return on net assets ratio* looks good due to the strong growth in earmarked funds, masking the underlying problem with unrestricted funds. When the ratio is calculated using unrestricted funds only, then the result is an average return of 2.5% against an average benchmark of 3.5%.
- The *viability ratio* was negative for most of the period; when it was positive it was based on low levels of long-term borrowing. With low levels of unrestricted funds, the university's ability to seek substantial long-term borrowing for mission-critical or strategic objectives is limited.

Despite poor performance against the financial ratios the university continued to increase enrolments and activity, as well as execute its mission of knowledge creation and dissemination.

6. Budgets and resource allocation

6.1. Objectives of budgets and resource allocation

Budgets and resource allocation are tools and processes that assist in achieving the mission and strategic objectives of an organisation. The budget should be an expression of the strategic objectives of the organisation and convey how it is performing against them, as well as being a tool to evaluate the financial performance against those objectives and their associated risks (Prager et al., 2010).

Pienaar (2014) lists a number of objectives of budgets. Some of the elements visible in these objectives are planning of activities, budgetary control, co-ordination of activities, evaluation of and accountability for performance. Scarlett (2014, page: 196) refers to budgetary planning and control as ensuring "that the organisation sets out in the right direction" and stays on this course. A common thread amongst these objectives is how the objectives work together towards the achievement of the organisation's strategic objectives in support of it mission and vision.

One of the challenges of budgeting is to ensure that the budget is not only balanced in accounting terms, but also in strategic terms (Prager et al., 2010). Earlier it was mentioned that the budget should express the organisation's strategic objectives. One of the ways to see if the budget is strategically balanced or not is to look at the spending patterns within it (Prager et al., 2010). If the spending and investment patterns are lining up with the changes reflected in the strategic plan, then the budget is strategically balanced.

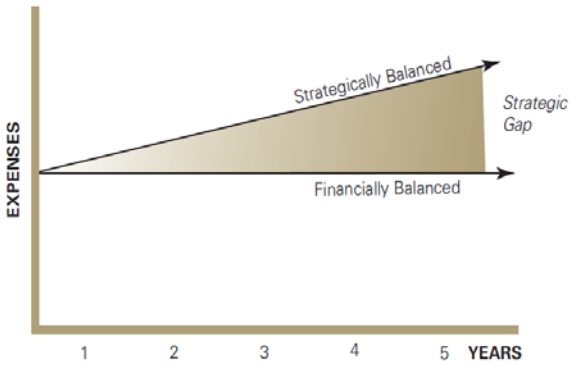
Therefore, when the budget process is initiated, it must be underpinned by a clear mission statement and vision statement, a strategic plan with clearly defined strategic objectives, and a mechanism that ensures that the budget is balanced in both accounting and strategic terms.

6.2. Aligning the budget to the strategic plan

Reflecting the strategic plan in the budget

When the budget is balanced in accounting terms but not in strategic terms, there is a gap. Prager et al. (2010) refers to this gap as a strategic gap, and to close this gap they propose that amounts for strategic initiatives should be allocated first, and that these amounts should be presented and maintained as a separate component of the overall budget. Detailed schedules need to support these strategic initiatives in the plan.

Figure 41: Strategic gap, Prager et al. 2010



When the decision is made to close the strategic gap, the initiatives that will do this need to be funded. Prager et al. (2010) propose that this gap could funded in three ways, which are through (1) the reallocation of resources, (2) finding new funding, (3) changing the plan. Each of these ways of funding the strategic initiatives could be difficult to achieve and should be carefully considered, but "allowing the achievement of the plan to go unfulfilled without explanation of corrective action" may impact negatively on the credibility of the leadership of the organisation (Prager et al., 2010, page: 66).

Augmenting financial measures

Kaplan and Norton (2000) suggest that a reason for the gap between budgets and strategy is that budgets do not consider sufficient measures, other than financial, in its formulation. They recommend that financial measures should be augmented by the use of a balanced scorecard which includes measures from other areas that drive the achievement of strategic objectives.

These other areas are customer relationships and service, internal processes, and learning and growth within the organisation. The balanced scorecard, which combines the measures from these areas with financial measures, provide a framework through which the organisation can achieve its strategic objectives (Kaplan and Norton, 2000).

While the balanced scorecard provides a framework for the execution of strategy, the four areas are also linked in a cause-and-effect relationship (Kaplan and Norton, 2004). For example, in a higher education context, improving the efficiency of internal processes reduces costs and improving its effectiveness may lead to improved student services which, in turn, increases student and funder satisfaction and income for the organisation.

6.3. Developing the budget

The budget is the outcome of the strategic planning process during which the mission, vision, core values and strategic plan are developed. There should be alignment between the mission, core values vision and strategic plan of the organisation, without which misalignment in resource allocation may occur and constituent parties may be dis-incentivised in the execution and achievement of the plan (Prager et al., 2010).

Funding the strategic gap

To fund new initiatives from the strategic plan the organisation will need to reallocate resources from existing programmes, find new funding, change the plan, or do a combination of two or all three of these.

It could be difficult to reallocate resources in line with a shift in the strategic direction of the organisation, because it might mean that certain activities or programmes come to an end or are significantly reduced (Prager et al., 2010). It is critical for the achievement of the strategic plan that the organisation creates changes that are permanent and that revenue increases and/or cost savings gained from these initiatives are earmarked for the highest priorities in the plan (Prager et al., 2010). Reallocation of resources and investments to achieve the strategic plan must be clearly presented in the budget. The size of investments in strategic initiatives must be quantified and highlighted in the budget (Prager et al., 2010).

The nature of new sources of funding must be in line with the strategic objectives of the plan. Prager et al. (2010) illustrate this challenge in an example where the strategic plan calls for increased unrestricted funding though a fundraising campaign, but the funds raised are mainly restricted. In the case of a fundraising campaign, the actual funds raised by the campaign need to, at a minimum, cover the costs of such campaign (Prager et al., 2010). This talks to the need to ensure that there is a positive return on any new initiative, otherwise the initiative purely adds to expenditure instead of adding to growth in funds.

Changes in the affordability of the plan or the environment might necessitate a change in the plan. Some stakeholders might view the change in a negative light, but it would be more damaging if the necessity to change is not communicated to the community (Prager et al., 2010).

Collaboration and communication

There should be collaboration between the planning function and the budgeting function of the organisation. When such collaboration occurs the organisation has a clear direction and is focused on achieving its strategic objectives (Prager et al., 2010).

In addition to working with the planning function, the budgeting function needs to work collaboratively with the rest of the organisation to allocate resources. An optimised financial planning function allocates resources "jointly with the business", and there is synchronisation between the financial planning and the operational planning cycles (Essaides, 2016).

Lack of understanding of the financial operations of the organisation, a lack of transparency in financial reporting and a lack of understanding the return on costs and investments are key challenges for universities (Prager et al., 2010). To address these challenges, Prager et al. (2005) propose the following elements as part of a potentially successful communication structure:

- Clearly stated goals in the strategic plan
- Key financial and nonfinancial success indicators/ratios
- Consistent framework for presentation of operating budgets
- Strategic initiatives and budget for these initiatives are done first
- Spending for initiatives is tracked as a separate component of the operating/capital budget

Transparency and improved communication of the budget can be achieved by working collaboratively with stakeholders within the organisation and by developing reports and analyses that are easy to understand.

Budget period

Since strategic plans span longer than one year, it would be appropriate to develop budgets that cover a longer term, to indicate what is covered by the budget over a particular time period (Prager et al. 2010).

Budgets should be developed for particular roles that they play. A strategic budget is set for a period of between 3 and 15 years with relatively less detail than a tactical budget covering a period of between one and five years (Pienaar, 2014). An operational budget would span one year or less and will have relatively more detail than the longer term budgets (Pienaar, 2014). The operational budget could be referred to as the more commonly known annual budget.

The annual budget cannot be seen as a stand-alone budget and is a segment of the longer term budget. The annual budget represents the implementation of the strategy in the short-term, however, it must be viewed from a long-term perspective and should be able to convey progress towards the achievement of the mission and strategic plans (Prager et al., 2010).

Budget co-ordination and responsibility

The budget consists of different sub-components, such as income, operational expenditure and capital expenditure. Different activities drive income and expenditure in budgets, such as teaching, academic support and infrastructure support. Co-ordination in the formulation of the budget becomes very important, and a Budget Committee can play such a role (Scarlett, 2005; Pienaar, 2014). The Budget Committee represents different stakeholders to the budget, and it can be used as a platform to ensure that budgets align with the strategic plan.

Senior management, described by Prager et al. (2010, page: 138) as comprising of at least the "provost, chief financial officer, general counsel, chief budget officer", etc., is responsible for executing the directives of the governing board. Responsibility for the budget, therefore, lies with the senior management of the institution.

The financial management function is responsible for the execution of directives from senior management, and is "responsible for budgeting, finance, treasury, accounting, compliance, insurance and risk management" (Prager et al., 2010, page: 138).

6.4. Budgetary control

Budgetary control is required to ensure that the organisation remains on track with the objectives that it set itself. It is management's responsibility to ensure that actual performance against the budget is measured and that action is taken when undesirable deviations occur (Scarlett, 2004; Pienaar, 2014).

Reporting on actual financial performance, as pointed out above, must be easy to understand. It must contain financial results and the non-financial information that drive the results, in a format that highlights key financial information (Prager et al., 2010).

Under continuously changing conditions it is important for senior management and the governing board to have a holistic view of the organisation, and to receive reports that are focused on the key issues that affect the organisation. Prager et al. (2010) propose that internal financial reports should, in addition to the financial results of the operations, include information about the strategic financial goals of the organisation and associated financial risks, present financial metrics instead of detailed financial reports, report separately on philanthropic financial results, and report on and interpret cash flow and liquidity information.

6.5. Conclusion on Budgets and resource allocation

Budgets should reflect the steps taken towards achieving the mission, vision and strategic objectives of the organisation. When the budget is not aligned to the strategic plan, a strategic gap exists, and action needs to be taken to fund this gap. This can be done by the reallocation of resources, finding new funding sources or by changing the plan. Alignment between the budget and the strategic plan can be improved by augmenting financial measures with non-financial ones.

Resources allocated for the achievement of the strategic plan must be clearly indicated and expanded on in the budget reports. Resources for strategic initiatives must be allocated before other allocations are made.

Collaboration and communication during the budget process improve transparency and understanding of the budget by non-financial stakeholders. The quality of reporting contributes significantly in this regard.

Budgetary control is important to ensure that the organisation remains on its path to achieve its strategic objectives. It is important that senior management take a holistic view of the organisation, which means that reports should reflect the financial performance as well as progress against strategic financial objectives and associated risks.

7. Conclusion

Income

- Income grew strongly from 2007 until 2016, in total and across all university activities, keeping ahead of inflation.
- Income of earmarked activities grew stronger than central operations. Would this have an impact on operations in other areas of the university?
- Central operations income grew at an average annual rate of 10.4%. At an activity level, as measured by unweighted FTE student enrolments, income generated by central operations kept ahead of inflation.
- Growth in student enrolments and research outputs were the main drivers of income growth in central operations.
- However, tuition fee increases ranged between 7% and 10%. This has been challenged with the "feesmustfall campaign of 2015 and 2016.

Expenditure

- Expenditure rose by an average annual rate of 9.8%, with staff costs by 10.2% and operating costs by 9%.
- The difference between the growth in income and expenditure is the increase in financial aid and bad debts.
- Despite this difference, an average annual increase of 9.8% in expenditure is significantly higher than inflation.
- The highest increase in expenditure coincided with the same period during which the university experienced its highest growth in income, 2007 until 2011, driven by higher student enrolments.
- Despite this growth in student enrolments and income, it appears that the university did not benefit from the economies of scale that it offered.
- Staff costs grew significantly from 2007 until 2011 across all areas except Departmental Support, and sustained increases between 5% and 7% until 2016.
- It cannot be that student enrolments alone should drive such staff costs increases since some activities are not directly related to student activity levels. Further investigation in this regard needs to be done.
- One has to consider whether the focus on postgraduate, research and other earmarked activities has put pressure on staff costs to increase as they have.

Financial sustainability

- Financial sustainability is not merely a financial matter, but the outcome of a number of factors and decisions that impact on the university.

- Together with sound financial management, the mission, vision, core values and strategic plan contribute to financial sustainability.
- The recent student protests and concessions on fees have put pressure on the short-term viability of the university. The immediate impact is on cash flow.
- However, the university has made plans to deal with the pressures in the short-term.
- On a longer term basis, plans are afoot for improved support to students from poor and lower income households, as well as for the recovery of loans formerly administered by NSFAS.

Financial health

- The university's financial health, as indicated by key financial ratios, was not good for the years from 2007 and 2016. Pointedly was the issue of low (and sometimes negative) levels of unrestricted funds, insufficient surpluses, and poor capacity to raise significant loan funding.
- The main contributor to the low levels of unrestricted funds is the investment in property, plant and equipment. The increase in infrastructure and other capacity that it brought about would have accommodated the increase in student enrolments seen over the period.
- Earmarked funds grew strongly against the lower growth in unrestricted funds. The question is, what was the impact on the cost of supporting these "earmarked" activities from unrestricted fund activities?
- Despite the poor financial health of the university it continued to grow in student numbers and activity. Further and deeper discussion on the use of these key financial ratios and benchmarks needs to be had.
- However, at a time when the university is going through a challenging financial period there are limited unrestricted funds to comfortably see it through.

Budgets and resource allocation

- Budgets and resource allocation must not drive the planning process; it must be developed with the view of achieving the organisation's mission, vision and strategic plan, and must be supported by the core values of the organisation.
- Alignment between the budget and the strategic plan can be achieved in the process of resource allocation and by augmenting financial measures with non-financial ones.
- The Budget Committee plays an important role in budget co-ordination and in ensuring that there is alignment between the strategy and the budget.
- Resources allocated for the achievement of the strategic plan must be clearly indicated and expanded on in the budget reports. Resources for strategic initiatives must be allocated before other allocations are made.
- Collaboration and communication during the budget process improve transparency and understanding of the budget by non-financial stakeholders.
- Senior management must take a holistic view of the organisation, which means that reports should reflect the financial performance and associated risks of the organisation as a whole.

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